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Three essays on European immigrants

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² As I dug deeper into the literature for my research, I realized how lucky I was. Thanks to her, I could integrate my parents' cultural peculiarities with the culture of my peers as I grew up.

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Introduction

This dissertation is a collection of three essays focused on European immigrants. In particular, the first one compares the characteristics of the immigrants with respect to different migration waves in Europe and looks to a comparison with the natives, while the latter two look at the immigrant's performance in the labor market and the financial market, respectively.

In the first chapter, we illustrate the advantage of using life history information to create a dataset that allows comparable information on the life cycle of immigrants in different host countries. We use the Job Episode Panel dataset (JEP), built from the Survey of Health and Retirement in Europe (SHARE) and the retrospective module SHARELIFE, to analyze the migration waves in Europe and the characteristics of the immigrants. We show how different they are with respect to natives in characteristics such as the number of children, employment, and frequency of jobs done in their life. Finally, we try to see if there are any patterns between the migration wave and the countries of origin of the immigrants that are relevant to those characteristics.

In the second chapter, we analyze the labor market consequences of changes in the citizenship eligibility requirements; we use variation in residency requirements induced by citizenship reforms in Germany and Austria to look for the intention to treat effect³. We can rely on exogenous variation in eligibility rules from national immigration reforms by the two countries with two opposite directions: a more liberal approach in Germany and a stricter one in Austria. We use the Survey of Health Retirement and Ageing in Europe (SHARE) to create a retrospective panel dataset for individuals living in the two countries during the reforms. This allows us to use a Regression Discontinuity approach exploiting the change in the years of residence threshold required for naturalization. The evidence shows that being eligible for naturalization is associated with higher employment rates in both countries; moreover, this effect increases in the German case after reducing the years of residence required for naturalization.

The third chapter compares and evaluates the second generation of immigrants participating in the financial market with respect to their country of origin and, in comparison, to natives. Financial market participation differs significantly across countries, and the cultural dimensions could be a potential factor for that. In order to assess if this dimension matters, we exploited the influence that

³ Chapter 2 is based on joint work with Agar Brugiavini and Giacomo Pasini. The author is particularly grateful both supervisors for all their valuable discussions and comments.

the socialist regime has had on the citizen of the East European countries. These individuals have grown a particular institutional context that has shaped a different culture regarding Western European countries. We rely on this heterogeneity and its intergenerational transmission to look for differences in financial market participation. We show simple theoretical models that include risk aversion, time preference, and trust coefficients in their specifications. They can be the channel through which the cultural dimensions matter in financial market participation. We show no difference in the financial market participation between the second generation of immigrants from EU countries and natives. At the same time, this difference is present when we compare them to the second generation from East European countries. Risk aversion and labor income seems to play the primary role in this heterogeneity in financial market participation.

All chapters can be read independently, each providing a separate introduction and conclusion.

Chapter 1

Immigration Waves Across Europe: An Overview

1.1 Introduction

People have always been on the move. Despite the introduction of agriculture in some world areas, many people remained substantially itinerant. In the European Middle Ages, widespread transnational mobility played a structural role; in fact, it kept the Christian charity practice active. Starting from the sixteenth century, Europe became the point for a perhaps unprecedented emigration. Its colonizers stabilized almost everywhere globally, intertwining relationships of various kinds with local populations. Between 1820 and 1940, about 60 million Europeans emigrated to more than one million people a year; 38 million emigrated to the United States.

With the end of the First World War, emigration flows from Europe started to decrease due to a squeeze of US migration policies, which, however, did not end. Until the end of the 1950s, many Europeans continued to emigrate to America and Australia. Then, the Second World War further upset the structures of the migratory routes, outlining a new migrant figure: the refugee, who escaped from wars and persecutions and, specifically, the Jewish refugee. The shock caused by that enormous mass flight of people deprived of everything led to the Geneva Convention of 1951, which introduced the legal figure of the refugee: "in the justified fear of being persecuted for his race, his religion, his citizenship, his belonging to a particular social group or his political opinions, is outside the State of which he is a citizen and cannot or, for this fear, does not want to apply for the protection of that State⁴".

However, with the economic boom that has hit Europe since the 1960s, there were signs of a contrary movement. There was a need for workers in the countries of central and northern Europe, and those in the southern territories were ready to supply them. Individuals from Italy, Spain,

⁴ The 1951 Refugee Convention

Portugal, and Greek migrated within the continent again and again to seek their fortune. Migrant workers from outside Europe also migrated towards Europe: Turks, Moroccans, Tunisians, and Algerians. To give an idea, the foreign workforce in Germany went from 0.6% in 1957 to 11.2% in 1972 (Bettin & Cela, 2014). In 1973, however, a new change took place: the world economic crisis following the oil shock convinced the countries of central and northern Europe to review their migration policies in a restrictive sense, and the flows of migrants on the south-north axis were significantly reduced. Afterward, starting from the end of the 1980s, a new migratory axis opened up: the east-west one. With the fall of the communist regimes, many citizens of eastern Europe found misery in their homes and opened doors toward new territories. In these conditions, western Europe was too strong an attraction for them. About 1.2 million people emigrated from eastern countries in 1989 alone (Bettin & Cela, 2014), and the flow continued throughout the 1990s. Millions of individuals from Poland, Romania, Albania, Moldova, Ukraine, and Russia started moving west, not to mention the war refugees caused by the conflict that started in the former Yugoslavia. The east-west trajectory continued to the beginning of the 2000s, with the entry into the European Union of eight countries in 2004 (Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Slovenia, and Hungary), and then two others, Romania and Bulgaria, in 2007, which made travel even more straightforward and smoother.

In the meantime, more and more migrants also arrived from Africa, Asia, and South America, composing the picture of the migratory phenomenon as we know it today. According to Eurostat data, the result a picture that has seen foreign population residing in Europe almost doubled in the last twenty years, going from about 20 million in 1998 to about 40 million in 2018; a picture where displaced people - let us consider, for example, the flow of a million people, mainly from Syria, who arrived in Europe in 2015 - economic migrants, family members who reunited, and new European citizens are mixed.

Comparing and analyzing the migration phenomenon across different countries needs to consider various methodological issues. One problem is the comparability of the data: most statistical institutions operate at a national level, generating substantial heterogeneity in the method used to collect the information and generating discrepancies in the construction of the different datasets and variables of interest. Another problem is instead related to the long history of migration: traditional surveys that focus on recent information and do not reconstruct the entire individual history cannot capture this information.

In this chapter, we will exploit retrospectively collected life-history information uniformly in different European countries: we use the Job Episode Panel (JEP) dataset, built from the Survey of Health and Retirement in Europe (SHARE) and the retrospective module SHARELIFE. With these data, it is possible to make an international comparison based on retrospectively collected life-history information and show how this kind of information can be precious in analyzing the characteristics of the immigrants.

The SHARE Job Episodes Panel (JEP) is a dataset generated from information collected in Wave 3 (also called SHARELIFE) and Wave 7 of SHARE. Between autumn 2008 and summer 2009, SHARELIFE surveyed a representative sample of about 27,000 men and women aged 50 or older, providing life-history information. In particular, the selection of surveyed individuals participating in the SHARELIFE survey is representative of the population of individuals older than 50 years old and their partners living in Scandinavia (Sweden and Denmark), Central Europe (Austria, Belgium, France, Germany, Ireland, the Netherlands, Switzerland), Southern Europe (Greece, Italy, Spain), as well as two transition countries (the Czech Republic and Poland). The SHARELIFE questionnaire contains all critical areas of respondents' life histories, ranging from partnerships, family relationships, and children over housing and job history to comprehensive health and healthcare questions. The original dataset contains sequences of life events in a flat-file format, where each individual contributes to one observation.

