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Essays on the Economic and Cultural Integration of Migrants

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Abstract

This thesis consists of three self-contained essays. The first, entitled *"Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia"*, aims at identifying the factors that influence the labour market integration of humanitarian migrants in the host country. A number of refugees' employment outcomes are examined including access to employment, access to stable employment, the wage/earnings level and the education-occupation mismatch. Using a recently collected panel survey data in Australia, the results show that pre-migration education, work experience, previous migration episodes, as well as English proficiency, English training, study/job training undertaken in Australia and social capital form important determinants of the labour market integration of refugees. Moreover, the essay highlights the differentiated impacts of these resources on the refugees' outcomes at six months, one year and two years after arrival in Australia. This essay provides a unique basis of knowledge for informed policy-making and helps identify the ways to facilitate the economic integration of refugees.

The second essay, entitled *"Ethnic Identity and the Employment Outcomes of Immigrants: Evidence from France"*, examines the relationship between economic and social integration. More specifically, it explores the influence that ethnic identity exerts on immigrants' labour market performance in the host country. The objective of this essay is twofold: first, to determine the immigrants' ethnic identity and second, to investigate the impact of ethnic identity on the immigrants' employment outcomes. Using rich survey data from France and relying on a polychoric principal component analysis, this essay proposes two alternative measures of ethnic identity than the ones used in the literature, namely: i) the degree of commitment to the origin country culture and ii) the extent to which the individual holds multiple identities. The essay investigates the impact of the ethnic identity measures on the employment outcomes of immigrants in France. The results show that having multiple identities is associated with an improvement in the employment outcomes of the migrants. However, when addressing the endogenous nature of ethnic identity, there is no significant impact of ethnic identity on the employment outcomes of immigrants.

The last essay, entitled *"The Effect of 9/11 on Immigrants' Ethnic Identity and Employment: Evidence from Germany"*, aims at exploring the impact of terrorism on the economic and social integration of immigrants in the host country. Indeed, over the lifecourse of the migrants in the host country, there might be a number of identity shocks that would affect their social integration. This might as well have

an effect on their labour market outcomes. This chapter investigates the effect of the 9/11 terrorist attacks on the identity choice and the employment outcomes of Muslim immigrants in Germany. Using longitudinal data from the German Socio-Economic Panel, this essay relies on a difference-in-differences strategy to compare the outcomes of Muslims with non-Muslim immigrants before and after the attacks. One concern is the lack of an appropriate comparison group. In order to address this issue, the essay relies on a regression-adjusted difference-in-differences matching strategy. The results show that Muslim immigrants have decreased their degree of identification with Germany after 9/11 compared to non-Muslims. There is no significant impact of the 9/11 terrorist attacks on Muslims' employment outcomes relative to non-Muslims. The results contribute to provide a better understanding of the process of social integration of immigrants.

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Chapter 1

Introduction

1.1 Motivation

The number of international migrants worldwide continues to grow rapidly reaching 258 million in 2017 up from 220 million in 2010 and 173 million in 2000 (United Nations 2017a).[1] This number is comprised of two categories: 1) the economic migrants who are individuals who have travelled from one region to another for the purposes of seeking employment and an improvement in quality of life and access to resources; and 2) the refugees who are individuals fleeing persecution.[2] Predictions indicate that the number of international migrants is likely to increase even further.

A major challenge for receiving countries is the successful integration of international migrants. Given that the labour market is widely perceived as the main channel through which immigrant families could economically catch up with the native population over generations, the specific topics addressed in this thesis evolve around labour market outcomes. However, since integration is not only an economic process but also a social and cultural process, another dimension of integration which is examined in this thesis is captured by the immigrants' ethnic identity. This refers to the migrants' feeling of belonging to both the host country and the origin country.

Evidence shows that immigrants, and especially refugees, tend to have lower outcomes than the native-born. They have lower educational attainments and experience lower participation rates and employment rates (Chiswick and Miller 2008, 2009). Immigrants also tend to make greater efforts to compensate for any disad-

[1] By definition, an international migrant is a person who is living in a country other than his or her country of birth.

[2] In 2016, the total number of refugees and asylum seekers in the world was estimated at 25.9 million, representing 10.1% of all international migrants.

vantage in the labour market. They often accept jobs that may not always match their skills, leading to significant immigrant-native differences in overqualification (Liebig and Huddleston 2014). They also have a significantly lower hourly income (Chiswick, Lee, and Miller 2005). In terms of social integration, they tend to retain a stronger ethnic identity which means they identify more strongly with their country of origin than the host country (Algan, Bisin, Manning and Verdier 2013).

However, immigrants seem to catch up with natives over time. Indeed, the longer immigrants reside in a host country, the better they perform economically in the host country (Chiswick 1978, 1982). They also feel progressively more connected with the host country (Manning and Roy 2010). The immigrant-native gap is also reduced across generations as the second-generation immigrants usually perform better than the first-generation immigrants. They also tend to adopt more strongly the host country norms. One exception to this progress is that the second-generation immigrants are more likely to feel discriminated against than their peers who have immigrated (United Nations 2017a). Therefore, it is important to examine the integration process over time and across generations.

Although there is a vast existing literature examining immigrant integration, some areas remain understudied. First, there is limited information concerning the labour market integration of humanitarian migrants. As the number of refugees increases, it is vital to ensure that humanitarian migrants can participate fully in the labour market in the host country. Besides, since the refugees differ from economic migrants, the appropriate integration policies might differ as well. Second, there has been less attention in economics on the social integration of migrants (Algan, Bisin, Manning and Verdier 2013; Dustmann 1996). Since economic and social integration are likely to be related to one another, it is important to examine the ways in which they are connected as well as identify the factors that influence social integration.

1.2 Contribution

This thesis consists of three self-contained chapters, each addressing a specific issue of immigrant integration. The aim is to provide a better understanding of the process of integration of immigrants. This is achieved in the following ways. First, both economic and humanitarian migrants are examined to understand the key differences in the integration process between the two categories. Second, the thesis looks at different stages in the migrant's life in the host country. Another key aspect of this thesis is that both economic and social integration are examined to provide

interesting insights about the links between the two. Lastly, the thesis is based on three different geographical case studies: Australia, France and Germany, for which the integration process of international migrants might be different.

More specifically, the thesis proceeds as follows. Chapter 2, entitled *"Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia"*, explores the labour market integration of humanitarian migrants over time in the host country. The aim is to identify the factors that facilitate or hinder their labour market integration. A number of refugees' employment outcomes are examined including access to employment, access to stable employment, the wage/earnings level and the education-occupation mismatch. The essay highlights the differentiated impacts of a number of resources on the refugees' outcomes at six months, one year and two years after arrival in Australia.

Chapter 3, entitled *"Ethnic Identity and the Employment Outcomes of Immigrants: Evidence from France"*, investigates the effect of ethnic identity on the immigrants' labour market outcomes in the host country. Using rich survey data from France and relying on a polychoric principal component analysis, the essay proposes two alternative measures of ethnic identity than the ones used in the literature, namely: i) the degree of commitment to the origin country culture and ii) the extent to which the individual holds multiple identities. Then, the essay investigates the impact of the ethnic identity measures on the employment outcomes of immigrants in France. To address for the endogenous nature of ethnic identity, the essay uses an instrumental variable approach.

Lastly, Chapter 4, entitled *"The Effect of 9/11 on Immigrants' Ethnic Identity and Employment: Evidence from Germany"*, examines the impact of the 9/11 terrorist attacks on individual identity formation and the employment outcomes of immigrants in the host country. More specifically, this essay focuses on Muslim immigrants who are likely to be the most severely affected by islamist terrorism in Germany. The essay uses longitudinal data from the German Socio-Economic Panel and relies on a difference-in-differences strategy to compare the identity and the employment outcomes of Muslims with non-Muslim immigrants before and after the attacks.

All chapters utilise applied empirical methods to analyse the research question. The findings provide key insights to facilitate the integration of immigrants in receiving countries.

Chapter 2

Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia*

2.1 Introduction

The number of forcibly displaced people has risen to a record level over the past decade (UNHCR 2015).[1] Almost 900,000 refugees have arrived in the developed countries over the past 10 years through resettlement programmes. Given the geopolitical environment, the situation is likely to worsen still further. This flow of refugees has had a profound impact on not only those who flee persecution and war in the home country but also on the receiving countries. The settlement of refugees from diverse legal categories creates challenges for the host societies in terms of facilitating the arrival of newcomers, integrating their children into the education systems and integrating those who can enter the labour markets fairly soon after their arrival.

This chapter's main objective is to identify the factors that influence the labour market integration of refugees in Australia. Integration has many different meanings in the refugee integration literature (Ager and Strang 2008; Cheung and Phillimore 2014). In this chapter, "integration" is defined as the process by which refugees

*This chapter is based on the published paper "Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia" (Delaporte and Piracha 2018).

[1]There were 37.5 million forcibly displaced people a decade ago, increasing to 51.2 million in 2013, 59.5 million in 2014 and 65.3 million in 2015.

get access to various sectors of employment in the host country. Besides, the term "refugees" is employed to refer to humanitarian migrants. This category differs from "economic migrants" (Long 2013; Ruiz and Vargas-Silva 2017) whereas the term of "migrants" is used to designate both categories.

This essay adds to the existing literature on refugees and the labour market in a number of ways. First, it relies on a recent survey data - Beginning a New Life in Australia: Longitudinal Study of Humanitarian Migrants (BNLA) - which was commissioned by the Australian Department of Social Services and managed by the Australian Institute of Family Studies. The main aim of this project is to follow individuals and migrating units through their settlement journey in Australia and record information on their experiences, challenges, adaptations and outcomes over time.

So far three waves, out of the five planned, have been available since September 2016. The first wave consists of interviews conducted at six months after arrival in Australia while the second wave interviews were conducted at one year and the third wave interviews at two years after arrival. Refugees were asked a number of questions that covered a range of key domains, including demographic information, housing, language proficiency, education, employment and income, pre-migration experiences, health, community support, life satisfaction and life in Australia. This is the first study that utilises this data set to analyse refugees' integration in Australia.

Second, this essay contributes to the literature by examining a number of employment outcomes, which include access to employment, access to stable employment, the income level and the education-occupation mismatch. While most of the literature considers access to employment as the main element of the integration process, it is important that the jobs obtained are stable and of reasonable quality. Even though casual jobs at the start of the labour market integration process might be considered a normal adjustment process in the new country, it could nevertheless have a persistent effect given that the education signal attenuates after an individual has gained some work experience (Belman and Heywood 1997).

In addition, and related to quality of employment, is the education-occupation mismatch. Recently arrived immigrants are more likely to be over-educated than the native population in Australia (Green, Kler, and Leeves 2007). As Kiersztyn (2013) has shown, overeducation could persist overtime and may not correct itself for a long time. Furthermore, the under-utilisation of immigrant skills could have significant macroeconomic effects, including a reduced contribution to GNP (Barrett, Bergin, and Duffy 2006; Del Carpio and Wagner 2015; Ruiz and Vargas-Silva 2015, 2016).

Related to all the above aspects is the income level, which is generally lower for refugees compared to economic migrants and natives (Chiswick, Lee, and Miller 2005). Capturing all of these aspects will, therefore, give an indication of how efficient is the labour market in adjusting newly arrived refugees, and consequently how well Australia benefits from different levels of human capital it receives each year as part of the Humanitarian programme.

Third, this essay evaluates the differentiated impacts on employment outcomes at six months, one year and two years after arrival. As there are indeed frictions in any labour market, it is possible that the newly arrived find it difficult to adjust in the new country and due to lack of information about the labour market may struggle to initially find a job, let alone a "good job". However, as obstacles generally diminish over a period of stay in the host country, the labour market outcomes could improve and hence analysis across three time periods will help understand the adjustment process.

Finally, this essay includes two important variables that have not been studied enough in the literature on refugee integration, namely social capital and previous migration experience. The impact of social capital or networks has been well established in a number of studies (Cheung and Phillimore 2014; Strang and Ager 2010). However, there is limited information on the impact of different forms of social capital. In addition, previous migration experience could have varied impacts, depending on the type of experience. If the refugees have lived in another, perhaps similar, host country and worked there then they might have more information about how the labour market functions in the developed countries and might be able to utilise that information in Australia. However, if the other country experience is part of the transition process from one refugee country to the next then that could perhaps have a detrimental impact, though it could still make them less risk averse and increase unobserved abilities.

The analysis relies first on a logit model to examine the probability of being employed at six months, one year and two years after arrival. This acts as a benchmark that provides information on the evolution of refugees' labour market status over time in Australia and how previous education and work experience, migration experiences, language skills, training and social capital formed in Australia affect their integration process. Then, the analysis uses an Heckman selection model to correct for eventual sample selection bias when looking at other employment outcomes: access to stable employment, wages and the education-occupation mismatch, across the three waves.

The results show that pre-migration education has no impact on the access to employment but improves access to stable employment and wages in the long run. Pre-migration work experience does not seem to improve the performance of refugees in the labour market. Migration experiences increase access to stable employment in the short run. Language skills have a long-term positive effect on access to employment and access to stable employment but increase the risks of an education-occupation mismatch in the short run. English trainings reduce access to employment and access to stable employment. In addition, study/job training in Australia increases in the short run the risks of being over-educated. Finally, social capital increases the chances to be correctly matched in the labour market and increases wages in the short run. The results obtained provide a unique basis of knowledge for informed policy-making and help identify the ways to facilitate the economic integration of refugees, not only in Australia but other refugee receiving countries as well.

The rest of the chapter is organised as follows. Section 2.2 provides the conceptual framework for the analysis as well as reviews the related literature. Section 2.3 introduces the database while empirical strategy and results are presented in Sections 2.4 and 2.5. Finally, Section 2.6 summarizes the results as well as highlights some policy implications.

2.2 Related Literature

The existing literature identifies refugees as a group at an economic disadvantage relative to economic migrants as they face more barriers to enter employment, which makes their labour force participation rates lower than other migrant groups or the natives (Connor 2010; Hugo 2014; Ortensi 2015; Wauters and Lambrecht 2008). Given that employment plays an important role in terms of immigrant's integration in the host society, gaining employment for refugees is an important dimension of their resettlement in the host country.

Labour economic theory often cites human capital as the main determinant that helps explain some of the differences in employment outcomes across different types of workers. There are several sources of human capital differences, including years of schooling, school quality, training, attitudes towards work, etc. In the tradition of Becker's approach, where human capital is viewed as an input in the production process (Becker 1962; Mincer 1974), the theory provides evidence of significant returns to schooling. The lifecycle of the individual starts with higher

investments in schooling, and then there is a period of "full-time" work, but this is still accompanied by investment in human capital and thus increasing earnings. Besides, schooling is not the only way in which individuals can invest in human capital since individuals can decide to spend time in training programs or to undertake internships and there is a continuity between these investments in human capital and schooling investments. The increase in earnings takes place at a slower rate as the individual ages. There is also some evidence that earnings may start falling at the very end of workers' careers.

An alternative view suggested by Spence is that observable measures of human capital may be rewarded because they are signals about some other characteristics of workers (Spence 1973, 1974). Several studies have demonstrated that signaling is important in the case of education (Kane and Rouse 1995; Lang and Kropp 1986; Tyler, Murnane, and Willett 2000). An individual can also continue to invest in his human capital after he starts employment by undertaking training, which has been found to increase the worker's productivity and earnings.

In the case of migrants, part of their human capital is from their origin country. Therefore, a key factor influencing a new immigrant's labour market performance is the extent to which their existing levels of education, experience and training are valued in the destination country (Kanas and Tubergen 2009). This is the issue of imperfect portability/transferability of origin country human capital, i.e. education and labour market experience acquired in the origin country are significantly less valued than that obtained in the host country. Moreover, the higher the economic and cultural distance between the origin country and the host country, the least transferable human capital is (Sanromá, Ramos and Simón 2009). The reason may lie in the lower quality of the educational system in the origin country or it could be due to the fact that the qualifications acquired abroad are too specific to the country of origin. The limited international transferability of human capital skills results in immigrants entering into relatively low status occupations when they first enter the host country's labour market (Chiswick and Miller 2008).

On the opposite side, host country education can legitimately be considered as a factor that boosts immigrant economic performance. The results are not conclusive though. Parasnis, Fausten and Cheo (2008) find that Australian qualifications do not result in better labour market outcomes for migrants. However, other studies find that host country education is one of the main determinants of immigrant's access to higher paying occupations (Maani, Dai and Inkson 2015). However, Kaida (2013) shows the host country education benefits only highly educated recent arrivals.

Labour market experience gained post-migration is found to have a positive and significant effect on occupational attainment. The estimated rates of return to local training, experience and language are found to be very high (Cohen-Goldner and Eckstein 2008). Furthermore, the impact of training on job offer probabilities is larger than its effect on wages. However, the realized rate of return from white-collar training is relatively low and takes time. Discrimination, as well, can influence the labour market outcomes of the immigrants, as ethnic minorities are likely to face hurdles to get job offers or promotions (Clark and Lindley 2009; Duvander 2001; Hall and Farkas 2008).

There is an increasing recognition among economists that social capital, much like human capital, can be used to facilitate productive activity and can be converted into something of value, such as income and prestige (Acemoglu and Autor 2011; Coleman 1988; Mahar, Harker, and Wilkes 1990; Strang and Ager 2010). Social networks, therefore, are significant determinants of the economic integration of immigrants (Beaman 2012; Correa-Velez, Barnett and Gifford 2015; Green et al. 2011; Mamgain and Collins 2003).

It has been argued that the concept of social networks should be distinguished from that of social capital. Indeed, social networks do not necessarily provide enhanced access to information whereas social capital is the concrete help gathered from networks (Cheung and Phillimore 2014). Contacts with natives are particularly important for information diffusion and influence; exposure to the native population at the workplace increases immigrant earnings (Drever and Hoffmeister 2008; Kazemipur 2006; Tammaru et al. 2010). Other studies focus on how immigrant ethnic enclaves can provide labour market information and access to jobs (Wang and Maani 2014). They highlight the added role of immigrant group resources and information on facilitating immigration group economic success in the host country (Kanas et al. 2012; Levanon 2014).

Finally, there are some aspects that are more relevant for refugees than they are for economic migrants. For instance, the health status, especially the "disability" variable (Strand 1984; Tripodi 2001) as well as mood disorders (Bogic et al. 2012) could significantly affect the labour market integration of refugees. Concerning the pre-resettlement period, trauma may have an impact on career choice and integration into the labour market (Hauff and Vaglum 1993). Results from earlier literature suggest that for each year spent as a refugee, there was a corresponding decrease in the ability to secure meaningful employment (Codell et al. 2011).

The length of time refugees stay in the host country is also a significant pre-

dictor of their economic performance (Bevelander, Hagström, and Rönnqvist 2009; Waxman 2001). In fact, Cortes (2004) shows that refugees, unlike economic migrants, are usually unable or unwilling to return to the home country and therefore perform better in the labour market in the long term as they have more incentive to obtain host country specific human capital.

2.3 Data

The essay uses the Beginning a New Life in Australia: Longitudinal Study of Humanitarian Migrants (BNLA waves 1-3) data, which is a recent longitudinal data of the settlement experience of humanitarian arrivals in Australia. The first wave consists of interviews conducted at six months after arrival in Australia while the second wave interviews were conducted at one year after arrival and the third wave interviews at two years after arrival.[2] Participants were asked questions covering a range of key domains, including demographic information, housing, language proficiency, education, employment and income, pre-migration experiences, health, community support, life satisfaction and life in Australia. The sample contains 1,704 individuals observed across the three waves.

Sociodemographic information is reported in Table 2.1. The majority of the refugees in the sample are men (54%), aged 36 on average and married/with a partner. The majority of the refugees came from Iraq, Afghanistan, Iran and Myanmar and were granted a visa under the offshore component of the humanitarian program (87%). They have different types of visa[3] but the majority were granted the "visa

[2]Some variations in the timing of interviews occurred. For instance, 75% of the sample in wave 1 was interviewed at six months after arrival, whereas others have been interviewed at one year after arrival. For wave 2, the majority was interviewed at one year after arrival but others were interviewed at two years after arrival. For wave 3, most of the respondents were interviewed at two years after arrival but others were interviewed at more than two years after arrival. To address this issue, I control for the time since arrival.

[3]The offshore resettlement component comprises two categories of permanent visas. The first category is refugees - for people who are subject to persecution in their home country, who are typically outside their home country, and are in need of resettlement. The majority of applicants who are considered under this category are identified and referred by UNHCR to Australia for resettlement. The refugee category includes the following visa subclasses: Visa 200 - refugees; Visa 201 - in-country special humanitarian; Visa 203 - emergency rescue; and Visa 204 - women at risk. The second category is the Special Humanitarian Program (SHP) - for people outside their home country who are subject to substantial discrimination amounting to gross violation of human rights in their home country, and immediate family of persons who have been granted protection in Australia. Applications for entry under the SHP must be supported by a proposer who is an Australian citizen, permanent resident or eligible New Zealand citizen, or an organisation that is based in Australia. These applicants are granted Visa 202. The onshore component of the Humanitarian Program aims to provide options for people who wish to apply for protection (or asylum) after arrival in Australia. These applicants are granted Visa 866.

200", which is the visa for the refugee category. Concerning the structure of the migrating unit, they are in majority a single person (24%), a family with children under 18 (27%) or a family with children under 18 and other family members (16%). The average household is composed of 4.5 members.

Table 2.1.
Sociodemographic Characteristics

	Mean	*SD*	*N*
Male	0.54	0.5	1,704
Age	36.3	14	1,704
Married or has partner[a]	0.63	0.48	1,601
Region of birth - North Africa and the Middle East	0.58	0.5	1,704
Region of birth - South-East Asia	0.06	0.2	1,704
Region of birth - Southern and Central Asia	0.34	0.47	1,704
Region of birth - Sub-Saharan Africa	0.03	0.16	1,704
Religion - Christian	0.45	0.5	1,685
Religion - Muslim	0.4	0.49	1,685
Religion - Other religions	0.16	0.36	1,685
Migration pathway - onshore	0.13	0.34	1,704
Migration pathway - offshore	0.87	0.34	1,704
Visa 200 refugee	0.72	0.45	1,704
Visa 201 in-country special humanitarian	0.004	0.06	1,704
Visa 202 global special humanitarian program	0.03	0.17	1,704
Visa 204 woman at risk	0.12	0.3	1,704
Visa 866 onshore protection (UMA)	0.09	0.29	1,704
Visa 866 onshore protection (non-UMA)	0.04	0.2	1,704
MU structure - single person	0.24	0.43	1,704
MU structure - family with children under 18	0.27	0.44	1,704
MU structure - family with children under 18 and others	0.16	0.36	1,704
Household size	4.5	2.2	1,704
Lives in major cities in Australia	0.91	0.3	1,704

Source: BNLA wave 1, own calculations.
Note: MU stands for "migrating unit".
[a] Not asked of secondary applicant adolescent (SAa).

Table 2.2 displays the descriptive statistics concerning the pre-migration period. On average, refugees spent 30.4 years in their country of birth. The majority (88%) visited another country before going to Australia. They have different levels of highest completed pre-migration education: 15% never attended school, 20% have primary education, 19% have secondary education, 30% have senior secondary education and 16% have tertiary education. Moreover, 53% have done paid work before migrating to Australia. In terms of occupation skills, 30% were in high-skilled occupations such as managers (11%) and professionals (19%) whereas 70% had lower-skilled occupations such as technicians/traders (30%), labourers (16%) and machinery operators (10%), among others. Moreover, the vast majority experienced traumatic events before migrating, including time spent in refugee camps before entering Australia.

Table 2.2.
Descriptive Statistics - Pre-Migration Period

	Mean	*SD*	*N*
Years spent in country of birth[a]	30.4	15.9	1,012
Visited another country before going to Australia[a]	0.88	0.33	1,053
Pre-migration education - never attended school	0.15	0.36	1,687
Pre-migration education - primary school	0.20	0.4	1,687
Pre-migration education - secondary school	0.19	0.4	1,687
Pre-migration education - senior secondary school	0.30	0.46	1,687
Pre-migration education - tertiary education	0.16	0.37	1,687
Did paid work before arrived	0.53	0.5	1,694
Did unpaid work before arrived	0.6	0.49	1,616
Occupation - higher-skilled occupations	0.3	0.46	707
Occupation - lower-skilled occupations	0.7	0.46	707
Occupation - managers	0.11	0.3	707
Occupation - professionals	0.19	0.4	707
Occupation - technicians/traders	0.3	0.46	707
Occupation - community/personal workers	0.07	0.25	707
Occupation - clerical/Admin	0.03	0.17	707
Occupation - salespersons	0.045	0.21	707
Occupation - machinery operators	0.1	0.29	707
Occupation - labourers	0.16	0.37	707
Experienced traumatized events	0.91	0.29	1,621
Spent time in refugee camps	0.18	0.38	1,672
Spent time in immigration detention centre (IDC)	0.09	0.29	1,679
Spent time in community detention (CD)	0.03	0.18	1,668

Source: BNLA wave 1, own calculations.

[a] Principal applicant (PA) report only.

Concerning the post-migration period (Table 2.3), the descriptive statistics are reported separately for waves 1, 2 and 3 in order to highlight the changes that occurred on average at six months, one year and two years after arrival. About 11% have spent time on bridging visa (BV)[4] in Australia and the majority spent 6-11 months on BV.

An increasing proportion reports a good English proficiency: from 34% at the first interview to 43% at the second and 45% at the third interview. A large proportion had undertaken English training and study/job training across the three waves. Considering English training, the majority was enrolled in the Adult Migrant English Program (AMEP) at the first and third interviews. In terms of employment outcomes, the sample size for employed individuals increased over time, though the proportion of refugees employed in high-skilled occupations remains low; it actually went down from 12% in wave 1 to 5% in wave 3. Conversely, lower-skilled employment went up from 88% in wave 1 to 95% in wave 3.

[4]Bridging visas are temporary visas which allow people to legally reside in the Australian community while they are applying for a longer term visa, appealing a decision relating to their visa, or making arrangements to leave Australia.

Table 2.3.
Descriptive Statistics - Post-Migration Period

	Wave 1			*Wave 2*			*Wave 3*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Spent time on bridging visa (BV)	0.11	0.31	1,657						
English proficiency	0.34	0.48	1,688	0.43	0.5	1,703	0.45	0.5	1,686
Has undertaken English training	0.76	0.42	1,685	0.85	0.35	1,685	0.88	0.33	1,685
English training - AMEP	0.64	0.48	1,294				0.62	0.49	1,257
English training - LLNP	0.019	0.13	1,294				0.08	0.27	1,257
English training - TAFE	0.2	0.4	1,294				0.25	0.43	1,257
English training - secondary school	0.1	0.29	1,294				0.1	0.3	1,257
English training - other	0.07	0.25	1,294				0.06	0.23	1,257
Has undertaken study/job training	0.14	0.35	1,681	0.29	0.45	1,704	0.31	0.46	1,638
Study/job training - work experience	0.22	0.42	172	0.1	0.3	398	0.12	0.32	476
Study/job training - paid traineeship	0.09	0.28	172						
Study/job training - secondary school	0.3	0.46	172	0.13	0.34	398	0.16	0.37	476
Study/job training - short course	0.21	0.41	172	0.3	0.46	398	0.24	0.43	476
Study/job training - trade/technical	0.13	0.33	172	0.41	0.5	398	0.34	0.47	476
Study/job training - uni degree	0.13	0.33	172	0.05	0.22	398	0.09	0.28	476
Study/job training - other				0.07	0.26	398	0.12	0.32	476
Currently in paid work	0.05	0.22	1,688	0.14	0.34	1,703	0.2	0.4	1,685
Occupation - higher-skilled occupations	0.125	0.33	80	0.09	0.28	221	0.05	0.21	297
Occupation - lower-skilled occupations	0.875	0.33	80	0.91	0.28	221	0.95	0.21	297
Employment type - self-employed	0.08	0.27	79	0.05	0.21	188	0.12	0.33	329
Employment type - fixed-term contract	0.04	0.2	79	0.13	0.34	188	0.14	0.35	329
Employment type - casual basis	0.7	0.46	79	0.57	0.5	188	0.43	0.5	329
Employment type - permanent/ongoing basis	0.19	0.39	79	0.24	0.43	188	0.26	0.44	329
Hours per week	32.3	13.6	75	33.5	13.4	222	32	12.9	288
Hourly income (AUD)	21.4	15.9	61	19.2	16.6	199	21.6	16.4	271
Looked for paid work	0.18	0.39	1,604	0.28	0.45	868	0.33	0.47	1,661
Hard to get a job	0.9	0.31	372	0.81	0.39	435	0.83	0.37	549
Know how to look for a job	0.17	0.38	1,658	0.36	0.48	1,057	0.36	0.48	1,674
Kessler 6 - probable serious mental illness	0.18	0.38	1,651	0.16	0.37	1,701	0.19	0.39	1,674
May have post-traumatic stress disorder	0.35	0.48	1,649	0.29	0.45	1,671	0.33	0.47	1,652
Social network - friends	0.25	0.43	1,686						
Social network - relatives	0.56	0.5	1,686						
Social capital - relatives/friends	0.64	0.48	1,688						
Social capital - organisations	0.59	0.49	1,633	0.59	0.49	1,633	0.57	0.49	1,664

Source: BNLA waves 1-3, own calculations.
Notes: AMEP stands for "adult migrant english program"; LLNP for "language, literacy and numeracy program" and TAFE for "technical and further education".

Considering the employment type, fewer refugees are working on a casual basis. For those employed, refugees are working on average 32-33 hours per week (stable across waves) and earn on average 19-22 AUD per hour. As for refugees who are not employed, more of them are looking for paid work in wave 3 (33%) compared to wave 1 (18%) and wave 2 (28%). An increasing proportion knows how to look for a job between wave 1 (17%) and wave 2 (36%) though. There is no improvement in wave 3 (still 36%). Individuals were also asked about their health. Most of the refugees in the sample have no probable serious mental illness or post-traumatic stress disorder.

Finally, at the first interview, 25% had friends and 56% had relatives in Australia. Two proxies are constructed for social capital: (i) help received from relatives/friends is equal to 1 if the individual received help from relatives/friends when looking for a job or when looking for a house or if they received money from relatives/friends and is equal to zero otherwise and (ii) help received from organisations is equal to 1 if the individuals received support from either their ethnic group, religious group or any other community groups, and zero if not.[5]

Tables 2.4 to 2.8 report also the education mismatch transitions of the refugees between the occupational status in the job held in the home country before migration and the occupational status at the first, second and third interviews in Australia. The education-occupation mismatch is captured by comparing the level of education acquired by the refugee with the level of education required to perform the refugee's job as defined by the Australian Department of Immigration and Citizenship (DIAC).

The analysis uses the Australian Standard Classification of Occupation (ASCO) codes to divide the employed refugees into several occupational groups. For each occupation group, Australia's Department of Immigration and Citizenship (DIAC) associates a corresponding required level of education. Are considered as over-educated all the respondents who have a level of education that is above what is required by DIAC to have the occupation. This includes individuals who have a tertiary education or higher but have an occupation that requires only secondary level education, and individuals who have a university degree but have an occupation that requires only a vocational degree.

Conversely, the under-educated include individuals who have an education level lower than the one required for their job. ASCO is considered for the assessment

[5]64% received help from relatives/friends and 59% from organisations in wave 1. In wave 2, still 59% received help from organisations. Finally, in wave 3, a smaller proportion received help from organisations (57%).

of the education-occupation mismatch in the former home country as well since employers in Australia would most likely assess the former home country labour market experience of the refugees according to the Australian standards.

It is clear from Tables 2.4 to 2.6 that 93% of the refugees were unemployed at six months after arrival, with the highest incidence of unemployment among those who were already not working in the home country. The overall incidence of unemployment decreases at the second interview at one year after arrival to about 82% and to 76% at the third interview, which is conducted at two years after arrival.

Interestingly, the results seem to capture a signaling effect. Indeed, there is a persistence in the educational mismatch between home and host countries among those who were employed both prior to and after migration: 6% of the over-educated at home were over-educated in their job in Australia at six months after arrival; the rate increases to about 15% at one year after arrival and to about 18% at two years after arrival, as part of those who were initially unemployed enter into employment.

This can be observed with respect to under-education as well: of those who were under-educated at home, about 5.5% were under-educated at six months after arrival, 12% at one year after arrival and 13% at two years after immigration to Australia. Finally, 2% of the individuals that were correctly matched at home were also correctly matched at six months after migration. This proportion increases to 6% at one year after migration but decreases again to 2% at two years after arrival in Australia.

Considering the education mismatch transitions in Australia (Tables 2.7 and 2.8), the persistence in the educational mismatch is still noticeable even though the situation of the refugees improves. Indeed, 65% of the over-educated at six months after arrival are over-educated at the second interview. However, this proportion goes down to 39% at the third interview. With respect to under-education, 56% of the under-educated at six months after arrival are under-educated at the second interview. This proportion goes down to 51% at two years after arrival. Finally, around 32% of the refugees who were correctly matched at the first interview were correctly matched at one year after arrival; this proportion increases to 42% at two years after immigration to Australia.

Table 2.4. *Transition Matrix of Education Mismatch Between Home Country and Australia at the First Interview*

Education mismatch in home country	*Education mismatch in Australia - first interview*				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	100	0.00	0.00	0.00	100
Over-educated	89.06	6.25	1.56	3.13	100
Correctly matched	93.02	2.91	2.33	1.74	100
Under-educated	92.76	0.22	1.54	5.48	100
Total	92.81	1.38	1.66	4.15	100

Source: BNLA waves 1-3, own calculations.
Notes: the "not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

Table 2.5. *Transition Matrix of Education Mismatch Between Home Country and Australia at the Second Interview*

Education mismatch in home country	*Education mismatch in Australia - second interview*				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	90.00	10.00	0.00	2.38	100
Over-educated	78.46	15.38	3.08	3.08	100
Correctly matched	83.33	4.60	5.75	6.32	100
Under-educated	81.76	1.76	4.18	12.31	100
Total	82.18	4.01	4.28	9.53	100

Source: BNLA waves 1-3, own calculations.
Notes: the "not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

Table 2.6. *Transition Matrix of Education Mismatch Between Home Country and Australia at the Third Interview*

Education mismatch in home country	*Education mismatch in Australia - third interview*				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	79.31	3.45	6.90	10.34	100
Over-educated	72.13	18.03	4.92	4.92	100
Correctly matched	79.07	8.14	2.33	10.47	100
Under-educated	74.55	4.55	8.18	12.73	100
Total	75.64	6.55	6.41	11.40	100

Source: BNLA waves 1-3, own calculations.
Notes: the "not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

Table 2.7. *Transition Matrix of Education Mismatch in Australia Between the First and the Second Interview*

Education mismatch in Australia - first interview	*Education mismatch in Australia - second interview*				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	89.97	2.15	2.27	5.62	100
Over-educated	20.00	65.00	0.00	15.00	100
Correctly matched	47.37	0.00	31.58	21.05	100
Under-educated	25.64	2.56	15.38	56.41	100
Total	87.13	2.89	2.89	7.10	100

Source: BNLA waves 1-3, own calculations.
Notes: the "not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

Table 2.8. *Transition Matrix of Education Mismatch in Australia Between the First and the Third Interview*

Education mismatch in Australia - first interview	*Education mismatch in Australia - third interview*				
	Unemployed	Over-educated	Correctly matched	Under-educated	Total
Not working	85.01	3.89	3.89	7.20	100
Over-educated	44.44	38.89	5.56	11.11	100
Correctly matched	26.32	0.00	42.11	31.58	100
Under-educated	25.64	0.00	23.08	51.28	100
Total	82.44	4.14	4.82	8.60	100

Source: BNLA waves 1-3, own calculations.
Notes: the "not working" subgroup in the case of "education-occupation mismatch in the home country" includes besides unemployed also individuals that were not in the labour force, since some of them are employed or are looking for a job once in Australia.

2.4 Empirical Methodology

In order to investigate the refugees' labour market integration, a number of employment outcomes are examined such as 1) access to employment, 2) access to stable employment (permanent/ongoing basis, self-employed, fixed-term contract or on casual basis), 3) the hourly income and finally, 4) the education-occupation mismatch (i.e. being over-/under-educated as opposed to being correctly matched). Each wave is examined subsequently in order to highlight the differentiated impacts over time. Moreover, the essay focuses on male refugees due to the limited number of female refugees that participate in the labour market in the sample.

For access to employment, a simple binary logit model is used. However, since the other outcomes (from 2 to 4) are observed only for the employed individuals, an exclusive focus on those refugees who have an occupation may overlook the fact that they might constitute a non-randomly selected sub-sample. The analysis relies

on an Heckman selection model in order to correct for eventual sample selection bias. Therefore, any employment outcome (from 2 to 4) can be expressed by a two-equation model. First, there is the regression model:

$$Y_{1,i} = \beta_1 X_i + \beta_2 Z_i + u_i, \tag{2.1}$$

where $Y_{1,i}$ is the outcome of interest of an individual i, X_i are the variables of interest and Z_i is a set of controls. There is also the selection model:

$$Y_{2,i} = \gamma_1 Z_i + v_i, \tag{2.2}$$

where $Y_{2,i} = 1$ if the individual is employed and $Y_{2,i} = 0$ if not. The variable $Y_{1,i}$ is only observed if $Y_{2,i} = 1$. Equation (2.2) is fully observed and can be estimated separately. Several parameters are included in the selection equation: age, age-squared, the marital status, the size of the household.

The knowledge about finding a job in Australia is used as the instrument since it has a direct impact on the probability of being employed but has no direct impact on other employment outcomes: stability of job, education-occupation mismatch, etc. To verify the validity of the instrument, the variable is included in the selection as well as in the outcome equation (Murray 2006). The extent to which the individual knows how to find a job in Australia has a significant impact on the probability of being employed (selection equation) but is insignificant in the outcome equation.

In the regression model, the covariates of interest are the following: pre-migration education, pre-migration work experience, migration experiences proxied by whether the individual has visited another country before going to Australia, English proficiency as well as English training and study/job training undertaken in Australia, whether the individual has spent time in refugee camps, in immigration detention centre, in community detention and on bridging visa, whether the individual has a probable serious mental illness and two proxies for social capital: help received from organisations and relatives/friends.

Finally, several background variables that are potential sources of variation in economic integration and/or have been found to affect economic outcomes in previous research on refugees and immigrants are included: age, age-squared, being married/having a partner, the region of birth, the size of the migrating unit, whether the individual lives in major cities in Australia and finally, the length of residence in Australia.

2.5 Results

The analysis proceeds as follows. First, the results of the logistic regression are examined to identify the factors that influence the access to employment. Then, an Heckman selection model is used in order to look at the following employment outcomes: access to stable employment, the hourly income and the probability of having an educational mismatch (being over-/under-educated or being correctly matched). As already mentioned before, the results are examined separately for each wave in order to highlight the differentiated impacts over time.

2.5.1 Access to Employment

The results in Table 2.9 show that pre-migration education does not improve the probability of being employed at six months and one year after arrival. Only refugees who possess a tertiary education are more likely to gain employment at two years after arrival. This is consistent with the fact that origin country human capital is imperfectly transferable to the host country.

Second, refugees who have a good English proficiency are more likely to gain employment, with the impact even stronger over time; but those who undertake English training in Australia are less likely to gain employment at one year after arrival. This is perhaps because the English training programmes in Australia, such as the Language, Literacy and Numeracy Program (LLNP), are offered only to eligible job seekers whose LLN skills are below the level considered necessary to secure sustainable employment. However, for individuals that are undertaking English training alongside working, the impact remains significantly negative. One potential explanation for this negative impact of English training on employment is that English training is time-consuming and, therefore, affect the time allocated for work.

Refugees who have spent time in refugee camps are more likely to be employed at six months and one year after arrival. This is possibly due to the fact that they have accumulated human capital in camps as some offer English classes, training and schooling. Refugees who have spent time on bridging visa are more likely to be employed at one year after arrival. Indeed, bridging visas have an average duration of less than a year. Therefore, as soon as the temporary visa ends, it is easier for the refugee to gain employment.