Afterward, the life history interview of SHARELIFE was repeated in Wave 7, collecting information for all the respondents who did not participate in Wave 3. Specifically, Wave 7 took place in 2017 in 28 countries, reaching full coverage of the European Union. Moreover, many countries included in Wave 3 substantially increased their samples in Waves 4 to 6, and also, for these new individuals, life histories have been reconstructed. The result is that about 62,500 individuals took part in the retrospective survey in Wave 7.

As anticipated, both waves' information is released as individual-level datasets, where life event sequences are organized in a wide format (Stuck et al., 2018). As an example, the information concerning the country of residence is collected as all the residences respondents had in their life; this information is then stored as a set of variables (one for each different country where the individual lived in his/her life) for each individual in the sample. Starting from this dataset, the first version of the Job Episodes Panel organized the information about working life available in Wave 3 into a retrospective panel, rearranging the data previously stored in a wide format in an extended

format. Specifically, in the JEP, each respondent contributes to as many observations as the years of age, from their birth to the age at which they are observed at the moment of the interview (Brugiavini et al., 2013). In this way, following the country of residence example, for each year of the surveyed individual's life, we know their country of residence, from birth to the year when the interview took place. The second version of the JEP added information from Wave 3 on employment status and job characteristics, household composition, migration, and pension legislation respondents were exposed to (Antonova et al., 2014). Finally, in the third version of the Job Episodes Panel, information from SHARE Wave 7 individuals are added, and new variables (i.e., situation and after the last job situation) describe the activities carried out in the non-job spells (Brugiavini et al., 2019). For the purpose of this chapter, the last Job Episodes Panel release (8.0.0), which comprises the latest state of data cleaning, harmonization across waves, and a substantial range of updates and innovations, is used.

To sum up, thanks to the JEP dataset, it is possible to obtain a retrospective panel dataset that reports all the information that an individual could recall during the interview related to the significant events of their life, such as education, job, marital status, housing, and residence.

There are several advantages related to the use of this kind of panel. First, the survey is done across different European countries, but the methodology is standardized to reduce concerns due to differences in information collection among other countries. Second, using these life-course data allows us to look at many waves of immigration. Third, we have complete life-course trajectories observed across different countries, which will enable us to carry out trajectory analysis with long time series on each individual. Finally, a unique attribute of life-history data is that they cover periods of an individual's life when they can change the household composition, marriage, and job situation, so we can analyze how this change happens in different states. In particular, this means that we can observe individuals before and after their migration, and, given enough observation, we can exploit this variation with different kinds of empirical methods (i.e., before/after, first difference estimation, and similar).

We focus our analysis on Austria, Belgium, France, and the Netherlands. For the respondents in the other countries, the data do not reflect the actual amount of immigrants. For example, immigrant SHARE respondents in Italy are about 0,82%, while the real presence of non-natives is around 8,3%. Moreover, we look at the people who reported living in those countries starting from right after

World War II (1945), when the migration flows began, to 2008, i.e., the most recent year for which information is available for all respondents (from both Wave 3 and Wave 7 of the survey).

An essential aspect of our retrospective panel dataset is related to the potential bias of the resulting sample. The fact that data on the entire trajectory is collected at a single point in time may include only certain types of respondents likely to participate in the retrospective data collection, such as those who live long enough or permanently reside in a country where the survey is done.

This problem is more relevant in older ages since differential mortality within older cohorts or differential in the return migration within each migration's wave are likely to correlate with some of the analyzed trajectories. Such biases are hard to control, so we are not able to have a sample that is representative of the population in each country each year. Nevertheless, in our research, we can go by a wave-based comparison of immigrants in the same wave but in different countries.

1.2 Waves of migration in Europe

1.2.1 First wave: refugees after WWII

As anticipated, the end of World War II resulted in the most significant population changes in the annals of European history. Numerous Germans from eastern Europe either fled or were driven out. Thousands of Jews escaped the Nazis' atrocities and sought safety outside their home countries. Also rushing to flee the new Communist regimes were other refugees from every nation in eastern Europe.

A sizeable portion of the German people in Prussia fled to the west even before the war was over. German-owned farms and homes in Poland were returned to the native population. Germans were detained in camps before being expelled from the nation by Polish militias. In Czechoslovakia, more than two million Germans were driven out, and their belongings were seized. At its peak in July 1946, the border received about 14 individuals per day. The majority of the remaining funds went to the Soviet region, with around three-quarters going to the American occupation zone in Germany (Marrus M., 1985).

In Romania, thousands of Germans and more from Transylvania were forced to pack their belongings to return to their homeland. By 1950, the German population was less than half respect to before the war. Five hundred thousand Germans in Yugoslavia escaped, were removed, or forced

into labor camps by the Communist regimes. Around less than 30 thousand Germans were sent to labor camps.

More than one hundred thousand Jews infiltrated Germany and Austria's occupation zones. Jews who survived Nazis camps and went back to their homes discovered that they were genuinely not welcome. New tenants had moved into their homes and were typically reluctant to leave the lands.

In the first few months of the quiet, other nomads were also traveling. Almost two million were forced to leave the areas that the Soviet Union had annexed from Poland. From Poland to URSSR, more than half a million Belarus and Ukraine individuals were moved. While at least the same number of individuals were trying to escape from all the countries near the Soviet Union, looking for a way to get to America (Harding J., 2000).

1.2.2 Second wave: from the 1950s to 1975

North-Western Europe's economy was growing at the end of World War II. For instance, between 1953 and 1958, industrial production increased by 30%. (Dietz and Kaczmarczyk, 2008). As local employees in this area gained more education and social mobility, they could advance to white-collar jobs in more significant numbers (Boyle et al., 1998). However, local workers were unable to fill the positions due to a labor shortage. Additionally, the native people of the area were unwilling to accept hazardous, unpleasant, and low-paying work in industries like mining, agriculture, cleaning, and construction. Governments in North-Western Europe consequently began to employ workers from neighboring nations. Initially, it was anticipated that after a period of employment, the recruited foreign workers would return to their native nation; they were given little rights and little to no access to welfare assistance (Boyle et al., 1998). By the end of this time, the Mediterranean countries accounted for most of the immigrants in North-Western Europe.

Geographical proximity was a significant factor in the early development of particular migrant movements. A migratory system existed whereby laborers were sent from peripheral nations, primarily Southern European ones, to nations in North-Western Europe. For instance, Sweden, the UK, Ireland, and Switzerland all hired labor from Finland. Internationally and domestically, variations in economic development between regions with pre-industrial agrarian and rural economies and those with highly industrialized economies had a significant impact on migration movements (Bade, 2003; Barou, 2006).

Many migrant workers came from underdeveloped agricultural areas where there was a lack of employment in their own countries, such as Northern Portugal, Western Spain, Southern Italy, and Northern Greece (Bade, 2003). Nevertheless, European governments steadily increased the number of countries outside of Europe where they recruited. One of the main causes was the Cold War's split of Europe, which severely restricted labor mobility between the East and West. For instance, there was a substantial influx of laborers from Greece, Italy, Spain, and East Germany into West Germany. Nevertheless, the immigration flow was interrupted when the Berlin Wall was built in 1961.