As expected, individuals who have a probable serious mental illness are less

Table 2.9.
Access to Employment - Logit Model

	Male in employment		
	Wave 1	*Wave 2*	*Wave 3*
Age	0.01	0.033***	0.021*
	(1.15)	(2.87)	(1.80)
Age^2	-0.00017	-0.0005***	-0.0004***
	(-1.43)	(-3.31)	(-2.59)
Married/having a partner	0.016	-0.04	0.023
	(0.59)	(-1.05)	(0.53)
North Africa and the Middle East	-0.125**	-0.2**	-0.192**
	(-2.08)	(-2.58)	(-1.97)
South-East Asia	-0.107	-0.11	0.035
	(-1.29)	(-1.15)	(0.30)
Southern and Central Asia	-0.033	-0.053	-0.0456
	(-0.59)	(-0.72)	(-0.45)
Size household	-0.005	-0.006***	-0.037***
	(-1.10)	(-0.77)	(-4.08)
Lives in major cities in Australia	-0.122***	-0.095**	-0.137**
	(-3.65)	(-1.97)	(-2.21)
Length of residence - one year	0.108***	0	0
	(3.24)	(.)	(.)
Length of residence - two years	0.15	-0.005	0.067
	(1.64)	(-0.05)	(0.94)
Length of residence - three years or more	0.148*	0.029	0.085
	(1.93)	(0.28)	(0.72)
Pre-migration primary education	-0.018	-0.038	0.05
	(-0.61)	(-0.75)	(0.97)
Pre-migration secondary education	0.04	-0.016	0.074
	(1.08)	(-0.28)	(1.22)
Pre-migration senior secondary education	-0.036	-0.055	0.05
	(-1.15)	(-1.01)	(0.90)
Pre-migration tertiary education	0.079	-0.023	0.113*
	(1.61)	(-0.34)	(1.71)
Pre-migration employment	0.045	0.007	0.017
	(1.57)	(0.19)	(0.41)
Visited another country before going to Australia	-0.04	0.029	0.043
	(-1.39)	(0.56)	(0.73)
English proficiency	0.043*	0.066*	0.083**
	(1.74)	(1.91)	(2.26)
English training	-0.028	-0.09**	-0.075
	(-1.27)	(-2.39)	(-1.49)
Study/job training	-0.015	0.047	0.008
	(-0.55)	(1.42)	(0.20)
Spent time in refugee camps	0.05*	0.078**	0.056
	(1.68)	(1.99)	(1.26)
Spent time in immigration detention centres	0.057	-0.03	0.018
	(1.45)	(-0.35)	(0.20)
Spent time in community detention	-0.057	0.035	-0.032
	(-1.63)	(0.56)	(-0.46)
Spent time on bridging visa	0.005	0.163**	0.019
	(0.14)	(2.37)	(0.26)
Kessler 6 - probable serious mental illness	-0.078**	-0.0168	-0.175***
	(-2.02)	(-0.36)	(-3.27)
Social capital - organisations	-0.07***	-0.032	0.0025
	(-3.24)	(-1.07)	(0.08)
Social capital - relatives/friends	0.1***	0.096***	-0.011
	(3.17)	(2.74)	(-0.34)
N	650	667	655

Source: BNLA waves 1-3, own calculations.
Notes: The base group for "length of residence" is "less than six months"; and for education the base group is "no education". The estimates reported are the marginal effects. t statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

likely to be employed at six months and two years after arrival. Finally, those who have received help from organisations are less likely to gain employment at six months after arrival whereas those who have received help from relatives/friends have significantly higher chances of being employed at six months and one year after arrival. In fact, networks can provide not only emotional and material support but also information about labour market opportunities (Correa-Velez, Barnett and Gifford 2015).

2.5.2 Access to Stable Employment

Turning to the type of employment, the analysis relies on an Heckman selection model. The results of the regressions of being in a permanent job (on an ongoing basis), in self-employment, in fixed-term contracts and on a casual basis are presented in Table 2.10. First, the selection into employment is found to be positively related to age and to how much the individual knows about how to look for a job in Australia. The probability of being employed is negatively affected by age-squared and household size.

Refugees who have pre-migration education are more likely to gain a permanent position in the long run. Besides, those who have visited another country before coming to Australia are significantly more likely to occupy a permanent position at six months after arrival. One potential explanation is that they may have accumulated more human capital which allows them to have access to certain types of occupations in the short term. A good English proficiency has a long-lasting positive effect: it improves the chances of having a permanent position at six months and two years after arrival. Refugees who have spent time in refugee camps, in community detention or on bridging visa are more likely to have a permanent job at two years after arrival in Australia. Indeed, it is not surprising that refugees who have spent time in detention or on temporary visas take longer to find a stable job. Finally, networks contribute to deliver information about labour market opportunities since receiving help from relatives/friends and organisations increases the likelihood of having a permanent job at one year and two years after arrival, respectively. On the other hand, undertaking English training or study/job training in Australia decreases the chances of occupying a permanent position in Australia. This is likely due to the fact that training is time-consuming and, therefore, it might affect the time allocated for work.

Considering self-employment, refugees who have pre-migration education and

work experience and who have visited another country before coming to Australia are more likely to be self-employed at six months and one year after arrival. On the other hand, those who have a good English proficiency, who have spent time in refugee camps, in immigration detention centres or in community detention are less likely to be self-employed. One potential explanation for refugees who have a good English proficiency is that they might have other competing opportunities at six months after arrival. Spending time in refugee camps or in detention often leads to psychological and interpersonal difficulties for the refugees which might affect the capacity of the refugee to be self-employed. Those who have spent time on bridging visa are also less likely to be self-employed in the short term. Indeed, having a temporary visa might be a constraint when starting a business in Australia.[6] The refugees themselves could also be reluctant to start a business due to the uncertainty of their status. However, at one year after arrival, those who have a good English proficiency and who have spent time on bridging visa are more likely to be self-employed. Finally, those who have undertaken study/job training in Australia are more likely to be self-employed at six months after arrival. This is probably due to the fact that self-employed individuals can manage their own schedule and therefore, it is easier to work as self-employed alongside undertaking training.

Having pre-migration education, pre-migration work experience and migration experiences reduces the probability of having a fixed-term contract. On the opposite side, refugees who have spent time in community detention are more likely to have a fixed-term contract at six months after arrival. Similarly, refugees who have spent time on bridging visa are more likely to have a fixed-term contract at one year after arrival. One reason could be that employers prefer to provide a fixed-term contract to refugees on temporary visas and who have spent time in detention.

Finally, considering the probability of working on a casual basis, as expected, those with pre-migration education, who have visited another country before going to Australia, who have a good English proficiency and who received help from relatives/friends are significantly less likely to work on a casual basis. On the other hand, refugees who have spent time in refugee camps have more risks to work on a casual basis. Refugees who have spent time on bridging visa are affected only in the short run as they have more risks to work on a casual basis at six months after arrival. However, later on, having spent time on bridging visa decreases the likelihood to work on a casual basis at one year and two years after arrival. Again,

[6]Some bridging visas have permission to work as self-employed but not all. It depends on the conditions attached to the bridging visa. More information is available at https://www.border.gov.au/Trav/Visi/Visi/Bridging-visas.

Table 2.10.
Access to Stable Employment - Heckman Selection Model Two-step Estimates

	Permanent/ongoing basis			*Self-employed*			*Fixed-term contract*			*Casual basis*		
	Wave 1	*Wave 2*	*Wave 3*	*Wave 1*	*Wave 2*	*Wave 3*	*Wave 1*	*Wave 2*	*Wave 3*	*Wave 1*	*Wave 2*	*Wave 3*
Age	-0.0165	0.0312	0.0710**	-0.0772**	0.0139	-0.0259	-0.04*	-0.0594**	-0.0349	0.134**	0.0143	0.00767
	(-0.34)	(0.89)	(2.37)	(-2.14)	(0.75)	(-1.21)	(-1.95)	(-1.99)	(-1.53)	(2.23)	(0.36)	(0.23)
Age^2	0.000228	-0.000416	-0.000975**	0.000979*	-0.000166	0.000291	0.000691**	0.000861**	0.000530*	-0.00190**	-0.000279	-0.000129
	(0.33)	(-0.85)	(-2.33)	(1.94)	(-0.65)	(0.97)	(2.41)	(2.09)	(1.66)	(-2.26)	(-0.51)	(-0.27)
Married/having a partner	0.265**	-0.0996	-0.173**	0.237**	0.0537	0.132**	0.0118	-0.0698	0.0921	-0.513***	0.116	0.00320
	(1.98)	(-1.09)	(-2.17)	(2.45)	(1.11)	(2.33)	(0.21)	(-0.90)	(1.52)	(-3.15)	(1.12)	(0.04)
North Africa and the Middle East	1.698***	0.133	0.0287	-0.508**	0.0701	0.147	-0.0499	0.182	0.0880	-1.141***	-0.385**	-0.411**
	(5.48)	(0.79)	(0.20)	(-2.16)	(0.79)	(1.40)	(-0.37)	(1.28)	(0.79)	(-2.99)	(-2.02)	(-2.48)
South-East Asia	2.881***	0.301	0.0928	-1.119***	-0.0101	0.0609	-0.0527	0.121	0.150	-1.709***	-0.412*	-0.409**
	(7.27)	(1.46)	(0.54)	(-3.66)	(-0.09)	(0.50)	(-0.30)	(0.70)	(1.15)	(-3.50)	(-1.77)	(-2.11)
Southern and Central Asia	0.0577	-0.0837	0.0933	-0.131	0.133	0.151	-0.105	-0.0354	-0.0296	0.178	-0.0136	-0.324*
	(0.23)	(-0.54)	(0.62)	(-0.69)	(1.62)	(1.41)	(-0.97)	(-0.27)	(-0.26)	(0.58)	(-0.08)	(1.91)
Size household	-0.00918	0.0196	0.0223	0.0227	0.0176*	0.0207	-0.0106	0.00464	-0.0164	-0.00293	-0.0418**	-0.0344
	(-0.38)	(1.15)	(0.92)	(1.29)	(1.94)	(1.20)	(-1.06)	(0.32)	(-0.89)	(-0.10)	(-2.16)	(-1.26)
Lives in major cities in Australia	-0.170	-0.0156	0.126	0.195**	-0.0682	-0.0280	0.0665	-0.270***	-0.0448	-0.0907	0.354***	0.0387
	(-1.57)	(-0.15)	(1.34)	(2.40)	(-1.22)	(-0.41)	(1.44)	(-3.01)	(-0.62)	(-0.68)	(2.95)	(0.36)
Length of residence - one year	-1.334***	0	0	0.347*	0	0	-0.0102	0	0	0.998***	0	0
	(-5.20)	(.)	(.)	(1.76)	(.)	(.)	(-0.09)	(.)	(.)	(3.16)	(.)	(.)
Length of residence - two years	-1.044***	0.0178	0.0198	0.194	0.257**	0.210**	-0.173	-0.426**	-0.0571	1.023**	0.151	-0.131
	(-3.13)	(0.08)	(0.14)	(0.77)	(2.11)	(2.01)	(-1.21)	(-2.18)	(-0.51)	(2.50)	(0.58)	(-0.79)
Length of residence - three years or more	0.584**	0.107	-0.395*	0.649***	0.173	0.188	-0.0534	-0.499**	-0.0530	-1.179***	0.219	0.301
	(2.07)	(0.46)	(-1.71)	(3.06)	(1.42)	(1.13)	(-0.44)	(-2.55)	(-0.30)	(-3.40)	(0.83)	(1.15)
Pre-migration primary education	0.0216	0.0702	0.115	0.101	0.0896	0.00203	-0.105**	0.0330	-0.0785	-0.0172	-0.193	-0.0550
	(0.19)	(0.66)	(1.10)	(1.16)	(1.59)	(0.03)	(-2.14)	(0.37)	(-0.98)	(-0.12)	(-1.59)	(-0.47)
Pre-migration secondary education	0.0309	0.144	0.277**	0.551****	0.113*	0.0989	-0.0925*	0.0342	-0.0659	-0.489***	-0.291**	-0.363***
	(0.25)	(1.19)	(2.43)	(5.90)	(1.77)	(1.21)	(-1.74)	(0.33)	(-0.75)	(-3.24)	(-2.12)	(-2.81)
Pre-migration senior secondary education	-0.123	0.256**	0.165	0.368***	0.183***	0.0593	-0.0933	-0.194*	0.0975	-0.152	-0.245*	-0.382***
	(-0.76)	(2.06)	(1.41)	(3.02)	(2.78)	(0.71)	(-1.35)	(-1.85)	(1.09)	(-0.77)	(-1.74)	(-2.88)
Pre-migration tertiary education	-0.287*	0.278*	0.209	0.302**	0.00555	-0.0271	-0.0970	-0.221*	0.0767	0.0822	-0.0634	-0.279*
	(-1.67)	(1.91)	(1.60)	(2.32)	(0.07)	(-0.29)	(-1.31)	(-1.79)	(0.77)	(0.39)	(-0.38)	(-1.89)
Pre-migration employment	0.0845	-0.0586	-0.0102	0.00140	0.0945*	0.0478	0.0321	0.0539	-0.151***	-0.118	-0.0898	0.0771
	(0.60)	(-0.61)	(-0.14)	(0.01)	(1.88)	(0.90)	(0.53)	(0.67)	(-2.66)	(-0.69)	(-0.83)	(0.92)

Table 2.10.
Access to Stable Employment - Heckman Selection Model Two-step Estimates (Continued)

Visited another country before Australia	0.414**	0.197	-0.0966	0.0511	0.137**	0.107	0.0105	-0.358***	0.0312	-0.475**	0.0242	-0.0946
	(2.39)	(1.59)	(-0.88)	(0.39)	(2.10)	(1.36)	(0.14)	(-3.42)	(0.37)	(-2.24)	(0.17)	(-0.76)
English proficiency	0.398***	0.0279	0.149**	-0.302***	0.0767*	0.0165	0.0521	-0.0298	-0.0389	-0.149	-0.0748	-0.158*
	(3.04)	(0.34)	(2.06)	(-3.06)	(1.76)	(0.32)	(0.93)	(-0.43)	(-0.70)	(-0.92)	(-0.80)	(-1.92)
English training	0.133	-0.0799	-0.205**	-0.0625	0.00570	0.0802	-0.00779	0.00991	-0.0320	-0.0625	0.0643	0.0978
	(1.50)	(-1.00)	(-2.40)	(-0.94)	(0.13)	(1.31)	(-0.21)	(0.15)	(-0.49)	(-0.58)	(0.71)	(1.01)
Study/job training	-0.248**	-0.139*	-0.0798	0.130*	-0.00798	0.0781	-0.0525	0.0665	-0.0795	0.170	0.0800	0.120
	(-2.48)	(-1.84)	(-1.15)	(1.72)	(-0.20)	(1.57)	(-1.22)	(1.05)	(-1.50)	(1.39)	(0.94)	(1.52)
Spent time in refugee camps	-0.0574	0.0906	0.131*	-0.167**	0.00756	0.0559	-0.0653	-0.0450	-0.0843	0.290**	-0.0531	-0.0294
	(-0.53)	(0.92)	(1.68)	(-2.02)	(0.15)	(1.01)	(-1.39)	(-0.54)	(-1.42)	(2.17)	(-0.48)	(-0.33)
Spent time in immigration detention centres	1.304***	0.121	0.0227	0.301	-0.378***	0.0691	-0.0553	0.140	0.0560	-1.550***	0.117	-0.118
	(3.91)	(0.57)	(0.15)	(1.18)	(-3.39)	(0.62)	(-0.38)	(0.78)	(0.47)	(-3.77)	(0.49)	(-0.67)
Spent time in community detention	-0.0613	0.0615	0.240**	-0.0953	-0.115*	-0.159**	0.171***	-0.130	-0.0540	-0.0140	0.184	-0.0348
	(-0.51)	(0.53)	(2.12)	(-1.06)	(-1.89)	(-1.97)	(3.33)	(-1.33)	(-0.63)	(-0.09)	(1.40)	(-0.27)
Spent time on bridging visa	0.134	-0.0978	0.377**	-0.774***	0.161*	0.0898	0.0610	0.322**	-0.105	0.579*	-0.385*	-0.356**
	(0.54)	(-0.55)	(2.40)	(-4.12)	(1.70)	(0.80)	(0.57)	(2.12)	(-0.88)	(1.89)	(-1.89)	(-2.00)
Kessler 6 - probable serious mental illness	0.922***	-0.0695	0.130	0.338**	-0.0421	0.169**	0.0966	0.00584	-0.105	-1.357***	0.106	-0.119
	(4.80)	(-0.64)	(1.14)	(2.35)	(-0.74)	(2.06)	(1.18)	(0.06)	(-1.19)	(-5.76)	(0.86)	(-0.92)
Social capital - organisations	-0.00851	0.0144	0.118**	0.0439	-0.0658*	-0.0579	-0.00357	-0.0360	-0.0476	-0.0319	0.0874	0.0165
	(-0.08)	(0.22)	(2.03)	(0.58)	(-1.93)	(-1.39)	(-0.08)	(-0.66)	(-1.07)	(-0.26)	(1.20)	(0.25)
Social capital - relatives/friends	-0.158	0.204**	-0.0810	0.0715	0.0578	0.0483	-0.00737	0.0959	-0.0374	0.0938	-0.358***	0.0443
	(-1.38)	(2.13)	(-1.40)	(0.84)	(1.14)	(1.16)	(-0.15)	(1.18)	(-0.84)	(0.67)	(-3.30)	(0.68)
Selection equation (Prob. of being employed)												
Age	0.142**	0.110**	0.136***	0.142**	0.110**	0.136***	0.142**	0.110**	0.136***	0.142**	0.110**	0.136***
	(2.47)	(2.50)	(3.38)	(2.47)	(2.50)	(3.38)	(2.47)	(2.50)	(3.38)	(2.47)	(2.50)	(3.38)
Age^2	-0.00215***	-0.00175***	-0.00211***	-0.00215***	-0.00175***	-0.00211***	-0.00215***	-0.00175***	-0.00211***	-0.00215***	-0.00175***	-0.00211***
	(-2.68)	(-3.03)	(-4.03)	(-2.68)	(-3.03)	(-4.03)	(-2.68)	(-3.03)	(-4.03)	(-2.68)	(-3.03)	(-4.03)
Married/having a partner	0.123	-0.0749	0.468***	0.123	-0.0749	0.468***	0.123	-0.0749	0.468***	0.123	-0.0749	0.468***
	(0.65)	(-0.49)	(3.27)	(0.65)	(-0.49)	(3.27)	(0.65)	(-0.49)	(3.27)	(0.65)	(-0.49)	(3.27)
Size household	-0.0915***	-0.0536*	-0.202***	-0.0915***	-0.0536*	-0.202***	-0.0915***	-0.0536*	-0.202***	-0.0915***	-0.0536*	-0.202***
	(-2.65)	(-1.79)	(-7.29)	(-2.65)	(-1.79)	(-7.29)	(-2.65)	(-1.79)	(-7.29)	(-2.65)	(-1.79)	(-7.29)
Know how to look for a job	0.788***	0.871***	0.858***	0.788***	0.871***	0.858***	0.788***	0.871***	0.858***	0.788***	0.871***	0.858***
	(5.46)	(7.19)	(7.62)	(5.46)	(7.19)	(7.62)	(5.46)	(7.19)	(7.62)	(5.46)	(7.19)	(7.62)
N	848	722	825	848	722	825	848	722	825	848	722	825

Source: BNLA waves 1-3, own calculations.
Notes: The base group for "length of residence" is "less than six months"; and for education the base group is "no education". The estimates reported are the marginal effects. t statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

it is not surprising that individuals who have spent time in refugee camps or who are on temporary visas are the ones most likely to occupy least stable jobs at six months after arrival.

2.5.3 Earnings Outcomes

The results in Table 2.11 show that there are no, or in some cases negative, returns to pre-migration education in the short term. However, pre-migration education starts to significantly increase the hourly income of the refugees at two years after arrival, mainly for the primary and secondary educated; tertiary education has no effect on refugees' income. Pre-migration work experience and migration experiences also have a negative effect on income levels at six months and one year after arrival, but no discernible effect after two years of being in Australia.

As expected, those who have spent time in refugee camps and in immigration detention centres have lower wages at six months after arrival while those who have spent time in community detention have a lower hourly income at two years after arrival. These results reflect the hysteresis hypothesis. Those who have spent time in camps or in detention were probably unable to work which plays the role of a signal for employers: a lack of work experience has a detrimental effect on the existing level of human capital. As a result, refugees have lower wages later on, even if they do find a job. Moreover, the results show that receiving help from relatives/friends results in a higher income level for refugees only at six months after arrival but not later.

The findings are in line with existing empirical studies looking at immigrants. For instance, considering the insignificant impact of study/job training undertaken in Australia, Parasnis, Fausten and Cheo (2008) also found that Australian qualifications do not result in better earnings outcomes for migrants. With respect to receiving help from social networks, Piracha, Tani and Vaira-Lucero (2016) show that social capital has no effect on hourly wages of immigrant men in Australia.

Table 2.11.
The Hourly Income - Heckman Selection Model Two-Step Estimates

	Log hourly income		
	Wave 1	*Wave 2*	*Wave 3*
Age	0.0342	-0.107	0.0304
	(0.24)	(-1.30)	(0.75)
Age^2	-0.000877	0.00140	-0.000425
	(-0.44)	(1.21)	(-0.76)
Married/having a partner	0.583	0.173	0.0895
	(1.59)	(0.82)	(0.75)
North Africa and the Middle East	-2.579***	-0.877*	-0.0472
	(-4.50)	(-1.87)	(-0.20)
South-East Asia	-1.950**	-0.527	0.0440
	(-2.34)	(-0.92)	(0.17)
Southern and Central Asia	-0.429	-0.731	0.182
	(-0.65)	(-1.64)	(0.75)
Size household	0.0767	0.0401	-0.0132
	(1.31)	(0.93)	(-0.42)
Lives in major cities in Australia	-0.198	0.331	-0.104
	(-0.62)	(1.23)	(-0.76)
Length of residence - one year	1.442***	0	0
	(2.93)	(.)	(.)
Length of residence - two years	0.897	-0.730	0.473*
	(1.52)	(-1.21)	(2.05)
Length of residence - three years or more	-1.892***	-0.944*	0.466
	(-2.58)	(-1.71)	(1.24)
Pre-migration primary education	-0.688**	-0.116	0.375**
	(-2.32)	(-0.45)	(2.41)
Pre-migration secondary education	-0.136	-0.474*	0.242
	(-0.42)	(-1.65)	(1.42)
Pre-migration senior secondary education	-0.140	-0.684**	0.323*
	(-0.36)	(-2.34)	(1.84)
Pre-migration tertiary education	0.527	-0.380	0.281
	(1.05)	(-1.12)	(1.44)
Pre-migration employment	-0.246	-0.435**	-0.00613
	(-0.70)	(-2.01)	(-0.05)
Visited another country before going to Australia	-1.017**	-0.501*	0.0198
	(-2.05)	(-1.68)	(0.12)
English proficiency	-0.417	0.316	0.166
	(-1.39)	(1.60)	(1.56)
English training	0.0397	-0.130	-0.138
	(0.18)	(-0.71)	(-1.09)
Study/job training	0.357	-0.0490	-0.0398
	(1.60)	(-0.28)	(-0.39)
Spent time in refugee camps	-0.607***	-0.370	0.0518
	(-2.64)	(-1.55)	(0.45)
Spent time in immigration detention centres	-2.106***	0.216	-0.0750
	(-3.80)	(0.44)	(-0.31)
Spent time in community detention	0.102	0.0395	-0.289*
	(0.30)	(0.13)	(-1.73)
Spent time on bridging visa	0	0.445	-0.0600
	(.)	(1.03)	(-0.20)
Kessler 6 - probable serious mental illness	-0.761	0.350	-0.0291
	(-1.34)	(1.40)	(-0.17)
Social capital - organisations	-0.0439	-0.177	-0.0521
	(-0.19)	(-1.14)	(-0.62)
Social capital - relatives/friends	0.827**	-0.0842	0.0541
	(2.29)	(-0.35)	(0.66)
Selection equation (Probability of being employed)			
Age	0.127**	0.102**	0.0971**
	(2.09)	(2.23)	(2.51)
Age^2	-0.00192**	-0.00164***	-0.00154***
	(-2.26)	(-2.72)	(-3.12)
Married/having a partner	-0.0742	-0.0998	0.469***
	(-0.37)	(-0.63)	(3.20)
Size household	-0.0548	-0.0476	-0.159***
	(-1.55)	(-1.53)	(-5.68)
Know how to look for a job	0.705***	0.924***	0.864***
	(4.54)	(7.27)	(7.43)
N	851	721	831

Source: BNLA waves 1-3, own calculations.
Notes: The base group for "length of residence" is "less than six months"; and for education the base group is "no education". The estimates reported are the marginal effects. t statistics in parentheses. * $p < 0.1$,** $p < 0.05$, *** $p < 0.01$.

2.5.4 The Education-Occupation Mismatch

As explained in Section 2.3, employed individuals are defined as educationally overqualified or not by comparing the highest attained level of education with the level/status of current employment. Table 2.12 displays the results for the probability for refugees of being over-educated, under-educated and correctly matched at the first, second and third interviews.

Refugees who have a senior secondary or tertiary education are more likely to be over-educated and less likely to be under-educated in Australia in the long run. Similarly, those who have a good English proficiency and those who have undertaken study/job training in Australia are more likely to be over-educated and less likely to be under-educated at six months after arrival. This can be explained by the fact that refugees who have a good English proficiency are likely to be the ones the most educated. And as expected, the risks of being over-educated are higher for refugees who have a higher level of human capital. Besides, those who have spent time in immigration detention centres or in community detention are more likely to be over-educated and less likely to be under-educated. Indeed, spending time in detention is a bad signal for employers, resulting in refugees finding jobs that do not commensurate their education level. Furthermore, time in detention is likely to be associated with loss of confidence, motivation and poor mental health for refugees which also reduces the likelihood of finding an educationally appropriate job in the host country. On the contrary, those with pre-migration work experience as well as those who have visited another country before going to Australia and who have received help from organisations are less likely to be over-educated and more likely to be under-educated. Finally, receiving help from relatives/friends decreases under-education at six months after arrival and increases the risks of being over-educated at two years after arrival.

The factors that influence the probability of being correctly matched are now examined. Refugees who have a primary or secondary education are more likely to occupy an educationally appropriate job at six months after arrival whereas those who have a senior secondary or tertiary education are less likely to be correctly matched at one or two years after arrival. Indeed, since origin country human capital is imperfectly transferable to the host country, having a higher level of education from the origin country increases the risks of not having an educationally appropriate job. Refugees who have visited another country before going to Australia are less likely to be correctly matched in the short run.

Table 2.12.
The Education-Occupation Mismatch - Heckman Selection Model Two-Step Estimates

	Over-educated			*Under-educated*			*Correctly matched*		
	Wave 1	*Wave 2*	*Wave 3*	*Wave 1*	*Wave 2*	*Wave 3*	*Wave 1*	*Wave 2*	*Wave 3*
Age	-0.00882	0.0285	-0.0171	-0.0516	-0.00971	-0.0613*	0.0604	-0.0187	0.0784***
	(-0.23)	(1.13)	(-0.65)	(-0.98)	(-0.28)	(-1.76)	(1.11)	(-0.61)	(2.59)
Age^2	0.000131	-0.000417	0.000291	0.000583	0.000272	0.000773	-0.000714	0.000145	-0.00106**
	(0.24)	(-1.21)	(0.79)	(0.78)	(0.58)	(1.60)	(-0.93)	(0.34)	(-2.54)
Married/having a partner	0.215**	-0.163**	-0.115*	-0.0317	0.236**	0.169*	-0.183	-0.0725	-0.0540
	(2.26)	(-2.39)	(-1.66)	(-0.25)	(2.52)	(1.87)	(-1.40)	(-0.88)	(-0.69)
North Africa and the Middle East	0.336	-0.0786	-0.0765	-0.847**	0.0802	-0.0628	0.511	-0.00169	0.139
	(1.45)	(-0.63)	(-0.59)	(-2.57)	(0.47)	(-0.37)	(1.48)	(-0.01)	(0.95)
South-East Asia	0	-0.0426	0.0339	0	-0.451**	-0.239	0	0.493**	0.205
	(.)	(-0.27)	(0.23)	(.)	(-2.10)	(-1.25)	(.)	(2.51)	(1.23)
Southern and Central Asia	0.181	-0.0109	0.0538	-0.227	0.115	-0.200	0.0454	-0.104	0.146
	(0.85)	(-0.09)	(0.41)	(-0.74)	(0.72)	(-1.17)	(0.14)	(-0.72)	(0.98)
Size household	-0.0253	0.00810	0.0151	-0.0223	-0.0194	0.00195	0.0476**	0.0113	-0.0171
	(-1.51)	(0.63)	(0.76)	(-1.01)	(-1.10)	(0.08)	(2.12)	(0.73)	(-0.76)
Lives in major cities in Australia	-0.226***	-0.158**	-0.0530	0.599***	0.259**	0.308***	-0.373***	-0.100	-0.255***
	(-2.71)	(-2.08)	(-0.65)	(5.17)	(2.50)	(2.89)	(-3.09)	(-1.06)	(-2.75)
Length of residence - one year	0.127	0	0	0.458**	0	0	-0.585***	0	0
	(0.86)	(.)	(.)	(2.20)	(.)	(.)	(-2.68)	(.)	(.)
Length of residence - two years	0.764***	-0.480***	0.178	0.404	0.344	-0.250	-1.167***	0.136	0.0721
	(3.54)	(-2.88)	(1.39)	(1.35)	(1.52)	(-1.49)	(-3.76)	(0.66)	(0.50)
Length of residence - three years or more	0.224	-0.437**	0.225	0.565**	0.338	0.0678	-0.789***	0.0986	-0.293
	(1.21)	(-2.57)	(1.14)	(2.19)	(1.46)	(0.26)	(-2.94)	(0.47)	(-1.30)
Pre-migration primary education	-0.0967	-0.0370	0.0761	-0.135	0.200*	0.0141	0.232*	-0.163*	-0.0902
	(-1.11)	(-0.48)	(0.83)	(-1.09)	(1.90)	(0.12)	(1.79)	(-1.69)	(-0.86)
Pre-migration secondary education	-0.123	-0.0468	0.0845	-0.232*	0.0701	-0.118	0.354**	-0.0234	0.0331
	(-1.31)	(-0.52)	(0.83)	(-1.75)	(0.58)	(-0.88)	(2.54)	(-0.21)	(0.29)
Pre-migration senior secondary education	0.0965	0.346***	0.584***	0.0402	0.0490	-0.146	-0.137	-0.396***	-0.437***
	(0.80)	(3.81)	(5.61)	(0.23)	(0.40)	(-1.07)	(-0.76)	(-3.52)	(-3.69)
Pre-migration tertiary education	0.692***	0.927***	0.704***	-0.606***	-0.681***	-0.621***	-0.0859	-0.246*	-0.0834
	(5.38)	(8.37)	(6.09)	(-3.33)	(-4.54)	(-4.10)	(-0.45)	(-1.80)	(-0.63)
Pre-migration employment	-0.201*	0.0482	0.0895	0.270*	-0.121	0.00535	-0.0685	0.0730	-0.0949
	(-1.82)	(0.72)	(1.40)	(1.74)	(-1.34)	(0.06)	(-0.42)	(0.89)	(-1.31)

Table 2.12.
The Education-Occupation Mismatch - Heckman Selection Model Two-Step Estimates (Continued)

Visited another country before going to Australia	0.178*	-0.177**	-0.176*	0.199	0.100	0.239*	-0.377**	0.0768	-0.0636
	(1.75)	(-1.98)	(-1.87)	(1.40)	(0.83)	(1.94)	(-2.55)	(0.70)	(-0.59)
English proficiency	0.151*	0.00594	-0.0416	-0.307**	-0.0245	0.0326	0.156	0.0186	0.00898
	(1.71)	(0.10)	(-0.64)	(-2.46)	(-0.30)	(0.38)	(1.20)	(0.25)	(0.12)
English training	0.0721	0.0359	0.0264	0.0815	0.0246	0.0478	-0.154	-0.0605	-0.0742
	(1.13)	(0.61)	(0.36)	(0.91)	(0.31)	(0.50)	(-1.64)	(-0.84)	(-0.89)
Study/job training	0.198***	-0.0245	-0.0821	-0.426***	0.0365	0.244***	0.229**	-0.0120	-0.162**
	(2.64)	(-0.45)	(-1.38)	(-4.02)	(0.50)	(3.13)	(2.06)	(-0.18)	(-2.39)
Spent time in refugee camps	0.0943	0.0549	-0.0848	-0.227*	-0.205**	0.152*	0.133	0.150*	-0.0676
	(1.07)	(0.77)	(-1.28)	(-1.82)	(-2.12)	(1.75)	(1.02)	(1.71)	(-0.89)
Spent time in immigration detention centres	0.0144	0.535***	0.101	-0.319	-0.254	-0.411**	0.305	-0.281	0.310**
	(0.07)	(3.58)	(0.78)	(-1.08)	(-1.25)	(-2.41)	(0.99)	(-1.52)	(2.09)
Spent time in community detention	-0.285***	0.165**	0.103	0.244*	-0.192*	0.0570	0.0411	0.0267	-0.160
	(-2.98)	(1.98)	(1.10)	(1.84)	(-1.69)	(0.46)	(0.30)	(0.26)	(-1.49)
Spent time on bridging visa	0.0307	-0.0628	-0.169	-0.254	-0.144	0.135	0.224	0.206	0.0337
	(0.18)	(-0.48)	(-1.29)	(-1.08)	(-0.82)	(0.79)	(0.91)	(1.29)	(0.23)
Kessler 6 - probable serious mental illness	-0.607***	-0.00496	0.0861	0.286	0.165	-0.0299	0.321	-0.160	-0.0561
	(-4.26)	(-0.06)	(0.87)	(1.43)	(1.41)	(-0.23)	(1.54)	(-1.50)	(-0.50)
Social capital - organisations	-0.0833	-0.0872*	0.0250	0.129	0.0915	-0.0883	-0.0460	-0.00426	0.0633
	(-1.17)	(-1.85)	(0.50)	(1.28)	(1.43)	(-1.34)	(-0.43)	(-0.07)	(1.10)
Social capital - relatives/friends	0.00864	0.131	0.122**	-0.381***	-0.137	-0.00493	0.373***	0.00667	-0.117**
	(0.10)	(1.93)	(2.43)	(-3.05)	(-1.49)	(-0.07)	(2.86)	(0.08)	(-2.05)
Selection equation (Prob. to be employed)									
Age	0.141**	0.0925**	0.137***	0.141**	0.0925**	0.137***	0.141**	0.0925**	0.137***
	(2.34)	(2.17)	(3.47)	(2.34)	(2.17)	(3.47)	(2.34)	(2.17)	(3.47)
Age^2	-0.00222***	-0.00150***	-0.00207***	-0.00222***	-0.00150***	-0.00207***	-0.00222***	-0.00150***	-0.00207***
	(-2.62)	(-2.70)	(-4.03)	(-2.62)	(-2.70)	(-4.03)	(-2.62)	(-2.70)	(-4.03)
Married/having a partner	0.153	-0.0288	0.398***	0.153	-0.0288	0.398***	0.153	-0.0288	0.398***
	(0.81)	(-0.19)	(2.84)	(0.81)	(-0.19)	(2.84)	(0.81)	(-0.19)	(2.84)
Size migrating unit	-0.0883***	-0.0587*	-0.165***	-0.0883***	-0.0587*	-0.165***	-0.0883***	-0.0587*	-0.165***
	(-2.58)	(-1.96)	(-6.23)	(-2.58)	(-1.96)	(-6.23)	(-2.58)	(-1.96)	(-6.23)
Know how to look for a job	0.804***	0.866***	0.779***	0.804***	0.866***	0.779***	0.804***	0.866***	0.779***
	(5.58)	(7.14)	(6.96)	(5.58)	(7.14)	(6.96)	(5.58)	(7.14)	(6.96)
N	850	725	841	850	725	841	850	725	841

Source: BNLA waves 1-3, own calculations.
Notes: The base group for "length of residence" is "less than six months"; and for education the base group is "no education". The estimates reported are the marginal effects. *t* statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Those who have undertaken study/job training are more likely to be correctly matched at six months after arrival. However, it is the opposite effect at two years after arrival. One potential explanation is that training is time-consuming, therefore, preventing the refugees from occupying a job that matches their level of education in the long run. Those who have spent time in refugee camps or in immigration detention centres have higher chances of being correctly matched. Finally, receiving help from relatives/friends improves the chances of being correctly matched only in the short run. In fact, relatives/friends can help by delivering information about labour market opportunities that match the level of education of the refugee.

The results are consistent with a number of existing empirical studies. For instance, Green, Kler, and Leeves (2007) found that immigrants in Australia are more likely to be over-educated than the native population and this translates to reduced returns to education. The results concerning the negative impact of training on the probability of being correctly matched are in line with Linsley (2005), who showed that those who are in positions in which their skills are underutilised are also likely to be underutilising their time.

2.6 Conclusion

The aim of this essay was to identify the factors that influence the integration of refugees in the Australian labour market. Several employment outcomes were examined: the access to employment, access to stable employment, the income as well as the level of the labour market mismatch. The essay investigated how previous education and work experience, migration experiences, language skills, training and social capital formed in Australia affect their integration process. Furthermore, the essay highlighted the differentiated impacts of these resources on the refugees' employment outcomes at six months, one year and two years after arrival.

With respect to human capital, the results confirm the imperfect transferability of origin country human capital since pre-migration education does not improve the performance of refugees on the Australian labour market in the short term. However, it increases the access to employment at two years after arrival. It also significantly improves the access to stable employment since educated refugees are more likely to occupy a permanent position and less likely to work on a casual basis in the long run. Finally, it increases the hourly income of the refugees at two years after arrival. Refugees who have pre-migration work experience do not seem to perform better than the others. Notable differences are that they are more likely to be self-employed

and to have lower wages at one year after arrival. They are also more likely to be under-educated in the short run. Those who have migration experiences are more likely to have a stable job in the short run. However, they have lower wages at six months and one year after arrival.

Language skills have a long-term positive effect: refugees who have a good English proficiency are more likely to be employed and to have a stable job in the long run. However, it increases the risks to be over-educated in the short run. Those who have undertaken English training in Australia seem to be worse off compared to the others in terms of employment opportunities. One potential explanation is that English training is time-consuming. Furthermore, those who have undertaken study/job training in Australia do not seem to perform better than the others. As expected, spending time in immigration detention centres or in community detention significantly affect the performance of refugees in the long run. Spending time on bridging visa seems to affect the refugees only in the short term since they are more likely to work on a casual basis at six months after arrival but they are more likely to access permanent jobs later on. Refugees who have spent time in refugee camps perform better in the long run. One explanation is that refugees have accumulated human capital in camps (i.e. language training, etc.). Finally, receiving help from relatives/friends significantly improves the economic performance of refugees: they have a higher hourly income and are more likely to be correctly matched in the labour market in the short run; and they are more likely to be employed and to have a permanent job in the long run.

The findings of this essay have important policy implications. First, previous studies mostly recommend resources that would improve access to employment for refugees. This essay shows that an effective integration policy should not only aim at increasing employment for refugees but should also aim at facilitating access to stable employment and at reducing the level of labour market mismatch. Furthermore, there should be a clear distinction between policies aiming at having a short-term effect to facilitate the integration of the refugees in their first few months in the host country and more durable policies that have a long-term effect. For instance, programs aiming at increasing English proficiency among the refugees should be instituted in the first few months after arrival and should possibly be done in a way that does not delay too much their entry in the labour market. Furthermore, it should be followed by programmes that help refugees build new social networks since social capital, e.g. receiving help, has a longer positive effect on refugees' employment outcomes.

Chapter 3

Ethnic Identity and the Employment Outcomes of Immigrants: Evidence from France*

3.1 Introduction

The extent to which immigrants belong to the majority group or their ethnic group is potentially an important determinant of their labour market outcomes. Yet, due to the large number of potential mechanisms, the overall impact of ethnic identity remains unclear. One one hand, a strong ethnic identity could reduce the employment prospects of immigrants for a number of reasons. First, immigrants who are not committed to the host country culture might suffer from a lack of human capital skills specific to the host country. Besides, immigrants who are attached to their origin country culture are likely to interact mostly with co-ethnics and this can reduce their access to or information about labour market opportunities (Aizlewood, Bevelander, and Pendakur 2005; Pendakur and Pendakur 2005). Immigrants may experience labour market discrimination. Indeed, depending on the structure of the host labour market, employers may be more likely to hire/reward if they feel the person as an "insider" and not an "outsider" (Knocke 2000). Employers might also be reluctant to hire immigrants if they think they are likely to return eventually to their country of origin. Lastly, a strong attachment to the origin country culture

*This chapter is based on the discussion paper "Ethnic Identity and the Employment Outcomes of Immigrants: Evidence from France" (Delaporte 2019a).

is often associated with traditional gender norms, thus reducing the likelihood for immigrant women to work (Fernández 2010; Fernández and Fogli 2009).

On the other hand, there are several reasons why ethnic identity could improve the employment outcomes of immigrants. First, ethnic identity can be seen as an additional input that increases the "cultural capital" of the individual. Employers might also want to hire individuals with different cultural backgrounds in order to diversify the set of individual skills in the workplace to allow for complementarities in production (Alesina and La Ferrara 2005; Alesina, Spolaore and Wacziarg 2000; Fearon and Laitin 1996). Lastly, interacting with both natives and co-ethnics might increase the potential to hear about different job opportunities. Thus, immigrants holding a strong ethnic identity might have higher levels of social capital, allowing them to have a better access to employment. In this sense, being attached to both the culture of the country of origin and the culture of the host country can lead to better employment outcomes (Constant 2014).

The objective of this essay is twofold: first, to determine the immigrants' ethnic identity, i.e. the degree of identification to the culture and society of the country of origin and the host country and second, to investigate the impact of ethnic identity on the immigrants' employment outcomes. To carry out the analysis, this study uses a rich French survey named Trajectoires et Origines (TeO). The objective of this survey is to understand the differences in experiences with the process of integration of immigrants and immigrants' descendants. This survey provides information on different subgroups of the French population: immigrants, immigrants' descendants and natives. Besides, it contains extensive information on several dimensions of integration. For instance, questions were asked about the individual's attachments to the French culture as well as the individual's links with his country of origin. Information on the labour market integration of the migrants was also collected. TeO, therefore, provides a unique opportunity to examine the impact of ethnic identity on the employment outcomes of immigrants.

To measure ethnic identity, existing studies have used either the self-identification measure (Battu and Zenou 2010; Casey and Dustmann 2010; Manning and Roy 2010) or an index known as the ethnosizer (Constant, Gataullina, and Zimmerman 2009; Constant and Zimmermann 2008, 2009, 2013). The first measure can be seen as subjective however, since the respondents are self-evaluating their ethnic identity (Constant 2014). Moreover, it dichotomizes the attachment to the host and the origin country culture that is inherently continuous. A breakthrough came with the second measure developed by Constant, Gataullina, and Zimmerman (2009).

It is an index composed of five components: (1) language, (2) culture, (3) ethnic self-identification, (4) social interactions, and (5) history of migration. Despite its advantages, this measure has a number of limitations. First, when constructing the ethnosizer, the researcher has to assume to know the factors that matter in order to classify migrants into identity categories as well as make the assumption that each factor has an equal importance in explaining ethnic identity. Moreover, the ethnosizer is based solely on these five components; yet, depending on the data that is available, other dimensions could be incorporated. Lastly, one common limitation of an index such as the ethnosizer is that individuals do not have similar reference points when answering questions on a scale. However, the ethnosizer relies heavily on the answers given to classify individuals in different categories.

The extensive information provided by the data allows the construction of two alternative measures of ethnic identity, namely: i) the degree of commitment to the origin country culture and ii) the extent to which the individual holds multiple identities. These measures are constructed using a polychoric principal component analysis (PCA). This approach has important advantages. First, it allows the inclusion of more dimensions of ethnic identity. Indeed, due to the richness of the data, information which are not incorporated in the ethnosizer - such as the ethnic density in the neighbourhood in which the migrant lives, the importance of religion, the place where the migrant has received his education - are included in the PCA. Hence, the two measures constructed in this essay better capture the multidimensional nature of ethnic identity. Second, this method allows to determine if and to what extent each dimension of ethnic identity explains the principal components. Lastly, these measures are continuous, allowing a more precise comparison between individuals who are more or less close to the host country culture.

Then, this essay investigates the impact of the ethnic identity measures on the immigrants' probability to gain employment. Other employment outcomes are examined subsequently, namely the income level, the type of employment (being salaried, being employed by the state, or being self-employed) and the quality of employment (being in elementary occupations or being a professional/manager). The overall impact of ethnic identity on the income level of immigrants as well as on the type or quality of employment is unclear. On the one hand, immigrants with a strong ethnic identity could experience wage discrimination. Besides, immigrants who are strongly connected with their country of origin interact mostly with co-ethnics. This might increase the risks for immigrants to remain on segmented labour markets characterised by lower-skilled occupations and lower wages. On the other hand, being committed to both the origin country and the host country culture

could lead to higher levels of social and cultural capital which might give access to higher-skilled occupations with higher wages.

To investigate the impact of the ethnic identity measures on the immigrants' employment outcomes, the essay uses linear probability models. However, one challenge in interpreting the results as causal is that ethnic identity is likely to be endogenous. Indeed, a lack of success in the French labour market may encourage immigrants to be less committed to the French culture. Besides, there might be some confounding factors that correlates with both ethnic identity and the employment outcomes. Previous studies acknowledge this issue but do not address it due to the difficulty of finding a good instrument (Casey and Dustmann 2010; Gorinas 2014; Nekby and Rödin 2010; Pendakur and Pendakur 2005; Schüller 2015). The OLS results show that having multiple identities is associated with a higher probability of being employed for both the first- and the second-generation immigrants while having a minority identity does not affect the immigrants' probability of being employed.

To address the endogenous nature of ethnic identity, this study relies on an instrumental variable approach. The identification strategy exploits the heterogeneity in the influence of the French culture abroad. Four instruments are used. They are constructed by combining information from the national level and the individual level in order to have the degree of exposure that varies across individuals. The instruments are the following: 1) the number of years the migrant's country of origin has been a French territory before the year of arrival for a first-generation immigrant (before the year of birth for a second-generation immigrant), 2) the number of years the country of origin has been in the CFA zone before the year of arrival for a first-generation immigrant (before the year of birth for a second-generation immigrant), 3) the number of years the country of origin has been in the European Union before the year of arrival for a first-generation immigrant (before the year of birth for a second-generation immigrant) and 4) the number of years the country of origin has been a member of the International Organisation of la Francophonie before the year of arrival for a first-generation immigrant (before the year of birth for a second-generation immigrant).[1]

[1]For instance, let's take the example of a first-generation immigrant who emigrated from the United Kingdom in 1983. The variable "number of years the country of origin has been in the European Union" is equal to 1983 - 1973 (date of accession) = 10 years. Thus, the migrant has been exposed to a European "climate" for 10 years before his arrival in France. Let's take another example: a second-generation immigrant born in France in 1971 and whose parents emigrated from Vietnam. The variable "number of years the country of origin has been a member of the OIF" is equal to 1971 - 1970 (date of membership) = 1 year. These variables capture the extent to which individuals have been exposed to the French culture.

The longer the migrant has been exposed to the French culture, the less he is likely to feel exclusively close to his country of origin and the more he is likely to have multiple identities. Furthermore, being exposed to the French culture before arrival in France for the first-generation immigrants (or before being born for the second-generation immigrants) shoud not directly affect the immigrant's employment outcomes. The results of the first-stage regressions confirm the relevance of the instruments. The results of the second-stage regressions show that having multiple identities increases the probability of being employed for the first-generation immigrant men and women and the second-generation immigrant men, even though it is not statistically significant. When comparing the OLS and the IV estimates, the IV estimates are larger than the OLS estimates. Due to the fact that the estimates are imprecise however, it is difficult to make any conclusive inference.

To assess whether the OLS estimates are affected by an omitted variable bias, I conduct a sensitivity analysis following Oster (2016). The analysis aims at checking the stability of the coefficients to unobservables. I find that the results are not driven by selection on unobservables since the bias-adjusted coefficients are similar to the OLS estimates and the identified sets do not include zero. Another finding is that the more selection on unobservables is assumed to be important, the bigger the size of the coefficients. Considering the signs of the indexes, having multiple identities is in most cases positive. It becomes negative only when selection is assumed to be important. Hence, this analysis reinforces the idea that the ethnic identity effect is real. The results obtained contribute to help design effective post-immigration policies. In particular, even though one needs to be cautious about the interpretation of the results, this study seems to indicate that retaining a commitment to the origin country culture does not significantly reduce one's employment prospects.

The essay contributes to a number of strands of literature. It relates to an emerging literature based on Akerlof and Kranton's identity framework (Akerlof and Kranton 2000, 2010) that shows that ethnic identity can have significant impact on individual economic outcomes (Battu, Mwale and Zenou 2007; Battu and Zenou 2010; Bisin, Patacchini, Verdier and Zenou 2011b, 2016; Constant 2014; Constant and Zimmermann 2008, 2009; Schüller 2015). The essay proposes alternative measures of ethnic identity however and provides the results of an instrumental variable approach to address the endogeneous nature of ethnic identity.

The essay also relates to the literature that examines the role of culture in influencing economic outcomes (Fernández 2010; Fernández and Fogli 2009). One improvement upon this literature is that rather than using a proxy for culture, the

measures of ethnic identity include several cultural traits.

This essay also contributes to a small literature that looks at the process of identity formation (Casey and Dustmann 2010; Clots-Figueras and Masella 2013; Constant, Gataullina, and Zimmerman 2009; Constant and Zimmermann 2008, 2013; Manning and Roy 2010; Phinney et al. 2001). The existing studies highlight several determinants of ethnic identity. However, it is unclear what is the relative importance of each dimension in explaining ethnic identity.

Lastly, this essay is closely related to the literature on the assimilation of migrants (Algan, Bisin, Manning and Verdier 2013) and more specifically to the segmented assimilation theory which explains how immigrants experience and adapt to the culture of the host country in different ways (Gans 1992; Portes, Fernández-Kelly and Haller 2005; Portes and Zhou 1993; Zhou 1997).

The chapter unfolds as follows. The next section sets the French background. Section 3.3 provides a discussion of the existing ethnic identity measures and reviews the literature on ethnic identity and the labour market outcomes of immigrants. Section 3.4 describes the data and the measures of ethnic identity; while Section 3.5 presents the empirical framework. Section 3.6 presents the empirical findings and discusses the robustness of the results. Finally, section 3.7 summarizes the results and concludes.

3.2 Background

3.2.1 The French Immigrant Population

Immigration to France has risen constantly over time since the Second World War. The composition of the French immigrant population has however changed considerably (Migration Policy Institute 2004). Figure 3.1 provides the sample composition of the French immigrant population by region of origin.[2]

European immigrants constituted the majority of immigrants after 1945. This proportion has fallen steadily since then. Significant numbers of migrants from French colonies came as well. Between 1945 and 1974, a wave of Vietnamese migrated to France after the Battle of Dien Bien Phu. Although many initially returned to the country after a few years, as the Vietnam War worsened, the majority de-

[2]It should be noted that the immigrants in the sample are selected. Indeed, part of the immigrant population that is unobserved were temporary migrants who left France before the time of the survey.

cided to remain in France. During this period, there was also a significant wave of Algerian immigrants.[3] Additionally, the number of migrants from former French colonies in Sub-Saharian Africa as well as Asian immigrants increased during this period.

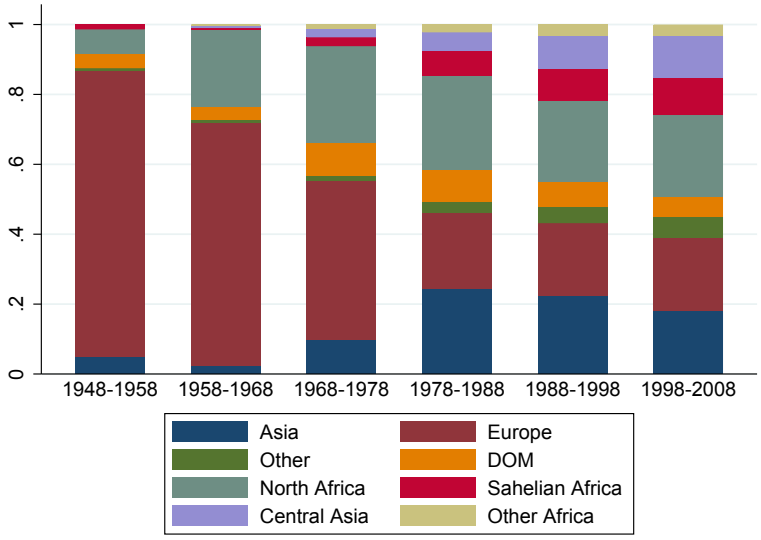

Figure 3.1. *Immigration to France by Region of Origin*
Source: Trajectoires et Origines, own calculations.
Notes: This figure shows the composition by region of origin of migrants that arrived in France from 1948 to 2008. Asia includes Vietnam, Laos, Cambodia and Turkey. Other refers to North America, Central America, South America, Middle East and Oceania. DOM refers to Guadeloupe, Martinique, French Guiana and Reunion. North Africa includes Algeria, Morocco and Tunisia. Sahelian Africa includes Senegal, Mauritania, the Gambia, Guinea-Bissau, Guinea, Mali, Burkina Faso, Niger and Chad. Lastly, Central Africa refers to Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Gabon, Republic of the Congo, DRC and Equatorial Guinea.

In terms of migration status (Figure 3.2), since 1945, French immigration policy has had two aims: to attract migrant workers and to favour the permanent installation of foreign families. However, the late 1960s and early 1970s led to a period of social change. The maturing of the baby boom generation and the entrance of women into the labour force resulted in a decrease in the need for foreign workers. The 1973 oil price shock further hindered economic performance which led the French government to officially end its labour migration programs in 1974. Nonetheless, immigration continued and diversified over the following decades. From 1995 to

[3]The number of Algerian immigrants increased drastically after the independence of Algeria in 1962. Many of the immigrants known as the "harkis" were Algerians who supported the French during the war. Once the war was over, they were deeply resented by other Algerians and thus had to flee to France. The others known as the "pieds-noirs" were Europeans settlers who moved to Algeria but migrated back to France since 1962 when Algeria declared independence.

1997, there was a continuous decline in permanent entries. In 1997, the Socialists won control of the National Assembly and began rethinking immigration policy. A new legislation was implemented to ease the admission procedures for graduates and highly skilled employees. Considering asylum applications, they increased at the end of the 1980s before falling between 1980 and 1995. They held steady until 1999 and, then, increased again from 1999 to 2003. Today, immigration is on the rise again, the main reason remaining family reunification.

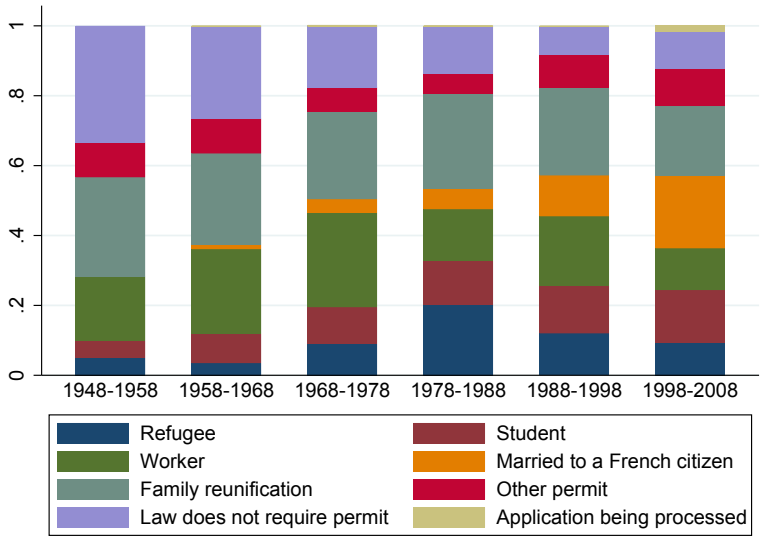

Figure 3.2. *Immigration to France by Residence Permits*
Source: Trajectoires et Origines, own calculations.
Notes: This figure shows the composition by residence permits of migrants that arrived in France from 1948 to 2008. The different categories are the following: refugees, students, workers, individuals married to a French citizen, individuals who have relatives living in France, and other permit. The two last categories include individuals who do not need a permit and individuals whose application is being processed.

3.2.2 The French National Identity

The importance of the French national identity has been at the center of attention in recent years in France. Many think that being committed to a minority culture necessarily decreases the quality of one's commitment to the French culture (Simon 2012). This sentiment has been illustrated in a number of actions. For instance, in 2007, the government created the Ministry of Immigration, Integration, National Identity and Co-Development, which was tasked with "promoting national identity". A "Great Debate on National Identity" was then launched in 2009 by the government with the objective of codifying "what it means to be French".

In 2010, the radical right of the conservative party issued a parliamentary amendment to ban dual citizenship for French citizens. While the amendment was turned down, the debate resumed again in 2011 when high-level officials from the national soccer team criticized the choice of dual-national players for electing to play with their second-nationality national team instead of the French one (The Guardian 2011). In 2004, a bill was passed to ban religious symbols in public spaces, including Muslim headscarves. Considering access to citizenship, there are more requirements for migrants who wish to apply for French citizenship, such as linguistic and civic tests to fufill. Therefore, from a policy perspective, it is important to investigate whether holding a minority identity has indeed a negative impact.

3.3 Related Literature

The existing empirical literature uses two ways to measure ethnic identity. A first method to measure the immigrant's commitment to the culture and society of the country of origin and the host country is to ask the respondent about his/her identity with the majority group and the respondent's ethnic group. More precisely, the importance of ethnic identification is captured by the answers to two statements: 1. I feel from the host country. 2. I feel [from respondent's origin country or parent's origin country]. Respondents are asked if they agree or disagree and if so, whether strongly or just a little. Based on their answers, individuals can be classified into four categories: (i) integrated if the person identifies with both the origin country and the host country; (ii) assimilated if the individual identifies only with the host country; (iii) separated if the individual exclusively identifies with his/her country of origin or (iv) marginalized if the individual reports a weak identification with both the country of origin and the host country.

A number of studies use this self-identification measure. Battu and Zenou (2010) find that individuals with extreme ethnic preferences experience a lower probability of being employed relative to those with less extreme views. Manning and Roy (2010) show that immigrants generally arrive in a new country with a strong sense of their national origin and with varying degrees of willingness to adopt the identity of the host society whereas subsequent generations may face different identity issues. Casey and Dustmann (2010) also use this measure in order to highlight the strong intergenerational transmission of identity from one generation to the next.

A couple of recent empirical studies advocate for a broader conceptualisation of identity (Constant and Zimmermann 2008; Zimmermann, Zimmermann, and Con-

stant 2007). Indeed, one can argue that the ethnic self-identification measure is highly subjective since the respondents are self-evaluating their ethnic identity (Constant 2014). Moreover, it dichotomizes the attachment to the host and the origin country culture that is inherently continuous. Another measure called the ethnosizer was developed by Constant, Gataullina, and Zimmerman (2009). To construct this measure, individual data is used on five indicators of ethnic identity: (1) language, (2) culture, (3) ethnic self-identification, (4) social interactions, and (5) history of migration.

For each indicator, individuals can be classified into the four states: integration, assimilation, separation or marginalization. For instance, with respect to language, individuals are: (i) linguistically integrated, if they speak both the language of the host country and their native language; (ii) linguistically assimilated, if they speak only the language of the host country; (iii) linguistically separated, if they are fluent in their mother tongue but have no skills in the host country language; or (iv) linguistically marginalized when their communication skills are limited due to a lack of fluency in both languages.

A similar classification is conducted for each of the remaining four elements. Then, four variables are generated for each state of ethnic identity. As people can, for example, be integrated in one dimension and separated in another, each state of ethnic identity ranges from 0 to 5 and measures how often a respondent is identified as integrated, assimilated, separated or marginalized. Unlike the self-identification measure of ethnic identity, the ethnosizer allows the comparison between more or less integrated respondents. Moreover, the ethnosizer is based on a number of dimensions and not just the self-report of the respondents. Therefore, a growing number of empirical studies rely on this approach.

Constant, Gataullina, and Zimmerman (2006) find that preserving an attachment to the country of origin does not affect the probability of being employed for immigrant men in Germany as long as they have a strong attachment to the host culture. The authors find, however, that immigrant women perform better when they are attached to both cultures. Using Swedish data, Nekby and Rödin (2007, 2010) find that what matters for the employment outcomes of immigrant men is the strength of identification with the majority culture regardless of the minority identity. They find the same results for second and middle generation immigrants whereas Gorinas (2014) found no significant impact of ethnic identity on the employment outcomes of the second-generation immigrants. Constant, Kahanec, Rinne and Zimmermann (2011) show that migrants who are attached only to their ancestral

culture have a relatively slow reintegration into the German labour market.

With respect to the income level of immigrants, Drydakis (2012) shows in Greece that being attached to the country of origin does not affect wages as long as immigrants strongly identify themselves as Greek. On the other hand, Zimmermann (2007) provides evidence that being committed to both the culture of the origin and the host countries significantly increases the immigrants' income. Other studies such as Constant and Zimmermann (2009) argue that there is no correlation between ethnic identity and various labour market outcomes including wages, participation, employment, and unemployment.

The ethnosizer takes care of the limitations of the self-identification measure. However, when constructing the ethnosizer, the researcher has to assume to know the factors that matter in order to classify migrants into identity categories as well as make the assumption that each dimension has an equal importance in explaining one's ethnic identity. Moreover, the ethnosizer is based solely on five components even though, depending on the data, other dimensions could be incorporated. Lastly, one common limitation of an index such as the ethnosizer is that individuals do not have similar reference points when answering questions on a scale. However, the ethnosizer relies heavily on the answers given to classify individuals in different categories.

Alongside the ethnic identity literature, a number of empirical studies have examined the impact of several cultural proxies, highlighting the importance of different channels through which an individual's ethnic identity can influence his labour market outcomes. For instance, Fernández (2010) and Fernández and Fogli (2009) use past female labour force participation and total fertility rates from the country of ancestry as cultural proxies. The authors find that these characteristics of the ancestral country have positive and significant explanatory power for individual work and fertility outcomes. They argue that the effects are due to gender norms in the country of ancestry. Other studies show that immigrants who have a strong attachment to religion and a strong attachment to ethnic traditions are less likely to be employed (Bisin, Patacchini, Verdier and Zenou 2011b; Epstein and Heizler 2015). On the opposite, those who share social norms with the majority group experience better employment outcomes (Gorinas 2014).

3.4 Data

This paper focuses on France and uses the Trajectoires et Origines[4]: Enquête sur la diversité des populations de France, a nationally representative study of immigrants in France conducted from September 2008 to March 2009 and collected jointly by the National Institute of Demographic Studies and the National Institute of Statistics and Economic Studies. The objective of this survey is to understand the differences in experiences with the process of integration of the respondents. Several groups are interviewed: immigrants and people born in the French overseas territories (DOM), the descendants of immigrants and the descendants of people born in the overseas territories born in metropolitan France, and the French-born descendants of French-born nationals.

Individuals were interviewed with deliberate overweighting of particular migrant communities in order to achieve reliable analyses of statistically rare groups. As a result, almost 22,000 individuals were interviewed. For the purpose of this study, the following individuals are excluded: 1) the individuals born in France who were coded as first-generation immigrants, 2) the immigrants, children of returnees, children of French expats, returnees and the French born abroad who were coded as second-generation immigrants, and 3) the immigrants, children of returnees, children of French expats, returnees, and the French born abroad who were coded as natives. Therefore, the final sample is formed of 20,803 individuals including 8,971 first-generation, 8,812 second-generation immigrants and 3,020 native respondents. The dataset is unique in that it covers detailed demographic and socioeconomic characteristics of individuals from different subgroups of the French population. It also contains extensive information on an individual's commitment to the French culture and links with the country of ancestry. Finally, it provides information on labour force participation, employment and income of individuals.

Sociodemographic information is reported in Table 3.1. On average, there are slightly fewer men (47%) than women, and the average age of the respondents is 41 for first-generation immigrants, 30 for second-generation immigrants and 38 for natives. The majority of the respondents are in a relationship and most of them are married to someone who has French nationality. The first-generation immigrants are almost evenly split between two main religions: Islam and Catholicism while the second-generation immigrants have no religion, are Muslims or Catholics. Natives are either Catholics or have no religion.

[4]I thank ADISP-CMH for providing the data (Trajectoires et origines (TeO) - version complète - 2008, INSEE, INED [producers], ADISP-CMH [distributor]).

The first-generation immigrants mostly come from Europe (26%), North Africa (22%) and Asia (21%) while the second-generation immigrants have parents that mostly come from Europe (34%) and North Africa (28%). 15% are children of an immigrant mother only and 24% of an immigrant father only. The rest of them are children of two immigrant parents and for the large majority, the two parents come from the same region. The most common household structure is a couple family with children.

3.4.1 Measures of Outcomes

Means and standard deviations for a range of variables are given in Table 3.2.[5] The first-generation immigrants are less educated compared to the second-generation immigrants and the natives. First-generation women and men have similar levels of education whereas second-generation women are more educated than men. In terms of employment status, the vast majority in the sample is employed, with about 17% of first-generation immigrants (mostly married women) being inactive. The employment gap between men and women decreases at the second generation.

The employment rates differ by region of origin. In the first generation, North African immigrants have the lowest employment rate in the labour market (60%). On the opposite, people coming from the French overseas territories (DOM) are performing the best (81%). In the second generation, the lowest employment rate is recorded for the descendants of Central African immigrants (50%) whereas the descendants of European immigrants have the highest rate (80%).

The majority of the respondents are salaried. However, a larger proportion of natives are employed by the state compared to the first- and the second-generation immigrants. Most of the respondents are in full-time employment. In terms of occupations, it is mostly the first-generation immigrants who occupy elementary occupations or are machine operators and assemblers. The second-generation immigrants are more likely to be sales workers or technicians and associate professionals. A larger proportion of natives are professionals or managers.

With respect to the income level, both the first- and the second-generation immigrants, especially women, earn less than the natives. Among the first-generation immigrants, the Sahelian African and the Central African immigrants have the lowest hourly income. In the second generation, those who earn the least are the

[5]In addition, the descriptive statistics by gender, marital status and country of origin are reported in the appendix.

Table 3.1.
Sociodemographic Characteristics

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Male	0.47	0.50	8,971	0.48	0.50	8,812	0.47	0.50	3,020
Female	0.53	0.50	8,971	0.52	0.50	8,812	0.53	0.50	3,020
Age at arrival in France	19.9	10.8	8,965	0	0	8,812	0	0	3,020
Age at interview	41.2	10.75	8,971	30.1	9.2	8,812	38	11.7	3,020
Living with parents	0.06	0.24	8,971	0.36	0.48	8,812	0.15	0.35	3,020
Living with partner	0.73	0.44	8,971	0.46	0.50	8,812	0.66	0.47	3,020
Married	0.66	0.47	8,971	0.30	0.46	8,812	0.47	0.50	3,020
Married french	0.58	0.49	5,770	0.80	0.40	2,574	0.98	0.14	1,382
Religion - Muslims	0.36	0.48	8,813	0.27	0.45	8,671	0.003	0.05	2,991
Religion - Catholics and other Christians[a]	0.39	0.49	8,813	0.35	0.48	8,671	0.53	0.50	2,991
Religion - Other[b]	0.07	0.25	8,813	0.04	0.20	8,671	0.007	0.08	2,991
No religion	0.18	0.39	8,813	0.34	0.47	8,671	0.47	0.50	2,991
Origin - Europe	0.26	0.44	8,971	0.39	0.49	8,435			
Origin - North Africa[c]	0.22	0.42	8,971	0.28	0.45	8,435			
Origin - Sahelian Africa[d]	0.07	0.26	8,971	0.05	0.22	8,435			
Origin - Central Africa[e]	0.08	0.27	8,971	0.04	0.19	8,435			
Origin - Other Africa	0.03	0.16	8,971	0.015	0.12	8,435			
Origin - Asia[f]	0.21	0.41	8,971	0.13	0.33	8,435			
Origin - DOM[g]	0.08	0.27	8,971	0.075	0.26	8,435			
Origin - Other[h]	0.05	0.21	8,971	0.016	0.13	8,435			
Only the mother is immigrant				0.15	0.36	8,812			
Only the father is immigrant				0.24	0.43	8,812			
Both parents are immigrants				0.61	0.49	8,812			
If both immigrants, parents have same origin				0.93	0.26	5,384			
Structure - single person	0.12	0.32	8,971	0.14	0.34	8,812	0.14	0.35	3,020
Structure - single parent family	0.09	0.28	8,971	0.13	0.34	8,812	0.09	0.28	3,020
Structure - couple family without children	0.15	0.36	8,971	0.11	0.31	8,812	0.20	0.40	3,020
Structure - couple family with children	0.58	0.49	8,971	0.57	0.50	8,812	0.55	0.50	3,020
Structure - other structure	0.07	0.25	8,971	0.06	0.23	8,812	0.03	0.17	3,020
Number of children living in dwelling	1.5	1.4	8,971	0.75	1.07	8,812	0.94	1.1	3,020
N = 20,803 individuals		8,971			8,812			3,020	

Source: Trajectoires et Origines, own calculations.

[a] Catholics and other Christians refers to Catholics, Orthodoxes, Protestants and other christians.
[b] Other refers to Jews, Buddhists, Hindus or those who have several religions.
[c] North Africa refers to Algeria, Morocco and Tunisia.
[d] Sahelian Africa refers to Senegal, Mauritania, the Gambia, Guinea-Bissau, Guinea, Mali, Burkina Faso, Niger and Chad.
[e] Central Africa refers to Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Gabon, Republic of the Congo, DRC and Equatorial Guinea.
[f] Asia refers to Vietnam, Laos, Cambodia and Turkey.
[g] DOM refers to Guadeloupe, Martinique, French Guiana and Reunion.
[h] Other refers to North America, Central America, South America, Middle East and Oceania.

descendants of Sahelian African immigrants. Finally, a higher proportion of the first-generation immigrants, especially men, work with colleagues of similar origin.

3.4.2 Measuring Ethnic Identity with PCA

This paper proposes a new way of modelling ethnic identity based on a polychoric principal component analysis.[6] This method is a statistical procedure which uses an orthogonal transformation to convert a set of observations of correlated variables into a set of values of linearly uncorrelated variables called principal components (Kolenikov and Angeles 2004). The first principal component that is generated has the largest possible variance and each succeeding component has the highest variance in the subspace orthogonal to the preceding components. The components are eigenvectors and have corresponding eigenvalues for each dimension of ethnic identity.

This method constitutes a viable alternative to model ethnic identity for a number of reasons. First, it is a technique that allows for dimensionality reduction in a context where a lot of variables could be used as proxies for ethnic identity. Therefore, contrary to the existing measures, this approach allows to include more dimensions of ethnic identity. Second, no information about groups is needed when implementing the analysis. The PCA gives a visual representation of the dominant patterns in a data set. Therefore, this method is very informative about the determinants of identity: which dimensions matter as well as their relative importance given by the eigenvalues. Furthermore, while the self-identification measure and the ethnosizer rely on assumptions to categorize individuals into identity classes, this approach allows to construct continuous measures of ethnic identity and to compare individuals who are more or less integrated.

Step 1. Selection of the Variables

There are a number of practical choices that one has to make in order to implement the PCA. The first one is to select the variables to include in the analysis. Ethnic identity has several dimensions which can be proxied by a number of variables displayed in Table 3.3. First, nationality should influence the individual's ethnic identity, i.e. whether the individual identify himself with the society and the culture

[6]Rather than performing a simple PCA, this study relies on a polychoric PCA. The difference is that polychoric correlations assume the variables to be ordered measurements of an underlying continuum. The variables included in the PCA, therefore, do not need to be truly continuous and they do not need to be normally distributed.

Table 3.2.
Key Variables

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education									
No qualification	0.24	0.43	8,614	0.12	0.32	8,805	0.09	0.28	3,019
Primary education	0.07	0.26	8,614	0.008	0.09	8,805	0.03	0.17	3,019
Lower-secondary education	0.25	0.43	8,614	0.32	0.47	8,805	0.37	0.48	3,019
Higher-secondary education	0.16	0.36	8,614	0.26	0.44	8,805	0.21	0.41	3,019
Two-year higher education	0.08	0.27	8,614	0.13	0.33	8,805	0.14	0.34	3,019
More than two years in higher education	0.19	0.39	8,614	0.16	0.37	8,805	0.17	0.38	3,019
Employment									
Employed	0.68	0.47	8,971	0.67	0.47	8,812	0.76	0.42	3,020
Unemployed	0.12	0.33	8,971	0.12	0.33	8,812	0.08	0.27	3,020
Student	0.03	0.17	8,971	0.15	0.35	8,812	0.06	0.23	3,020
Inactive	0.17	0.38	8,971	0.06	0.24	8,812	0.10	0.30	3,020
For those employed									
Employed by the state[a]	0.15	0.36	6,106	0.22	0.41	5,901	0.25	0.43	2,307
Salaried[b]	0.76	0.43	6,106	0.73	0.44	5,901	0.66	0.47	2,307
Self-employed	0.08	0.28	6,106	0.05	0.22	5,901	0.09	0.28	2,307
For salaried active workers only[c]									
Job - open-ended employment, full-time	0.71	0.45	5,442	0.68	0.47	5,521	0.73	0.44	2,072
Job - open-ended employment, part-time	0.11	0.32	5,442	0.10	0.30	5,521	0.13	0.34	2,072
Job - other fixed-term employment or contract	0.13	0.33	5,442	0.13	0.34	5,521	0.09	0.29	2,072
Job - other[d]	0.05	0.21	5,442	0.09	0.28	5,521	0.05	0.21	2,072
ISCO - elementary occupations[e]	0.13	0.34	5,442	0.07	0.25	5,521	0.05	0.23	2,072
ISCO - plant and machine operators and assemblers[f]	0.22	0.41	5,442	0.15	0.35	5,521	0.16	0.37	2,072
ISCO - service and sales workers[g]	0.35	0.48	5,442	0.38	0.49	5,521	0.33	0.47	2,072
ISCO - technicians, associate professionals[h]	0.13	0.34	5,442	0.19	0.39	5,521	0.18	0.38	2,072
ISCO - professionals[i]	0.12	0.33	5,442	0.16	0.36	5,521	0.19	0.39	2,072
ISCO - managers[j]	0.04	0.20	5,442	0.06	0.23	5,521	0.08	0.27	2,072
Number of hours per week	36.7	20	5,254	37.3	19	5,207	37.6	17.6	2,020
Work - full-time	0.83	0.38	5,352	0.85	0.36	5,273	0.82	0.39	2,045
Log net monthly salary	7.19	0.59	4,649	7.22	0.51	4,615	7.28	0.52	1,821
Log net hourly salary	3.65	0.49	4,586	3.65	0.44	4,574	3.70	0.45	1,800
Workplace - none or almost none of immigrant origin	0.27	0.45	4,807	0.36	0.48	5,000	0.62	0.49	1,934
Workplace - less than half of immigrant origin	0.27	0.44	4,807	0.33	0.47	5,000	0.28	0.45	1,934
Workplace - half of immigrant origin	0.17	0.37	4,807	0.15	0.36	5,000	0.07	0.25	1,934
Workplace - over half of immigrant origin	0.14	0.35	4,807	0.10	0.30	5,000	0.03	0.17	1,934
Workplace - almost all are of immigrant origin	0.15	0.35	4,807	0.06	0.24	5,000	0.008	0.09	1,934
N = 20,803 individuals		8,971			8,812			3,020	

Source: Trajectoires et Origines, own calculations.

[a] Individuals employed by the state include individuals employed by the state or employed by a local community.
[b] Salaried individuals include individuals who are salaried by a company, artisan or association or salaried by a private individual or salaried company heads.
[c] Salaried active workers are those who are either employed by the state, employed by a local community, salaried by a company, artisan or association or salaried by a private individual. Are excluded those who help a member of their family, salaried company head, or self-employed individuals.
[d] "Other" includes apprenticeship or vocational training, temporary work through an agency, paid company internship and subsidized employment.
[e] The category "elementary occupations" include unskilled manual workers.
[f] The category "plant and machine operators and assemblers" include skilled or highly skilled worker, workshop technicians.
[g] The category "service and sales workers" include first-line supervisors and office workers, sales workers, service personnel.
[h] The category "technicians and associate professionals" include technicians and junior grade civil servants.
[i] The category "professionals" include engineers and middle grade civil servants.
[j] The category "managers" include managing directors, direct deputies and senior grade civil servants.

of his origin country or France. The large majority of the first-generation immigrants have a foreign nationality while in the second generation, a higher proportion of immigrants are French by birth.

With respect to language practise, the majority of the first-generation immigrants speak only a foreign language whereas most of the second-generation immigrants speak either French or several languages including French. A larger proportion of the second-generation immigrants, compared to the first-generation immigrants, report French as the first language used by their parents to talk to them when they were a child.

Respondents were asked about their links with the country of origin. Unsurprisingly, the first-generation immigrants are closer to their country of origin compared to immigrants in the second generation. However, still a significant proportion of the second-generation immigrants visited their place of origin and use media (watch television, listen to the radio or read the newspapers) of the country of origin. Moreover, a larger proportion in the second generation feels at home in France and feels French compared to immigrants from the first generation. However, alongside the French identity, still a significant proportion of the second-generation immigrants report feeling from their parents' country of origin.

The place where the individual has received his education also forge his identity. Most first-generation immigrants have acquired their educational qualifications in a foreign country whereas the second-generation immigrants and the natives have received their education mostly in France. The importance of religion in the upbringing of the individual might explain a specific cultural commitment. Most of the first-generation immigrants report that religion was very important as opposed to natives who indicate that religion was not important at all. Ethnic density in the neighbourhood where the individual resides also influence cultural transmission and affects ethnic identity formation (Battu and Zenou 2010; Zimmermann, Constant, and Schüller 2014). A larger proportion of the first-generation immigrants live in segregated neighbourhoods compared to the second-generation immigrants and the natives.

Regarding social relationships, it is more common for the first generation of migrants to belong to associations whose members have the same ethnic background. A larger proportion of first-generation immigrants have provided financial aid to someone abroad compared to the second-generation immigrants. Finally, fewer second-generation immigrants and natives maintain contacts with family/friends that live abroad compared to the first-generation immigrants. Overall, these cultural traits

Table 3.3.
Ethnic Identity

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Nationality									
Nationality - French at birth	0.08	0.27	8,971	0.85	0.36	8,812	1	0	3,020
Nationality - French by acquisition	0.39	0.49	8,971	0.14	0.34	8,812	0	0	3,020
Nationality - Foreigner	0.53	0.50	8,971	0.01	0.12	8,812	0	0	3,020
Languages									
Speaks only French	0.05	0.22	8,951	0.39	0.49	8,811	0.86	0.34	3,020
Speaks several languages including French	0.26	0.44	8,951	0.49	0.50	8,811	0.13	0.33	3,020
Speaks several languages but not French	0.13	0.33	8,951	0.01	0.12	8,811	0	0.02	3,020
Speaks only foreign language	0.56	0.50	8,951	0.10	0.31	8,811	0.007	0.08	3,020
First language use by mother when was a child - French	0.12	0.33	8,971	0.66	0.47	8,812	0.97	0.17	3,020
First language use by father when was a child - French	0.13	0.34	8,971	0.66	0.47	8,812	0.96	0.20	3,020
Links with country of origin									
Visited place of origin	0.85	0.36	8,971	0.83	0.38	8,365	0	0	3,020
Use media of country of origin	0.67	0.47	8,971	0.43	0.49	8,435	0	0	3,020
Has given money to country of origin	0.11	0.32	8,971	0.08	0.27	8,812	0	0	3,020
Own land/house in country of origin	0.19	0.39	8,971	0.04	0.19	8,812	0	0	3,020
Owner or has invested in country of origin	0.01	0.11	8,971	0.002	0.05	8,812	0	0	3,020
Self-image									
Feel at home in France - totally disagree	0.05	0.21	8,795	0.02	0.13	8,728	0.01	0.11	2,998
Feel at home in France - disagree	0.07	0.26	8,795	0.04	0.19	8,728	0.03	0.18	2,998
Feel at home in France - agree	0.29	0.45	8,795	0.21	0.41	8,728	0.17	0.37	2,998
Feel at home in France - totally agree	0.59	0.49	8,795	0.74	0.44	8,728	0.79	0.41	2,998
Feel French - totally disagree	0.18	0.39	8,702	0.03	0.17	8,718	0.006	0.08	3,009
Feel French - disagree	0.14	0.35	8,702	0.04	0.20	8,718	0.01	0.11	3,009
Feel French - agree	0.27	0.44	8,702	0.21	0.41	8,718	0.09	0.29	3,009
Feel French - totally agree	0.40	0.49	8,702	0.72	0.45	8,718	0.89	0.31	3,009
Feel from country of origin - totally disagree	0.09	0.29	8,817	0.22	0.42	8,279	1	0	3,020
Feel from country of origin - disagree	0.09	0.29	8,817	0.14	0.35	8,279	0	0	3,020
Feel from country of origin - agree	0.25	0.43	8,817	0.31	0.46	8,279	0	0	3,020
Feel from country of origin - totally agree	0.57	0.50	8,817	0.33	0.47	8,279	0	0	3,020
Education									
Studied only in France	0.22	0.41	8,614	0.94	0.24	8,805	0.98	0.15	3,019
Studied in both foreign country and France	0.26	0.44	8,614	0.06	0.23	8,805	0.02	0.15	3,019
Studied only in foreign country	0.52	0.50	8,614	0.007	0.08	8,805	0	0.03	3,019
Religion									
Religion in upbringing - not important at all	0.15	0.35	8,843	0.24	0.43	8,726	0.39	0.49	3,005
Religion in upbringing - moderately important	0.21	0.41	8,843	0.28	0.45	8,726	0.34	0.48	3,005
Religion in upbringing - important	0.23	0.42	8,843	0.23	0.42	8,726	0.16	0.36	3,005
Religion in upbringing - very important	0.41	0.49	8,843	0.25	0.43	8,726	0.11	0.31	3,005
Neighbourhood									
Ethnic density - none or almost none of immigrant origin	0.27	0.44	8,531	0.28	0.45	8,443	0.62	0.49	2,938
Ethnic density - less than half of immigrant origin	0.26	0.44	8,531	0.27	0.44	8,443	0.23	0.42	2,938
Ethnic density - half of immigrant origin	0.19	0.40	8,531	0.19	0.39	8,443	0.08	0.28	2,938
Ethnic density - over half of immigrant origin	0.18	0.39	8,531	0.18	0.39	8,443	0.05	0.22	2,938
Ethnic density - almost all of immigrant origin	0.10	0.30	8,531	0.08	0.27	8,443	0.02	0.12	2,938
Social relationships									
Belongs to associations whose members are of foreign origin	0.06	0.24	8,962	0.04	0.21	8,797	0	0	3,020
Has provided financial aid abroad in past 12 months	0.15	0.36	8,971	0.03	0.18	8,812	0.007	0.09	3,020
Contact with family/friends living abroad - never	0.13	0.33	8,971	0.38	0.48	8,812	0.71	0.45	3,020
Contact with family/friends living abroad - sometimes	0.28	0.45	8,971	0.31	0.46	8,812	0.17	0.38	3,020
Contact with family/friends living abroad - often	0.59	0.49	8,971	0.31	0.46	8,812	0.12	0.32	3,020
N = 20,803 individuals		8,971			8,812			3,020	

Source: Trajectoires et Origines, own calculations.

shape the individual's ethnic identity and highlight a process of cultural integration across generations of migrants.