West Germany changed its recruitment strategy to focus on other regions as a result. The earliest bilateral agreements were with Turkey in 1961, followed by those with Morocco in 1963, Portugal in 1964, Tunisia in 1965, and Yugoslavia in 1968. Also signing international migration treaties in the 1960s were other destination nations such as Belgium, the Netherlands, France, and Switzerland.

Significant migrant flows toward the (former) colonial powers of Europe were made possible by the decolonization process. In the 1970s, a sizable population of people from the colonies immigrated to Belgium, France, the Netherlands, the United Kingdom, and Portugal. Evidence suggests that between 1940 and 1975, 7 million Europeans returned from the colonies; the main migration flows were to the UK from Kenya, India, and Malaysia; France and Italy from Northern Africa; Belgium from Congo; and the Netherlands from Indonesia. In particular, many of these (return) migrants were legally regarded as citizens (Bade, 2003). One such group of immigrants came from the newly formed Commonwealth. Others came during or after independence, such as the Algerians who served as auxiliaries in the French colonial forces in France and a sizeable portion of the Surinamese in the Netherlands (Page Moch, 2003).

The Iron Curtain ultimately significantly restricted East-West travel. However, it did not result in a total cessation of the East-West movement (Fassmann & Münz, 1994). Even though European immigrants returning from the colonies were frequently quick to integrate into the mother country, the process was much more difficult for immigrants of non-European origin, who were frequently subjected to discrimination and experienced severe economic and social disadvantages (Bade, 2003).

According to Dietz (2006) and Münz and Ulrich (1998), most people who immigrated after the Iron Curtain fell were primarily from the former Soviet Union. However, there were periodically larger influxes of Eastern Europeans after political crises and catastrophes, such as from Poland (1980–

1981), Czechoslovakia (1968–1969), and Hungary (1956–1957) (Castles et al. 2014; Fassmann and Münz, 1992). Whatever the reasons for people's migration to the west, in this case, they were regarded as political refugees in accordance with Cold War logic (Fassmann & Münz, 1994).

1.2.3 Third wave: from 1975 to 1990

The 1973 oil crisis significantly impacted the economies of the European nations. The problem prompted financial reorganization, significantly reducing worker demand (Boyle, Halfacree & Robinson, 1998). The belief in unchecked economic expansion waned during this time. As a result, in 1970 and 1972, Switzerland and Sweden were the first nations to enact a migrant halt. Germany in 1973, the Benelux, and France in 1974 were the next nations. Nevertheless, rather than halting migration, regulations meant to regulate and lessen it changed it.

The number of foreign citizens keeps increasing as a result of a shift in the migration scenario in Europe from circular to chain migration and the concomitant natural increase of migrant populations. As a result of labor recruitment techniques, immigrants from non-European motherlands increasingly made permanent settlements. They ran a severe risk of losing their residency status by frequently returning to their native country. As a result, many migrants relocated their families to the host nation. Governments first tried to restrict family migration, but they ultimately had little effect (Castles et al., 2014; Hansen, 2003).

During this time, the makeup of the resident migrant population also changed. While there were more European migrants during the first period, the percentage of non-European migrants significantly increased during the second. For instance, in Sweden, in 1999, 40% of those born abroad were non-Europeans, up from just 7.6% in 1970. (Goldscheider et al., 2008). This state was a reflection of the ongoing immigration and population expansion in these areas. However, given the rising standard of living and work opportunities in Southern Europe, it was also a result of a greater amount of return migration among residents of that region (Barou, 2006).

Due to high fertility and unemployment rates, population pressure persisted in nations on the other side of the Mediterranean. Greek, Italian, Portuguese, Spanish, and Yugoslavian foreigners in Europe fell at this time (except for Switzerland, where Portuguese and Yugoslavian individuals increased in number), and a significant rise in Turks and North Africans was seen throughout Europe (Bade, 2003).

Migration became a hot topic in national political and public debates after migration stopped as governments began to progressively limit foreign entry (Bonifazi, 2008). Because of the economic crisis, rising unemployment rates encouraged prejudice, xenophobia, and racism against some "visible" groups of resident immigrants. Indeed, there have been numerous violent and nasty antiforeigner occurrences in Europe. However, many realized that immigrants were there to stay during this time. As a result, the necessity for appropriate integration policies was evident, and these policies progressively began to spread (Doomernik & Bruquetas, 2016).

Another result of the limits on foreigners' entrance to North-Western Europe. In fact, since the middle of the 1980s, migrant flows have been steadily shifting toward Southern Europe. For instance, Greece, Italy, Portugal, and Spain have historically been emigration hotspots. As a result, the nations lacked sophisticated immigration laws and entry control procedures. Additionally, those nations were experiencing both economic expansion and declining birth rates, which led to a labor shortage. The available employment was frequently offered with no rules or agreements, had poor working conditions, and was paid minimal pay, making them unattractive to locals. As a result, non-European immigrants, particularly those from North Africa, Latin America, Asia, and Eastern Europe, began to find Southern Europe to be a desirable location (Castles et al., 2014).

1.2.4 Forth wave: from the 1990s to 2008

At the beginning of 1990, there were major shifts and increased variety in the migratory patterns away from and toward European nations. New migrant flows were brought about across Europe by the fall of the Soviet Union and the opening of Eastern Europe's borders. New waves of asylum seekers entered Western Europe due to the end of the Cold War and the wars in the former Yugoslavia. Particularly, the number of asylum petitions more than doubled between 1989 and 1992 before falling to less than 500 thousand by the end of the decade (Hansen, 2003). But in 2001, there was a corresponding equal return of individuals. Yugoslavia, Romania, Turkey, Iraq, and Afghanistan were the top five countries of origin during this time (Mügge & Van der Haar, 2016). Asylum petitions increased over the first ten years of the twenty-first century as entrance limitations, and the frequency of violent conflicts increased. Instead, refugee applications in the EU-15 fell by half between 2002 and 2006. But starting in 2006, the crises in Afghanistan, Iraq, and, most recently, the Arab Spring led to an increase in asylum requests. By 2010, the EU-25, combined with Norway and Switzerland, received approximately 6% of migrants to European countries came from humanitarian migration (Castles et al., 2014).

The removal of borders under the 1992 Maastricht Treaty significantly facilitated intra-EU migration. As the European market came together, tight border restrictions and visa requirements were put in place, gradually restricting EU access. These restrictions on foreigners entering coincided with a rise in irregular migration (Bade, 2003; Bonifazi, 2008; Castles et al., 2014). In the end, the nations of origin of migrants and their motives for migrating changed more and more.

The last aspect that distinguishes this migrant wave is intra-European mobility, which is frequently seen positively and helps the EU remain competitive. Additionally, as they can travel freely inside the EU without a visa, European individuals may encounter fewer institutional obstacles in their migration trajectories. Contrarily, immigration into the EU continues to be principally tied to operational access restriction and border control measures. Thus, in recent decades, European immigration policy has reflected "various overlapping mobility regimes that legitimize the movements of some passengers while criminalizing and entangling the endeavors of others" (Glick Schiller & Salazar, 2013).

1.3 Retrospective panel

Both wave 3 and wave 7 of SHARE data are released as an individual-level dataset organizing sequences of life events in a flat-file format (Stuck et al., 2010; Malter, Schuller, and Börsch-Supan, 2018). However, the Job Episode Panel organized the information about their life available in waves 3 and 7 into a retrospective panel, where each respondent contributes as many observations as there are years of age from birth to the age at which they are observed at the moment of the interview. The main focus of the retrospective panel is the jobs done by an individual during his life so we can identify information about employment, type of jobs and industry, the situation of the individual between different job episodes, and the year of retirement. Moreover, we can attach to each individual-year observation the country of residence, the presence of partner/spouse, and the number of children (Brugiavini et al., 2019).