Step 2. The Polychoric Correlation Matrix

Since most of the data used for the PCA is discrete, the polychoric correlation matrix needs to be examined.[7] The results show that these variables are highly correlated to each other, which justify including them in the PCA. Having a foreign nationality is highly positively correlated with speaking only a foreign language and negatively correlated with the mother and the father using French as the first language to speak with the respondent when he was a child. It is also positively correlated with having visited the country of origin, using the media of the country of origin, having given money to the country of origin, being an owner and having invested in the country of origin.

Having a foreign nationality is negatively associated with feeling at home in France and feeling French whereas it is positively correlated with feeling from the country of origin. People who have a foreign nationality are also more likely to have educational qualifications from a foreign country. The more religion was important in the upbringing of the individual, the more he is likely to be a foreigner. Besides, the higher the proportion of immigrants in the neighbourhood where the individual resides, the more likely the individual has a foreign nationality. Having a foreign nationality is positively associated with belonging to an association whose members are foreigners as well. Finally, it is also positively correlated with having provided financial aid to someone abroad and with maintaining contacts with family/friends living abroad.

Step 3. The Principal Components

The results for the polychoric PCA is given in Table 3.4. As illustrated in Figure 3.3, the first principal component has the greatest variance and extracts the largest share of information from the data; the second component is orthogonal to the first one, and has the greatest variance in the subspace orthogonal to the first component. Since the two first components explain more than 50% of the variance in the data and the subsequent components explain less of the data, I retain the two first components.

[7]The matrix is reported in the appendix.

Table 3.4.
Principal Components/Correlation

Component	*Eigenvalue*	*Difference*	*Proportion*	*Cumulative*
Component 1	8.04581	6.39702	0.4470	0.4470
Component 2	1.64879	0.409071	0.0916	0.5386
Component 3	1.23972	0.0518343	0.0689	0.6075
Component 4	1.18789	0.235737	0.0660	0.6735
Component 5	0.952153	0.159588	0.0529	0.7264
Component 6	0.792565	0.0123473	0.0440	0.7704
Component 7	0.780218	0.0597858	0.0433	0.8137
Component 8	0.720432	0.166728	0.0400	0.8538
Component 9	0.553704	0.111439	0.0308	0.8845
Component 10	0.442265	0.0212021	0.0246	0.9091
Component 11	0.421063	0.0583418	0.0234	0.9325
Component 12	0.362721	0.0637296	0.0202	0.9526
Component 13	0.298992	0.0692291	0.0166	0.9692
Component 14	0.229762	0.0397422	0.0128	0.9820
Component 15	0.19002	0.0904919	0.0106	0.9926
Component 16	0.0995283	0.0665647	0.0055	0.9981
Component 17	0.0329635	0.031571	0.0018	0.9999
Component 18	0.00139258	.	0.0001	1.0000
N = 18,240 individuals				

Source: Trajectoires et Origines, own calculations.

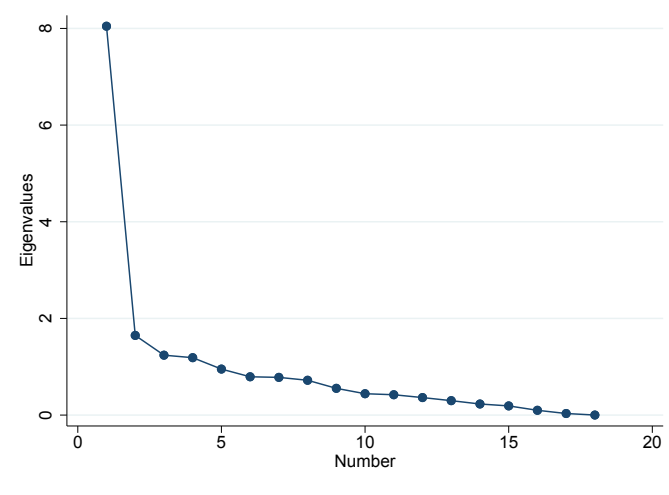

Figure 3.3. *Scree Plot of Eigenvalues*
Source: Trajectoires et Origines, own calculations.
Notes: This figure gives the scree plot. The eigenvectors are ordered from largest to smallest.

The eigenvectors of the two components are reported in Table 3.5. The first component can be interpreted as the degree of commitment to the origin country culture. Indeed, a higher score for the first component is associated with having a foreign nationality and speaking only a foreign language. If French was the first language used by the mother and the father to speak to the respondent when he was a child, the score decreases. Having visited the country of origin, using the media of

the country of origin, having given money to the country of origin, being an owner and having invested in the country of origin are all associated with a higher score for the first component. Feeling from the country of origin and having educational qualifications only from a foreign country also increases the first component. On the opposite, feeling at home in France and feeling French decrease the first component.

The importance of religion in the upbringing of the individual, a high ethnic density in the neighbourhood where the individual resides and belonging to associations whose members are foreigners increases the first component, even though to a lesser extent. The fact that high levels of ethnic concentration increases the residents' minority identity refers to the mechanism of cultural conformity where a high degree of ethnic clustering strengthen in-group loyalties encouraging immigrants to remain committed to their origin country culture (Zimmermann, Constant, and Schüller 2014). Finally, having provided financial aid to someone abroad and maintaining contacts with family/friends living abroad are associated with a higher score for the first component.

The second component can be interpreted as the extent to which the individual holds multiple identities. Indeed, having a foreign nationality and speaking only a foreign language are associated with a lower score for the second component. On the other hand, individuals whose parents used French as the first language to speak with them when they were a child have a higher score for the second component. Also, having visited the country of origin, using the media of the country of origin, having given money to the country of origin, being an owner and having invested in the country of origin are all associated with a higher score for the second component.

Feeling French but also belonging to associations whose members are foreigners, having provided aid to someone abroad and maintaining contacts with family/friends living abroad leads to higher scores for the second component. However, feeling at home in France, feeling from the country of origin, the importance of religion in the upbringing of the respondent as well as ethnic density in the neighbourhood where the individual resides in France do not seem to influence strongly the extent to which the individual holds multiple identities.

Table 3.5.
Principal Components (Eigenvectors)

Variable	*Component 1*	*Component 2*
Nationality[a]	0.2934	-0.2613
Languages[b]	0.3018	-0.2650
Language mother[c]	-0.3172	0.2357
Language father[d]	-0.3096	0.2566
Visited cob[e]	0.2490	0.1128
Use media cob[f]	0.2680	0.1395
Transfer to cob[g]	0.1665	0.4667
Owner cob[h]	0.2321	0.1703
Invested in cob[i]	0.1658	0.3342
Home in France[j]	-0.1360	0.0193
Feel French[k]	-0.2344	0.1836
Feel cob[l]	0.2682	0.0502
Place of education[m]	0.2890	-0.1955
Religion[n]	0.1649	0.0985
Ethnic density[o]	0.1114	0.0206
Associations[p]	0.1297	0.4202
Aid[q]	0.1962	0.2472
Contact cob[r]	0.2443	0.1637

Source: Trajectoires et Origines, own calculations.
[a] "Nationality" is equal to 1 if the individual is French at birth, 2 if the individual is French by aquisition and 3 if the individual is a foreigner.
[b] "Languages" is equal to 1 if the individual speaks only French, 2 if speaks several languages including French, 3 if speaks several languages but not French, 4 if speaks only a foreign language.
[c] "Language mother" is a dummy equal to 1 if French is the first language used by mother to speak to respondent when he was a child, 0 otherwise.
[d] "Language father" is a dummy equal to 1 if French is the first language used by father to speak to respondent when he was a child, 0 otherwise.
[e] "Visited cob" is a dummy variable equal to 1 if the respondent visited his country of origin, 0 otherwise.
[f] "Use media cob" is a dummy variable equal to 1 if the respondent uses the media of his country of origin, 0 otherwise.
[g] "Transfer to cob" is a dummy variable equal to 1 if the respondent has given money to his country of origin, 0 otherwise.
[h] "Owner cob" is a dummy variable equal to 1 if the respondent owns land/house in his country of origin, 0 otherwise.
[i] "Invested in cob" is a dummy variable equal to 1 if the respondent is a owner or has invested in a business in country of origin, 0 otherwise.
[j] "Home in France" is a categorical variable for "I feel at home in France" from 1 (strongly disagree) to 4 (strongly agree).
[k] "Feel French" is a categorical variable for "I feel French" from 1 (strongly disagree) to 4 (strongly agree).
[l] "Feel cob" is a categorical variable for "I feel from country of origin" from 1 (strongly disagree) to 4 (strongly agree).
[m] "Place of education" is equal to 1 if the individual studied only in France, 2 if the individual studied in both France and a foreign country, 3 if the individual studied only in a foreign country.
[n] "Religion" is a categorical variable for "importance of religion in your upbringing" from 1 (not important at all) to 4 (very important).
[o] "Ethnic density" is a categorical variable for the "proportion of immigrants who live in your neighbourhood" from 1 (none) to 5 (almost all).
[p] "Associations" is a dummy variable equal to 1 if the respondent belongs to associations whose members are of same foreign origin, 0 otherwise.
[q] "Aid" is a dummy variable equal to 1 if the respondent has provided financial aid to someone abroad in past 12 months, 0 otherwise.
[r] "Contact cob" is a categorical variable for "Frequency at which you maintain contact with family/friends living abroad" from 1 (never) to 3 (often).

Figure 3.4 shows how the entire population is distributed along the two components (graph on the top) and then it shows separately i) the first-generation, ii) the second-generation immigrants and iii) the natives' distributions along the two components.[8] The first-generation immigrants (small graph on the left) are the furthest on the right with the highest values for the first component and lower values for the second component, meaning that they exhibit a higher level of commitment to their origin country culture but they are less likely to identify with both France and their origin country compared to the second-generation immigrants and the natives.

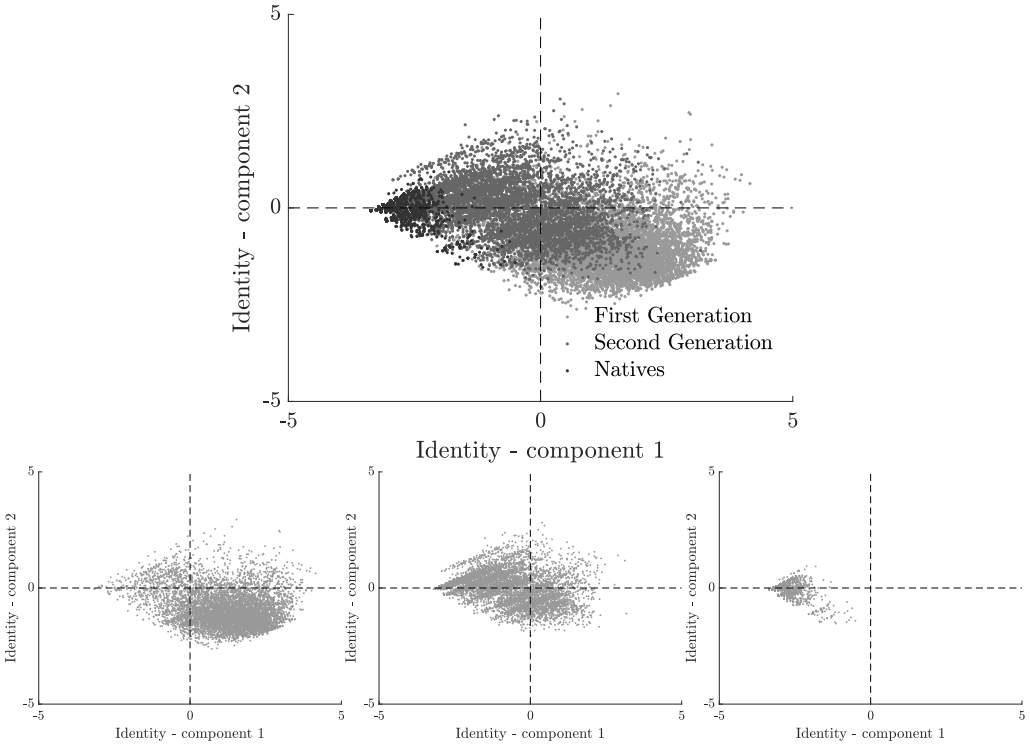

Figure 3.4. *Score Plots by Samples*

Source: Trajectoires et Origines, own calculations.
Notes: The figure on the top gives the score plot for the entire sample with the first-generation immigrants (lighter shade) concentrated on the right, the second-generation immigrants spread in the middle and natives (darker shade) concentrated on the left. The graphs on the bottom show the score plots separately for the following samples: the first-generation immigrants are represented on the graph on the left, the second-generation immigrants are represented on the graph in the middle and the natives, on the graph on the right.

The second-generation immigrants (small graph in the middle) are spread in the middle with intermediate values for the first component as well as for the second component. Therefore, the second-generation immigrants remain committed to their parents' origin country culture but are more likely to hold multiple identities compared to the first generation. Finally, the natives (small graph on the right) are

[8]The histogram plots and the density plots are available in the appendix for more detailed information about the distributions.

mostly concentrated on the left with negative values for the first component illustrating no commitment to a foreign country culture. They are also less dispersed along the second component meaning that they differ less from one another and form an homogenous group compared to the first- and the second-generation immigrants.

Step 4. Different Samples for PCA

One concern is that the measures based on the PCA depend on the sample used. Indeed, the previous components are generated when performing the polychoric PCA on the entire sample. However, there could be significant differences in terms of identity between men and women leading to different components for each group. Therefore, the cultural traits are examined separately for men and women.[9] There are no differences in terms of nationality, language skills, the links with the country of origin and the ethnic density in the neighbourhood where the individual resides.

However, a lower proportion of women in both generations report feeling French compared to men. The first-generation immigrant women are more likely to have studied abroad compared to their men counterparts. Religion was significantly more important in the upbringing of women compared to men in both generations. Fewer women in both generations belong to associations whose members are of foreign origin or have provided financial aid to someone abroad. Lastly, a larger proportion of women in both generations maintain contact with family/friends living abroad compared to men.

The attachment to the host country and the origin country cultures might also differ depending on the marital status of the migrant.[10] In fact, married migrants, especially in the first generation, seem to remain closer to their origin country compared to single immigrants. For instance, married immigrants are more likely to speak only their native language. They also appear to be more strongly linked with their country of origin. A higher proportion of married immigrants received their educational qualifications from a foreign country. Besides, religion was more important in the upbringing of married immigrants. Lastly, the first-generation immigrants who are married are more likely to maintain contact with family/friends living abroad.

Due to the differences in ethnic identity when looking at different groups, it might be necessary to perform the polychoric PCA separately on different samples.

[9]The summary statistics by gender of the ethnic identity variables are reported in the appendix.

[10]The summary statistics by marital status of the ethnic identity variables are reported in the appendix.

Therefore, in addition to the previous measures that were generated when performing the polychoric PCA on the entire sample, additional analyses are performed separately for the two following samples: i) the first-generation immigrants and ii) the second-generation immigrants and separately for the four following samples: i) the first-generation immigrant men, ii) the first-generation immigrant women, iii) the second-generation immigrant men and iv) the second-generation immigrant women. Since the measures obtained are similar from the previous ones[11], the analysis relies on the measures generated with the entire sample.

3.4.3 Descriptive Statistics of the Components

The identity choice of the individual might differ depending on a number of factors. Table 3.6 displays the descriptive statistics of the two principal components by gender, age group, marital status, level of education, ethnicity, religion and family structure. First, the degree of commitment to the origin country culture is the same for both male and female first-generation immigrants. However, first-generation immigrant women are less likely to have multiple identities compared to men. In the second generation, men are less committed to the culture of their country of ancestry compared to women.

Among the first-generation immigrants, the youngest are the ones who are the least close to their origin country culture. There is no significant differences with respect to having multiple identities. On the contrary, among the second-generation immigrants, the oldest are the ones that are the least close to their parents' origin country culture. This is consistent with the fact that the more the individual spend time in the host country, the more he is likely to adopt the majority identity. However, all second-generation immigrants, especially the youngest, are likely to retain their origin country culture alongside adopting the French identity.

When we compare single with married individuals and with individuals who married someone who is French, those who are the closest to their origin country culture in the first generation are those who are married to a foreigner. They are also the least likely to have multiple identities whereas single individuals are the least close to their origin country culture and the most likely to hold multiple identities. In the second generation, those who are married to a French are the least close to their parents' origin country culture. Conversely, those who are married to a foreigner are closer to their parents' origin country culture and are less likely to

[11]The measures obtained here are not reported but are available upon request.

Table 3.6.
Descriptive Statistics of the Components

	First-generation immigrants				*Second-generation immigrants*				*Natives*			
	Minority identity		*Multiple identities*		*Minority identity*		*Multiple identities*		*Minority identity*		*Multiple identities*	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Overall sample	1.18	1.15	-0.92	0.76	-0.99	1.2	0.07	0.63	-2.90	0.40	-0.02	0.27
Gender												
Male	1.18	1.15	-0.89	0.77	-1.03	1.22	0.07	0.63	-2.92	0.41	-0.04	0.27
Female	1.19	1.14	-0.95	0.75	-0.94	1.21	0.06	0.63	-2.89	0.39	0	0.26
Age group												
Age 17-30	1.06	1.22	-0.92	0.78	-0.81	1.2	0.09	0.63	-2.96	0.34	-0.03	0.21
Age 30-45	1.22	1.14	-0.92	0.77	-1.12	1.21	0.04	0.62	-2.91	0.39	-0.01	0.25
Age 45-60	1.2	1.11	-0.93	0.74	-1.54	1.05	0.04	0.60	-2.84	0.45	-0.02	0.32
Marital status												
Single[a]	0.80	1.17	-0.85	0.82	-1.02	1.17	0.08	0.62	-2.91	0.39	-0.03	0.26
Married	1.38	1.08	-0.96	0.72	-0.91	1.3	0.03	0.64	-2.9	0.41	-0.002	0.28
Married foreign	1.82	0.88	-1.09	0.68	0.14	1.15	-0.10	0.71	-2.65	0.43	0.20	0.24
Married french	1.10	1.11	-0.89	0.73	-1.17	1.18	0.07	0.61	-2.91	0.40	-0.005	0.27
Education												
No qualification	1.46	1.04	-1.12	0.65	-0.85	1.33	-0.15	0.59	-2.90	0.44	-0.11	0.30
Primary education	1.55	1.14	-1	0.70	-1.29	1.29	-0.04	0.65	-2.85	0.50	-0.12	0.36
Lower-secondary education	0.94	1.14	-0.86	0.75	-0.97	1.23	0.01	0.62	-2.94	0.41	-0.06	0.27
Higher-secondary education	1.10	1.20	-0.89	0.80	-0.96	1.16	0.11	0.61	-2.92	0.36	0.01	0.22
Two-year higher education	0.93	1.16	-0.71	0.83	-1.04	1.22	0.13	0.63	-2.89	0.40	0.007	0.27
More than two years	1.18	1.13	-0.84	0.82	-1.12	1.15	0.22	0.63	-2.82	0.37	0.07	0.24
Ethnicity												
Europe	1.23	1.10	-1.17	0.57	-1.32	1.11	0.07	0.58				
North Africa[b]	1.35	1.03	-0.96	0.60	-0.83	1.22	0.04	0.61				
Sahelian Africa[c]	1.64	1.05	-0.67	0.88	-0.28	1.24	0.19	0.74				
Central Africa[d]	0.99	1.11	-0.58	0.91	-1.19	1.05	0.33	0.61				
Other Africa	1.31	1.08	-0.95	0.68	-1.22	1	0.31	0.66				
Asia[e]	1.39	1.06	-1.17	0.62	-0.38	1.31	-0.26	0.68				
DOM[f]	-0.20	0.97	0.18	0.67	-1.18	0.88	0.41	0.45				
Other[g]	1.36	1.05	-0.97	0.72	-1.21	1.09	0.21	0.53				
Religion												
Muslims	1.65	0.90	-0.96	0.66	-0.08	1.05	0.002	0.69	-2.61	0.59	0.06	0.18
Catholics and other Christians[h]	1.04	1.18	-0.80	0.82	-1.17	1.1	0.15	0.60	-2.85	0.41	0.002	0.29
Other[i]	1.01	1.09	-1.08	0.72	-0.97	1.02	0.01	0.72	-2.83	0.36	0.009	0.20
No religion	0.72	1.19	-1.05	0.77	-1.6	1	0.05	0.58	-2.97	0.38	-0.04	0.24
Family structure												
Immigrant mother and native father					-1.77	0.83	0.28	0.43				
Immigrant father and native mother					-1.91	0.77	0.30	0.42				
Both parents are immigrants					-0.38	1.08	-0.09	0.70				
N = 18,240 Observations	7,659				7,690				2,891			

Source: Trajectoires et Origines, own calculations.

[a] "Single" includes also widower and divorced.
[b] North Africa refers to Algeria, Morocco and Tunisia.
[c] Sahelian Africa refers to Senegal, Mauritania, the Gambia, Guinea-Bissau, Guinea, Mali, Burkina Faso, Niger and Chad.
[d] Central Africa refers to Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Gabon, Republic of the Congo, DRC and Equatorial Guinea.
[e] Asia refers to Vietnam, Laos, Cambodia and Turkey.
[f] DOM refers to Guadeloupe, Martinique, French Guiana and Reunion.
[g] Other refers to North America, Central America, South America, Middle East and Oceania.
[h] Catholics and other Christians refers to Catholics, Orthodoxes, Protestants and other christians.
[i] Other refers to Jews, Buddhists, Hindus or those who have several religions.

have multiple identities.

As expected, the level of education does not seem to affect the degree of identification with the country of origin for the first-generation immigrants. However, for the second generation and the natives, educated individuals are more likely to have multiple identities. Sahelian African and Asian first-generation immigrants are the ones that are the most committed to their origin country culture. On the opposite, people who were born in French overseas territories (DOM) are the ones that are the least committed to their origin country culture. Most ethnic groups among the first generation do not have multiple identities. Considering the second generation however, all ethnic groups have both identities except the descendants of Asian immigrants for whom the origin country culture is still very important.

Muslim immigrants are the most committed to their origin country culture in both generations. Finally, the children whose parents are both immigrants are more closed to their parents' origin country culture and are less likely to have multiple identities whereas those whose only the father is an immigrant are the closest to the French culture. This is in line with Casey and Dustmann (2010)'s finding that mothers transmit the home identity more strongly.

3.4.4 Comparison of the Ethnic Identity Measures

The two measures of ethnic identity based on the PCA are now examined in comparison with the existing measures used in previous studies. Both the self-identification measure and the ethnosizer are constructed.[12] More specifically, four dummies are generated for the self-identification measure for each state of ethnic identity: integration, assimilation, separation and marginalization. For the ethnosizer, four variables are constructed for each state of ethnic identity ranging from 0 to 5.

Figure 3.5 provides the kernel densities of: 1) the two ethnic identity measures generated from the polychoric PCA, 2) the four dummies of the self-identification measure and 3) the four categories of the ethnosizer.[13] The two existing measures of ethnic identity are more restrictive than the ones generated from the PCA because the methods employed to construct the self-identification measure and the ethnosizer force the measures to be around specific values. In the case of the self-identification measure (graph in the middle), the value for each state of ethnic identity is either

[12]See Section 3.2 for a detail explanation on the construction of the self-identification measure and the ethnosizer.

[13]The kernel densities of the measures are reported separately for the first- and the second-generation immigrants in the appendix.

0 or 1, categorizing the individual as fully integrated or not for instance. In the case of the ethnosizer (graph at the bottom), each category takes a value from 0 to 5. Therefore, the ethnosizer provides more flexibility than the self-identification measure but it might still lead to categorize individuals in states in which they are not. Indeed, individuals do not necessarily have similar reference points when answering questions on a scale. However, the ethnosizer relies heavily on the answers given to classify individuals in different categories. In contrast, the two measures generated by the polychoric PCA (graph at the top) are continuous.

The correlation matrix provided in Table 3.7 shows the extent to which the measures are correlated with each other. The first part of the table reports the correlations using the entire sample while the two last parts of the table reports the correlations separately for the first- and the second-generation immigrants. As expected, the two components are correlated with both existing measures, even though more strongly with the ethnosizer.

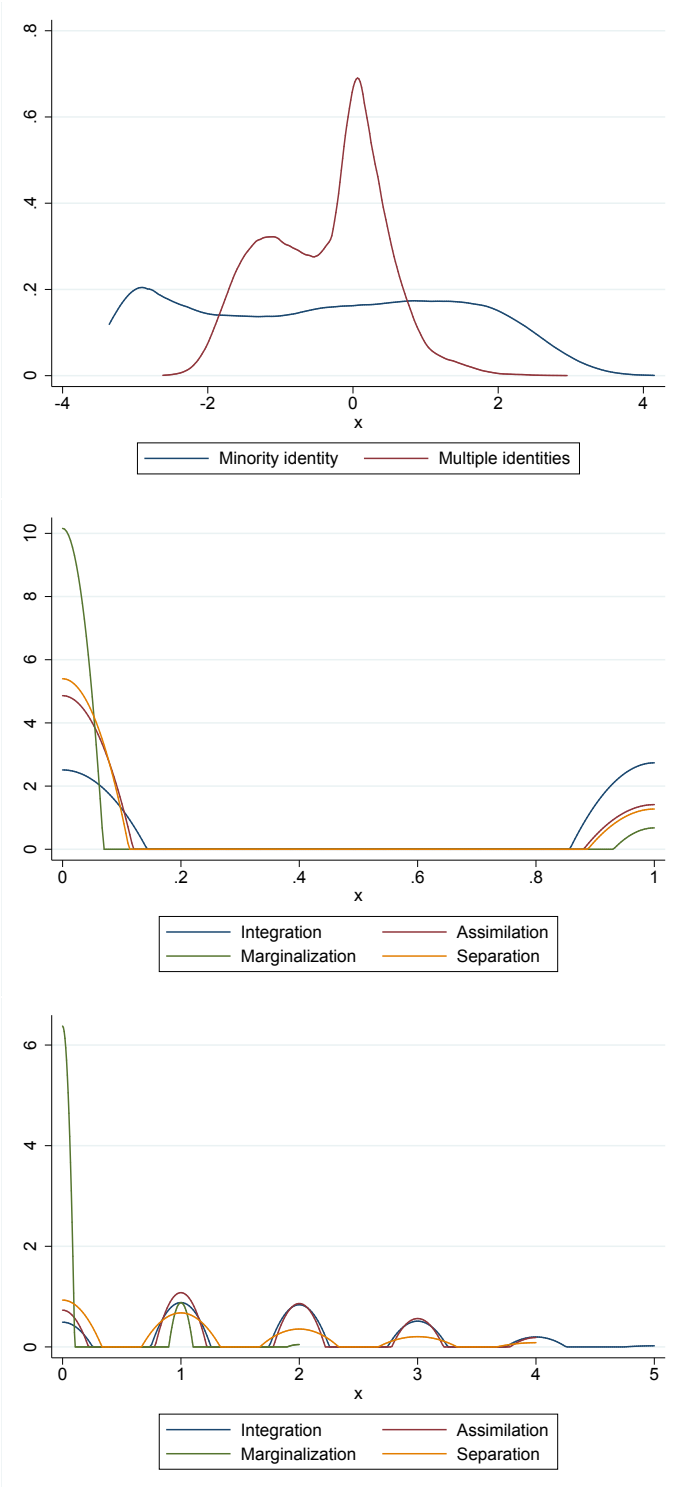

Figure 3.5. *Kernel Densities*

Source: Trajectoires et Origines, own calculations.

Notes: The graph on the top shows the kernel densities for the two principal components generated from the polychoric PCA: the minority identity and the extent to which the individual holds multiple identities. The graph in the middle reports the kernel densities for the four regimes of the self-identification measure of ethnic identity: integration, assimilation, separation and marginalization. Finally, the graph at the bottom shows the kernel densities for the four states of the ethnosizer: integration, assimilation, separation and marginalization.

Table 3.7.
Correlation Matrix - Ethnic Identity Measures

	PCA		*Self-identification*				*Ethnosizer*			
	Minority identity	*Multiple identities*	*Int.*	*Assim.*	*Marg.*	*Sep.*	*Int.*	*Assim.*	*Marg.*	*Sep.*
Minority identity	1.0000									
Multiple identities	-0.5414*	1.0000								
Self Integration	0.0454*	0.1568*	1.0000							
Self Assimilation	-0.4859*	0.1475*	-0.5628*	1.0000						
Self Marginalization	0.0456*	-0.0960*	-0.2694*	-0.1392*	1.0000					
Self Separation	0.4561*	-0.3155*	-0.5070*	-0.2618*	-0.1254*	1.0000				
Ethno Integration	0.1483*	0.1978*	0.6156*	-0.4070*	-0.1514*	-0.2446*	1.0000			
Ethno Assimilation	-0.7599*	0.4481*	-0.2437*	0.6174*	-0.0190	-0.3341*	-0.4258*	1.0000		
Ethno Marginalization	0.1853*	-0.1949*	-0.2186*	-0.1162*	0.6980*	-0.0286*	-0.0286*	-0.1495*	1.0000	
Ethno Separation	0.7038*	-0.5841*	-0.2561*	-0.2578*	-0.0563*	0.6372*	-0.3006*	-0.6317*	-0.0241*	1.0000
First-generation immigrants										
Minority identity	1.0000									
Multiple identities	-0.2422*	1.0000								
Self Integration	-0.1618*	0.2718*	1.0000							
Self Assimilation	-0.3542*	-0.0105	-0.4018*	1.0000						
Self Marginalization	-0.0160	-0.0919*	-0.2659*	-0.1002*	1.0000					
Self Separation	0.4588*	-0.2452*	-0.6604*	-0.2488*	-0.1647*	1.0000				
Ethno Integration	-0.0727*	0.3657*	0.5913*	-0.2382*	-0.1331*	-0.3897*	1.0000			
Ethno Assimilation	-0.6555*	0.2570*	-0.0588*	0.5404*	-0.0267	-0.3213*	-0.2216*	1.0000		
Ethno Marginalization	0.0574*	-0.0988*	-0.2126*	-0.0217	0.6124*	-0.0759*	-0.1359*	-0.0452*	1.0000	
Ethno Separation	0.6630*	-0.4498*	-0.4009*	-0.2337*	-0.0767*	0.6553*	-0.5011*	-0.6182*	-0.1695*	1.0000
Second-generation immigrants										
Minority identity	1.0000									
Multiple identities	-0.2891*	1.0000								
Self Integration	0.3382*	0.0408*	1.0000							
Self Assimilation	-0.5345*	0.0385*	-0.7223*	1.0000						
Self Marginalization	0.0266	-0.0413*	-0.2730*	-0.1770*	1.0000					
Self Separation	0.3056*	-0.1189*	-0.3347*	-0.2170*	-0.0820*	1.0000				
Ethno Integration	0.5128*	0.0501*	0.6388*	-0.5605*	-0.1689*	-0.0478*	1.0000			
Ethno Assimilation	-0.6909*	0.2331*	-0.4762*	0.6392*	-0.0155	-0.1865*	-0.7538*	1.0000		
Ethno Marginalization	0.0921*	-0.0985*	-0.2438*	-0.1678*	0.8969*	-0.0608*	-0.1698*	-0.0400*	1.0000	
Ethno Separation	0.4076*	-0.2879*	-0.1443*	-0.1349*	-0.0657*	0.5200*	-0.1203*	-0.4107*	-0.0632*	1.0000

Source: Trajectoires et Origines, own calculations.
Notes: The first part of the table is for the entire sample, the middle part when including only the first-generation immigrants and the bottom part only for the second-generation immigrants. "Self" refers to the self-identification measure, "Ethno" refers to the ethnosizer, "Int" to integration, "Assim" to assimilation, "Marg" to marginalization and "Sep" to separation".

3.5 Empirical Framework

3.5.1 Baseline Model Specification

To investigate the impact of an immigrant's ethnic identity on his labour market outcomes, the analysis relies on the following econometric framework:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 I_{ij} + \epsilon_{ij}, \tag{3.1}$$

where Y_{ij} is the employment outcome of individual i who resides in region j. A number of employment outcomes are examined subsequently: 1) the employment probability, 2) the hourly income, 3) the type of employment (being salaried, employed by the state or self-employed) and finally, 4) the quality of employment (being in elementary occupations or being a professional/manager). I_{ij} represents the ethnic identity measures: i) the degree of commitment to the origin country culture and ii) the extent to which the individual holds multiple identities.

To assess the relevance of the identity measures, the employment outcome is regressed on each identity measure separately and subsequently, a model including both measures is estimated. X_{ij} comprises individual characteristics which vary with the specification considered. The baseline specification includes the following controls: age, age-squared, the year of arrival for first-generation immigrants, whether the migrant is married, religion, the education level, the region of origin and the region of residence. ϵ_{ij} is the error term. Most of the regressions are estimated using linear probability models[14] except for the second outcome which is examined using ordinary least squares regressions. Finally, the effect of ethnic identity is examined separately for first- and second-generation immigrants as well as for men and women.

The sign of the coefficient of interest β_2 is uncertain. On the one hand, ethnic identity could have a negative effect on the immigrants' employment outcomes. Indeed, immigrants with a strong minority identity might suffer a lack of host country specific skills that reduces their employment probabilities. They are also more likely to rely on co-ethnics when looking for jobs, and this might affect their labour market opportunities. In particular, interacting exclusively with co-ethnics might increase the risks to get access only to segmented labour markets characterised by lower earnings and lower-skilled occupations. Immigrants strongly attached to their origin country culture are more likely to experience labour market discrimination.

[14]The results are robust to probit estimations as well.

This would typically decrease their likelihood of gaining employment. It could also be reflected in inferior earnings or lower quality of employment. Lastly, being close to the origin country culture is often associated with traditional gender norms which would affect the migrant's likelihood of being employed. On the other hand, ethnic identity can potentially improve the employment outcomes of immigrants if having a minority identity allow the migrants to differentiate themselves with the natives giving them an advantage on the French labour market. For instance, having multiple identities might increase the immigrants' probability of being employed if the employers want to diversify their workforce. It could have a positive impact on earnings if having multiple identities can be used to facilitate productive activity.

One concern is the endogenous nature of ethnic identity which would lead to biased OLS estimates. Indeed, a potential source of endogeneity is the reverse causality, i.e. the fact that a lack of success in the French labour market may encourage immigrants to be less committed to the French culture (Casey and Dustmann 2010; Gorinas 2014; Nekby and Rödin 2010; Pendakur and Pendakur 2005; Schüller 2015). Besides, there might be some confounding factors that correlates with both ethnic identity and the employment outcomes leading to an omitted variable bias. For instance, one may argue that certain parental characteristics such as ability or motivation to succeed in France are likely to be associated with both the ethnic identity and the labour market outcomes of immigrants.

3.5.2 Identification Using Instrumental Variable Approach

In order to address the endogeneity issue, ethnic identity has to be instrumented for. However, finding a good instrument in this case is a difficult task. To identify ethnic identity, this study exploits the heterogeneity in France's cultural influence (or "soft power") over time and space. Indeed, the influence of the French culture in the country of origin of a migrant at the year of arrival in France for the first generation (or before being born for the second generation) is likely to significantly affect his ethnic identity later on in his life. The instrumental variable approach proceeds in two stages as follows:

$$I_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 Z_i + \epsilon_{ij} \tag{3.2}$$

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 I_{ij} + \gamma_j + \epsilon_{ij}. \tag{3.3}$$

The first-stage equation (Equation 3.2) looks at the impact of several instrumental variables (Z_i) on the migrant's ethnic identity (I_{ij}). Then, the second-stage

equation (Equation 3.3) examines the impact of the ethnic identity measures instrumented (I_{ij}) on the labour market outcomes of the migrants (Y_{ij}). The controls that are included in both the first-stage and the second-stage regressions are the following: age, age-squared, the year of arrival for the first-generation immigrants, whether the migrant is married, religion, the education level, the region of origin and the region of residence in France.

Four instrumental variables are included. They are constructed by combining information from the national level and the individual level in order to have the degree of exposure that varies across individuals. The instruments are the following: 1) the number of years the migrant's country of origin has been a French territory before the year of arrival in France for a first-generation immigrant (before the year of birth for a second-generation immigrant), 2) the number of years the country of origin has been in the CFA zone before the year of arrival in France for a first-generation immigrant (before the year of birth for a second-generation immigrant), 3) the number of years the country of origin has been a member of the European Union before the year of arrival in France for a first-generation immigrant (before the year of birth for a second-generation immigrant), and 4) the number of years the country of origin has been a member of the International Organisation of la Francophonie[15] before the year of arrival in France for a first-generation immigrant (before the year of birth for a second-generation immigrant).

For instance, let's take the example of a first-generation immigrant who emigrated from the United Kingdom in 1983. The variable "number of years the migrant's country of origin has been a member of the European Union [...]" is equal to 1983 - 1973 (date of accession) which is equal to 10 years. Thus, the migrant has been exposed to a European "climate" for 10 years before his arrival in France. Let's take another example: a first-generation immigrant who emigrated from Greece in 2005. The variable "number of years the migrant's country of origin has been a member of the European Union [...]" is equal to 2005 - 2004 (date of accession) which is equal to 1 year.

In this case, one could think that the exclusion restriction is not verified since coming from the European Union might have a direct effect on the employment outcomes of immigrants. However, by taking the number of years, we are compar-

[15]The OIF, created in 1970, represents one of the biggest linguistic zones in the world. The French language and its humanist values represent the two cornerstones on which the organisation is based. The OIF organises political activities and actions of multilateral cooperation that benefit French-speaking populations. Its actions serve to promote the French language, peace and sustainable development. More information can be found on the OIF's website: https://www.francophonie.org/Welcome-to-the-International.html.

ing individuals who have emigrated from a country that has been a member of the European Union for 10 years with someone who has emigrated from a country that has been a member of the European Union for a year. Therefore, they have similar advantages when arriving to France since both individuals are Europeans but they have different degrees of commitment to the host country culture due to their different exposure to the French culture prior to arrival.

For the sake of clarity, let's take another example concerning the second generation: a second-generation immigrant born in France in 1971 and whose parents emigrated from Vietnam. The variable "number of years the migrant's country of origin has been a member of the OIF [...]" is equal to 1971 - 1970 (date of membership) which is equal to 1 year. The instruments capture the extent to which individuals have been exposed to the French culture in their upbringing.[16]

These instruments are likely to be strongly correlated with identity. In fact, the longer the migrant has been exposed to the French culture before arrival (or before being born for the second generation), the less he/she is likely to be exclusively close to the culture of his/her country of origin and the more he/she is likely to have multiple identities. Furthermore, these instruments are not likely to directly impact the migrants' employment outcome. Indeed, the characteristics of the migrant's country of origin before arrival (or before being born for the second generation) should not influence directly the performance of the migrant in the French labour market.

3.6 Results and Discussion

3.6.1 Main Results

OLS Results

The results of the linear probability models for the relationship between ethnic identity and employment probabilities are presented in Table 3.8. For the first-generation immigrant men, the results show that having multiple identities is associated with higher chances of being employed. The estimated effect suggests that one standard deviation from the "multiple identities" index is associated with a 3.2 pp increase in the probability of being employed. First-generation immigrant women are also more likely to be employed if they have multiple identities: a one-

[16]Negative values are replaced by zeros to reflect no exposure.

standard-deviation increase in the "multiple identities" index is associated with a 3.4 pp increase in the employment probability. On the other hand, being only committed to the origin country culture does not have any significant effect. The results are robust when conditioning on both ethnic identity measures.

Similar results are found for the descendants of immigrants. Being committed to both the origin country culture and the French culture is associated with higher chances of being employed for immigrant men in the second generation. The estimated marginal effect of having multiple identities amounts to 2.7 pp. This result holds even when introducing both measures at the same time. For the second-generation immigrant women, having multiple identities is beneficial, associated with a 1.9 pp increase in the likelihood of being employed. However, when conditioning on both ethnic identity measures, the "multiple identities" index becomes non significant.

Table 3.8.
Impact of Ethnic Identity on the Probability of Being Employed - Linear Probability Models

	Male			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)
First-generation immigrants						
Minority identity	0.007		0.005	-0.004		-0.002
	(0.91)		(0.74)	(-0.45)		(-0.24)
Multiple identities		0.032***	0.032***		0.034***	0.034***
		(3.35)	(3.30)		(2.91)	(2.88)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,638	3,638	3,638	3,949	3,949	3,949
Second-generation immigrants						
Minority identity	-0.009		-0.005	-0.011		-0.008
	(-1.51)		(-0.82)	(-1.59)		(-1.12)
Multiple identities		0.027***	0.025**		0.019*	0.015
		(2.60)	(2.22)		(1.69)	(1.26)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,624	3,624	3,624	4,010	4,010	4,010

Source: Trajectoires et Origines, own calculations.
Notes: Individual characteristics include age, age-squared, the age at arrival for the first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

There are several potential mechanisms behind these results. First, it could be due to social networks. Immigrants who are committed to both the origin country culture and the host country culture are likely to interact with both co-ethnics and

natives. This could typically increase access to employment: co-ethnics might be in a position to provide more information about job market opportunities on segmented labour markets while natives can facilitate access to other types of employment. Another explanation could be that employers want to diversify their workforce and, therefore, immigrants having multiple identities are more likely to gain employment. It could be also that having multiple identities is seen as a signal of the individuals' productive capacity.

Considering the income level of immigrants, the OLS estimates of the relationship between ethnic identity and the hourly income are presented in Table 3.9. Holding a minority identity or having multiple identities does not have any significant effect on the hourly income of the first-generation immigrants. Similarly, there is no impact of ethnic identity on the income level of the second-generation immigrant men. These results are in line with studies such as Constant and Zimmermann (2009)'s who argue that there is no correlation between ethnic identity and wages. Having multiple identities is associated with a higher hourly income only for the second-generation immigrant women. One potential explanation to the positive impact of ethnic identity on the income level of second-generation immigrant women is that having contacts with both natives and co-ethnics provide access to a wider range of occupations characterised by higher wages.

Table 3.9.
Impact of Ethnic Identity on the Hourly Income - OLS Regressions

	Male			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)
First-generation immigrants						
Minority identity	0.0003		-0.0003	-0.009		-0.009
	(0.02)		(-0.02)	(-0.78)		(-0.76)
Multiple identities		0.022	0.022		0.004	0.003
		(1.34)	(1.34)		(0.23)	(0.16)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,113	2,113	2,113	1,854	1,854	1,854
Second-generation immigrants						
Minority identity	-0.005		-0.001	0.0005		0.006
	(-0.47)		(-0.13)	(0.07)		(0.75)
Multiple identities		0.019	0.019		0.028**	0.031**
		(1.17)	(1.07)		(2.07)	(2.20)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,948	1,948	1,948	2,053	2,053	2,053

Source: Trajectoires et Origines, own calculations.
Notes: Individual characteristics include age, age-squared, the age at arrival for the first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia".
t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3.10 displays the results for the type of employment: i) being salaried, ii) being employed by the state and iii) being self-employed. The first-generation immigrant men who are exclusively close to the culture of their country of origin are more likely to be self-employed. This could be related to the fact that they have low levels of French proficiency. For the first-generation immigrant women, they are less likely to be employed by the state or self-employed and more likely to be salaried if they are exclusively committed to their origin country culture. These differences between men and women are likely due to the fact that they are often working in different sectoral occupations.

On the other hand, for the first-generation immigrant women, being committed to both the French culture and the origin country culture is associated with a higher probability to be employed by the state and a lower probability to be salaried. For the second generation of immigrants, the men who are exclusively committed to the culture of their country of ancestry are less likely to be employed by the state and more likely to be salaried while for women, having multiple identities is associated with a decreased probability to be salaried and an increased probability to be self-employed.

Table 3.10.
Impact of Ethnic Identity on the Type of Employment - Linear Probability Models

	Male			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)
First-generation immigrants						
Being salaried						
Minority identity	-0.012		-0.011	0.034***		0.031***
	(-1.35)		(-1.27)	(3.23)		(2.95)
Multiple identities		-0.015	-0.014		-0.050***	-0.046***
		(-1.27)	(-1.19)		(-3.33)	(-3.09)
Employed by the state						
Minority identity	-0.0003		-0.0006	-0.018*		-0.015
	(-0.04)		(-0.08)	(-1.85)		(-1.58)
Multiple identities		0.006	0.006		0.042**	0.040***
		(0.69)	(0.69)		(2.99)	(2.88)
Being self-employed						
Minority identity	0.012*		0.012*	-0.016**		-0.016**
	(1.82)		(1.77)	(-2.58)		(-2.52)
Multiple identities		0.009	0.008		0.008	0.006
		(0.99)	(0.89)		(1.00)	(0.74)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,878	2,878	2,878	2,342	2,342	2,342
Second-generation immigrants						
Being salaried						
Minority identity	0.017**		0.015*	0.0007		-0.005
	(2.22)		(1.94)	(0.07)		(-0.58)
Multiple identities		-0.016	-0.009		-0.030**	-0.033**
		(-1.19)	(-0.63)		(-1.99)	(-2.07)
Employed by the state						
Minority identity	-0.014**		-0.013*	0.002		0.006
	(-2.09)		(-1.92)	(0.23)		(0.63)
Multiple identities		0.009	0.003		0.017	0.020
		(0.76)	(-1.92)		(1.15)	(1.29)
Being self-employed						
Minority identity	-0.003		-0.002	-0.003		-0.0003
	(-0.67)		(-0.42)	(-0.75)		(-0.07)
Multiple identities		0.007	0.006		0.013**	0.013**
		(0.88)	(0.73)		(2.28)	(2.13)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,567	2,567	2,567	2,550	2,550	2,550

Source: Trajectoires et Origines, own calculations.
Notes: Individual characteristics include age, age-squared, the age at arrival for the first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Lastly, Table 3.11 reports the results for the quality of employment: i) being in elementary occupations or ii) being a professional/manager.[17] The results show

[17]These two occupational categories are not mutually exclusive. Other categories are observed

that being close to both cultures decreases the probability for both first-generation immigrant men and women to be in elementary occupations. A possible explanation is that having multiple identities is taken as a signal by the employers of a higher productive capacity. On the opposite, having a minority identity decreases the probability of first- and second-generation immigrant men to be professionals/managers. This could be due to labour market discrimination: immigrants with strong minority identities are less likely to get promoted and therefore to get access to higher-skilled occupations.

Table 3.11.
Impact of Ethnic Identity on the Quality of Employment - Linear Probability Models

	Male			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)
First-generation immigrants						
In elementary occupations						
Minority identity	0.010		0.011	0.003		0.002
	(1.34)		(1.44)	(0.43)		(0.24)
Multiple identities		-0.027***	-0.027***		-0.021**	-0.021**
		(-2.74)	(-2.79)		(-2.17)	(-2.13)
Professional/manager						
Minority identity	-0.012*		-0.013*	-0.008		-0.008
	(-1.71)		(-1.76)	(-0.95)		(-0.95)
Multiple identities		0.013	0.014		-0.0001	-0.001
		(1.36)	(1.42)		(-0.01)	(-0.10)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,469	2,469	2,469	2,174	2,174	2,174
Second-generation immigrants						
In elementary occupations						
Minority identity	0.004		0.004	-0.004		-0.006
	(0.80)		(0.80)	(-1.07)		(-1.48)
Multiple identities		-0.001	0.0008		-0.007	-0.010
		(-0.15)	(0.08)		(-1.09)	(-1.55)
Professional/manager						
Minority identity	-0.017**		-0.015**	-0.0008		0.006
	(-2.58)		(-2.19)	(-0.12)		(0.78)
Multiple identities		0.019*	0.012		0.033***	0.036***
		(1.79)	(1.05)		(2.69)	(2.74)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,339	2,339	2,339	2,445	2,445	2,445

Source: Trajectoires et Origines, own calculations.
Notes: Individual characteristics include age, age-squared, the age at arrival for the first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

but, for the sake of simplicity, the results are reported only for these two categories.

For women in the second generation, having multiple identities increases the probability to be employed as professionals/managers. One potential explanation to the fact that having multiple identities is associated to a better performance in the host labour market for immigrants is that it allows the immigrants to differentiate themselves from natives. From the demand side, employers might be interested in diversifying their workforce while from the supply side, having a diverse cultural background and belonging to different social groups increases the migrant's cultural and social capital.

IV Results

Due to the endogenous nature of ethnic identity, the OLS estimates are likely to be biased. In order to address this concern, this study relies on an instrumental variable approach. The results are reported in Table 3.12. The estimates of the first-stage regressions are displayed in Panel C. More specifically, the first column of each sub-group (Columns 1, 4, 7 and 10) reports the impact of the instrumental variables on the minority identity while the second column (Columns 2, 5, 8 and 11) reports the impact on the multiple identities index.

The results of the first-stage regressions reported in Panel C show that the four instruments strongly influence the identity choice of the migrants. The longer the first-generation immigrant spent in a French territory before migrating to France, the less he/she feels exclusively close to the country of origin and the more he/she has multiple identities. The opposite is found for the second generation of immigrants: the longer the parents' country of origin has been a French territory, the closer to the country of ancestry the children of immigrants are. One potential explanation for this result is the colonial history that may have marked generations of immigrants differently. Besides, the longer the migrant's country of origin has been a member of the European Union, the weaker the exclusive commitment to the country of origin and the more he/she holds multiple identities. This is unsurprising if one believes that the European Union has for objective to bring countries closer to each others.

Furthermore, for the first generation of migrants, the longer the country of origin has been part of the International Organisation of la Francophonie (OIF), the more likely the respondent has multiple identities. One explanation for this is that the OIF aims at bringing together two cultures: the French culture and the culture of the country of origin. However, it is the opposite effect for the second generation: the longer the country of ancestry has been part of the OIF, the less likely the respondent has multiple identities. This might be due to the fact that the

events organised by the OIF in the country of origin aim at promoting the culture of the origin country and thus at increasing the extent to which individuals feel proud of their own culture.[18] This would typically decrease the likelihood of having multiple identities.

The results of the second-stage regressions are presented in Table 3.12, Panel B. When ethnic identity is instrumented for, the results differ from the OLS estimates (Panel A). Ethnic identity is no longer significant in explaining the migrant's probability of being employed except for the second-generation immigrant women: having multiple identities decreases their probability of being employed. This could be due to labour market discrimination affecting more strongly women. It could also be due to traditional social norms, reducing the likelihood for women to work. The significant effect disappears however when accounting for both identity measures. Even if the coefficient is not significant though, having multiple identities remains positive for the first-generation immigrant men and women and for the second-generation immigrant men. Besides, the IV estimates are larger compared to the OLS estimates. However, due to the fact that the estimates are imprecise, it is difficult to make any conclusive inference.

A series of tests are conducted, first, to check whether the ethnic identity measures which are believed to be endogenous could be treated as exogenous; and second, whether the overidentifying restrictions are verified. The scores for each test are reported in Table 12. The null hypothesis of the Durbin and Wu-Hausman tests is that both ethnic identity measures can be treated as exogenous. The results are as follows: in most of the cases, both the Durbin and Wu-Hausman test statistics are not significant. Therefore, this means that we cannot reject the null hypothesis: the ethnic identity measures could be treated as exogenous. This is the case for the first-generation immigrants. However, for the second generation of migrants, the ethnic identity measures have to be treated as endogenous.

Furthermore, since there are more instruments than endogenous variables, I can conduct the Sargan and Basmann tests of overidentifying restrictions. The results show a non statistically significant test-statistic for most of the regressions. This indicates that we can accept the null hypothesis that the instruments are valid. This is the case for the first-generation immigrants. However, for the second generation, the results show a statistically significant test-statistic. Therefore, in this instance, we cannot accept the null hypothesis that the instruments are valid.

[18] More information can be found on the organisation's website: https://www.francophonie.org/Welcome-to-the-International.html.

Table 3.12.
Impact of Ethnic Identity on the Probability of Being Employed - IV Strategy

	First-generation immigrants						*Second-generation immigrants*					
	Male			*Female*			*Male*			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: OLS results												
Minority identity	0.007		0.005	-0.004		-0.002	-0.009		-0.005	-0.011		-0.008
	(0.91)		(0.74)	(-0.45)		(-0.24)	(-1.51)		(-0.82)	(-1.59)		(-1.12)
Multiple identities		0.032***	0.032***		0.034***	0.034**		0.027***	0.025**		0.019*	0.015
		(3.35)	(3.30)		(2.91)	(2.88)		(2.60)	(2.22)		(1.69)	(1.26)
Observations	3,638	3,638	3,638	3,949	3,949	3,949	3,624	3,624	3,624	4,010	4,010	4,010
Panel B: second-stage results												
Minority identity	-0.035		-0.045	-0.048		0.040	-0.004		0.182	0.072		-0.371
	(-0.55)		(-0.49)	(-0.92)		(0.43)	(-0.05)		(1.21)	(1.57)		(-0.60)
Multiple identities		0.034	-0.006		0.113	0.190		0.069	0.313		-0.198*	-0.985
		(0.40)	(-0.05)		(1.35)	(1.17)		(0.73)	(1.54)		(-1.92)	(-0.70)
Panel C: first-stage results												
Years French territory	0	0.002***		-0.001	0.004***		0.002*	0.0001		0.003***	-0.001**	
	(-0.00)	(2.99)		(-1.09)	(5.44)		(1.91)	(0.11)		(2.88)	(-2.36)	
Years in CFA zone	-0.0007	0.0002		-0.003*	0.005***		-0.001	0.003		-0.004	0.004**	
	(-0.41)	(0.15)		(-1.95)	(4.04)		(-0.35)	(1.55)		(-1.40)	(2.11)	
Years EU member	-0.007***	0.009***		-0.015***	0.007***		-0.015***	0.011***		-0.028***	0.012***	
	(-3.06)	(5.16)		(-7.57)	(4.98)		(-4.83)	(6.09)		(-9.25)	(6.61)	
Years OIF member	-0.012***	0.003*		-0.009***	0.002		0.002	-0.008***		0.009**	-0.006**	
	(-5.37)	(1.72)		(-4.87)	(1.41)		(0.35)	(-3.27)		(2.32)	(-2.53)	
Observations	3,156	3,156	3,156	3,337	3,337	3,337	3,385	3,385	3,385	3,781	3,781	3,781
F (excluded IVs)	11.64	11.78		26.65	20.24		6.56	11.30		22.97	13.13	
Durbin (score) chi2(1)	0.511	0.003		0.743	0.902		0.006	3.415*		3.415*	4.849**	
Wu-Hausman	0.505	0.003		0.734	0.892		0.007	3.383*		3.383*	4.805**	
Sargan (score) chi2(3)	3.055	3.238		1.780	0.789		5.705	7.075*		7.075*	5.400	
Basmann chi2(3)	3.018	3.199		1.759	0.779		5.645	7.012*		7.012*	5.349	

Source: Trajectoires et Origines, own calculations.
Notes: Individual characteristics include age, age-squared, the age at arrival for first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

For the second-generation of immigrants, I exclude the following instrumental variable: "the number of years the country of origin has been in the CFA zone". The results are similar for the second-generation of immigrants: there is no significant impact of ethnic identity on the probability of being employed. For the second-generation immigrant women, the negative effect of having multiple identities disappears. The results to the Sargan and Basmann tests show that the instruments are now valid.[19]

3.6.2 Robustness Check

Apart from reverse causality, one issue that need to be dealt with to be able to claim for causality is the omitted variable bias. Indeed, there might be some confounding factors that correlates with both ethnic identity and employment outcomes. For instance, one may argue that certain parental characteristics such as ability or motivation to succeed in France are likely to be associated with both the ethnic identity and the labour market outcomes of immigrants.

As a further robustness check, this study explores the sensitivity of the estimates to omitted variable bias following Altonji, Elder and Taber (2008) and Oster (2016). More specifically, the analysis investigates how robust estimates are to omitted variable bias by studying coefficient movements and movements in R-squared values after inclusion of additional controls. Table 3.13 reports the OLS estimates for the impact of ethnic identity on the immigrants' probability of being employed. Panel A displays the estimates when no controls are included while Panel B reports the estimates of the baseline specification and finally, Panel C presents the estimates when additional controls are included such as the parents' education as well as the parents' employment status and the health status of the individual.

The results displayed in Table 3.13 provide evidence that the ethnic identity effects are not due to unobserved differences in human capital or in the state of health of the individual since the results provided in Panel C do not differ significantly from those reported in Panel B. One exception is for the second-generation immigrant women: the positive impact of having multiple identities disappears when controlling for the employment status of the parents. However, for the other groups, the results are not sensitive to the inclusion of controls even though there is an increase in the R-squared. Therefore, there is no evidence of selection based on the observables.

[19]The results excluding the CFA zone instrument are not reported but are available upon request.

One advantage of this framework is that it makes it possible to compute bounding values for the treatment effect. Oster (2016) derive the following bias-adjusted coefficient for the treatment effect:

$$\beta_1^{*\prime} = \tilde{\beta}_1 - \tilde{\delta}\frac{(\dot{\beta}_1 - \tilde{\beta}_1)(R_{max} - \tilde{R})}{(\tilde{R} - \dot{R})} \tag{3.4}$$

where $\tilde{\delta}$ captures the explanatory power of unobserved variables as a proportion of the explanatory power of observed variables. R_{max} denotes the R-squared from an hypothetical regression if one would observe all relevant factors for the outcome variable. The bias-adjusted coefficient depends on estimated parameters ($\dot{\beta}_1$, $\tilde{\beta}_1$, $\dot{R}$, $\tilde{R}$) and chosen value for $\tilde{\delta}$ and R_{max}. The coefficient $\dot{\beta}_1$ and the R-squared $\dot{R}$ are estimated from the baseline specification (Table 3.13 Panel B) and the coefficient $\tilde{\beta}_1$ and the R-squared $\tilde{R}$ come from the full specification (Table 3.13 Panel C).

With respect to $\tilde{\delta}$ and R_{max}, one needs to make some assumptions. Oster (2016) argues that $\tilde{\delta} \in [0, 1]$ is a useful bound. This is because it is unlikely that unobservables have a stronger impact on the outcome variable than observables. Therefore, the results are presented for $\tilde{\delta} = 1$ assuming equal selection as well as for $\tilde{\delta} = 0.5$ and $\tilde{\delta} = 1.5$ to further explore the sensitivity of the results. It is plausible to assume that $R_{max} < 1$ due to measurement error. Therefore, the results are presented for $R_{max} = 0.5$ and for $R_{max} = 0.8$. If the identified set excludes zero, the results from the controlled regressions can be considered as robust to omitted variable bias.

The results of coefficient stability to omitted variable bias are shown in Table 3.13 Panel D. The table reports the identified sets for both ethnic identity indices. The significant results are not driven by selection on unobservables since the bias-adjusted coefficients $\beta_1^{*\prime}$ do not change considerably relative to $\tilde{\beta}_1$ and the identified sets do not include zero. Furthermore, the identified sets indicate that having multiple identities has a positive impact on the probability of being employed for both the first- and the second-generation immigrants. It becomes negative only when selection on unobservables is assumed to be important. Hence, the results confirm that the ethnic identity effect is not driven by unobservables.

Table 3.13.

Impact of Ethnic Identity on the Probability of Being Employed - Sensitivity Analysis - Linear Probability Models

	First-generation immigrants						*Second-generation immigrants*					
	Male			*Female*			*Male*			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: no controls												
Minority identity	-0.0008		0.003	-0.070***		-0.058***	-0.026***		-0.025***	-0.045***		-0.042***
	(-0.14)		(0.45)	(-10.51)		(-8.11)	(-4.14)		(-3.95)	(-7.12)		(-6.40)
Multiple identities		0.033***	0.034***		0.087***	0.058***		0.015	0.002		0.041***	0.016
		(3.97)	(4.01)		(8.98)	(5.67)		(1.31)	(0.19)		(3.40)	(1.26)
Individual characteristics	No	No	No	No	No	No	No	No	No	No	No	No
Region Controls	No	No	No	No	No	No	No	No	No	No	No	No
Observations	3,679	3,679	3,679	3,980	3,980	3,980	3,648	3,648	3,648	4,042	4,042	4,042
R-squared	0.0000	0.0040	0.0040	0.0269	0.0179	0.0341	0.0047	0.0004	0.0048	0.0124	0.0029	0.0128
Panel B: baseline specification												
Minority identity	0.007		0.005	-0.004		-0.002	-0.009		-0.005	-0.011		-0.008
	(0.91)		(0.74)	(-0.45)		(-0.24)	(-1.51)		(-0.82)	(-1.59)		(-1.12)
Multiple identities		0.032***	0.032***		0.034***	0.034***		0.027***	0.025**		0.019*	0.015
		(3.35)	(3.30)		(2.91)	(2.88)		(2.60)	(2.22)		(1.69)	(1.26)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,638	3,638	3,638	3,949	3,949	3,949	3,624	3,624	3,624	4,010	4,010	4,010
R-squared	0.1259	0.1283	0.1285	0.1662	0.1679	0.1679	0.3106	0.3114	0.3116	0.2391	0.2391	0.2394
Panel C: full specification												
Minority identity	0.007		0.005	-0.006		-0.005	-0.012*		-0.008	-0.004		-0.0007
	(0.81)		(0.63)	(-0.66)		(-0.55)	(-1.73)		(-1.12)	(-0.51)		(-0.08)
Multiple identities		0.030***	0.030***		0.023*	0.023*		0.032***	0.029**		0.020	0.019
		(2.83)	(2.78)		(1.78)	(1.73)		(2.73)	(2.36)		(1.53)	(1.46)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Extra controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,906	2,906	2,906	3,138	3,138	3,138	2,974	2,974	2,974	3,263	3,263	3,263
R-squared	0.1789	0.1810	0.1811	0.2038	0.2045	0.2046	0.3481	0.3491	0.3494	0.2683	0.2687	0.2687
Panel D: sensitivity tests												
Identified sets:												
For $R_{max} = 0.5$ and $\delta = 0.5$	[-0.001;0.007]	[0.030;0.043]*		[-0.021;-0.006]	[0.023;0.039]*		[-0.032;-0.012]*	[0.032;0.056]*		[-0.004;0.077]	[0.020;0.106]*	
For $R_{max} = 0.5$ and $\delta = 1$	[-0.010;0.007]	[0.030;0.056]*		[-0.037;-0.006]	[0.023;0.057]*		[-0.094;-0.012]*	[0.032;0.114]*		[-0.004;1.22]	[0.020;1.49]*	
For $R_{max} = 0.5$ and $\delta = 1.5$	[-0.020;0.007]	[0.030;0.072]*		[-0.057;-0.006]	[0.023;0.080]*		[-0.109;-0.012]*	[-0.230;0.032]		[-0.040;-0.004]	[-0.049;0.020]	
For $R_{max} = 0.8$ and $\delta = 0.5$	[-0.009;0.007]	[0.030;0.055]*		[-0.037;-0.006]	[0.023;0.057]*		[-0.151;-0.012]*	[0.032;0.211]*		[-0.004;0.253]	[0.020;0.403]*	
For $R_{max} = 0.8$ and $\delta = 1$	[-0.031;0.007]	[0.030;0.088]*		[-0.079;-0.006]	[0.023;0.108]*		[-1.574;-0.012]*	[0.032;2.45]*		[-0.004;4.49]	[0.020;6.83]*	
For $R_{max} = 0.8$ and $\delta = 1.5$	[-0.065;0.007]	[0.030;0.133]*		[-0.142;-0.006]	[0.023;0.204]*		[-0.012;0.038]	[-0.053;0.032]		[-0.031;-0.004]	[-0.029;0.020]	

Source: Trajectoires et Origines, own calculations.

Notes: Individual characteristics include age, age-squared, the age at arrival for first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

3.6.3 Heterogenous Effects

The effect of ethnic identity on employment might differ depending on the migrant's ethnicity, religion, the marital status and also the ethnic density of the migrant's place of residence. The results are displayed in Table 3.14. The ethnic groups that are examined are the main ones: immigrants from Asia (Panel B), Europe (Panel C) and North Africa (Panel D). There is no significant impact of ethnic identity on the probability of being employed for immigrants coming from Asia or Europe for both generations. On the other hand, the first-generation North African immigrant men who are exclusively close to the culture of their country of origin are more likely to gain employment. One potential explanation could be due to social networks. North African immigrants who are strongly connected to their origin country may rely on co-ethnics to find a job and this may contribute to increase the likelihood to get employed.

There is no significant effect of ethnic identity on the probability of being employed for Muslim (Panel E) versus Christian immigrants (Panel F) nor for single (Panel G) versus married immigrants (Panel H) in both generations. Finally, the impact of an immigrant's ethnic identity on the probability of being employed might differ from one individual to another depending on whether the individual lives in a place where there is a high share of immigrants compared to places where the share of immigrants is low. Indeed, one may argue that in places where there is a low share of immigrants, the negative effect of having the minority identity might be amplified. Conversely, in places where there is a large share of immigrants, being committed to the origin country culture should not penalise the immigrants as much. With respect to having multiple identities, it might be beneficial for immigrants living in places where there is a high ethnic density as it would allow them to differentiate themselves from the others.

Figure 3.6 shows the average percentage of immigrants by regions in the French population with the lightest regions being the ones with the lowest share of immigrants (between 4 and 5.5%) and the darkest regions being the ones with the highest share of immigrants (between 8.5 and 9%). Immigrants are mostly concentrated in Ile-de-France and Languedoc-Roussillon whereas Bretagne has the lowest share of immigrants. In order to avoid a simple comparison between individuals living in one region with another, a measure of the percentage of immigrants at a more disaggregated level is used in the regressions. Indeed, the percentage of immigrants was reported for the address of the respondent at the time of interview.

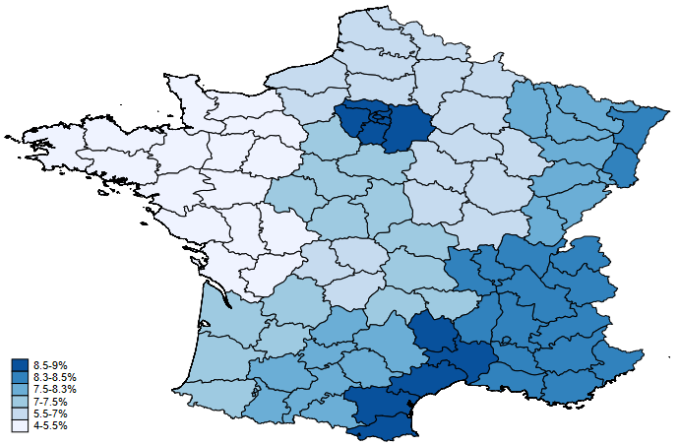

Figure 3.6. *Composition of the Population in France 2008*
Source: Trajectoires et Origines, own calculations.
Notes: The figure shows the composition of the French population in 2008 and more specifically, the average percentage of immigrants by regions with the lightest regions being the ones with the lowest share of immigrants (between 4 and 5.5%) and the darkest regions being the ones with the highest share of immigrants (between 8.5 and 9%).

Table 3.14 Panel I reports the results for the effect of ethnic identity on the employment probability of immigrants who live in places where ethnic density is low (less than 1.6%) while Panel J reports the results for immigrants who live in places where ethnic density is high (8.2% or more). Ethnic identity has no significant effect on the probability of being employed for immigrants living in places characterised by low ethnic density. On the other hand, having multiple identities increases significantly the likelihood to get employed for first-generation immigrant women who live in places where there is a high ethnic density whereas being exclusively close to the country of origin decreases the likelihood to gain employment. The positive effect of having muliple identities could be explained by the fact that it increases women' cultural and social capital, enabling them to differentiate themselves from others in the labour market.

Table 3.14.
Heterogenous Effects of Ethnic Identity - IV Strategy

	First-generation immigrants						*Second-generation immigrants*					
	Male			*Female*			*Male*			*Female*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Panel A: all immigrants												
Minority identity	-0.035		-0.035	-0.048		0.023	-0.004		0.123	0.072		-0.445
	(-0.55)		(-0.38)	(-0.92)		(0.26)	(-0.05)		(0.91)	(1.57)		(-1.00)
Multiple identities		0.034	0.001		0.113	0.142		0.069	0.203		-0.198*	-1.158
		(0.40)	(0.01)		(1.35)	(1.02)		(0.73)	(1.14)		(-1.92)	(-1.18)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,156	3,156	3,156	3,337	3,337	3,337	3,385	3,385	3,385	3,781	3,781	3,781
Panel B: Asian immigrants												
Minority identity	-0.496		-0.455	-0.573			0.141			-0.163		
	(-1.45)		(-0.99)	(-1.56)			(1.33)			(-0.75)		
Multiple identities		-1.325	-0.272		31.546			-2.877			0.921	
		(-0.57)	(-0.15)		(0.05)			(-0.28)			(0.47)	
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	723	723	723	619	619		443	443		451	451	
Panel C: European immigrants												
Minority identity	0.025		-0.513	-0.025		0.232	0.013		0.345	0.017		3.393
	(0.65)		(-0.16)	(-0.63)		(1.27)	(0.24)		(1.24)	(0.39)		(0.18)
Multiple identities		-0.045	-0.949		0.077	0.485		0.038	0.635		-0.038	8.328
		(-0.65)	(-0.16)		(1.05)	(1.45)		(0.39)	(1.26)		(-0.35)	(0.18)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	823	823	823	1,032	1,032	1,032	1,430	1,430	1,430	1,420	1,420	1,420
Panel D: North African immigrants												
Minority identity	0.406**		0.443**	0.119		-0.045	0.055		-0.293	-0.060		-0.187
	(2.15)		(1.97)	(0.48)		(-0.11)	(0.48)		(-0.13)	(-0.58)		(-1.17)
Multiple identities		-0.260	0.136		-0.207	-0.249		-0.221	-1.320		-0.491	-0.766
		(-0.89)	(0.33)		(-0.70)	(-0.51)		(-0.49)	(-0.16)		(-1.37)	(-1.61)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	840	840	840	821	821	821	942	942	942	1,220	1,220	1,220

Table 3.14.
Heterogenous Effects of Ethnic Identity - IV Strategy - Continued

Panel E: Muslim immigrants												
Minority identity	0.279		0.297	0.003		-0.071	-0.081		-0.224	-0.045		-0.260
	(1.31)		(1.27)	(0.01)		(-0.22)	(-0.61)		(-0.59)	(-0.51)		(-1.17)
Multiple identities		-0.097	0.097		-0.142	-0.164		0.086	-0.281		-0.204	-0.831
		(-0.27)	(0.22)		(-0.58)	(-0.61)		(0.36)	(-0.41)		(-0.73)	(-1.23)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,230	1,230	1,230	1,189	1,189	1,189	926	926	926	1,205	1,205	1,205
Panel F: Christian immigrants												
Minority identity	0.029		0.301	-0.031		0.001	-0.075		-0.279	0.041		0.108
	(0.51)		(1.27)	(-0.59)		(0.01)	(-1.11)		(-1.38)	(0.85)		(0.94)
Multiple identities		0.003	0.392		0.063	0.064		0.035	-0.354		-0.046	0.150
		(0.04)	(1.21)		(0.81)	(0.56)		(0.34)	(-1.12)		(-0.48)	(0.65)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,088	1,088	1,088	1,396	1,396	1,396	1,120	1,120	1,120	1,331	1,331	1,331
Panel G: single immigrants												
Minority identity	0.050		0.112	0.073		0.159	-0.003		0.063	0.065		0.004
	(0.46)		(0.69)	(0.97)		(1.16)	(-0.03)		(0.27)	(0.83)		(0.01)
Multiple identities		0.005	0.112		-0.037	0.149		0.031	0.093		-0.156	-0.148
		(0.03)	(0.53)		(-0.35)	(0.77)		(0.21)	(0.34)		(-0.85)	(-0.23)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	867	867	867	807	807	807	2,336	2,336	2,336	2,266	2,266	2,266
Panel H: married immigrants												
Minority identity	-0.051		-0.053	-0.101		-0.099	0.019		0.023	-0.013		-0.199
	(-0.65)		(-0.54)	(-1.45)		(-0.87)	(0.32)		(0.25)	(-0.27)		(-1.30)
Multiple identities		0.045	0.005		0.184	0.005		-0.021	0.009		-0.039	-0.475
		(0.36)	(-0.03)		(1.16)	(0.02)		(-0.21)	(0.06)		(-0.35)	(-1.31)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,098	2,098	2,098	2,146	2,146	2,146	937	937	937	1,293	1,293	1,293

Table 3.14.
Heterogenous Effects of Ethnic Identity - IV Strategy - Continued

Panel I: ethnic density place of residence												
Less than 1.6% immigrants												
Minority identity	0.094		0.059	0.151		0.247	0.098		0.184	0.149		0.143
	(1.36)		(0.55)	(1.22)		(0.79)	(1.06)		(1.59)	(0.97)		(0.87)
Multiple identities		-0.094	-0.048		-0.231	0.202		0.158	0.329		-0.236	-0.137
		(-1.17)	(-0.43)		(-0.96)	(0.34)		(0.87)	(1.51)		(-0.38)	(-0.21)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43	43	43	48	48	48	69	69	69	74	74	74
Panel J: ethnic density place of residence												
8.2% or more immigrants												
Minority identity	-0.046		-0.027	-0.129*		0.062	-0.060		-0.072	0.056		0.102
	(-0.48)		(-0.25)	(-1.76)		(-0.55)	(-0.48)		(-0.37)	(1.00)		(0.54)
Multiple identities		0.064	0.050		0.173*	0.111		0.047	-0.018		-0.115	0.112
		(0.57)	(0.39)		(1.84)	(0.76)		(0.32)	(-0.08)		(-0.87)	(0.25)
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,234	2,234	2,234	2,398	2,398	2,398	2,127	2,127	2,127	2,526	2,526	2,526

Source: Trajectoires et Origines, own calculations.

Notes: Individual characteristics include age, age-squared, the age at arrival for first-generation immigrants only, whether the individual is married, religion dummies, education, region of origin. The base group for religion is "no religion"; the base group for education is "no education"; and the base group for region of origin is "Asia". t statistics in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

3.7 Conclusion

This chapter investigated the impact of ethnic identity, i.e. the degree of identification with the culture and society of the host country and the country of origin, on first- and second-generation immigrants' employment outcomes in France. Relying on a polychoric principal component analysis, the essay proposed two alternative measures of ethnic identity than the ones used in the existing literature, namely: i) the degree of commitment to the origin country culture and ii) the extent to which the individual has multiple identities. Using linear probability models, the essay examined the impact of ethnic identity on a number of employment outcomes, namely the probability of being employed, the hourly income, the type of employment as well as the quality of employment.

The results show that preserving an attachment to the country of origin alongside adopting the French identity is associated with an increased probability of being employed for both the first- and the second-generation immigrants. There is no significant impact of ethnic identity on the hourly income of immigrants. Moreover, being exclusively committed to the origin country increases the probability of being salaried. On the opposite, it reduces the likelihood of being employed by the state. It increases the likelihood of being self-employed for the first-generation immigrant men whereas it reduces it for the first-generation immigrant women. With respect to the quality of employment, the first-generation immigrants who hold multiple identities are less likely to be employed in elementary occupations. First- and second-generation immigrant men who are exclusively close to their origin country culture are less likely to be employed as professionals/managers. Besides, the second-generation immigrant women who hold multiple identities are more likely to be employed as professionals/managers.

A number of potential mechanisms could explain these findings. First, immigrants who have multiple identities might have higher levels of social capital. This might lead to a higher likelihood of gaining employment since immigrants can have access to different job opportunities. Second, it could be due to the employers' willingness to diversify the set of skills in the workplace. Employers might think also that immigrants having multiple identities have higher levels of cultural capital and this may lead to higher productivity levels. This would also explain the fact that ethnic identity is associated with access to higher-skilled occupations.

However, due to the endogenous nature of ethnic identity, the OLS estimates are likely to be biased. To address this concern, this study relies on an instrumental

variable strategy in which four instruments are included: 1) the number of years the migrant's country of origin has been a French territory before the year of arrival for first-generation immigrants (or before the year of birth for the second generation), 2) the number of years the country of origin has been in the CFA zone before the year of arrival for first-generation immigrants (or before the year of birth for the second generation), 3) the number of years the country of origin has been in the European Union before the year of arrival for first-generation immigrants (or before the year of birth for the second generation) and 4) the number of years the country of origin has been part of the International Organisation of la Francophonie before the year of arrival for first-generation immigrants (or before the year of birth for the second generation). The results of the first-stage regressions show that the instruments are relevant. The results of the second-stage regressions show that ethnic identity does not have any significant effect on the migrants' probability of being employed.

A sensitivity analysis confirms that the results are not driven by selection on unobservables since the bias-adjusted coefficients are similar to the OLS estimates and the identified sets do not include zero. Besides, the more selection on unobservables is assumed to be important, the larger the coefficients. Considering the signs of the indices, having multiple identities becomes negative only when selection is assumed to be important. Lastly, the heterogenous effect of ethnic identity is examined. This essay contributes to the debate on identity by providing evidence that ethnic identity does not reduce the employment prospects of immigrants. This is an important finding, especially since France has traditionally viewed the retention of a minority identity as an obstacle to the migrant's integration.