The starting point is the 91,026 individuals who have participated in SHARELIFE (wave 3 or 7). Using the year of birth and year of the interview, we determine for each respondent the age at the time of the interview. In the next step, we expand the dataset to have each individual contributing to as many observations as the years from birth to the age at the time of the interview. The base dataset obtained contains over 6 million individual-year observations. Table 1 reports the distribution of individual and individual-year observations by country of interview.

Country	Number of individuals	N. of person-year observations
Austria	3,722	258,703
Germany	4,902	326,451
Sweden	4,091	284,913
Netherlands	2,258	148,848
Spain	5,702	395,682
Italy	5,529	369,415
France	4,686	315,451
Denmark	4,105	266,062
Greece	4,252	280,749
Switzerland	2,972	200,956
Belgium	6,200	411,025
Israel	2,131	150,830
Czech Republic	5,115	348,781
Poland	5,499	353,903
Ireland	855	57,009
Luxembourg	1,254	83,508
Hungary	1,538	106,180
Portugal	508	34,724
Slovenia	3,692	255,422
Estonia	5,117	356,127
Croatia	2,407	159,908
Lithuania	2,032	134,562
Bulgaria	2,002	132,991
Cyprus	1,233	85,081
Finland	2,007	132,795
Latvia	1,754	116,932
Malta	1,260	84,246
Romania	2,112	137,727
Slovakia	2,064	127,326
Total	90,999	6,116,307

Table 1. Number of individuals and number of person-year observations by wave and country

To reconstruct the migration movement of the individual, we can use the information they reported concerning all the changes in accommodation they had throughout their lives since they established their own household after living in their parental home. We checked the reported residence in each individual-year record with the country of birth for the individual in order to know when and where our observations were immigrants or natives. If they lived in a different country for some time, they were asked to report their respective country of residence. Respondents in wave 3 could answer with the name of a country from a list that includes all SHARE countries, UK, USA, Russia, Finland, Norway, Slovakia, Russia, and two broader categories: "other European country" or "other non-European country." SHARE wave 7 incorporates a "country-coder," i.e., a built-in program that

recognizes text strings and codes them into a country name. This means respondents could answer virtually any country, including those that do not exist anymore (Brugiavini et al., 2019).

1.4 Data

In order to make a preliminary comparison between immigrants and natives among different European countries, we choose a small set from all the countries present in the JEP. We selected Belgium, France, and the Netherlands because they have experienced most of the migration wave we described before and have a higher percentage of immigrants represented by ours. While we selected Austria since even if it experienced part of the refugee emigration after the second world war, it was still a relevant center of immigration in the subsequent waves. We excluded Germany because additional consideration about the definition of immigrants in this country is difficult to be done; for instance, when we treat people born in East Germany as immigrants in West Germany, should we define them as immigrants, and after the unification, should they be classified as natives or not? In addition, most respondents have reported Germany as the country of birth and not the pre-union country, so it is impossible to correctly identify internal immigrants among East and West Germany. Finally, we did not choose additional countries because they were not hosting countries in the various migration waves, or the proportion of immigrants captured by our sample is really small⁵.

We look at all respondents that were residents in these countries from 1945 to 2008, and we identify which are natives and which are immigrants, distinguishing them with respect to the migration wave as defined in section 1.2. In order to assess at which wave an individual belongs, we look for the year in which they are reported as an immigrant. However, if there were multiple accommodations in different countries during their life, we replace the attributed migration wave according to the new year of migration for the new residents.

In figure 1, we show the percentage of immigrants in each country for each year, while the vertical line defines the various period of each migration wave. Just with this graph, we are able to see some characteristics of the different migration waves that are heterogeneous among the four countries. In the first period, the percentage of immigrants in Austria decrease from around 7% to 5% due to the movement of refugees. Differently, for France, we find a higher increase in the percentage of

⁵ In the appendix, we show the percentage of immigrants by year for other countries present in the SHARE.

immigrants of about one percentage point in the first wave of migrations, up to a further increase of up to 12 and 13 percent in the following waves. Finally, observing both Belgium and Netherlands, we see they seem to have a higher increase (from 2 to 7 percent in Belgium and from 6 to 9 percent in the Netherlands) during the first two migration waves, which is in line with the guest worker schemes that have characterized the migration from southern European countries to the north-west one.



Figure 1. Percentage of immigrants

In the following table 2, we show the number of individual-year observations for each country with respect to their migration wave and natives. As expected, the number of observations in the last migration wave is small because it includes just the elderly immigrants that were selected in the SHARE sample. Mirroring the result that is also visible in the graph, France's second wave of migration is the most massive (it presents 10,410 immigrants in the first wave and 15,469 in the second one). On the contrary, in Austria, Belgium, and the Netherlands, it is the first wave of flows to be more abundant with respect to the following waves.

country of residence	Immigration wave						
	Native	1	2	3	4	Total	
Austria	196131	9183	4369	1326	587	211596	
Belgium	321536	11473	9925	1485	692	345111	
France	235724	10410	15469	2608	590	264801	
Netherlands	124913	8296	2932	742	205	137088	
Total	1099534	42045	35765	718	2319	1186843	

Table 2: Number of individuals-year observations by immigration wave and country

An additional descriptive statistic that highlights an unexpected difference with respect to the standard composition of immigrants is the proportion between male and female individuals. In table 3, we can see that our sample tends to have a higher fraction of females in the first waves than in the last one, especially in Austria, where the percentage of female immigrants is 65% in the first year's flow and 41% in the last flow. These results can be due to two sources: first, the survival rates are different with respect to gender characteristics; second, studies on return migration have shown that women are often more reluctant than men to settle back in their country of origin (Bocker & Gehring, 2015). However, in Belgium, France, and the Netherlands, the number of female immigrants is higher than the number of male immigrants for all the waves; the only exception is the last wave in the Netherlands, where the percentage of the two groups is the same and equal to 50%.

			AU		
	W1	W2	W3	W4	Native
Female	65%	74%	64%	41%	58%
			BEL		
	W1	W2	W3	W4	Native
Female	55%	52%	60%	56%	55%
			FR		
	W1	W2	W3	W4	Native
Female	62%	54%	65%	60%	58%
			NLD		
	W1	W2	W3	W4	Native
Female	55%	51%	49%	50%	54%

Table 3. Gender proportion by waves and countries

Lastly, we show the pattern of age in our sample, including here just the comparison between immigrants and natives for each country. Figure 2 does not show an unexpected situation; at the

beginning of the pattern there is a slightly higher age for immigrants than natives in Austria, Belgium, and France, while they almost overlap in the second part. These can be attributed to the fraction composition among migration waves; Individuals who immigrated in the first two waves were, at the youngest, children, while for natives, we have observations that were born during those years. Later the new waves of migration include individuals that are younger than natives and therefore reduce the previous age difference. In the Appendix, we provide an additional graph that decomposes the pattern of the immigrants with respect to their migration wave.



Figure 2. Age by year for native and immigrants

1.5 Comparing statistics

One of the differences between immigrants and natives studied in the literature is fertility (Alho, 2008; Beine et al., 2013). As a simple proxy for fertility, we look for the number of children and plot the pattern of the average number of children by age for natives and immigrants. Figure 3 shows that in Austria, the natives seem to have higher fertility than the immigrants for all cohorts interviewed. In contrast, in the other three countries, we see the opposite, being the immigrants those with the highest number of children on average. However, it is interesting to notice that the fertility of immigrants seems to surpass the ones of natives by the late thirties. As before, in the Appendix, we provide additional graphs that decompose the pattern of the immigrants with respect to their migration wave and focus on year instead of age to show the pattern of fertility among immigrants.





We show in the following tables the country of origin represented in our sample, reporting here the top 10 within the waves of each migration⁶. We are able to find in each wave the predictable countries of origin with respect to the characteristics of the various migration waves. For instance, Belgium has a high percentage of immigrants from Italy and Germany in the first wave (about 22% and 25% respectively) and also in the second wave as regards Italy (about 23%); in the second wave, moreover, Belgium also has a high percentage of immigrants from the Congo (about 22%). In France, during the first wave, the largest influxes came from Algeria (about 14%), Germany (about 11%), and Italy (about 15%). From the second wave onwards, instead, the highest migrations came from their colonies: Algeria (about 27% of immigrants in the second wave) and Morocco (about 19% of immigrants in the fourth wave). Looking at the Netherlands, it can be seen that in all migration waves, the largest flows came mainly from their colonies: 34% from Indonesia in the first wave, 27 and 14% from Indonesia and Suriname in the second wave, 11% from "Indonesia and 14% from Suriname in the third wave, while in the fourth wave the highest percentages of immigrants come from Bosnia and Herzegovina (about 19%), Germany (26%), and Morocco (about 10%). Finally, analyzing the situation in Austria, we perceive the phenomenon of immigration from East European countries or countries subject to the Soviet Union regime. We see that in the first wave most of the flows came from Germany (27%) and the Czech Republic (26%); in the second wave, the influences from Germany are still predominant (23%) and immigration from Serbia (12%), Yugoslavia (12%), and Turkey (13) is growing; in the third wave, again Germany is the country with the highest origin (29%) together with Poland (22-23%); finally, together with Germany (21%), Romania (10%) is the country from which the majority of immigrants come in the fourth wave.

				Austria			
Wave 1		Wave 2		Wave 3		Wave 4	
Country of birth	Percent	Country of birth	Percent	Country of birth	Percent	Country of birth	Percent
Bulgaria	1.95	Croatia	4.50	Bosnia and Herz	2.28	Bosnia and Herz	5.48
Czech Republic	26.37	Czech Republic	3.40	Bulgaria	2.60	Croatia	6.99
Germany	27.23	Germany	23.77	Germany	28.80	Czech Republic	4.92
Hungary	2.03	Hungary	6.35	Hungary	4.72	Germany	21.74
Italy	5.51	Poland	3.62	Poland	22.74	Hungary	4.91
Netherlands	3.77	Romania	2.39	Serbia	7.16	Iran (Islamic Republic of)	6.62
Poland	2.31	Serbia	11.82	Slovenia	5.04	Italy	6.62
Romania	7.03	Slovenia	3.56	Turkey	3.38	Romania	10.21
Slovenia	2.02	Turkey	13.03	Egypt	5.43	Egypt	5.48
Yugoslavia	6.16	Yugoslavia	11.85	USA	2.60	Yugoslavia	8.88

Table 4. Top 10 countries o	f origin by	the migration	wave
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⁶ In the appendix we report the tables with the full country of birth reported by our observation.

Wave 1Wave 2Wave 3Wave 4Country of birthPercentCountry of birthPercentCountry of birthPercentCountry of birthCzech Republic1.09France10.12Germany12.60Algeria6.16France25.46Germany7.18Indonesia4.32Burundi4.42Germany8.76Italy23.21Italy13.22China5.53	cent
Country of birthPercentCountry of birthPercentCountry of birthPercentCountry of birthPercentCountry of birthPercentCzech Republic1.09France10.12Germany12.60Algeria6.16France25.46Germany7.18Indonesia4.32Burundi4.42Germany8.76Italy23.21Italy13.22China5.53	<u>cent</u>
Czech Republic1.09France10.12Germany12.60Algeria6.16France25.46Germany7.18Indonesia4.32Burundi4.42Germany8.76Italy23.21Italy13.22China5.53	
Czech Republic 1.09 France 10.12 Germany 12.60 Algeria 6.16 France 25.46 Germany 7.18 Indonesia 4.32 Burundi 4.42 Germany 8.76 Italy 23.21 Italy 13.22 China 5.53	
France 25.46 Germany 7.18 Indonesia 4.32 Burundi 4.42 Germany 8.76 Italy 23.21 Italy 13.22 China 5.53	
Germany 8.76 Italy 23.21 Italy 13.22 China 5.53	
Italy 21.94 Morocco 4.08 Mauritius 3.36 Germany 4.90	
Luxembourg4.42Netherlands6.65Morocco11.71Morocco5.37	
Netherlands19.10Portugal2.34Poland3.63Poland5.21	
Poland2.36Spain8.34Portugal3.70Russian Federation7.90	
United Kingdom2.69Tunisia1.38Tunisia6.23Spain4.58	
United States of America1.39Turkey2.73Turkey5.48Ukraine3.79	
Congo 5.60 Congo 22.41 UK 5.34 Congo 12.48	8
France	
Wave 1 Wave 2 Wave 3 Wave 4	
Country of birth Percent Country of birth Percent Country of birth Percent Country of birth Percent	ent
Algeria 13.77 Algeria 26.66 Algeria 12.82 Algeria 16.63	
Belgium 8.91 Belgium 1.57 Cameroon 3.68 Germany 3.70	
Germany 10.77 Germany 5.10 Germany 4.53 Italy 6.16	
Italy 14.90 Italy 10.76 Italy 2.97 Morocco 18.89	
Morocco 3.33 Morocco 14.25 Morocco 15.00 Paraguay 3.49	
Poland 3.50 Portugal 10.83 Poland 2.62 Philippines 3.70	
Viet Nam 5.22 Spain 7.58 Portugal 7.32 Switzerland 7.39	
Spain 0.17 United Kingdom 0.90 Tunisia 4.44 Thailand 2.00	
Span 9.17 Onited Kingdom 0.80 Turnsia 4.44 Maland 5.90	
Switzerland 4.64 Switzerland 1.01 Egypt 3.46 Tunisia 5.34	
Iunisia 5.34 Iunisia 7.00 UK 4.30 Congo 6.57	
Netherland	
Wave 1 Wave 2 Wave 3 Wave 4	
Country of birth Percent Country of birth Percent Country of birth Percent Country of birth Percent	cent
Belgium 10.34 Germany 11.68 Algeria 5.14 Algeria 7.83	
Germany 18.28 Hungary 2.68 Germany 8.05 Bosnia and Herz 18.67	
Indonesia 34.14 Indonesia 27.05 Hong Kong 5.14 Bulgaria 5.42	
Ireland 2.02 Morocco 6.16 India 5.48 Cane Verde 6.63	
NID Antilles 2.71 NID Antilles 7.21 Indonesia 11.13 Germany 25.90	
Aruba 2.91 Suriname 14.37 Malaysia 5.31 Morocco 10.34	
Suriname 6.16 Turkey 7.63 Morocco 9.42 NLD Antilles 9.64	
Turkey 3.15 IIK 4.42 South Africa 4.97 South Africa 3.01	
$\frac{1}{1}$	
NLD East-Indies13.84Yugoslavia2.68Turkev15.58UK6.63	

We will look now at the employment trajectory between immigrants and natives. In order to compute the employment rate, we took the average of the working variable of the JEP by age or year in each country. Figure 4 shows the trajectory with respect to the individual's age, while we reported in the appendix the figure with the decomposition by migration wave and years.