Appendix

Table A.1.
Key Variables for Men

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education									
No qualification	0.24	0.43	4,098	0.14	0.35	4,196	0.09	0.29	1,421
Primary education	0.07	0.26	4,098	0.008	0.09	4,196	0.03	0.17	1,421
Lower-secondary education	0.26	0.44	4,098	0.36	0.48	4,196	0.40	0.49	1,421
Higher-secondary education	0.16	0.37	4,098	0.24	0.43	4,196	0.19	0.39	1,421
Two-year higher education	0.08	0.27	4,098	0.11	0.32	4,196	0.12	0.32	1,421
More than two years in higher education	0.19	0.39	4,098	0.14	0.35	4,196	0.18	0.38	1,421
Employment									
Employed	0.79	0.41	4,188	0.71	0.46	4,197	0.80	0.41	1,421
Unemployed	0.11	0.31	4,188	0.13	0.33	4,197	0.07	0.25	1,421
Student	0.03	0.17	4,188	0.14	0.35	4,197	0.07	0.25	1,421
Inactive	0.07	0.26	4,188	0.02	0.16	4,197	0.07	0.25	1,421
For those employed									
Employed by the state[a]	0.11	0.31	3,304	0.16	0.37	2,962	0.19	0.39	1,133
Salaried[b]	0.79	0.41	3,304	0.77	0.42	2,962	0.71	0.45	1,133
Self-employed	0.11	0.31	3,304	0.07	0.26	2,962	0.11	0.31	1,133
For salaried active workers only[c]									
Job - open-ended employment, full-time	0.78	0.41	2,851	0.74	0.44	2,706	0.84	0.36	988
Job - open-ended employment, part-time	0.05	0.23	2,851	0.05	0.21	2,706	0.04	0.20	988
Job - other fixed-term employment or contract	0.10	0.30	2,851	0.11	0.32	2,706	0.06	0.23	988
Job - other[d]	0.06	0.24	2,851	0.10	0.30	2,706	0.06	0.23	988
ISCO - elementary occupations[e]	0.15	0.36	2,851	0.09	0.29	2,706	0.06	0.24	988
ISCO - plant and machine operators and assemblers[f]	0.34	0.47	2,851	0.25	0.43	2,706	0.27	0.44	988
ISCO - service and sales workers[g]	0.22	0.41	2,851	0.25	0.43	2,706	0.20	0.40	988
ISCO - technicians, associate professionals[h]	0.12	0.33	2,851	0.20	0.40	2,706	0.19	0.39	988
ISCO - professionals[i]	0.13	0.34	2,851	0.17	0.38	2,706	0.21	0.41	988
ISCO - managers[j]	0.04	0.20	2,851	0.04	0.19	2,706	0.07	0.26	988
Number of hours per week	38.8	15.5	2,770	40.2	22.7	2,555	40.4	16.7	969
Work - full-time	0.95	0.23	2,813	0.94	0.24	2,594	0.97	0.18	981
Log net monthly salary	7.34	0.54	2,432	7.33	0.50	2,252	7.44	0.50	873
Log net hourly salary	3.71	0.50	2,406	3.68	0.48	2,231	3.77	0.47	862
Workplace - none or almost none of immigrant origin	0.24	0.43	2,707	0.32	0.47	2,514	0.61	0.49	954
Workplace - less than half of immigrant origin	0.26	0.44	2,707	0.33	0.47	2,514	0.28	0.45	954
Workplace - half of immigrant origin	0.18	0.39	2,707	0.16	0.37	2,514	0.08	0.27	954
Workplace - over half of immigrant origin	0.15	0.36	2,707	0.12	0.32	2,514	0.03	0.16	954
Workplace - almost all are of immigrant origin	0.16	0.37	2,707	0.07	0.25	2,514	0.004	0.06	954
N = 9,806 individuals		4,188			4,197			1,421	

Source: Trajectoires et Origines, own calculations.

[a] Individuals employed by the state include individuals employed by the state or employed by a local community.
[b] Salaried individuals include individuals who are salaried by a company, artisan or association or salaried by a private individual or salaried company heads.
[c] Salaried active workers are those who are either employed by the state, employed by a local community, salaried by a company, artisan or association or salaried by a private individual. Are excluded those who help a member of their family, salaried company head, or self-employed individuals.
[d] "Other" includes apprenticeship or vocational training, temporary work through an agency, paid company internship and subsidized employment.
[e] The category "elementary occupations" include unskilled manual workers.
[f] The category "plant and machine operators and assemblers" include skilled or highly skilled worker, workshop technicians.
[g] The category "service and sales workers" include first-line supervisors and office workers, sales workers, service personnel.
[h] The category "technicians and associate professionals" include technicians and junior grade civil servants.
[i] The category "professionals" include engineers and middle grade civil servants.
[j] The category "managers" include managing directors, direct deputies and senior grade civil servants.

Table A.2.
Key Variables for Women

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education									
No qualification	0.25	0.43	4,516	0.10	0.30	4,609	0.08	0.27	1,598
Primary education	0.08	0.27	4,516	0.008	0.09	4,609	0.03	0.18	1,598
Lower-secondary education	0.24	0.43	4,516	0.29	0.45	4,609	0.34	0.47	1,598
Higher-secondary education	0.15	0.36	4,516	0.28	0.45	4,609	0.22	0.42	1,598
Two-year higher education	0.08	0.27	4,516	0.14	0.35	4,609	0.15	0.36	1,598
More than two years in higher education	0.19	0.40	4,516	0.18	0.39	4,609	0.17	0.37	1,598
Employment									
Employed	0.58	0.49	4,783	0.64	0.48	4,615	0.73	0.44	1,599
Unemployed	0.13	0.34	4,783	0.12	0.32	4,615	0.09	0.28	1,599
Student	0.03	0.17	4,783	0.15	0.36	4,615	0.05	0.22	1,599
Inactive	0.25	0.44	4,783	0.09	0.29	4,615	0.13	0.34	1,599
For those employed									
Employed by the state[a]	0.20	0.40	2,780	0.27	0.44	2,935	0.31	0.46	1,165
Salaried[b]	0.74	0.44	2,780	0.70	0.46	2,935	0.62	0.49	1,165
Self-employed	0.06	0.24	2,780	0.03	0.18	2,935	0.07	0.25	1,165
For salaried active workers only[c]									
Job - open-ended employment, full-time	0.63	0.48	2,591	0.63	0.48	2,815	0.63	0.48	1,084
Job - open-ended employment - part-time	0.18	0.38	2,591	0.15	0.36	2,815	0.21	0.41	1,084
Job - other fixed-term employment or contract	0.16	0.37	2,591	0.15	0.36	2,815	0.12	0.33	1,084
Job - other[d]	0.03	0.17	2,591	0.07	0.26	2,815	0.04	0.19	1,084
ISCO - elementary occupations[e]	0.11	0.32	2,591	0.04	0.20	2,815	0.05	0.21	1,084
ISCO - plant and machine operators and assemblers[f]	0.09	0.28	2,591	0.05	0.21	2,815	0.07	0.25	1,084
ISCO - service and sales workers[g]	0.50	0.50	2,591	0.51	0.50	2,815	0.45	0.50	1,084
ISCO - technicians, associate professionals[h]	0.14	0.35	2,591	0.18	0.39	2,815	0.18	0.38	1,084
ISCO - professionals[i]	0.12	0.32	2,591	0.14	0.35	2,815	0.18	0.38	1,084
ISCO - managers[j]	0.04	0.19	2,591	0.07	0.26	2,815	0.09	0.28	1,084
Number of hours per week	34.2	23.4	2,484	34.6	14	2,652	35	18	1,051
Work - full-time	0.69	0.46	2,539	0.76	0.43	2,679	0.68	0.47	1,064
Log net monthly salary	7.02	0.60	2,217	7.12	0.50	2,363	7.13	0.50	948
Log net hourly salary	3.58	0.47	2,180	3.62	0.41	2,343	3.63	0.42	938
Workplace - none or almost none of immigrant origin	0.31	0.46	2,100	0.40	0.49	2,486	0.62	0.49	980
Workplace - less than half of immigrant origin	0.28	0.45	2,100	0.33	0.47	2,486	0.27	0.45	980
Workplace - half of immigrant origin	0.15	0.36	2,100	0.14	0.34	2,486	0.06	0.24	980
Workplace - over half of immigrant origin	0.13	0.34	2,100	0.09	0.28	2,486	0.03	0.18	980
Workplace - almost all are of immigrant origin	0.13	0.34	2,100	0.05	0.22	2,486	0.01	0.11	980
N = 10,997 individuals		4,783			4,615			1,599	

Source: Trajectoires et Origines, own calculations.

[a] Individuals employed by the state include individuals employed by the state or employed by a local community.
[b] Salaried individuals include individuals who are salaried by a company, artisan or association or salaried by a private individual or salaried company heads.
[c] Salaried active workers are those who are either employed by the state, employed by a local community, salaried by a company, artisan or association or salaried by a private individual. Are excluded those who help a member of their family, salaried company head, or self-employed individuals.
[d] "Other" includes apprenticeship or vocational training, temporary work through an agency, paid company internship and subsidized employment.
[e] The category "elementary occupations" include unskilled manual workers.
[f] The category "plant and machine operators and assemblers" include skilled or highly skilled worker, workshop technicians.
[g] The category "service and sales workers" include first-line supervisors and office workers, sales workers, service personnel.
[h] The category "technicians and associate professionals" include technicians and junior grade civil servants.
[i] The category "professionals" include engineers and middle grade civil servants.
[j] The category "managers" include managing directors, direct deputies and senior grade civil servants.

Table A.3.
Key Variables for Men by Marital Status

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education																		
No qualification	0.20	0.40	1,360	0.26	0.44	2,738	0.14	0.34	3,085	0.15	0.36	1,111	0.09	0.29	761	0.09	0.29	660
Primary education	0.04	0.20	1,360	0.09	0.28	2,738	0.007	0.08	3,085	0.01	0.11	1,111	0.02	0.15	761	0.04	0.19	660
Lower-secondary education	0.29	0.45	1,360	0.25	0.43	2,738	0.35	0.48	3,085	0.38	0.49	1,111	0.37	0.48	761	0.44	0.50	660
Higher-secondary education	0.19	0.39	1,360	0.14	0.35	2,738	0.26	0.44	3,085	0.17	0.37	1,111	0.23	0.42	761	0.14	0.35	660
Two-year higher education	0.08	0.28	1,360	0.08	0.27	2,738	0.11	0.31	3,085	0.13	0.34	1,111	0.12	0.33	761	0.11	0.32	660
More than two years in higher education	0.20	0.40	1,360	0.19	0.39	2,738	0.14	0.34	3,085	0.17	0.37	1,111	0.17	0.37	761	0.18	0.39	660
Employment																		
Employed	0.71	0.45	1,374	0.83	0.38	2,814	0.63	0.48	3,085	0.92	0.26	1,112	0.73	0.45	761	0.88	0.32	660
Unemployed	0.13	0.34	1,374	0.09	0.29	2,814	0.15	0.36	3,085	0.06	0.23	1,112	0.10	0.31	761	0.03	0.16	660
Student	0.09	0.28	1,374	0.002	0.04	2,814	0.19	0.39	3,085	0.004	0.06	1,112	0.12	0.33	761	0.002	0.04	660
Inactive	0.07	0.25	1,374	0.08	0.27	2,814	0.03	0.17	3,085	0.02	0.12	1,112	0.05	0.22	761	0.09	0.29	660
For those employed																		
Employed by the state[a]	0.13	0.34	978	0.10	0.29	2,326	0.16	0.37	1,934	0.17	0.37	1,028	0.16	0.37	552	0.21	0.41	581
Salaried[b]	0.80	0.40	978	0.79	0.41	2,326	0.79	0.41	1,934	0.73	0.45	1,028	0.77	0.42	552	0.65	0.48	581
Self-employed	0.07	0.26	978	0.12	0.32	2,326	0.05	0.22	1,934	0.11	0.31	1,028	0.07	0.25	552	0.14	0.35	581
For salaried active workers only[c]																		
Log net hourly salary	3.6	0.48	734	3.7	0.51	1,672	3.6	0.49	1,450	3.8	0.43	781	3.7	0.50	438	3.9	0.42	424
N = 9,806 individuals		1,374			2,814			3,085			1,112			761			660	

Source: Trajectoires et Origines, own calculations.

[a] Individuals employed by the state include individuals employed by the state or employed by a local community.
[b] Salaried individuals include individuals who are salaried by a company, artisan or association or salaried by a private individual or salaried company heads.
[c] Salaried active workers are those who are either employed by the state, employed by a local community, salaried by a company, artisan or association or salaried by a private individual. Are excluded those who help a member of their family, salaried company head, or self-employed individuals.

Table A.4.
Key Variables for Women by Marital Status

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education																		
No qualification	0.21	0.41	1,597	0.27	0.45	2,919	0.09	0.29	3,054	0.12	0.32	1,555	0.08	0.27	853	0.09	0.28	745
Primary education	0.05	0.22	1,597	0.09	0.29	2,919	0.005	0.07	3,054	0.01	0.12	1,555	0.02	0.12	853	0.05	0.23	745
Lower-secondary education	0.26	0.44	1,597	0.23	0.42	2,919	0.28	0.45	3,054	0.32	0.47	1,555	0.33	0.47	853	0.35	0.48	745
Higher-secondary education	0.18	0.39	1,597	0.14	0.35	2,919	0.32	0.47	3,054	0.21	0.40	1,555	0.25	0.43	853	0.20	0.40	745
Two-year higher education	0.08	0.28	1,597	0.08	0.27	2,919	0.14	0.34	3,054	0.15	0.36	1,555	0.15	0.36	853	0.15	0.36	745
More than two years in higher education	0.21	0.41	1,597	0.19	0.39	2,919	0.18	0.38	3,054	0.19	0.40	1,555	0.18	0.38	853	0.16	0.37	745
Employment																		
Employed	0.63	0.48	1,657	0.56	0.50	3,126	0.59	0.49	3,058	0.72	0.45	1,557	0.71	0.45	853	0.76	0.43	746
Unemployed	0.16	0.37	1,657	0.12	0.32	3,126	0.13	0.34	3,058	0.09	0.29	1,557	0.11	0.32	853	0.06	0.24	746
Student	0.07	0.26	1,657	0.005	0.07	3,126	0.22	0.42	3,058	0.014	0.12	1,557	0.09	0.29	853	0	0	746
Inactive	0.14	0.34	1,657	0.32	0.47	3,126	0.05	0.21	3,058	0.17	0.38	1,557	0.09	0.28	853	0.18	0.38	746
For those employed																		
Employed by the state[a]	0.22	0.41	1,044	0.20	0.40	1,736	0.26	0.44	1,816	0.29	0.45	1,119	0.29	0.46	603	0.33	0.47	562
Salaried[b]	0.73	0.44	1,044	0.74	0.44	1,736	0.71	0.45	1,816	0.67	0.47	1,119	0.65	0.48	603	0.59	0.49	562
Self-employed	0.05	0.22	1,044	0.07	0.25	1,736	0.03	0.16	1,816	0.04	0.20	1,119	0.05	0.23	603	0.08	0.27	562
For salaried active workers only[c]																		
Log net hourly salary	3.6	0.42	815	3.57	0.50	1,365	3.6	0.43	1,425	3.67	0.37	918	3.6	0.43	491	3.67	0.40	447
N = 10,997 individuals		1,657			3,126			3,058			1,557			853			746	

Source: Trajectoires et Origines, own calculations.

[a] Individuals employed by the state include individuals employed by the state or employed by a local community.
[b] Salaried individuals include individuals who are salaried by a company, artisan or association or salaried by a private individual or salaried company heads.
[c] Salaried active workers are those who are either employed by the state, employed by a local community, salaried by a company, artisan or association or salaried by a private individual. Are excluded those who help a member of their family, salaried company head, or self-employed individuals.

Table A.5.
Key Variables by Region of Origin

	Europe		*North Africa*[a]		*Sahelian Africa*[b]		*Central Africa*[c]		*Other Africa*		*Asia*[d]		*DOM*[e]	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
First-generation immigrants														
Education														
No qualification	0.22	0.41	0.33	0.47	0.27	0.44	0.12	0.33	0.23	0.42	0.29	0.45	0.19	0.39
Primary education	0.11	0.31	0.05	0.22	0.06	0.25	0.05	0.23	0.03	0.17	0.08	0.27	0.08	0.27
Lower-secondary education	0.26	0.44	0.27	0.44	0.24	0.43	0.27	0.44	0.18	0.39	0.22	0.42	0.35	0.48
Higher-secondary education	0.15	0.36	0.12	0.32	0.13	0.33	0.22	0.41	0.24	0.43	0.17	0.38	0.15	0.36
Two-year higher education	0.06	0.25	0.08	0.28	0.08	0.27	0.12	0.33	0.07	0.26	0.08	0.27	0.10	0.30
More than two years	0.20	0.40	0.15	0.36	0.22	0.41	0.21	0.41	0.24	0.43	0.16	0.36	0.13	0.33
Employment														
Employed	0.74	0.44	0.60	0.49	0.67	0.47	0.68	0.46	0.73	0.44	0.64	0.48	0.81	0.40
Unemployed	0.07	0.26	0.15	0.36	0.16	0.37	0.18	0.39	0.12	0.32	0.13	0.34	0.07	0.25
Student	0.01	0.12	0.03	0.16	0.04	0.21	0.05	0.23	0.03	0.17	0.03	0.17	0.04	0.18
Inactive	0.17	0.38	0.22	0.42	0.13	0.34	0.08	0.27	0.12	0.32	0.20	0.40	0.09	0.29
For salaried active workers only														
Log net hourly salary	3.72	0.51	3.61	0.43	3.57	0.35	3.57	0.40	3.60	0.47	3.61	0.54	3.65	0.55
N = 8,971 individuals	2,349		2,000		637		711		236		1,912		712	
Second-generation immigrants														
Education														
No qualification	0.11	0.31	0.15	0.36	0.14	0.34	0.09	0.29	0.04	0.20	0.13	0.33	0.08	0.27
Primary education	0.01	0.12	0.006	0.08	0.004	0.07	0	0	0	0	0.005	0.07	0	0
Lower-secondary education	0.35	0.48	0.34	0.47	0.34	0.47	0.28	0.45	0.20	0.40	0.28	0.45	0.32	0.47
Higher-secondary education	0.21	0.41	0.26	0.44	0.31	0.46	0.31	0.46	0.43	0.50	0.29	0.45	0.29	0.45
Two-year higher education	0.14	0.35	0.11	0.32	0.11	0.31	0.10	0.31	0.14	0.35	0.12	0.32	0.16	0.37
More than two years	0.17	0.38	0.14	0.35	0.10	0.30	0.21	0.41	0.20	0.40	0.16	0.36	0.13	0.33
Employment														
Employed	0.80	0.40	0.60	0.49	0.52	0.50	0.50	0.50	0.56	0.50	0.54	0.50	0.69	0.46
Unemployed	0.07	0.26	0.18	0.38	0.19	0.40	0.14	0.34	0.09	0.29	0.14	0.35	0.12	0.33
Student	0.07	0.26	0.14	0.35	0.26	0.44	0.34	0.47	0.31	0.47	0.25	0.43	0.15	0.36
Inactive	0.06	0.23	0.08	0.27	0.03	0.17	0.03	0.16	0.03	0.18	0.07	0.25	0.04	0.19
For salaried active workers only														
Log net hourly salary	3.70	0.39	3.60	0.42	3.53	0.60	3.70	0.46	3.54	0.42	3.61	0.59	3.60	0.44
N = 8,435 individuals	3,325		2,376		451		307		127		1,077		633	

Source: Trajectoires et Origines, own calculations.

[a] North Africa refers to Algeria, Morocco and Tunisia.
[b] Sahelian Africa refers to Senegal, Mauritania, the Gambia, Guinea-Bissau, Guinea, Mali, Burkina Faso, Niger and Chad.
[c] Central Africa refers to Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Gabon, Republic of the Congo, DRC and Equatorial Guinea.
[d] Asia refers to Vietnam, Laos, Cambodia and Turkey.
[e] DOM refers to Guadeloupe, Martinique, French Guiana and Reunion.

Table A.6.
Ethnic Identity for Men

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Nationality									
Nationality - French at birth	0.08	0.27	4,188	0.85	0.35	4,197	1	0	1,421
Nationality - French by acquisition	0.39	0.49	4,188	0.13	0.33	4,197	0	0	1,421
Nationality - Foreigner	0.53	0.50	4,188	0.02	0.14	4,197	0	0	1,421
Languages									
Speaks only French	0.05	0.22	4,181	0.39	0.49	4,197	0.86	0.34	1,421
Speaks several languages including French	0.26	0.44	4,181	0.49	0.50	4,197	0.13	0.33	1,421
Speaks several languages but not French	0.13	0.33	4,181	0.01	0.12	4,197	0	0.03	1,421
Speaks only foreign language	0.56	0.50	4,181	0.10	0.30	4,197	0.010	0.1	1,421
First language use by mother when was a child - French	0.12	0.32	4,188	0.67	0.47	4,197	0.97	0.18	1,421
First language use by father when was a child - French	0.12	0.33	4,188	0.67	0.47	4,197	0.95	0.21	1,421
Links with country of origin									
Visited place of origin	0.85	0.36	4,188	0.83	0.38	3,980	0	0	1,421
Use media of country of origin	0.68	0.47	4,188	0.42	0.49	4,017	0	0	1,421
Has given money to country of origin	0.13	0.33	4,188	0.08	0.27	4,197	0	0	1,421
Own land/house in country of origin	0.20	0.40	4,188	0.04	0.19	4,197	0	0	1,421
Owner or has invested in country of origin	0.01	0.12	4,188	0.003	0.05	4,197	0	0	1,421
Self-image									
Feel at home in France - totally disagree	0.05	0.21	4,098	0.02	0.14	4,148	0.01	0.11	1,412
Feel at home in France - disagree	0.07	0.26	4,098	0.04	0.19	4,148	0.03	0.17	1,412
Feel at home in France - agree	0.28	0.45	4,098	0.22	0.41	4,148	0.18	0.38	1,412
Feel at home in France - totally agree	0.61	0.49	4,098	0.72	0.45	4,148	0.78	0.42	1,412
Feel French - totally disagree	0.16	0.37	4,080	0.03	0.17	4,143	0.007	0.08	1,415
Feel French - disagree	0.13	0.33	4,080	0.04	0.19	4,143	0.01	0.11	1,415
Feel French - agree	0.28	0.45	4,080	0.20	0.40	4,143	0.09	0.29	1,415
Feel French - totally agree	0.43	0.50	4,080	0.73	0.44	4,143	0.89	0.32	1,415
Feel from country of origin - totally disagree	0.09	0.29	4,126	0.22	0.42	3,941	1	0	1,421
Feel from country of origin - disagree	0.09	0.28	4,126	0.15	0.36	3,941	0	0	1,421
Feel from country of origin - agree	0.25	0.44	4,126	0.30	0.46	3,941	0	0	1,421
Feel from country of origin - totally agree	0.56	0.50	4,126	0.32	0.47	3,941	0	0	1,421
Education									
Studied only in France	0.22	0.41	4,098	0.94	0.24	4,196	0.98	0.15	1,421
Studied in both foreign country and France	0.29	0.45	4,098	0.05	0.23	4,196	0.02	0.15	1,421
Studied only in foreign country	0.49	0.50	4,098	0.007	0.08	4,196	0	0	1,421
Religion									
Religion in upbringing - not important at all	0.16	0.37	4,126	0.26	0.44	4,152	0.43	0.50	1,414
Religion in upbringing - moderately important	0.22	0.41	4,126	0.28	0.45	4,152	0.35	0.48	1,414
Religion in upbringing - important	0.23	0.42	4,126	0.22	0.41	4,152	0.14	0.34	1,414
Religion in upbringing - very important	0.39	0.49	4,126	0.23	0.42	4,152	0.08	0.28	1,414
Neighbourhood									
Ethnic density - none or almost none of immigrant origin	0.26	0.44	3,998	0.28	0.45	4,028	0.63	0.48	1,390
Ethnic density - less than half of immigrant origin	0.27	0.44	3,998	0.28	0.45	4,028	0.24	0.42	1,390
Ethnic density - half of immigrant origin	0.19	0.39	3,998	0.18	0.38	4,028	0.08	0.27	1,390
Ethnic density - over half of immigrant origin	0.18	0.38	3,998	0.18	0.39	4,028	0.04	0.20	1,390
Ethnic density - almost all of immigrant origin	0.09	0.29	3,998	0.07	0.26	4,028	0.01	0.10	1,390
Social relationships									
Belongs to associations whose members are of foreign origin	0.08	0.27	4,183	0.05	0.23	4,189	0	0	1,421
Has provided financial aid to someone abroad in past 12 months	0.17	0.38	4,188	0.03	0.16	4,197	0.006	0.08	1,421
Maintain contact with family/friends living abroad - never	0.14	0.35	4,188	0.41	0.49	4,197	0.73	0.44	1,421
Maintain contact with family/friends living abroad - sometimes	0.30	0.46	4,188	0.32	0.47	4,197	0.17	0.38	1,421
Maintain contact with family/friends living abroad - often	0.55	0.50	4,188	0.28	0.45	4,197	0.10	0.30	1,421
N = 9,806 individuals		4,188			4,197			1,421	

Source: Trajectoires et Origines, own calculations.

Table A.7.
Ethnic Identity for Women

	First-generation immigrants			*Second-generation immigrants*			*Natives*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Nationality									
Nationality - French at birth	0.08	0.27	4,783	0.84	0.36	4,615	1	0	1,599
Nationality - French by acquisition	0.39	0.49	4,783	0.15	0.35	4,615	0	0	1,599
Nationality - Foreigner	0.53	0.50	4,783	0.01	0.09	4,615	0	0	1,599
Languages									
Speaks only French	0.06	0.23	4,770	0.39	0.49	4,614	0.86	0.34	1,599
Speaks several languages including French	0.27	0.44	4,770	0.49	0.50	4,614	0.13	0.34	1,599
Speaks several languages but not French	0.12	0.33	4,770	0.01	0.12	4,614	0	0	1,599
Speaks only foreign language	0.55	0.50	4,770	0.11	0.31	4,614	0.004	0.06	1,599
First language use by mother when was a child - French	0.13	0.34	4,783	0.65	0.48	4,615	0.97	0.17	1,599
First language use by father when was a child - French	0.14	0.35	4,783	0.65	0.48	4,615	0.96	0.20	1,599
Links with country of origin									
Visited place of origin	0.85	0.35	4,783	0.83	0.38	4,385	0	0	1,599
Use media of country of origin	0.67	0.47	4,783	0.44	0.50	4,418	0	0	1,599
Has given money to country of origin	0.10	0.30	4,783	0.08	0.26	4,615	0	0	1,599
Own land/house in country of origin	0.18	0.38	4,783	0.04	0.19	4,615	0	0	3,020
Owner or has invested in country of origin	0.009	0.09	4,783	0.002	0.04	4,615	0	0	1,599
Self-image									
Feel at home in France - totally disagree	0.04	0.21	4,697	0.02	0.12	4,580	0.01	0.11	1,586
Feel at home in France - disagree	0.07	0.26	4,697	0.04	0.19	4,580	0.03	0.18	1,586
Feel at home in France - agree	0.30	0.46	4,697	0.20	0.40	4,580	0.15	0.36	1,586
Feel at home in France - totally agree	0.58	0.49	4,697	0.75	0.43	4,580	0.80	0.40	1,586
Feel French - totally disagree	0.21	0.40	4,622	0.03	0.18	4,575	0.005	0.07	1,594
Feel French - disagree	0.16	0.36	4,622	0.04	0.20	4,575	0.01	0.10	1,594
Feel French - agree	0.26	0.44	4,622	0.21	0.41	4,575	0.09	0.29	1,594
Feel French - totally agree	0.38	0.48	4,622	0.71	0.45	4,575	0.89	0.31	1,594
Feel from country of origin - totally disagree	0.09	0.29	4,691	0.22	0.41	4,338	1	0	1,599
Feel from country of origin - disagree	0.09	0.29	4,691	0.14	0.34	4,338	0	0	1,599
Feel from country of origin - agree	0.24	0.43	4,691	0.31	0.46	4,338	0	0	1,599
Feel from country of origin - totally agree	0.57	0.50	4,691	0.33	0.47	4,338	0	0	1,599
Education									
Studied only in France	0.22	0.42	4,516	0.94	0.25	4,609	0.98	0.15	1,598
Studied in both foreign country and France	0.23	0.42	4,516	0.06	0.23	4,609	0.02	0.14	1,598
Studied only in foreign country	0.55	0.50	4,516	0.007	0.08	4,609	0	0.04	1,598
Religion									
Religion in upbringing - not important at all	0.13	0.34	4,717	0.22	0.41	4,574	0.36	0.48	1,591
Religion in upbringing - moderately important	0.21	0.41	4,717	0.28	0.45	4,574	0.34	0.47	1,591
Religion in upbringing - important	0.23	0.42	4,717	0.24	0.42	4,574	0.18	0.38	1,591
Religion in upbringing - very important	0.43	0.49	4,717	0.27	0.44	4,574	0.12	0.33	1,591
Neighbourhood									
Ethnic density - none or almost none of immigrant origin	0.27	0.44	4,533	0.28	0.45	4,415	0.61	0.49	1,548
Ethnic density - less than half of immigrant origin	0.25	0.43	4,533	0.26	0.44	4,415	0.23	0.42	1,548
Ethnic density - half of immigrant origin	0.20	0.40	4,533	0.20	0.40	4,415	0.09	0.28	1,548
Ethnic density - over half of immigrant origin	0.19	0.39	4,533	0.18	0.38	4,415	0.06	0.24	1,548
Ethnic density - almost all of immigrant origin	0.10	0.30	4,533	0.08	0.28	4,415	0.02	0.14	1,548
Social relationships									
Belongs to associations whose members are of foreign origin	0.05	0.21	4,779	0.04	0.19	4,608	0	0	1,599
Has provided financial aid to someone abroad in past 12 months	0.13	0.33	4,783	0.04	0.19	4,615	0.008	0.09	1,599
Maintain contact with family/friends living abroad - never	0.11	0.31	4,783	0.35	0.48	4,615	0.70	0.46	1,599
Maintain contact with family/friends living abroad - sometimes	0.26	0.44	4,783	0.31	0.46	4,615	0.17	0.38	1,599
Maintain contact with family/friends living abroad - often	0.63	0.48	4,783	0.34	0.47	4,615	0.13	0.34	1,599
N = 10,997 individuals			4,783			4,615			1,599

Source: Trajectoires et Origines, own calculations.

Table A.8.
Ethnic Identity for Men by Marital Status

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Nationality																		
Nationality - French at birth	0.13	0.34	1,374	0.05	0.22	2,814	0.87	0.33	3,085	0.80	0.40	1,112	1	0	761	1	0	660
Nationality - French by acquisition	0.32	0.47	1,374	0.42	0.49	2,814	0.11	0.32	3,085	0.17	0.37	1,112	0	0	761	0	0	660
Nationality - Foreigner	0.54	0.50	1,374	0.53	0.50	2,814	0.01	0.12	3,085	0.03	0.18	1,112	0	0	761	0	0	660
Languages																		
Speaks only French	0.09	0.28	1,370	0.03	0.17	2,811	0.39	0.49	3,085	0.39	0.49	1,112	0.87	0.34	761	0.86	0.35	660
Speaks several languages including French	0.34	0.47	1,370	0.21	0.41	2,811	0.50	0.50	3,085	0.47	0.50	1,112	0.12	0.33	761	0.13	0.33	660
Speaks several languages but not French	0.12	0.33	1,370	0.14	0.34	2,811	0.01	0.12	3,085	0.01	0.11	1,112	0	0	761	0.002	0.04	660
Speaks only foreign language	0.45	0.50	1,370	0.62	0.49	2,811	0.09	0.29	3,085	0.13	0.34	1,112	0.007	0.08	761	0.01	0.12	660
First language use by mother when was a child - French	0.19	0.39	1,374	0.08	0.27	2,814	0.68	0.47	3,085	0.64	0.48	1,112	0.97	0.17	761	0.96	0.19	660
First language use by father when was a child - French	0.20	0.40	1,374	0.08	0.28	2,814	0.68	0.47	3,085	0.64	0.48	1,112	0.96	0.19	761	0.95	0.22	660
Links with country of origin																		
Visited place of origin	0.77	0.42	1,374	0.89	0.32	2,814	0.81	0.40	2,917	0.88	0.32	1,063	0	0	761	0	0	660
Use media of country of origin	0.59	0.49	1,374	0.72	0.45	2,814	0.42	0.49	2,951	0.39	0.49	1,066	0	0	761	0	0	660
Has given money to country of origin	0.11	0.32	1,374	0.14	0.34	2,814	0.08	0.27	3,085	0.08	0.27	1,112	0	0	761	0	0	660
Own land/house in country of origin	0.11	0.31	1,374	0.24	0.43	2,814	0.04	0.19	3,085	0.04	0.21	1,112	0	0	761	0	0	660
Owner or has invested in country of origin	0.01	0.10	1,374	0.02	0.13	2,814	0.002	0.05	3,085	0.004	0.06	1,112	0	0	761	0	0	660
Self-image																		
Feel at home in France - totally disagree	0.05	0.23	1,345	0.04	0.20	2,753	0.02	0.15	3,043	0.01	0.12	1,105	0.01	0.11	753	0.01	0.11	659
Feel at home in France - disagree	0.08	0.27	1,345	0.07	0.25	2,753	0.04	0.20	3,043	0.04	0.19	1,105	0.04	0.19	753	0.02	0.15	659
Feel at home in France - agree	0.29	0.45	1,345	0.27	0.44	2,753	0.23	0.42	3,043	0.20	0.40	1,105	0.20	0.40	753	0.15	0.36	659
Feel at home in France - totally agree	0.57	0.49	1,345	0.62	0.48	2,753	0.71	0.45	3,043	0.75	0.43	1,105	0.75	0.43	753	0.81	0.39	659
Feel French - totally disagree	0.16	0.37	1,339	0.16	0.37	2,741	0.03	0.17	3,043	0.02	0.14	1,100	0.009	0.10	759	0.005	0.07	656
Feel French - disagree	0.12	0.32	1,339	0.13	0.34	2,741	0.04	0.20	3,043	0.03	0.18	1,100	0.02	0.13	759	0.008	0.09	656
Feel French - agree	0.28	0.45	1,339	0.28	0.45	2,741	0.21	0.41	3,043	0.18	0.38	1,100	0.12	0.32	759	0.06	0.24	656
Feel French - totally agree	0.44	0.50	1,339	0.43	0.50	2,741	0.72	0.45	3,043	0.77	0.42	1,100	0.86	0.35	759	0.93	0.26	656
Feel from country of origin - totally disagree	0.11	0.31	1,355	0.09	0.28	2,771	0.20	0.40	2,894	0.27	0.45	1,047	1	0	761	1	0	660
Feel from country of origin - disagree	0.10	0.29	1,355	0.08	0.28	2,771	0.15	0.36	2,894	0.16	0.37	1,047	0	0	761	0	0	660
Feel from country of origin - agree	0.26	0.44	1,355	0.25	0.43	2,771	0.31	0.46	2,894	0.28	0.45	1,047	0	0	761	0	0	660
Feel from country of origin - totally agree	0.53	0.50	1,355	0.58	0.49	2,771	0.34	0.47	2,894	0.29	0.45	1,047	0	0	761	0	0	660

Table A.8.
Ethnic Identity for Men by Marital Status - Continued

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education																		
Studied only in France	0.33	0.47	1,360	0.16	0.37	2,738	0.95	0.22	3,085	0.91	0.28	1,111	0.98	0.16	761	0.98	0.13	660
Studied in both foreign country and France	0.35	0.48	1,360	0.26	0.44	2,738	0.05	0.22	3,085	0.07	0.26	1,111	0.02	0.16	761	0.02	0.13	660
Studied only in foreign country	0.32	0.47	1,360	0.58	0.49	2,738	0.004	0.06	3,085	0.01	0.12	1,111	0	0	761	0	0	660
Religion																		
Religion in upbringing - not important at all	0.20	0.40	1,357	0.14	0.34	2,769	0.27	0.45	3,043	0.24	0.43	1,109	0.48	0.50	757	0.37	0.48	657
Religion in upbringing - moderately important	0.23	0.42	1,357	0.21	0.41	2,769	0.28	0.45	3,043	0.29	0.46	1,109	0.34	0.48	757	0.36	0.48	657
Religion in upbringing - important	0.21	0.41	1,357	0.24	0.43	2,769	0.21	0.41	3,043	0.25	0.43	1,109	0.11	0.32	757	0.16	0.37	657
Religion in upbringing - very important	0.36	0.48	1,357	0.41	0.49	2,769	0.24	0.43	3,043	0.22	0.42	1,109	0.06	0.24	757	0.11	0.31	657
Neighbourhood																		
Ethnic density - none or almost none of immigrant origin	0.25	0.43	1,298	0.27	0.44	2,700	0.26	0.44	2,960	0.36	0.48	1,068	0.57	0.50	744	0.70	0.46	646
Ethnic density - less than half of immigrant origin	0.28	0.45	1,298	0.27	0.44	2.700	0.27	0.44	2,960	0.31	0.46	1,068	0.27	0.44	744	0.20	0.40	646
Ethnic density - half of immigrant origin	0.18	0.39	1,298	0.20	0.40	2,700	0.19	0.39	2,960	0.16	0.36	1,068	0.10	0.30	744	0.06	0.23	646
Ethnic density - over half of immigrant origin	0.20	0.40	1,298	0.17	0.37	2,700	0.20	0.40	2,960	0.14	0.34	1,068	0.05	0.22	744	0.04	0.19	646
Ethnic density - almost all of immigrant origin	0.08	0.28	1,298	0.10	0.30	2,700	0.09	0.29	2,960	0.03	0.18	1,068	0.01	0.12	744	0.008	0.09	646
Social relationships																		
Belongs to associations whose members are of foreign origin	0.07	0.25	1,372	0.08	0.28	2,811	0.05	0.22	3,081	0.06	0.24	1,108	0	0	761	0	0	660
Has provided financial aid abroad in past 12 months	0.13	0.33	1,374	0.20	0.40	2,814	0.02	0.15	3,085	0.04	0.20	1,112	0.003	0.05	761	0.01	0.10	660
Contact with family/friends living abroad - never	0.21	0.41	1,374	0.11	0.32	2,814	0.41	0.49	3,085	0.40	0.49	1,112	0.73	0.45	761	0.73	0.44	660
Contact with family/friends living abroad - sometimes	0.31	0.46	1,374	0.30	0.46	2,814	0.32	0.47	3,085	0.30	0.46	1,112	0.18	0.38	761	0.16	0.37	660
Contact with family/friends living abroad - often	0.49	0.50	1,374	0.58	0.49	2,814	0.27	0.44	3,085	0.29	0.46	1,112	0.09	0.29	761	0.10	0.31	660
N = 9,806 individuals		1,374			2,814			3,085			1,112			761			660	

Source: Trajectoires et Origines, own calculations.

Table A.9.
Ethnic Identity for Women by Marital Status

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Nationality																		
Nationality - French at birth	0.14	0.35	1,657	0.05	0.21	3,126	0.87	0.34	3,058	0.80	0.40	1,557	1	0	853	1	0	746
Nationality - French by acquisition	0.36	0.48	1,657	0.40	0.49	3,126	0.13	0.33	3,058	0.19	0.39	1,557	0	0	853	0	0	746
Nationality - Foreigner	0.50	0.50	1,657	0.55	0.50	3,126	0.008	0.09	3,058	0.01	0.11	1,557	0	0	853	0	0	746
Languages																		
Speaks only French	0.09	0.28	1,655	0.04	0.20	3,115	0.40	0.49	3,058	0.37	0.48	1,556	0.87	0.33	853	0.85	0.35	746
Speaks several languages including French	0.38	0.49	1,655	0.21	0.41	3,115	0.50	0.50	3,058	0.47	0.50	1,556	0.12	0.33	853	0.14	0.35	746
Speaks several languages but not French	0.10	0.30	1,655	0.14	0.34	3,115	0.02	0.12	3,058	0.01	0.12	1,556	0	0	853	0	0	746
Speaks only foreign language	0.43	0.50	1,655	0.61	0.49	3,115	0.08	0.28	3,058	0.15	0.36	1,556	0.004	0.06	853	0.004	0.06	746
First language use by mother when was a child - French	0.20	0.40	1,657	0.09	0.29	3,126	0.68	0.47	3,058	0.59	0.49	1,557	0.97	0.16	853	0.97	0.17	746
First language use by father when was a child - French	0.22	0.41	1,657	0.10	0.30	3,126	0.68	0.47	3,058	0.60	0.49	1,557	0.96	0.20	853	0.96	0.19	746
Links with country of origin																		
Visited place of origin	0.81	0.40	1,657	0.88	0.32	3,126	0.80	0.40	2,888	0.87	0.33	1,497	0	0	853	0	0	746
Use media of country of origin	0.62	0.49	1,657	0.71	0.46	3,126	0.44	0.50	2,916	0.42	0.49	1,502	0	0	853	0	0	746
Has given money to country of origin	0.08	0.27	1,657	0.11	0.31	3,126	0.07	0.25	3,058	0.09	0.28	1,557	0	0	853	0	0	746
Own land/house in country of origin	0.11	0.31	1,657	0.21	0.41	3,126	0.04	0.18	3,058	0.04	0.20	1,557	0	0	853	0	0	746
Owner or has invested in country of origin	0.007	0.08	1,657	0.01	0.10	3,126	0.001	0.03	3,058	0.003	0.05	1,557	0	0	853	0	0	746
Self-image																		
Feel at home in France - totally disagree	0.05	0.22	1,623	0.04	0.20	3,074	0.02	0.13	3,035	0.01	0.12	1,545	0.008	0.09	845	0.01	0.12	741
Feel at home in France - disagree	0.07	0.26	1,623	0.08	0.27	3,074	0.04	0.20	3,035	0.04	0.19	1,545	0.03	0.18	845	0.04	0.19	741
Feel at home in France - agree	0.31	0.46	1,623	0.30	0.46	3,074	0.21	0.41	3,035	0.17	0.37	1,545	0.18	0.38	845	0.13	0.33	741
Feel at home in France - totally agree	0.57	0.50	1,623	0.59	0.49	3,074	0.73	0.44	3,035	0.79	0.41	1,545	0.78	0.41	845	0.82	0.38	741
Feel French - totally disagree	0.17	0.38	1,611	0.22	0.42	3,011	0.03	0.17	3,032	0.04	0.19	1,543	0.005	0.07	849	0.005	0.07	745
Feel French - disagree	0.14	0.35	1,611	0.16	0.37	3,011	0.04	0.21	3,032	0.04	0.20	1,543	0.01	0.11	849	0.007	0.08	745
Feel French - agree	0.26	0.44	1,611	0.26	0.44	3,011	0.23	0.42	3,032	0.18	0.39	1,543	0.11	0.31	849	0.07	0.25	745
Feel French - totally agree	0.43	0.50	1,611	0.35	0.48	3,011	0.70	0.46	3,032	0.74	0.44	1,543	0.87	0.33	849	0.92	0.27	745
Feel from country of origin - totally disagree	0.10	0.30	1,620	0.09	0.29	3,071	0.20	0.40	2,860	0.26	0.44	1,478	1	0	853	1	0	746
Feel from country of origin - disagree	0.10	0.30	1,620	0.09	0.28	3,071	0.14	0.35	2,860	0.13	0.34	1,478	0	0	853	0	0	746
Feel from country of origin - agree	0.26	0.44	1,620	0.24	0.43	3,071	0.32	0.47	2,860	0.30	0.46	1,478	0	0	853	0	0	746
Feel from country of origin - totally agree	0.54	0.50	1,620	0.59	0.49	3,071	0.34	0.47	2,860	0.31	0.46	1,478	0	0	853	0	0	746

Table A.9.
Ethnic Identity for Women by Marital Status - Continued

	First-generation immigrants						*Second-generation immigrants*						*Natives*					
	Single			*Married*			*Single*			*Married*			*Single*			*Married*		
	Mean	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*	*Mean*	*SD*	*N*
Education																		
Studied only in France	0.31	0.46	1,597	0.17	0.38	2,919	0.95	0.23	3,054	0.91	0.28	1,555	0.97	0.17	853	0.99	0.12	745
Studied in both foreign country and France	0.29	0.45	1,597	0.19	0.39	2,919	0.05	0.22	3,054	0.07	0.26	1,555	0.03	0.17	853	0.01	0.12	745
Studied only in foreign country	0.39	0.49	1,597	0.64	0.48	2,919	0.003	0.05	3,054	0.02	0.12	1,555	0	0.001	853	0.001	0.04	745
Religion																		
Religion in upbringing - not important at all	0.16	0.36	1,621	0.12	0.33	3,096	0.23	0.42	3,027	0.20	0.40	1,547	0.43	0.50	847	0.28	0.45	744
Religion in upbringing - moderately important	0.22	0.41	1,621	0.21	0.40	3,096	0.28	0.45	3,027	0.27	0.44	1,547	0.32	0.47	847	0.36	0.48	744
Religion in upbringing - important	0.23	0.42	1,621	0.23	0.42	3,096	0.23	0.42	3,027	0.24	0.43	1,547	0.13	0.34	847	0.22	0.42	744
Religion in upbringing - very important	0.40	0.49	1,621	0.44	0.50	3,096	0.26	0.44	3,027	0.29	0.45	1,547	0.11	0.31	847	0.14	0.35	744
Neighbourhood																		
Ethnic density - none or almost none of immigrant origin	0.21	0.41	1,554	0.30	0.46	2,979	0.25	0.43	2,941	0.34	0.47	1,474	0.55	0.50	819	0.68	0.47	729
Ethnic density - less than half of immigrant origin	0.24	0.43	1,554	0.25	0.43	2,979	0.26	0.44	2,941	0.26	0.44	1,474	0.25	0.43	819	0.20	0.40	729
Ethnic density - half of immigrant origin	0.21	0.40	1,554	0.19	0.40	2,979	0.21	0.40	2,941	0.20	0.38	1,474	0.11	0.31	819	0.06	0.24	729
Ethnic density - over half of immigrant origin	0.22	0.41	1,554	0.17	0.37	2,979	0.19	0.39	2,941	0.16	0.36	1,474	0.07	0.26	819	0.05	0.21	729
Ethnic density - almost all of immigrant origin	0.12	0.32	1,554	0.09	0.29	2,979	0.10	0.29	2,941	0.06	0.24	1,474	0.03	0.17	819	0.01	0.10	729
Social relationships																		
Belongs to associations whose members are of foreign origin	0.04	0.21	1,655	0.05	0.22	3,124	0.04	0.19	3,052	0.03	0.17	1,556	0	0	853	0	0	746
Has provided financial aid abroad in past 12 months	0.12	0.33	1,657	0.13	0.34	3,126	0.02	0.15	3,058	0.06	0.24	1,557	0.004	0.06	853	0.01	0.12	746
Contact with family/friends abroad - never	0.15	0.36	1,657	0.09	0.29	3,126	0.35	0.48	3,058	0.34	0.48	1,557	0.70	0.46	853	0.70	0.46	746
Contact with family/friends abroad - sometimes	0.29	0.45	1,657	0.24	0.43	3,126	0.31	0.46	3,058	0.30	0.46	1,557	0.17	0.38	853	0.17	0.37	746
Contact with family/friends abroad - often	0.56	0.50	1,657	0.66	0.47	3,126	0.33	0.47	3,058	0.35	0.48	1,557	0.13	0.34	853	0.13	0.34	746
N = 10,997 individuals		1,657			3,126			3,058			1,557			853			746	

Source: Trajectoires et Origines, own calculations.

Table A.10.
Polychoric Correlation Matrix

Variables	Nationality[a]	Languages[b]	Language mother[c]	Language father[d]	Visited cob[e]	Use media cob[f]	Transfer to cob[g]	Owner cob[h]	Invested in cob[i]	Home in France[j]	Feel French[k]	Feel cob[l]	Place of education[m]	Religion[n]	Ethnic density[o]	Associations[p]	Aid[q]	Contact cob[r]
Nationality[a]	1.0000																	
Languages[b]	0.7650	1.0000																
language mother[c]	-0.8263	-0.9834	1.0000															
language father[d]	-0.8107	-0.9602	0.9800	1.0000														
Visited cob[e]	0.4682	0.5573	-0.5599	-0.5331	1.0000													
Use media cob[f]	0.5154	0.5600	-0.5679	-0.5536	0.6463	1.0000												
Transfer to cob[g]	0.2005	0.2889	-0.3237	-0.2990	0.3167	0.4215	1.0000											
Owner cob[h]	0.4920	0.4575	-0.5171	-0.5043	0.4801	0.4754	0.3516	1.0000										
Invested in cob[i]	0.3275	0.2123	-0.3009	-0.2690	0.3317	0.3006	0.3812	0.5138	1.0000									
Home in France[j]	-0.2482	-0.2331	0.2612	0.2523	-0.1421	-0.2899	-0.1713	-0.1391	-0.1851	1.0000								
Feel French[k]	-0.6260	-0.5276	0.5723	0.5529	-0.3419	-0.4656	-0.2158	-0.3037	-0.2399	0.6269	1.0000							
Feel cob[l]	0.5456	0.5919	-0.6193	-0.6047	0.7544	0.6888	0.3279	0.4352	0.2966	-0.2389	-0.4227	1.0000						
Place of education[m]	0.8774	0.7133	-0.7618	-0.7533	0.4048	0.5185	0.1982	0.5489	0.3714	-0.2535	-0.5801	0.5020	1.0000					
Religion[n]	0.2744	0.3525	-0.3931	-0.3732	0.3143	0.3600	0.2773	0.2786	0.1233	-0.1696	-0.2347	0.3687	0.2818	1.0000				
Ethnic density[o]	0.1630	0.2269	-0.2573	-0.2502	0.2467	0.2661	0.1374	0.1215	0.0906	-0.1805	-0.2080	0.3084	0.1511	0.1883	1.0000			
Associations[p]	0.1860	0.2159	-0.2263	-0.2054	0.2254	0.3170	0.4406	0.2323	0.2610	-0.1515	-0.1785	0.2410	0.1837	0.1831	0.0925	1.0000		
Aid[q]	0.4016	0.3460	-0.4234	-0.3952	0.2809	0.3480	0.4082	0.3999	0.2983	-0.1857	-0.2347	0.3190	0.4929	0.2733	0.1176	0.3238	1.0000	
Contact cob[r]	0.4927	0.4696	-0.4719	-0.4611	0.5378	0.5871	0.3177	0.4446	0.3774	-0.2512	-0.4204	0.5086	0.5658	0.2949	0.1842	0.2564	0.4969	1.0000

Source: Trajectoires et Origines, own calculations.

[a] "Nationality" is equal to 1 if the individual is French at birth, 2 if the individual is French by aquisition and 3 if the individual is a foreigner.
[b] "Languages" is equal to 1 if the individual speaks only French, 2 if the individual speaks several languages including French, 3 if the individual speaks several languages but not French, 4 if the individual speaks only a foreign language.
[c] "Language mother" is a dummy variable equal to 1 if French is the first language used by mother to speak to respondent when he was a child, 0 otherwise.
[d] "Language father" is a dummy variable equal to 1 if French is the first language used by father to speak to respondent when he was a child, 0 otherwise.
[e] "Visited cob" is a dummy variable equal to 1 if the respondent visited his country of origin, 0 otherwise.
[f] "Use media cob" is a dummy variable equal to 1 if the respondent uses the media of his country of origin, 0 otherwise.
[g] "Transfer to cob" is a dummy variable equal to 1 if the respondent has given money to his country of origin, 0 otherwise.
[h] "Owner cob" is a dummy variable equal to 1 if the respondent owns land/house in his country of origin, 0 otherwise.
[i] "Invested in cob" is a dummy variable equal to 1 if the respondent is a owner or has invested in a business in country of origin, 0 otherwise.
[j] "Home in France" is a categorical variable for "I feel at home in France" from 1 (strongly disagree) to 4 (strongly agree).
[k] "Feel French" is a categorical variable for "I feel French" from 1 (strongly disagree) to 4 (strongly agree).
[l] "Feel cob" is a categorical variable for "I feel from country of origin" from 1 (strongly disagree) to 4 (strongly agree).
[m] "Place of education" refers to the place of education: equal to 1 if the individual studied only in France, 2 if the individual studied in both France and a foreign country, 3 if the individual studied only in a foreign country.
[n] "Religion" is a categorical variable for "importance of religion in your upbringing" from 1 (not important at all) to 4 (very important).
[o] "Ethnic density" is a categorical variable for the "proportion of immigrants who live in your neighbourhood" from 1 (none) to 5 (almost all).
[p] "Associations" is a dummy variable equal to 1 if the respondent belongs to associations whose members are of same foreign origin, 0 otherwise.
[q] "Aid" is a dummy variable equal to 1 if the respondent has provided financial aid to someone abroad in past 12 months, 0 otherwise.
[r] "Contact cob" is a categorical variable for "Frequency at which you maintain contact with family/friends living abroad" from 1 (never) to 3 (often).

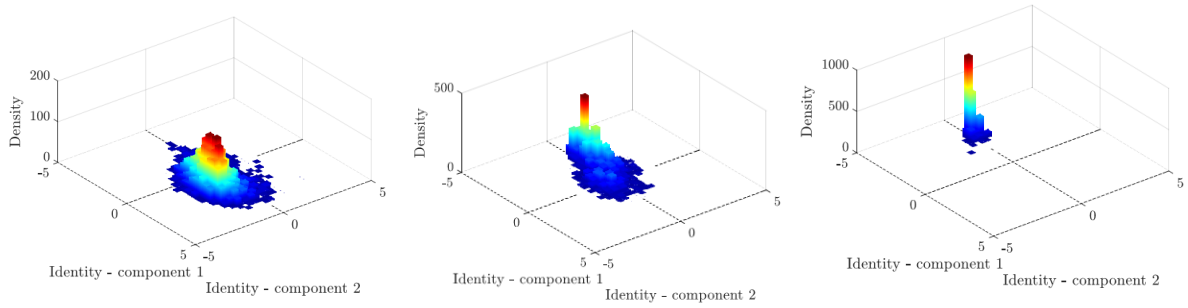

Figure A.1. *Histogram Plots by Samples*

Source: Trajectoires et Origines, own calculations.

Notes: The figures show the histogram plots separately for the following samples: the first-generation immigrants are represented on the left, the second-generation immigrants are represented in the middle and the natives, on the right.

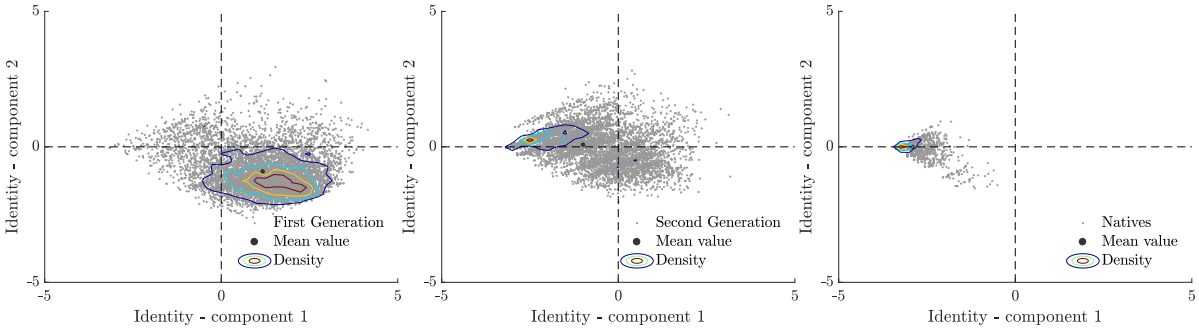

Figure A.2. *Density Plots by Samples*

Source: Trajectoires et Origines, own calculations.

Notes: The figures show the density plots separately for the following samples: the first-generation immigrants are represented on the left, the second-generation immigrants are represented in the middle and the natives, on the right.

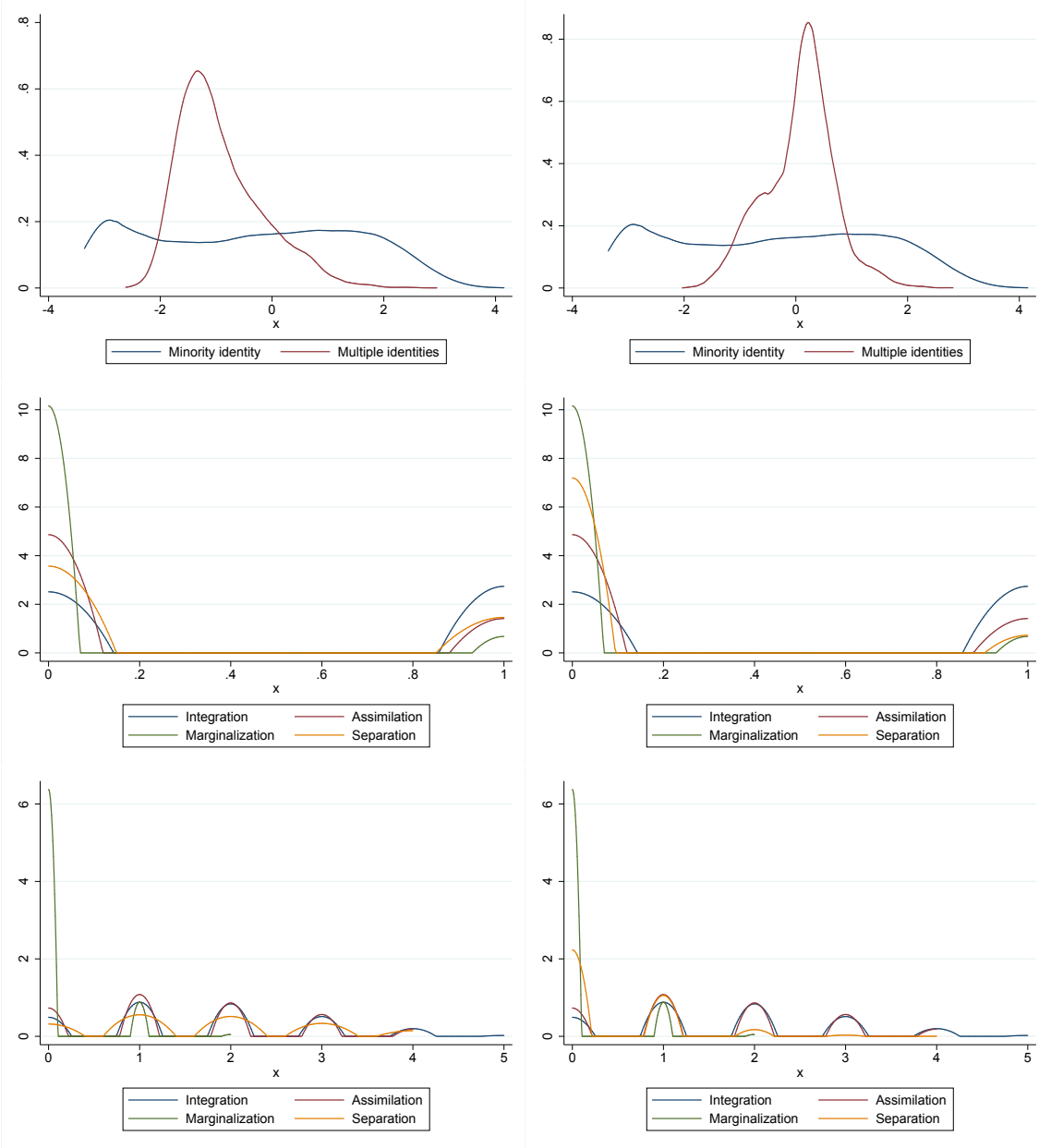

Figure A.3. *Kernel Densities by Samples*

Source: Trajectoires et Origines, own calculations.

Notes: The distributions of the measures are provided separately for the first- and the second-generation immigrants. The graphs for the first-generation immigrants are the ones on the left while the ones for the second-generation immigrants are on the right. The two graphs on the top show the kernel densities for the two principal components generated from the polychoric PCA: the minority identity and the extent to which the individual holds multiple identities. The two graphs in the middle report the kernel densities for the four regimes of the self-identification measure of ethnic identity: integration, assimilation, separation and marginalization. Finally, the two graphs at the bottom shows the kernel densities for the four states of the ethnosizer: integration, assimilation, separation and marginalization.

Chapter 4

The Effect of 9/11 on Immigrants' Ethnic Identity and Employment: Evidence from Germany*

4.1 Introduction

A growing concern in Western countries is the fact that immigrants might adopt oppositional identities by rejecting the accepted norms of the majority group. Oppositional identities often produce significant economic and social conflicts (Ainsworth-Darnell and Downey 1998; Bisin, Patacchini, Verdier and Zenou 2011a). Besides, identity is expected to affect the economic outcomes of immigrants. Indeed, immigrants who hold oppositional identities perform worse at school and in the host labour market (Austen-Smith and Fryer 2005; Battu, Mwale and Zenou 2007; Battu and Zenou 2010; Bisin, Patacchini, Verdier and Zenou 2011b; Fryer and Torelli 2010). Identity also matters for the psychological wellbeing of immigrants: group identification is associated with higher self-esteem (Phinney et al. 2001). To facilitate the integration of immigrants, more research needs to be carried out to identify the factors that influence the identity choice of the migrants and thus, their employment outcomes.

This chapter takes a step in this direction by investigating the effect of the 9/11 terrorist attacks on the process of identity formation and the employment outcomes of immigrants. The study focuses more specifically on Muslim immigrants who are likely to be the most severely affected by islamist terrorism. The effect of the 9/11

*This chapter is based on the discussion paper "The Effect of 9/11 on Immigrants' Ethnic Identity and Employment: Evidence from Germany" (Delaporte 2019b).

islamist terrorist attacks on the ethnic identity of Muslim immigrants is unclear. On the one hand, the islamist terrorist attacks induced a backlash against the Muslim community as a whole, raising their costs of assimilation in the host country (Adida, Laitin and Valfort 2014; Gould and Klor 2016; Schüller 2016). This would explain that Muslim immigrants relate more to their ethnic group. On the other hand, Muslim immigrants may engage in counter-stereotypic behaviour and thus reinforce their identification with the majority group in an effort to appear as different from their stigmatized group (Kunst et al 2012; Steele, Spencer and Aronson 2002).

The effect of the terrorist attacks on the employment outcomes of Muslim immigrants is as well unclear. On the one hand, the 9/11 terrorist attacks lead to an increase in labour market discrimination toward Muslims, affecting negatively their performance in the host labour market (Davila and Mora 2005; Kaushal, Kaestner and Reimers 2007). On the other hand, by widening social distance between natives and the Muslim community, the 9/11 attacks might have pushed Muslim immigrants to rely more on co-ethnics. In this case, stronger ethnic ties may improve Muslims' labour market outcomes (Patacchini and Zenou 2012). Lastly, a change in the migrant's ethnic identity might explained the effect of the attacks on the employment outcomes. Indeed, holding a strong minority identity induces an employment penalty (Battu and Zenou 2010) while being close to the majority group improves the individual's labour market outcomes.

The 9/11 terrorist attacks had important consequences not only in the United States but also in other countries. This essay focuses on Germany which constitutes a pertinent case study for a number of reasons. First, the terrorist cell prominent in the planning and execution of the 9/11 attacks was based in Hamburg. As a result, concerns of islamic fundamentalism came to the fore in Germany after 9/11. Evidence shows a rise in German's anti-immigrant attitudes following the attacks (Schüller 2016). The Muslim community has become a particularly salient target group of negative attitudes and stigmatization. The composition of the German immigrant population makes it a relevant case study in this context. Indeed, Islam is the second largest religion in Germany. Therefore, this study examines the effect of the 9/11 terror attacks on the process of identity formation and the employment outcomes of Muslim immigrants in Germany.

To shed light on these questions, the essay uses longitudinal data from the German Socio-Economic Panel and relies on a difference-in-differences strategy to compare the outcomes of Muslim immigrants with non-Muslim immigrants before and after September 11, 2001. Since information regarding the denominational af-

filiation of migrants is limited, this study focuses on the country of origin of the migrant and classifies immigrants as treated if they come from a country where the majority of the population is Muslim. The changes are examined between the year 1999 and the year 2003. A number of outcomes are examined subsequently such as the reported German identity, i.e. the migrant's degree of identification with Germany ranging from 1 "not at all" to 5 "completely"; the reported minority identity, i.e. the migrant's degree of identification with the country of origin ranging from 1 "not at all" to 5 "completely" and a number of employment outcomes including the employment probability and the type of employment (the probability of being in full-time employment versus the probability of being in part-time employment).

One concern of the difference-in-differences strategy (DiD) is the lack of an appropriate comparison group. Indeed, the simple DiD estimator relies on the following assumption: the average outcomes for the treated and the control groups must follow parallel paths over time. If it is not the case, any differences in identity or employment between the treatment and the control group may merely reflect disparities in their characteristics. To relax this strong assumption, the essay relies on two additional strategies: i) a regression-adjusted difference-in-differences matching strategy (MDiD) and ii) a semiparametric difference-in-differences strategy (SDiD). The difference-in-differences matching method proceeds in two steps. In the first stage, a propensity score is estimated to match treated units with similar control units and in the second stage, the treatment effect is computed by comparing individuals which are similar based on the propensity score. As a result, the estimated coefficient cannot be explained by differences in observable characteristics. However, it may still be argued that parametric estimation is restrictive because it depends on a linear index function to capture the influence of covariates on the outcomes and it restricts effect heterogeneity. The semiparametric difference-in-differences estimation is used as an alternative. It is still a reweighting technique that addresses the imbalance of characteristics between the treated and the control units; however, one advantage of this method is that it allows for non-parallel outcome dynamics between treated and controls (Abadie 2005).

The results of the difference-in-differences strategy show that Muslim immigrants have increased their degree of identification with both Germany and their country of origin following the 9/11 terror attacks compared to non-Muslims. However, when using a propensity score matching strategy, the results differ: after 9/11, Muslim immigrants have significantly decreased their degree of identification with Germany. Their minority identity has not changed though. With respect to employment, the results of the simple difference-in-differences estimations show that

Muslim immigrants, after 9/11, are significantly more likely to be employed. This increase is driven by a rise in part-time employment. However, when relying on propensity score matching, there is no significant impact of the 9/11 terrorist attacks on Muslims' employment outcomes relative to non-Muslims.

This essay investigates how the average effect of the treatment varies with changes in observed characteristics. The results provide interesting insights about the differences that exist between immigrants who reacted to the terrorist attacks by increasing their minority identity and immigrants who reacted by increasing their German identity. The analysis shows that Muslim immigrants who are more educated and who have lived longer in Germany are the most likely to adopt a stronger minority identity following the 9/11 terror attacks. With respect to employment, the 9/11 terrorist attacks have impacted more severely the younger Muslim immigrants who have a higher probability of being employed in part-time employment. The results have important policy implications and contribute to inform policymakers about the population the most likely to reject accepted norms of the majority.

The paper contributes to a number of strands of literature. It relates to the identity formation literature (Akerlof and Kranton 2000, 2010; Austen-Smith and Fryer 2005; Bisin, Patacchini, Verdier and Zenou 2011a; Darity, Mason and Stewart 2006). Although the existing literature provides several explanations to why immigrants may adopt oppositional identities, more research needs to be carried out to identify the factors that facilitate or hinder social integration. This study contributes to the literature by investigating the effect of a potential identity shock: the 9/11 terror attacks. Furthermore, this study shows that immigrants facing the same identity shock can react by adopting different identities. This helps to understand the process of individual identity formation.

The study is also closely related to the literature examining the impacts of terrorism on individual outcomes (Åslund and Rooth 2005; Elsayed and De Grip 2018; Goel 2010; Gould and Klor 2016; Hanes and Machin 2014; Schüller 2016). The paper contributes to this literature in several ways. First, this study provides evidence that terrorism impacts the social integration of immigrants in different ways: either it reinforces their belonging to the majority group or it weakens it. Understanding how immigrants who react in opposite ways differ has important policy implications. Second, this study provides new evidence of the impacts of terrorism on the employment outcomes of Muslim immigrants.

Lastly, this study is more broadly related to the literature on the assimilation of immigrants - Muslims in particular - to the host country (Adida, Laitin and

Valfort 2014; Algan, Bisin, Manning and Verdier 2013; Battu and Zenou 2010; Bisin, Patacchini, Verdier and Zenou 2008; Constant et al 2006; Georgiadis and Manning 2011, 2013; Manning and Roy 2010).

The chapter proceeds as follows. The next section reviews the related literature. Section 4.3 describes the data while section 4.4 presents the empirical analysis. Section 4.5 reports the main findings and discusses the robustness of the results. Lastly, section 4.6 summarizes the results and concludes.

4.2 Related Literature

4.2.1 Identity Formation

Identity is defined as an individual's self-image: it is a more or less conscious choice of which group the individual feels he belongs to (Akerlof and Kranton 2000, 2010). Ethnic identity is, more specifically, the migrant's degree of identification with the host country and the origin country (Epstein and Heizler 2015; Zimmermann 2007). The identity choice of a migrant changes over time in the host country. Usually, the longer the migrant resides in the host country, the higher the degree of commitment to the host country culture whereas the degree of identification with the origin country decreases (Manning and Roy 2010). However, other trajectories can be observed: an immigrant can, for instance, develop an oppositional identity by rejecting the host country norms and by strongly identifying himself with his ethnic group (Austen-Smith and Fryer 2005). In this case, several identity shocks can be identified to influence the identity choice of the migrants (García-Alonso and Wahhaj 2018).

To understand this phenomenon, a number of theoretical studies investigate the process of ethnic identity formation (Austen-Smith and Fryer 2005; Darity, Mason and Stewart 2006). Akerlof and Kranton (2000, 2010) provide a model to explain why some immigrants may reject the majority norms. They show that people belong to certain groups and wish to adopt the corresponding social identity by behaving in the same way as the group. Bisin, Patacchini, Verdier and Zenou (2011a) develop a model of formation and persistence of oppositional identities to explain why some individuals may reject the norms of the majority group. The authors argue that the identity choice is based on the cultural transmission and socialization within the family, peer effects and social interations. They show that the oppositional culture can be sustained if there is enough cultural segmentation and/or the size of the

minority group is large enough. Besides, the higher the level of harassment and the higher the number of racist individuals in the society, the more likely an oppositional minority culture will emerge and persist over time.

Several factors have been identified to influence ethnic identity. For instance, the language of instruction one is exposed to matters for identity (Clots-Figueras and Masella 2013). Having children that have the host country citizenship increases the extent to which the parents identify with the host country (Avitabile, Clots-Figueras and Masella 2000). Discrimination and expectations of unfavorable treatment and rejection by natives matter for the immigrants' identity as well (Alesina and La Ferrara 2002; Battu and Zenou 2010; Bisin, Patacchini, Verdier and Zenou 2008). The outcomes of sport events significantly impact the individual's feeling of belonging to one group over another (De Leon and Kim 2016). The ethnic density in the neighbourhood where the migrant lives influences identity (Georgiadis and Manning 2013) as well as other factors such as the quality of housing, family background and peer pressure, the level of human capital, a lack of economic opportunity and the desire to share one's own culture (Battu and Zenou 2010; Georgiadis and Manning 2013).

4.2.2 Impacts of Terrorism

The essay is also closely related to the literature examining the impacts of terrorism on individual outcomes. A number of studies look at the impact of terrorism on the attitudes of natives towards migration. Evidence shows that the 9/11 terrorist attacks had for consequence to increase discrimination towards immigrants and especially Muslims (Goel 2010; Gould and Klor 2016; Hanes and Machin 2014; Schüller 2016). Some studies also show that the terrorist attacks lead to a decrease in immigrants' integration. For instance, Gould and Klor (2016) show that Muslim immigrants living in states with the sharpest increase in hate crimes also exhibit: greater chances of marrying within their own ethnic group, higher fertility, lower female labour force participation and lower English proficiency in the US. Similarly, Elsayed and De Grip (2018) show that, after the attacks, Muslim immigrants became more geographically segregated and unemployed in the Netherlands. They also reported a higher intention to permanently re-migrate to the country of origin.

The impact of terrorism on the labour market outcomes of immigrants is also examined. The evidence is mixed. Some studies find that terrorism has had a negative effect on the labour market position of Muslims. For instance, Davila and

Mora (2005) show that, in the US, Middle Eastern Arab men and Afghan, Iranian, and Pakistani men experienced a significant earnings decline relative to non-Hispanic whites between 2000 and 2002. Similarly, Kaushal, Kaestner and Reimers (2007) find that September 11th was associated with a 9-11 percent decline in the real wage and weekly earnings of Arab and Muslim men in the US. However, the authors find no evidence of a significant effect of 9/11 on the employment and hours of work of Arab and Muslim men. Other studies find little or no effect (Åslund and Rooth 2005; Braakmann 2010; Shannon 2012). This can be explained by the fact that immigrants participate in networks of the same ethnic minority. Lastly, other studies argue that the effect depends on the population examined. For instance, Cornelissen and Jirjahn (2012) finds a significant negative effect on earnings only for low-skilled Muslims employed in small- and medium-sized firms in Germany.

4.3 Data

The data used for this analysis stem from the German Socio-Economic Panel, a nationally representative, household-based, panel survey, which is administered annually since 1984 until 2016. The data set provides extensive information on sociodemographic characteristics as well as economic characteristics of immigrants in Germany. For the purpose of this study, the sample is restricted to individuals with a direct migration background and whose age is between 16 and 65. Furthermore, the sample period is restricted to 1999-2003 to focus on the years before and after September 11, 2001. Therefore, the data set is balanced and the final sample includes 1,047 immigrants observed over two years. Immigrants are classified into two groups: the treated group, i.e. Muslims and the control group, i.e. non-Muslims. More specifically, immigrants who come from countries where the majority of the population is Muslim are considered Muslims.

Table 4.1 provides the descriptive statistics separately for Muslims and non-Muslim immigrants. Half of the sample are men for both Muslims and non-Muslim immigrants. The average Muslim immigrant is slightly younger than the average non-Muslim (39 versus 44 years old respectively). Muslim immigrants arrived later in Germany on average. As a result, they spent less time in Germany compared to non-Muslim immigrants. A larger proportion of Muslims are married (85%) compared to non-Muslim immigrants (75%). They have on average a lower level of education and they have less working experience in full-time as well as in part-time employment compared to non-Muslims.

Table 4.1.
Characteristics of Immigrants Across Treatment Groups

	All		*Muslims*		*Non-Muslims*		
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Diff.*
Demographic characteristics							
Male	0.51	0.50	0.51	0.50	0.51	0.50	0.004
Age	41.8	11.4	38.8	11.6	44.3	10.6	-5.5***
Year of arrival	1976	9.2	1979	8.7	1974	9	4.9***
Years in Germany	22.9	9.2	20.3	8.7	25.2	9	-4.9***
Married	0.80	0.40	0.85	0.35	0.75	0.43	0.10***
Number of person in hh	3.5	1.5	3.9	1.6	3.2	1.3	0.73***
Number of children in hh	1	1.2	1.4	1.2	0.8	1	0.58***
Education (yrs)	10	2.3	9.7	2.1	10.3	2.4	-0.62***
Full-time employment (yrs)	15.2	12.3	11.3	11.2	18.3	12.2	-7.1***
Part-time employment (yrs)	1.6	3.7	1	2.5	2.1	4.4	-1.1***
Unemployment experience (yrs)	1.1	2.1	1.3	2.3	1	2	0.25
Pre-treatment outcomes							
German identity in 1999	2.54	1.15	2.39	1.12	2.67	1.16	-0.29***
Minority identity in 1999	3.78	0.99	3.63	1	3.92	0.96	-0.28***
In employment in 1999	0.69	0.46	0.59	0.49	0.77	0.42	-0.19***
Full-time in 1999	0.45	0.50	0.40	0.49	0.49	0.50	-0.09**
Part-time in 1999	0.24	0.43	0.19	0.39	0.29	0.45	-0.10***
Post-treatment outcomes							
German identity in 2003	2.82	1.16	2.65	1.09	2.97	1.21	-0.44***
Minority identity in 2003	3.67	0.95	3.73	0.91	3.62	0.99	0.11*
In employment in 2003	0.67	0.47	0.59	0.49	0.74	0.44	-0.15***
Full-time in 2003	0.42	0.49	0.37	0.48	0.46	0.50	-0.08*
Part-time in 2003	0.25	0.43	0.21	0.41	0.28	0.45	-0.07**
Individuals	1,047		467		580		

Source: German Socio-Economic Panel, own calculations.
Notes: This sample is restricted to the first-generation immigrants who are aged between 16 and 65 years old. The final sample is a balanced sample from 1999 to 2003. The demographic characteristics are reported for the pre-event period.
Diff = mean(Muslims) - mean(Non-Muslims). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A number of integration indicators are examined such as the German identity, the minority identity and the employment outcomes including the probability of being employed and the probability of being employed in full-time versus part-time employment. To construct the measures of German and minority identity, the analysis uses the answers to two questions: "How much do you feel German?" and "How much do you feel connected with your country of origin?". Both answers range from 1 "Not at all" to 5 "Completely". The descriptive statistics show that, before 9/11, Muslim immigrants, on average, feel slightly less German compared to non-Muslims. They are also less close to their country of origin. A lower proportion of Muslim immigrants are in employment (59%) compared to non-Muslim immigrants (77%). After the 9/11 terrorist attacks, Muslim immigrants still feel less German compared to non-Muslims. However, they report on average a stronger minority

identity compared to non-Muslim immigrants. After 9/11, still a lower proportion of Muslims are in employment (59%) compared to non-Muslim immigrants (74%).

Table 4.2 provides the descriptive statistics by gender separately for Muslims and non-Muslims. Panel A reports the descriptive statistics for men while Panel B reports the descriptive statistics for women. In terms of sociodemographic characteristics, there is no significant differences between men and women for both Muslims and non-Muslim immigrants. Interestingly, Muslim women have significantly less working experience compared to non-Muslim women. They also have less unemployment experience which suggests that Muslim women participate less in the host labour market than non-Muslim women.

Before 9/11, Muslim women feel less German compared to Muslim men while it is the opposite for non-Muslim immigrants: the women feel more German compared to their male counterparts. With respect to the minority identity, Muslim women are closer to their country of origin compared to the men. However, for non-Muslims, men identify more with their country of origin relative to women. Similar patterns are observed after the 9/11 attacks. Muslim women still feel less German compared to the men. They are also closer to the culture of their country of origin compared to the men. For non-Muslim immigrants, it is the opposite: the men feel less German and report a stronger minority identity compared to the women.

In terms of employment outcomes, before 9/11, 38% of Muslim women are in employment while the employment rate for the men is 79%. For non-Muslim immigrants, 70% of women are employed while 85% of non-Muslim men are employed. However, after 9/11, the employment rate has increased for Muslim women (42%) while it has slightly decreased for the men (75%). For non-Muslims, the employment rate has decreased for both the women (67%) and the men (81%) compared to the pre-event period. When looking at the type of employment, similar trends are observed between the pre-event and the post-event periods for the men. However for women, after the 9/11 attacks, a higher proportion of Muslim women are working in part-time employment.

Table 4.2.
Characteristics of Immigrants Across Treatment Groups By Gender

	All		*Muslims*		*Non-Muslims*	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Panel A: Men						
Demographic characteristics						
Age	42.4	11.5	39.2	11.6	45	10.8
Year of arrival	1975.5	9.1	1977.8	8.5	1973.5	9.2
Years in Germany	23.5	9.1	21.2	8.5	25.5	9.2
Married	0.79	0.41	0.84	0.37	0.74	0.44
Number of person in hh	3.5	1.5	3.9	1.6	3.2	1.4
Education (yrs)	10.3	2.3	10	2.1	10.4	2.4
Full-time employment (yrs)	20.4	11.9	16.8	11.3	23.3	11.6
Part-time employment (yrs)	0.5	1.7	0.5	1.5	0.6	1.8
Unemployment experience (yrs)	1.3	2.4	1.6	2.7	1	2
Pre-treatment outcomes						
German identity in 1999	2.57	1.1	2.5	1.1	2.63	1.16
Minority identity in 1999	3.78	1	3.59	1	3.95	0.96
In employment in 1999	0.83	0.38	0.79	0.41	0.85	0.36
Full-time in 1999	0.64	0.48	0.63	0.48	0.65	0.48
Part-time in 1999	0.18	0.39	0.16	0.37	0.20	0.40
Post-treatment outcomes						
German identity in 2003	2.82	1.14	2.82	1.07	2.83	1.20
Minority identity in 2003	3.69	0.94	3.69	0.90	3.69	0.97
In employment in 2003	0.78	0.41	0.75	0.43	0.81	0.39
Full-time in 2003	0.61	0.49	0.59	0.49	0.62	0.49
Part-time in 2003	0.18	0.38	0.16	0.37	0.19	0.39
Individuals	532		238		293	
Panel B: Women						
Demographic characteristics						
Age	41.3	11.2	38.3	11.6	43.6	10.4
Year of arrival	1976.7	9.2	1979.6	8.8	1974	8.8
Years in Germany	22.3	9.2	19.4	8.8	25	8.8
Married	0.81	0.4	0.87	0.33	0.76	0.43
Number of person in hh	3.5	1.4	4	1.5	3.1	1.3
Education (yrs)	9.8	2.4	9.3	2.1	10.2	2.5
Full-time employment (yrs)	9.8	10.2	5.6	7.9	13.2	10.6
Part-time employment (yrs)	2.7	4.7	1.5	3.1	3.7	5.5
Unemployment experience (yrs)	0.9	1.9	0.9	1.7	1	2
Pre-treatment outcomes						
German identity in 1999	2.50	1.17	2.27	1.1	2.72	1.15
Minority identity in 1999	3.78	0.99	3.67	1	3.88	0.96
In employment in 1999	0.55	0.50	0.38	0.49	0.70	0.46
Full-time in 1999	0.25	0.43	0.15	0.36	0.32	0.47
Part-time in 1999	0.31	0.46	0.22	0.42	0.37	0.48
Post-treatment outcomes						
German identity in 2003	2.82	1.19	2.47	1.08	3.12	1.20
Minority identity in 2003	3.65	0.97	3.77	0.92	3.56	1
In employment in 2003	0.56	0.50	0.42	0.49	0.67	0.47
Full-time in 2003	0.23	0.42	0.15	0.36	0.29	0.46
Part-time in 2003	0.33	0.47	0.27	0.45	0.38	0.49
Individuals	516		229		287	

Source: German Socio-Economic Panel, own calculations.