Figure 4. Employment rate by age

We can easily see that in France and Belgium there is a constant difference in the employment rate during the working years, where native individuals have a consistently higher employment rate than immigrant individuals, while we do not find a similar pattern for Austria and the Netherlands. At least what is observed is that, in the Netherlands, among individuals aged between 30 and 40 at the time of the interview, natives have a lower employment rate than immigrants. On the contrary, what happens among individuals around the age of 20, is that the natives have an employment rate that is higher than the one of immigrants. We can also look at some characteristics of the job done by our observed individuals, such as the industry and the number of jobs done during their residence in a country until they move or on the day of the interview if they did not move before.

	Austria				
Job industry	Native	Wave 1	Wave 2	Wave 3	Wave 4
Agriculture, hunting, forestry, fishing	10.35	8.08	1.48	0.0	0.25
Mining and quarrying	1.05	2.45	0.0	2.93	0.50
Manufacturing	18.82	18.46	30.78	11.32	15.25
Electricity, gas, and water supply	2.64	3.02	0.33	4.55	0.0
Construction	6.01	7.58	8.45	5.97	2.50
Wholesale and retail trade	11.95	11.06	9.11	9.00	13.00
Hotels and restaurants	3.84	4.95	6.04	7.58	6.00
Transport, storage, and communication	5.33	7.73	0.89	7.79	0.25
Financial intermediation	3.32	5.04	1.48	0.0	0.50
Real estate, renting, and business activity	1.51	1.13	0.49	2.63	4.00
Public administration and defense	7.42	5.86	2.11	3.64	1.75
Education	7.53	3.89	9.73	5.06	1.50
Health and social work	5.26	5.56	9.53	20.83	10.75
Other community	14.88	15.18	19.56	18.71	43.75
Total Obs	103011	4604	3031	989	400
	Belgium				
Job industry	Native	Wave 1	Wave 2	Wave 3	Wave 4
Agriculture, hunting, forestry, fishing	3.82	4.00	1.27	0.0	0.0
Mining and quarrying	1.05	2.21	0.44	1.48	0.26
Manufacturing	19.31	21.52	20.25	16.22	12.07
Electricity, gas, and water supply	1.66	1.73	1.19	0.0	0.0
Construction	5.52	6.72	7.75	8.80	3.94
Wholesale and retail trade	13.16	18.31	10.67	14.95	6.82
Hotels and restaurants	1.87	2.29	4.24	6.79	15.49
Transport, storage, and communication	5.37	2.59	4.34	6.04	5.25
Financial intermediation	4.51	2.34	2.08	4.45	0.0
Real estate, renting, and business activity	0.88	0.43	1.31	1.70	1.57
Public administration and defense	11.82	10.24	10.07	6.68	23.36
Education	12.90	10.11	9.18	8.27	2.62
Health and social work	10.61	8.67	16.43	11.88	13.12
Other community	6.84	8.82	9.24	11.45	15.49
Total Obs	160023	5331	5971	943	381

Table 5. Industry of the job by the migration wave

Fr	ance				
Job industry	Native	Wave 1	Wave 2	Wave 3	Wave 4
Agriculture, hunting, forestry, fishing	9.35	6.31	3.69	4.26	10.60
Mining and quarrying	2.69	5.38	4.19	2.60	0.35
Manufacturing	15.86	18.19	17.94	12.39	11.66
Electricity, gas, and water supply	1.60	2.75	1.08	3.13	0.0
Construction	6.58	8.65	13.55	8.79	17.31
Wholesale and retail trade	13.61	15.32	11.92	11.73	10.95
Hotels and restaurants	1.68	1.03	3.78	2.47	7.42
Transport, storage, and communication	4.82	2.93	5.76	2.40	1.77
Financial intermediation	3.26	5.60	2.55	5.33	0.0
Real estate, renting, and business activity	1.64	2.75	2.07	6.13	4.95
Public administration and defense	11.49	8.37	6.63	2.33	3.89
Education	9.24	5.48	9.54	5.40	1.06
Health and social work	8.53	5.92	6.94	12.52	5.30
Other community	9.37	10.51	10.12	20.12	24.73
Total Obs	120531	5052	9233	1501	283
Neth	erlands				
Job industry	Native	Wave 1	Wave 2	Wave 3	Wave 4
Agriculture, hunting, forestry, fishing	5.39	4.88	2.79	8.05	1.28
Mining and quarrying	0.52	0.48	0.43	0.0	0.0
Manufacturing	12.88	12.94	10.84	18.10	12.82
Electricity, gas, and water supply	2.11	2.01	2.41	0.0	0.0
Construction	7.50	9.24	4.58	0.0	0.0
Wholesale and retail trade	16.62	13.26	15.11	12.93	8.97
Hotels and restaurants	1.35	1.00	2.17	7.18	23.08
Transport, storage, and communication	5.31	6.25	7.49	4.60	3.85
Financial intermediation	4.45	3.19	6.69	0.0	0.0
Real estate, renting, and business activity	0.99	1.92	2.35	0.0	6.41
Public administration and defense	11.58	12.73	10.15	1.44	0.0
Education	9.03	6.85	8.17	7.47	1.28
Health and social work	14.39	11.98	14.61	16.09	23.08
Other community	7.71	11.23	11.70	20.98	19.23
Total Obs	60612	1382	1615	3/18	78
	00012	4302	1012	540	10

Table 5 shows some common differences between immigrants and natives, with respect to the proportion in high-skilled industries. For instance, the Electricity, gas, and water supply or Financial intermediation industry are characterized by jobs requiring higher formal training than the other ones. Although it is difficult to interpret the last two waves given their low number of observations, if we look at the main country of origin reported above, we can see that the majority are developing countries. In the first and second wave of inflows in Austria, most of the immigrants were employed

in Manufacturing (18% and 31%, accordingly), Wholesale and retail trade (11% and 9%, respectively), and Other community (15% and 20%, respectively); in the third wave, employment in Health and social work (21%) increases, remaining an important percentage of workers in the fourth wave (11%), as well as those employed in Wholesale and retail trade (13%) and Manufacturing (15%). Also in Belgium, in the first and second waves of flows, most of the immigrant individuals worked in the Manufacturing (21% and 20%, accordingly) and Wholesale and retail trade (18% and 11%, respectively) sectors; a large percentage were also employed in the sectors of Public administration and defense (10% and 10%, accordingly), and Education (10% and 9%, respectively). Among the immigrants of the second wave, moreover, 16% were employed in the Health and social work sector, a percentage which remains quite high even in the third wave (12%), as well as employees in Manufacturing (16%), and Wholesale and retail trade (15%). Finally, in the last wave, the percentage of immigrants employed in Hotels and restaurants (15%) and Other community (15%) increased. First Wave immigrants in France were mainly employed in the Manufacturing and Wholesale and retail trade sectors (18% and 15%, respectively); immigrant individuals in the second wave, instead, were mostly employed in the Manufacturing and Construction sectors (18% and 14%, accordingly). Differently, third wave immigrants find employment mainly in the Health and social work and Other community sectors (13% and 20%, respectively). Finally, immigrants of the fourth wave of flows were mainly employed in Construction and Other community sectors (17% and 25%, accordingly).

To conclude, let us now look at the situation in the Netherlands: immigrant individuals during the first wave were mainly employed in Manufacturing, Wholesale and retail trade, and Public administration and defense (13% in each sector); second wave individuals were primarily employed in Manufacturing, Wholesale and retail trade, Public administration and defense, and Health and social work (11%, 15%, 10%, and 15%, respectively); for the third-wave immigrants the percentages remain high for workers employed in Manufacturing and Health and social work sectors(18% and 16%, accordingly); while individuals from the latest wave were mainly employed in Hotels and restaurants and Health and social work (23% for both sectors)

1.6 Comparing dynamics

Given the usefulness of the retrospective panel dataset in reconstructing the migration history of individuals over their lifespans, we report some of the immigrants' dynamics in this paragraph. Figure 5 shows the time trend of the average year of residence for immigrants living in different countries. This figure allows us to see better the various migration wave since the new inflow of immigrants gives all the sharp changes in the trend. In particular, we see that for Netherlands and Belgium, the average year of residence during the period of the second migration wave decreased or increased slowly. In France, the trend constantly increased after the second migration wave a more stable trajectory that is just slightly slowing down during the nineties.



Figure 5. Average year of residence

We show in table 6 another interesting comparison among the four European countries. We do not find a real difference in the average age at the first year of migration between male and female individuals among the immigrants of Belgium, France, and the Netherlands, while it is slightly present in Austria. If we look at the average age of the individuals that have moved from the host country during their lifespan, we still do not find large differences with respect to their gender.

		Austria	Balgium	France	Netherlands
		Austria	Deigium	Traffice	Nethenanus
Average age at first year					
	Male	21.6	19.7	20.4	22.0
	Female	19.8	20.1	20.6	22.6
	Obs	(318)	(558)	(775)	(159)
Average age after migrating again					
	Male	38.9	37.6	41.5	38.4
	Female	38.8	38.4	40.9	41.2
	Obs	(90)	(66)	(145)	(41)

Table 6. Average age by country

As a proxy for the stability of the jobs between immigrants and natives, we use the JEP variable "ordjob," which is built by counting the number of complete job episodes reported by a respondent. In this case, we can have a bias when we look at the more recent wave of migration because they are residents in each country for less time than the first waves. However, Table 7 does not show strong evidence for this bias. In Austria and Belgium, the first two waves seem to have experienced a more stable work situation than the more recent immigrants. In contrast, for France and the Netherlands, we have the expected difference among waves, probably due to the shorter time of residence of the new immigrants.

Table 7. Distribution (percentage) of the number of jobs by migration wave

		AU			
N. Job	Native	W1	W2	W3	W4
1	39	39	29	23	27
2	31	34	33	37	30
3	17	15	17	21	28
4+	13	12	21	19	15

	BEL						
	Native	W1	W2	W3	W4		
1	41	30	32	20	20		
2	29	33	27	27	28		
3	16	20	20	26	31		
4+	14	17	21	27	21		

		FR						
	Native	W1	W2	W3	W4			
1	35	33	29	32	29			
2	30	24	27	31	40			
3	18	22	17	21	20			
4+	17	21	27	16	11			
NTL								
	Native	W1	W2	W3	W4			
1	27	19	20	23	33			
2	26	18	26	11	10			
3	20	18	25	21	25			
4+	27	45	29	45	32			

1.7 Conclusion

This chapter has explained some benefits to researchers in the economics of migration of using internationally comparative data drawn from retrospectively collected life histories. We have used the migration waves that affected Europe from the end of the second world war as an exogenous event through which we can cluster the observation in the retrospective panel dataset.

Four historical periods were defined. These different periods are fundamental when researching the migration flows in Europe. They help to frame but also for analyzing the demographic of immigrants. The different periods can help to structure the socio-demographic situations that immigrants experience today. The first period was characterized by the refugee of the second world war, while the second one included the immigrants, and a favorable public opinion towards migration, participating in the bilateral guest worker agreements and movement from colonies. The second period starts from the oil crisis in the early 1970s to the dissolution of the Soviet Union; Lastly, we have the migration from the 1990s to 2008. During this time, there was a higher heterogeneity in terms of countries of origin, destinations, flows, migration motives, and the structure of migrant populations. We have shown some simple comparisons using our sample that are in line with the commonly recognized characteristic of these waves.

We have shown how using retrospective data can enable researchers to do both a static and a dynamic trajectory analysis using panel data longitudinal methods instead of the more classical empirical design that summarizes earlier life experiences and looks for their effect on economic outcomes later in life. With respect to research on migration, we have shown how this type of data can be used to look for the fertility or labour market trajectories or how we can exploit the

reconstructed migration history of individual to look compare observable characteristic among the immigrants of the different countries; although the literature has already analyzed the differences between immigrants and natives in these aspects, we think that there is space to deepen our understanding of the heterogeneity among immigrants that can be linked to historical and cultural differences.

While in this chapter, we are looking to compare the most base statistics and dynamics between immigrants and natives, or among migration waves, in order to show the usability of a retrospective panel dataset in a migration perspective, other types of research with a more robust empirical method could be done with such dataset: assessing the impact of policy change, such as migration law, citizenship laws, and looking for the gender difference in the employment history among immigrants and across European countries can be some of the possible aspects that can be investigated with this kind of dataset.
3.8 Appendix



Figure 1.1. Percentage of immigrants by year and country



Figure 2.1. Age by year for native and immigrants



Figure 3.1. Average Number of children by age for native and immigrants



Figure 3.2 Average Number of children by year for native and immigrants

Austria

Total

Wave 1		Wave 2	
Country of birth	Percent	Country of birth	Percent
Algeria	0.03	Argentina	1.15
Bosnia and Herzegovina	1.92	Bosnia and Herzegovina	1.26
Bulgaria	1.95	Croatia	4.50
China	0.94	Czechoslovakia	2.41
Croatia	0.24	Czech Republic	0.99
Czechoslovakia	11.91	Finland	1.47
Czech Republic	14.46	France	0.83
Denmark	0.86	Palestinian Territory, occupied	1.31
El Salvador	0.98	Germany	23.77
France	1.09	Hungary	6.35
Germany	27.23	India	1.37
Greece	1.04	Italy	1.13
Hungary	2.03	Netherlands	0.43
Italy	5.51	Poland	3.62
Latvia	1.04	Romania	2.39
Netherlands	3.77	Serbia	11.82
Poland	2.31	Slovenia	3.56
Romania	7.03	Sweden	2.12
Serbia	1.01	Turkey	13.03
Slovakia	1.04	Egypt	1.29
Slovenia	2.02	United Kingdom	0.94
Switzerland	1.20	United States of America	2.25
Tajikistan	0.05	Yugoslavia	11.85
Turkey	1.04	Kosovo	0.16
U.S.S.R.	0.02		
United Kingdom	1.01	Total	100.00
Yugoslavia	6.16		
Former Eastern Terr. of German			
Reich	1.06		
Borneo Island	1.04		