Notes: This sample is restricted to the first-generation immigrants who are aged between 16 and 65 years old. The final sample is a balanced sample from 1999 to 2003. The demographic characteristics are reported for the pre-event period. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

One concern could be that Muslim immigrants report a higher degree of identification with Germany and a lower degree of identification with their country of origin right after 9/11 in order to avoid stigmatization. To make sure that this is not the case, one can look at the trends in identity over time. Figure 4.1 shows the changes in identity over time for both Muslims and non-Muslims. There is no evidence of misreporting. The trend in the German identity is similar for Muslims and non-Muslims before 9/11. After 9/11, both Muslims and non-Muslims have increased their degree of identification with Germany. For the minority identity, it is less clear as there is no parallel trend before 9/11. However, Muslims report a higher degree of identification with their country of origin. This provides evidence that there is no misreporting.

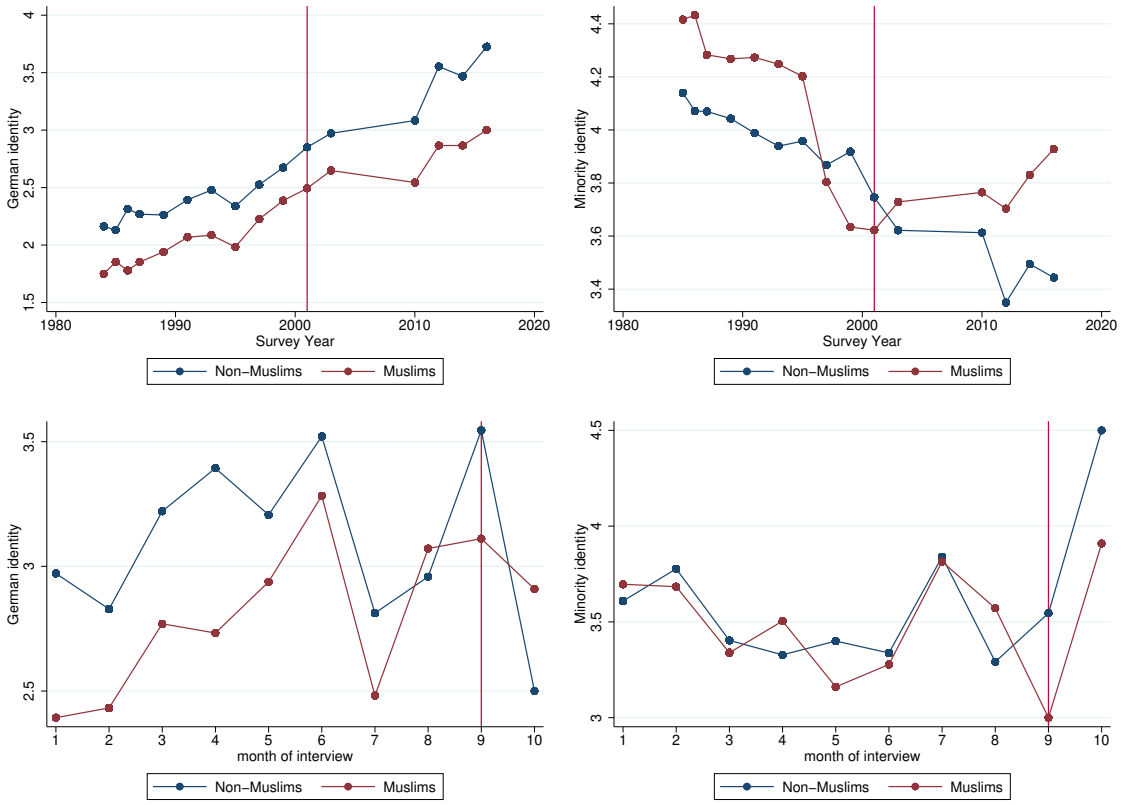

Figure 4.1. *Identity Trends Over Time*

Source: German Socio-Economic Panel, own calculations.

Notes: These figures show changes in identity over time for both Muslims and non-Muslims. Figures on the left show changes in the German identity while figures on the right show changes in the minority identity. The two figures at the top show the trends from 1984 to 2016 while the two figures at the bottom show the trends from January to October for the year 2001. There is a period between 2003 and 2010 where information on identity has not been collected.

4.4 Empirical Methodology

4.4.1 Baseline Model Specification

To identify the effect of the 9/11 terrorist attacks on the ethnic identity and the employment outcomes of Muslim immigrants, the essay relies on a difference-in-differences strategy. More specifically, the analysis consists in comparing the outcomes of the treated observations, i.e. Muslim immigrants, with control observations, i.e. the non-Muslim immigrants and then, looking at how their outcomes were impacted by the 9/11 terror attacks. Formally, let's *Post* be the treatment status indicator taking the value of 1 if the observation was recorded after the 9/11 attacks and 0 otherwise. The continuous variables Y_0 and Y_1 denote the potential outcomes on the basis of the individual's treatment status. The treated group indicator T takes the value of 1 if the individual receives the treatment, i.e. the individual is Muslim and 0 otherwise. The causal effect of interest, i.e. the average treatment effect on the treated (ATT) is then given by:

$$E(Y_1|T=1) - E(Y_0|T=1) \tag{4.1}$$

which is the difference between the expected outcomes for the treated before and after the 9/11 terrorist attacks. However, the fundamental identification problem is that only one of the potential outcomes, i.e. $E(Y_1|T=1)$ is observed whereas the counterfactual expected outcome for the treated individual $E(Y_0|T=1)$ is unobservable. Under a set of assumptions, the effect of the treatment on the treated is reexpressed as:

$$\big[E(Y_1|T=1) - E(Y_1|T=0\big] - \big[E(Y_0|T=1) - E(Y_0|T=0)\big] \tag{4.2}$$

Therefore, to identify the causal effect of 9/11 on the ethnic identity and the employment outcomes of Muslim immigrants, the following equation is estimated:

$$Y_{it} = \beta_0 + \beta_1 Post_t + \beta_2[T_i * Post_t] + \beta_3 X_{it} + \alpha_i + \epsilon_{it}, \tag{4.3}$$

where Y_{it} denotes the outcome of immigrant i at time t. A number of outcome variables are examined including: i) the German identity, ii) the minority identity and iii) the employment outcome. T is a dummy variable equal to 1 if the respondent is Muslim and 0 otherwise. *Post* is a dummy variable equal to 1 if the observation is

after September 2001 and 0 otherwise. Since the changes are examined between the year 1999 and the year 2003, the dummy *Post* is equal to 1 if the year of interview is 2003 and 0 if it is 1999. The parameter β_2 for the interaction between T and *Post* is the measure of change in Muslims' outcomes compared to that of non-Muslim immigrants. X_{it} is a set of controls which vary over time such as age-squared and being married. α_i is an individual fixed effect and ϵ_{it} is a time-varying error term. To allow for differences at the state level, state fixed effects are also included.

4.4.2 Alternative Specifications

One concern of the difference-in-differences strategy is the lack of an appropriate comparison group. Indeed, the simple DiD estimator relies on the following assumption: the average outcomes for the treated and the control groups must follow parallel paths over time. If it is not the case, any differences in identity or employment between the treatment and the control group may merely reflect disparities in their characteristics.

To address this concern, the essay relies on two additional strategies: i) a regression-adjusted difference-in-differences matching strategy and ii) a semiparametric difference-in-differences strategy. The first method allows to match treated units with similar control units while the second method has the advantage that it allows for non-parallel outcome dynamics between treated and controls (Abadie 2005). More precisely, let's W be a set of pre-treatment characteristics. Conditional on this set of covariates W, one can assume that the treated observations would have followed a growth path parallel to that of the control observations in absence of the treatment. Therefore, the effect of the treatment on the treated conditional on W can be expressed as follows:

$$\big[E(Y_1|W,T=1) - E(Y_1|W,T=0\big] - \big[E(Y_0|W,T=1) - E(Y_0|W,T=0)\big] \quad (4.4)$$

The difference-in-differences matching strategy is performed in two steps. First, a propensity score is estimated to provide a measure of similarity between treated and control units. In the second step, based on this propensity score, the units which are similar can be matched. The effect of the treatment is then computed by comparing the changes between units which have been matched together. The semiparametric difference-in-differences estimator differs as it is a weighted average of the difference of trend across treatment groups. It proceeds by reweighting the trend for the untreated participants based on their propensity score. Lastly, the propen-

sity score is estimated using a logit estimator (SLE) to constrain the estimates of the propensity score to vary between 0 and 1.

4.5 Results and Discussion

4.5.1 Main Results

Table 4.3 reports the results for the impact of the 9/11 terror attacks on the ethnic identity of Muslim immigrants relative to non-Muslims. For each identity, the first two columns (Columns 1-2 and 5-6) report the estimates of the simple difference-in-differences estimation. The subsequent columns (Columns 3 and 7) report the estimates of the difference-in-differences matching strategy and finally, the last columns (Columns 4 and 8) report the estimates of the semiparametric difference-in-differences estimation.

The results of the difference-in-differences estimations (Columns 1-2 and 5-6) show a significant impact of the 9/11 terror attacks on both the Muslims' German identity and the Muslims' minority identity. More specifically, Muslim immigrants hold a stronger majority and minority identity after the attacks compared to non-Muslim immigrants. Both of these reactions could be due to discrimination. In order to avoid stigmatization, Muslim immigrants report a higher degree of identification with Germany. Alongside this, the negative attitudes of natives towards Muslim immigrants might push them to integrate less and to identify more strongly with their country of origin.

As mentioned previously, one concern is the non-parallel time trend. In other words, Muslims and non-Muslim immigrants might follow different trends in terms of identity before 9/11 and this might biased the results. Figure 4.1 show that the trends in identity are different for Muslims and non-Muslim immigrants. In terms of employment, Figure 4.2 show that Muslims and non-Muslim immigrants follow different time trends as well. Furthermore, Muslims and non-Muslims differ in their baseline characteristics. Therefore, the results could be attributed to observables. Alternatively, this study relies on a regression-adjusted difference-in-differences matching strategy to check the effect of the 9/11 terror attacks on the ethnic identity and the employment outcomes of Muslim immigrants compared to non-Muslims.

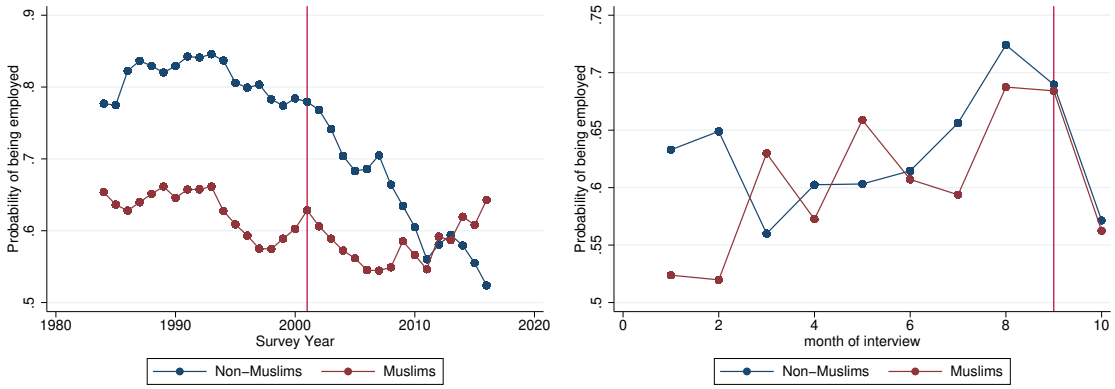

Figure 4.2. *Changes in Employment Rate Over Time*

Source: German Socio-Economic Panel, own calculations.

Notes: These figures show changes in the employment rate over time for both Muslims and non-Muslims. The figures on the left show the trends from 1984 to 2016 while the figure on the right show the trends from January to October for the year 2001.

The results for the estimation of the propensity score are reported in the Appendix Table B.1. Figure B.1 in the Appendix also shows the common support assumption. Lastly, Table B.2 in the Appendix reports the distribution of the covariates before and after matching to check whether Muslims and non-Muslims are comparable groups. The results confirm that the propensity score successfully balances the covariates.

The results of the impact of 9/11 on the ethnic identity of Muslims compared to non-Muslim immigrants using the propensity score matching strategy are reported in Columns 3 and 7 of Table 4.3. The estimates differ compared to the simple DiD estimates. More specifically, the results show that, after 9/11, Muslim immigrants have decreased their degree of identification with Germany while their minority identity has not been affected. This could be due to the fact that, after 9/11, Muslim immigrants feel more discriminated and identify less with the majority group.

Laslty, the results using a semiparametric difference-in-differences approach are examined. They are reported in Table 4.3 columns 4 and 8. They seem to be in line with the DiD estimates: after 9/11, Muslims have significantly increased their identification with both Germany and their country of origin.

The impact of the 9/11 terror attacks is also examined separely on each category of the German identity and the minority identity. The results for the German identity are reported in Panel A of Table 4.4 and show that, after the attacks, Muslims are more likely to feel completely German compared to non-Muslims. The point estimates range between 0.038 (DiD) and 0.063 (SDiD). The effect is not significant

Table 4.3.
Ethnic Identity and the 9/11 Attacks

	German Identity[a]				*Minority Identity*[b]			
	DiD[c]		*MDiD*[d]	*SDiD*[e]	*DiD*[c]		*MDiD*[d]	*SDiD*[e]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Muslim	-	-			-	-		
Post-9/11	0.146***	-0.244			-0.228***	-0.588***		
	(2.90)	(-1.17)			(-4.91)	(-3.03)		
Muslim x Post-9/11	0.146**	0.204**	-0.235*	0.178*	0.280***	0.277***	0.074	0.322***
	(2.00)	(2.41)	(-1.97)	(1.86)	(4.45)	(3.51)	(0.73)	(3.38)
Constant	2.57***	0.315			3.77***	2.00*		
	(99.12)	(0.25)			(158.40)	(1.67)		
Controls	No	Yes			No	Yes		
Individual × Year FE	Yes	Yes			Yes	Yes		
Observations	1,813	1,617			1,818	1,622		
Individuals	980	911	862	758	980	911	862	763

Source: German Socio-Economic Panel, own calculations.
Notes: Results for Abadie's SDiD are derived using user written Stata command absdid with a logistic specification of the propensity score. The controls include gender, age, years of arrival, being married, education, years of experience in full-time employment, in part-time employment, and in unemployment and the state of residence. t statistics in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[a] "German identity" is a continuous variable ranging from 1 "Not at all" to 5 "Completely".
[b] "Minority identity" is a continuous variable ranging from 1 "Not at all" to 5 "Completely".
[c] DiD refers to the simple difference-in-differences estimation.
[d] MDiD refers to the regression-adjusted difference-in-differences matching strategy.
[e] SDiD refers to the semiparametric difference-in-differences estimation.

when relying on the matching strategy. With respect to the minority identity (Table 4.4, Panel B), the results show that Muslims are significantly less likely to feel in some respects close to their country of origin relative to non-Muslims. Conversely, they are significantly more likely to feel completely close to their country of origin. The point estimates range between 0.090 (DiD) and 0.097 (SDiD). However, the results are not significant when using the propensity score matching strategy.

Lastly, the results for the effect of the 9/11 terror attacks on the employment outcomes of Muslims compared to non-Muslim immigrants are reported in Table 4.5. When relying on a difference-in-differences strategy, the results show that, after the attacks, Muslim immigrants have a higher probability of being employed compared to non-Muslim immigrants. This increase in the probability of being employed is driven by an increase in their probability of being in part-time employment. However, when using the propensity score matching strategy or the semiparametric difference-in-differences estimation, the significant effect disappears. There is no significant impact of the 9/11 attacks on Muslims' probability of being employed nor on their probability of being in full-time employment or in part-time employment.

4.5.2 Heterogenous Effects

Different types of individuals might have been more or less responsive to the identity shock. The results reported in Table 4.6 provide interesting insights about the characteristics of the immigrants who react by increasing their minority identity and those who react by increasing their German identity. First, Muslim men are more likely to increase both their German identity and their minority identity while Muslim women are more likely to increase exclusively their minority identity after the attacks. Older Muslim immigrants as well as more educated Muslim immigrants are also more likely to react by increasing strongly their minority identity after 9/11. A larger increase in the minority identity is also observed for Muslims who are employed and who have lived for a longer time period in Germany.

Table 4.4.
German/Minority Identity and the 9/11 Attacks

	Not at all			*Barely*			*In some respects*			*Mostly*			*Completely*		
	DiD^a	$MDiD^b$	$SDiD^c$	DiD^a	$MDiD^b$	$SDiD^c$	DiD^a	$MDiD^b$	$SDiD^c$	DiD^a	$MDiD^b$	$SDiD^c$	DiD^a	$MDiD^b$	$SDiD^c$
Panel A: German identity															
Muslim	-			-			-			-			-		
Post-9/11	-0.039*			-0.025			0.018			0.048**			-0.002		
	(-1.84)			(-0.96)			(0.64)			(2.43)			(-0.22)		
Muslim x Post-9/11	-0.062**	0.067	-0.016	0.043	0.005	0.006	-0.008	-0.017	-0.080	-0.010	-0.012	0.026	0.038**	-0.042	0.063***
	(-2.03)	(1.82)	(-0.43)	(1.13)	(0.11)	(0.13)	(-0.20)	(-0.34)	(-1.50)	(-0.35)	(-0.32)	(0.67)	(2.52)	(-1.41)	(3.75)
Constant	0.229***			0.229***			0.349***			0.125***			0.068***		
	(21.10)			(17.10)			(23.70)			(12.30)			(12.77)		
Controls	Yes			Yes			Yes			Yes			Yes		
Individual × Year FE	Yes			Yes			Yes			Yes			Yes		
Observations	1,813			1,813			1,813			1,813			1,813		
Individuals	980	862	758	980	862	758	980	862	758	980	862	758	980	862	758
Panel B: Minority identity															
Muslim	-			-			-			-			-		
Post-9/11	0.002			0.021			0.080***			-0.002			-0.100***		
	(0.44)			(1.47)			(2.92)			(-0.07)			(-4.17)		
Muslim x Post-9/11	0.0002	-0.032	-0.001	-0.028	0.020	-0.040	-0.135***	0.015	-0.142***	0.072	-0.035	0.086	0.090**	0.032	0.097**
	(0.03)	(-1.78)	(-0.13)	(-1.38)	(0.75)	(-1.42)	(-3.41)	(0.30)	(-2.74)	(1.59)	(-0.67)	(1.40)	(2.59)	(0.78)	(1.97)
Constant	0.023***			0.065***			0.287***			0.365***			0.260***		
	(8.56)			(9.03)			(20.46)			(22.53)			(21.09)		
Controls	Yes			Yes			Yes			Yes			Yes		
Individual × Year FE	Yes			Yes			Yes			Yes			Yes		
Observations	1,818			1,818			1,818			1,818			1,818		
Individuals	980	862	763	980	862	763	980	862	763	980	862	763	980	862	763

Source: German Socio-Economic Panel, own calculations.

Notes: Results for Abadie's SDiD are derived using user written Stata command absdid with a logistic specification of the propensity score. The controls includegender, age, years of arrival, being married, education, years of experience in full-time employment, in part-time employment, and in unemployment and the state of residence. t statistics in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[a] DiD refers to the simple difference-in-differences estimation.
[b] MDiD refers to the regression-adjusted difference-in-differences matching strategy.
[c] SDiD refers to the semiparametric difference-in-differences estimation.

Table 4.5.
Employment Outcomes and the 9/11 Attacks

	Being employed				*Full-time employment*				*Part-time employment*			
	DiD[a]		*MDiD*[b]	*SDiD*[c]	*DiD*[a]		*MDiD*[b]	*SDiD*[c]	*DiD*[a]		*MDiD*[b]	*SDiD*[c]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Muslim	-	-			-	-			-	-		
Post-9/11	-0.033*	0.063			-0.029	0.221***			-0.003	-0.158*		
	(-1.84)	(0.86)			(-1.47)	(2.64)			(-0.16)	(-1.72)		
Muslim x Post-9/11	0.033	0.054*	-0.078	-0.013	0.006	-0.018	-0.033	-0.057	0.027	0.072*	-0.045	0.044
	(1.23)	(1.85)	(-1.52)	(-0.41)	(0.19)	(-0.53)	(-0.59)	(-1.64)	(0.83)	(1.94)	(-0.90)	(1.06)
Constant	0.691***	1.587***			0.447***	2.93***			0.245***	-1.343*		
	(73.75)	(2.61)			(42.57)	(4.17)			(21.43)	(-1.74)		
Controls	No	Yes			No	Yes			No	Yes		
Individual × Year FE	Yes	Yes			Yes	Yes			Yes	Yes		
Observations	2,094	1,829			2,094	1,829			2,094	1,829		
Individuals	1,047	959	930	930	1,047	959	930	930	1,047	959	930	930

Source: German Socio-Economic Panel, own calculations.

Notes: Results for Abadie's SDiD are derived using user written Stata command absdid with a logistic specification of the propensity score. The controls include gender, age, years of arrival, being married, education, years of experience in full-time employment, in part-time employment, and in unemployment and the state of residence. t statistics in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[a] DiD refers to the simple difference-in-differences estimation.
[b] MDiD refers to the regression-adjusted difference-in-differences matching strategy.
[c] SDiD refers to the semiparametric difference-in-differences estimation.

These results are in line with previous studies such as Cornelissen and Jirjahn (2012) who show that discrimination is more likely to be perceived by highly educated immigrants because of their high expectations of integration in the host country. Banerjee (2008) as well argues that long-term immigrants and highly educated immigrants perceive discrimination more strongly than new immigrants and low-educated immigrants, respectively, because of their expectations of equitable treatment. The same could be argued for immigrants who are employed as they probably revise their expectations once they work and contribute to the host country's economic performance.

The effect also differs by German states. This can be explained by the fact that the level of discrimination has not increased uniformally across Germany. As a result, Muslim immigrants living in North Rhine-Westphalia have adopted a stronger minority identity following the attacks. In Baden-Wuerttemberg, Muslim immigrants have reacted by both increasing their degree of identification with Germany and their country of origin. Lastly, in Bavaria, Muslim immigrants have significantly decreased their commitment to the German culture and increased their minority identity. Muslim immigrants who are somewhat concerned about hostility to foreigners have significantly increased their majority identity after the attacks. This is consistent with the interpretation that those who are the most likely to identify more with the German community are those who want to avoid stigmatization.

With respect to employment, different types of individuals might have been more severely affected by the 9/11 terrorist attacks. Indeed, younger Muslim immigrants seem to be more likely to be employed in part-time employment following the 9/11 terror attacks.

Table 4.6.
Heterogenous Treatment Effects of 9/11 Attacks on Ethnic Identity

	German Identity		*Minority Identity*	
	(1)	(2)	(3)	(4)
All sample				
Muslim x Post-9/11	0.146**	0.204**	0.280***	0.277***
	(2.00)	(2.41)	(4.17)	(3.51)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	1,813	1,617	1,818	1,622
Individuals	980	911	980	911
Men				
Muslim x Post-9/11	0.265***	0.298**	0.239**	0.211*
	(2.62)	(2.55)	(2.48)	(1.96)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	924	837	925	838
Individuals	494	461	495	462
Women				
Muslim x Post-9/11	0.020	0.091	0.325***	0.370***
	(0.19)	(0.73)	(3.46)	(3.14)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	889	780	893	784
Individuals	486	450	485	449
Age < mean = 44				
Muslim x Post-9/11	0.136	0.167	0.265**	0.165
	(1.23)	(1.33)	(2.50)	(1.37)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	918	806	918	806
Individuals	527	481	526	480
Age > mean = 44				
Muslim x Post-9/11	0.203*	0.260*	0.442***	0.430***
	(1.68)	(1.89)	(4.36)	(3.64)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	863	783	868	788
Individuals	505	476	506	477
Education < mean = 10				
Muslim x Post-9/11	0.122	0.220*	0.248**	0.243**
	(1.04)	(1.73)	(2.45)	(2.21)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	931	904	936	909
Individuals	597	580	600	583
Education > mean = 10				
Muslim x Post-9/11	0.101	0.233	0.230*	0.294*
	(0.76)	(1.50)	(1.84)	(1.97)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	809	644	809	644
Individuals	560	448	559	447

Table 4.6.
Heterogenous Treatment Effects of 9/11 Attacks on Ethnic Identity - Continued

	German Identity		*Minority Identity*	
	(1)	(2)	(3)	(4)
Employed				
Muslim x Post-9/11	-0.004	0.054	0.343***	0.344***
	(-0.04)	(0.49)	(3.79)	(3.32)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	1,223	1,101	1,223	1,101
Individuals	743	689	743	689
Unemployed				
Muslim x Post-9/11	0.354**	0.348*	0.238	0.263
	(2.24)	(1.91)	(1.62)	(1.56)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	590	516	595	521
Individuals	396	355	398	357
Time in Germany < mean = 25				
Muslim x Post-9/11	0.115	0.194	0.091	0.097
	(0.97)	(1.56)	(0.78)	(0.75)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	687	641	688	642
Individuals	416	404	416	404
Time in Germany > mean = 25				
Muslim x Post-9/11	0.094	0.125	0.400***	0.342***
	(0.84)	(0.99)	(4.09)	(2.95)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	1,066	920	1,069	923
Individuals	619	555	620	556
State of residence: North-Rhine-Westfalia				
Muslim x Post-9/11	0.142	0.268	0.297**	0.225
	(0.89)	(1.40)	(2.03)	(1.31)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	455	418	457	420
Individuals	254	240	254	240
State of residence: Baden-Wuerttemberg				
Muslim x Post-9/11	0.338***	0.380***	0.158	0.309**
	(2.72)	(2.74)	(1.33)	(2.29)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	564	506	564	506
Individuals	294	274	294	274

Table 4.6.
Heterogenous Treatment Effects of 9/11 Attacks on Ethnic Identity - Continued

	German Identity		*Minority Identity*	
	(1)	(2)	(3)	(4)
State of residence: Bavaria				
Muslim x Post-9/11	-0.282*	-0.268	0.643***	0.744***
	(-1.92)	(-1.56)	(3.87)	(4.05)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	275	251	276	252
Individuals	149	138	149	138
Worried hostility to foreigners: very concerned				
Muslim x Post-9/11	0.266	-0.025	-0.072	-0.008
	(1.26)	(-0.10)	(-0.37)	(-0.03)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	533	474	534	475
Individuals	420	382	420	382
Worried hostility to foreigners: somewhat concerned				
Muslim x Post-9/11	0.317**	0.361**	0.092	0.174
	(2.27)	(2.17)	(0.71)	(1.15)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	892	797	892	797
Individuals	672	602	672	602
Worried hostility to foreigners: not concerned at all				
Muslim x Post-9/11	-0.062	-0.017	0.569***	0.388
	(-0.24)	(-0.06)	(2.71)	(1.53)
Controls	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes
Observations	378	337	381	340
Individuals	306	278	309	281

Source: German Socio-Economic Panel, own calculations.
Notes: The controls include age-squared, being married and the state of residence. t statistics in parentheses. * $p < 0.1$,** $p < 0.05$,*** $p < 0.01$

Table 4.7.
Heterogenous Treatment Effects of 9/11 Attacks on Employment

	Being employed		*Full-time employment*		*Part-time employment*	
	(1)	(2)	(3)	(4)	(5)	(6)
All sample						
Muslim x Post-9/11	0.033	0.054*	0.006	-0.018	0.027	0.072*
	(1.23)	(1.85)	(0.19)	(-0.53)	(0.83)	(1.94)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,094	1,829	2,094	1,829	2,094	1,829
Individuals	1,047	959	1,047	959	1,047	959
Men						
Muslim x Post-9/11	-0.001	0.032	-0.015	-0.075	0.014	0.108**
	(-0.03)	(0.96)	(-0.32)	(-1.50)	(0.31)	(2.15)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,062	938	1,062	938	1,062	938
Individuals	531	487	531	487	531	487
Women						
Muslim x Post-9/11	0.068	0.095*	0.027	0.054	0.041	0.031
	(1.60)	(1.70)	(0.71)	(1.21)	(0.87)	(0.55)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,032	891	1,032	891	1,032	891
Individuals	516	472	516	472	516	472
Age < mean = 44						
Muslim x Post-9/11	0.057	0.086*	-0.030	-0.042	0.087*	0.129**
	(1.34)	(1.85)	(-0.67)	(-1.83)	(1.72)	(2.30)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,039	900	1,039	900	1,039	900
Individuals	561	508	561	508	561	508
Age > mean = 44						
Muslim x Post-9/11	-0.073*	0.007	-0.029	0.019	-0.043	-0.012
	(-1.75)	(0.15)	(-0.64)	(0.37)	(-0.87)	(-0.22)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,016	895	1,016	895	1,016	895
Individuals	550	506	550	506	550	506
Education < mean = 10						
Muslim x Post-9/11	0.069	0.068	0.076	0.059	-0.007	0.008
	(1.54)	(1.46)	(1.61)	(1.17)	(-0.13)	(0.15)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	994	959	994	959	994	959
Individuals	626	603	626	603	626	603
Education > mean = 10						
Muslim x Post-9/11	0.012	0.022	0.041	-0.084	-0.029	0.106
	(0.28)	(0.45)	(0.78)	(-1.45)	(-0.52)	(1.65)
Controls	No	Yes	No	Yes	No	Yes
Individual × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,018	793	1,018	793	1,018	793
Individuals	636	504	636	504	636	504

Source: German Socio-Economic Panel, own calculations.
Notes: The controls include age-squared, being married and the state of residence.
t statistics in parentheses. * $p < 0.1$,** $p < 0.05$,*** $p < 0.01$

4.6 Conclusion

This study investigates the effect of the 9/11 terrorist attacks on the process of identity formation and the employment outcomes of Muslim immigrants in Germany. More specifically, the analysis uses longitudinal data from the German Socio-Economic Panel and relies on a difference-in-differences strategy to compare the outcomes of Muslim immigrants with non-Muslim immigrants before and after September 11, 2001. A number of outcomes are examined subsequently including the German identity, i.e. the migrant's degree of identification with Germany; the minority identity, i.e. the migrant's degree of identification with the country of origin and a number of employment outcomes including the employment probability and the type of employment (the probability of being in full-time employment versus the probability of being in part-time employment).

The results of the difference-in-differences estimations show a significant impact of the 9/11 terror attacks on both the Muslims' German identity and the Muslims' minority identity. More specifically, Muslim immigrants hold a stronger majority and minority identity after the attacks compared to non-Muslim immigrants. Both of these reactions could be due to discrimination. In order to avoid stigmatization, Muslim immigrants report a higher degree of identification with Germany. Alongside this, the negative attitudes of natives towards Muslim immigrants might push them to integrate less and to identify more strongly with their country of origin. Regarding employment, the results show that, after the attacks, Muslim immigrants have a higher probability of being employed compared to non-Muslim immigrants. This increase in the probability of being employed is driven by an increase in their probability of being in part-time employment.

One concern of the difference-in-difference strategy is the lack of an appropriate comparison group. Indeed, it is likely that Muslim immigrants and non-Muslim immigrants follow different time trends in terms of identity and employment outcomes and this might biaised the results. To address this concern, the study relies on two additional strategies: i) a regression-adjusted difference-in-differences matching strategy and ii) a semiparametric difference-in-differences strategy.

The results differ compared to the simple DiD estimates. More specifically, using a difference-in-differences matching strategy, the results show that, after 9/11, Muslim immigrants have decreased their degree of identification with Germany while their minority identity has not been affected. This could be due to the fact that, after 9/11, Muslim immigrants feel more discriminated and identify less with the

majority group.

Lastly, the paper investigates the heterogenous effect of the 9/11 terrorist attacks on different groups. The results provide interesting insights about the differences that exist between immigrants who reacted to the terrorist attacks by increasing their minority identity and immigrants who reacted by increasing their German identity. The results show that Muslims immigrants who are more educated and who have lived longer in Germany are the most likely to adopt a stronger minority identity following the 9/11 attacks. With respect to employment, the 9/11 terrorist attacks have impacted more severely younger Muslim immigrants who experience a higher probability of being employed in part-time employment. The results have important policy implications and contribute to inform policymakers about the population the most likely to reject the accepted norms of the majority group.

Appendix

Table B.1.
Propensity Score - Probit regression

	Muslim
Male	0.361***
	(3.14)
Age	0.012*
	(1.66)
Year of arrival	0.019***
	(2.78)
Married	0.296**
	(2.42)
Education (yrs)	-0.066***
	(-3.09)
Experience full-time (yrs)	-0.045***
	(-6.34)
Experience part-time (yrs)	-0.082***
	(-4.83)
Experience unemployment (yrs)	0.038*
	(1.70)
State FE	Yes
Observations	862

Source: German Socio-Economic Panel, own calculations.
Notes: t statistics in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.2.
Covariates' Balance

Variable	*Unmatched*	*Mean*		*%reduct*		*t-test*		*V(T)/*
	Matched	*Treated*	*Control*	*%bias*	*|bias|*	*t*	*p > |t|*	*V(C)*
Male	U	0.510	0.505	0.9		0.14	0.886	.
	M	0.511	0.521	-2.0	-121.3	-0.28	0.779	.
Age	U	38.8	44.3	-49.4		-7.99	0.000	1.19
	M	39.1	39.4	-2.2	95.6	-0.32	0.753	1.27*
Year of arrival	U	1978.7	1973.8	55.2		8.54	0.000	0.93
	M	1978.1	1977.9	1.8	96.8	0.25	0.799	0.86
Married	U	0.85	0.75	26.0		4.14	0.000	.
	M	0.85	0.84	3.8	85.6	0.58	0.559	.
Education (yrs)	U	9.7	10.3	-26.9		-4.21	0.000	0.77*
	M	9.7	9.7	-1.5	94.4	-0.23	0.818	1.03
Experience full-time (yrs)	U	11.3	18.3	-60.1		-9.62	0.000	0.85
	M	11.9	12	-1.3	97.8	-0.20	0.839	1.14
Experience part-time (yrs)	U	0.97	2.12	-32.3		-5.05	0.000	0.32*
	M	0.95	0.92	1.0	96.8	0.22	0.826	1.13
Experience unemployment (yrs)	U	1.26	1.01	11.6		1.88	0.060	1.37*
	M	1.22	1.27	-2.2	80.8	-0.30	0.766	0.92
State - Hamburg	U	0.017	0.010	5.8		0.95	0.342	.
	M	0.019	0.007	10.6	-81.9	1.52	0.129	.
State - Lower Saxony	U	0.084	0.071	4.8		0.78	0.438	.
	M	0.077	0.072	1.8	61.5	0.27	0.789	.
State - Bremen	U	0.002	0.005	-5.0		-0.79	0.430	.
	M	0.002	0	4.1	18.5	1.00	0.318	.
State - North-Rhine-Westfalia	U	0.30	0.23	16.1		2.60	0.010	.
	M	0.28	0.35	-17.4	-8.0	-2.35	0.019	.
State - Hessen	U	0.09	0.11	-7.3		-1.17	0.240	.
	M	0.10	0.08	5.7	21.9	0.87	0.385	.
State - Rheinland-Pfalz	U	0.04	0.06	-10.4		-1.65	0.099	.
	M	0.04	0.03	3.3	67.9	0.55	0.583	.
State - Baden-Wuerttemberg	U	0.27	0.30	-7.0		-1.12	0.264	.
	M	0.29	0.29	0.5	92.2	0.08	0.938	.
State - Bavaria	U	0.14	0.16	-4.7		-0.75	0.451	.
	M	0.15	0.14	2.7	41.5	0.40	0.689	.
State - Berlin	U	0.03	0.03	0.4		0.06	0.950	.
	M	0.03	0.02	4.4	-1008.5	0.70	0.487	.

Source: German Socio-Economic Panel, own calculations.
Notes: * if variance ratio outside [0.83; 1.20] for U and [0.82; 1.22] for M.

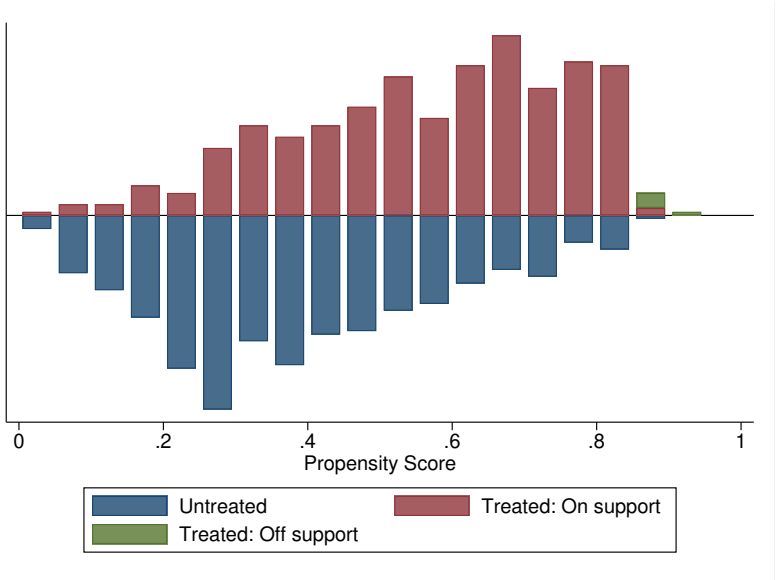

Figure B.1. *Common Support Assumption*

Source: German Socio-Economic Panel, own calculations.

Notes: This graph shows the common support assumption. Only individuals that are similar, e.g. that have a similar propensity score are compared. The units "off support" are dropped as they have no similar units in the control group.

Chapter 5

Concluding Remarks

5.1 Main Findings and Policy Implications

A major challenge for receiving countries is the successful integration of international migrants. Evidence shows that immigrants tend to have lower outcomes than the native-born. Besides, this gap is persistent to some extent across generations. This thesis provides a better understanding of the process of integration of immigrants and helps to identify better policies to facilitate it. Each essay focuses on a specific context and provide interesting insights about the issue of immigrant integration.

More specifically, Chapter 2, entitled *"Integration of Humanitarian Migrants into the Host Country Labour Market: Evidence from Australia"*, focuses on the labour market integration of refugees. The study shows that pre-migration education, work experience, previous migration episodes, as well as English proficiency, English training, study/job training undertaken in Australia and social capital form important determinants of the labour market integration of refugees. Moreover, the essay highlights the differentiated impacts of these resources on the refugees' outcomes at six months, one year and two years after arrival in Australia. This essay provides a unique basis of knowledge for informed policy-making and helps identify the ways to facilitate the economic integration of refugees.

Chapter 3, entitled *"Ethnic Identity and the Employment Outcomes of Immigrants: Evidence from France"*, proposes two richer measures of ethnic identity than the ones used in the existing literature, namely: i) the degree of commitment to the origin country culture and ii) the extent to which the individual holds multiple identities. Futhermore, the chapter investigates the impact of ethnic identity on the labour market outcomes of immigrants in France. The results obtained shows

that having multiple identities is associated with better employment outcomes for immigrants. However, when adressing the endogenous nature of ethnic identity, the results show no significant effect of ethnic identity on the employment outcomes of immigrants. The findings contribute to help design effective post-immigration policies.

Chapter 4, entitled *"The Effect of 9/11 on Immigrants' Ethnic Identity and Employment: Evidence from Germany"*, finds that Muslim immigrants have decreased their degree of identification with Germany after 9/11 compared to non-Muslims. There is no significant impact of the 9/11 terrorist attacks on Muslims' employment outcomes relative to non-Muslims. The results contribute to provide a better understanding of the process of social integration of immigrants.

5.2 Future Research

Some questions remain. There is still limited information about the integration of refugees and the extent to which refugees differ from economic migrants. Further research could focus on understanding these differences.

Concerning the relationship between ethnic identity and employment, the existing literature acknowledges the possibility of reverse causation. It is typically argued that immigrants who are economically successful in the receiving country are likely to develop at the same time a stronger sense of belonging and identity with that country. This would result in an upward bias for the estimate of the host country identity. Conversely, the estimate of the minority identity should be downward biased. Yet, a knowledge gap remains as the reverse causality hypothesis has not been empirically tested. An interesting topic to explore would be to assess the effect of the employment status on immigrants' identity formation.

Finally, related to Chapter 3, more research needs to be carried out to identify other identity shocks. Indeed, since identity can influence the economic integration of migrants, it is important to understand how identity can be affected as well as grasp the capacity for the state to intervene in it.

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