Table 4.1 Countries of origin by the migration wave

Wave 3	Wave 4		
Country of birth	Percent	Country of birth	Percent
Bosnia and Herzegovina	2.28	Bosnia and Herzegovina	5.48
Brazil	2.20	Bulgaria	0.57
Bulgaria	2.60	Croatia	6.99
Canada	0.16	Czechoslovakia	0.95
Germany	28.80	Czech Republic	3.97
Greece	1.73	Germany	21.74
Hungary	4.72	Hungary	4.91
Iran (Islamic Republic of)	2.05	Iran (Islamic Republic of)	6.62
Nicaragua	1.57	Italy	6.62
Philippines	2.05	Moldova, Republic of	1.70
Poland	22.74	Romania	10.21
Romania	1.57	Russian Federation	1.89
Serbia	7.16	Switzerland	4.35
Slovenia	5.04	Tunisia	1.13
Turkey	3.38	Turkey	4.73
Egypt	5.43	Ukraine	0.76
United Kingdom	2.05	Egypt	5.48
		Socialist Federal Republic of	
United States of America	2.60	Yugoslavia	8.88
Socialist Federal Republic of			
Yugoslavia	1.89	Chechnya	3.02
Total	100.00	Total	100.00

Table 4.1 Countries of origin by the migration wave

Belgium

Wave 2	Wave 1		
Country of birth	Percent	Country of birth	Percent
Austria	0.49	Africa	0.35
Burundi	0.65	Algeria	0.29
Canada	0.69	Bolivia	0.25
Czech Republic	1.09	Bosnia and Herzegovina	0.39
Denmark	0.16	Burundi	0.34
Ecuador	0.60	Canada	1.09
France	25.46	Costa Rica	0.03
Germany	8.76	Czechoslovakia	0.42
Indonesia	0.54	Czech Republic	0.11
Ireland	0.14	Denmark	0.33
Italy	21.94	France	10.12
Lebanon	0.60	Germany	7.18
Luxembourg	4.42	Greece	0.99
Morocco	0.64	Guadeloupe	0.33
Netherlands	19.10	Hungary	0.56
Peru	0.66	Indonesia	0.69
Poland	2.36	Italy	23.21
Russian Federation	0.02	Korea, Republic of	0.01
South Africa	0.66	Luxembourg	0.44
Ukraine	0.68	Morocco	4.08
Egypt	0.64	Netherlands	6.65
United Kingdom	2.69	Curaçao	0.12
United States of			
America	1.39	Pakistan	0.41
Congo (both)	5.60	Poland	0.42
		Portugal	2.34
Total	100.00	Rwanda	0.63
		Spain	8.34
		Switzerland	0.23
		Tunisia	1.38
		Turkey	2.73
		Egypt	0.53
		United Kingdom	1.38
		United States of America	0.46
		Socialist Federal Republic of	

Table 4.1 Countries of origin by the migration wave

Total

Yugoslavia

Congo (both)

German Spanish

0.39

22.41

0.37

Wave 3		Wave 4	
Country of birth	Percent	Country of birth	Percent
Algeria	1.37	Algeria	6.16
Austria	0.41	Bulgaria	2.21
Brazil	1.85	Burundi	4.42
Bulgaria	1.71	China	5.53
Cambodia	1.99	Colombia	2.69
Cameroon	2.12	Estonia	1.42
Canada	0.82	France	0.63
Colombia	1.64	Georgia	1.58
Democratic Republic of			
Congo	1.58	Germany	4.90
Germany	12.60	Ghana	2.84
Ghana	3.22	India	2.84
		Iran (Islamic Republic	
Indonesia	4.32	of)	2.05
Italy	13.22	Italy	3.79
Luxembourg	3.36	Kazakhstan	2.84
Mauritius	3.36	Lithuania	0.32
Morocco	11.71	Mauritius	3.00
Poland	3.63	Morocco	5.37
Portugal	3.70	Pakistan	1.90
Romania	2.74	Poland	5.21
Serbia	0.34	Romania	0.47
Viet Nam	1.51	Russian Federation	7.90
Spain	1.71	Viet Nam	1.26
Syrian Arab Republic	2.05	Somalia	0.16
Tunisia	6.23	Spain	4.58
Turkey	5.48	Syrian Arab Republic	1.58
United Kingdom	5.34	Тодо	2.84
United States of America	0.34	Tunisia	0.16
Congo (both)	1.64	Turkey	1.42
		Ukraine	3.79
Total	100.00	United Kingdom	0.47
		Congo (both)	12.48
		Kosovo	3.16

Table 4.1 Countries of origin by the migration wave

Total

France

Wave 2 Wave 1 Country of birth Country of birth Percent Percent Algeria 13.77 Algeria 26.66 Austria 2.61 Australia 0.55 Belgium 8.91 Belgium 1.57 Cambodia 0.60 Bosnia and Herzegovina 0.31 Czechoslovakia 0.78 Cambodia 0.28 **Czech Republic** 0.79 Canada 0.66 Denmark 0.26 Cape Verde 0.59 French Guiana Sri Lanka 0.77 0.56 Gabon 0.82 Croatia 0.35 Germany 10.77 Cyprus 0.29 0.08 French Guiana 0.16 Greece Guadeloupe 0.82 French Polynesia 0.39 Indonesia 1.08 Germany 5.10 Italy 14.90 Guinea 0.34 Cote d'Ivoire 0.74 Haiti 0.39 0.75 India 0.36 Lao Madagascar 1.99 Italy 10.76 Martinique 0.73 Japan 0.26 Monaco 1.66 Korea, Republic of 0.25 0.60 Morocco 3.33 Madagascar Netherlands 0.97 Mali 0.38 0.01 Martinique 0.39 Peru Poland Mauritania 0.26 3.50 Portugal 0.81 Morocco 14.25 0.83 Poland 0.28 Reunion Romania 0.01 Portugal 10.83 **Russian Federation** 0.03 Romania 0.39 Senegal Senegal 0.36 0.83 Viet Nam 5.22 Viet Nam 0.59 Spain 9.17 Slovenia 0.37 Switzerland 4.64 Spain 7.58 0.75 Sweden 0.29 Togo Tunisia 5.34 Switzerland 1.01 Tunisia 7.00 Turkey 0.83 Egypt 0.88 Egypt 0.50 United Kingdom 0.80 Total 100.00 United States of America 0.48 Burkina Faso 0.26 0.54 Yugoslavia

Table 4.1 Countries of origin by the migration wave

Congo (both)

Kosovo

Total

0.58

0.36

Wave 3 Wave 4			
Country of birth	Percent	Country of birth	Percent
Algeria	12.82	Algeria	16.63
Brazil	1.02	Cape Verde	2.87
Cambodia	2.57	Chile	3.08
Cameroon	3.68	Colombia	1.03
Canada	0.35	Germany	3.70
Cape Verde	1.02	Guinea	2.67
		Iran (Islamic Republic	
Chile	1.24	of)	1.64
Colombia	1.20	Israel	2.05
Czechoslovakia	0.04	Italy	6.16
Czech Republic	1.11	Japan	0.41
Estonia	0.27	Morocco	18.89
Germany	4.53	Paraguay	3.49
Greece	0.98	Philippines	3.70
Haiti	2.40	Portugal	0.41
Hong Kong	1.42	Romania	2.67
India	0.35	Senegal	2.87
Iran (Islamic Republic of)	1.24	South Africa	0.21
Italy	2.97	Switzerland	7.39
Lao People's Democratic			
Republic	2.71	Thailand	3.90
Lebanon	0.98	Tunisia	5.34
Madagascar	1.15	U.S.S.R.	2.05
Mali	2.40	United Kingdom	2.26
Mauritania	1.29	Congo (both)	6.57
Mauritius	0.18		
Morocco	15.00	Total	100.00
Pakistan	0.93		
Poland	2.62		
Portugal	7.32		
Guinea-Bissau	2.04		
Senegal	0.93		
Viet Nam	2.44		
South Africa	0.44		
Spain	1.42		
Syrian Arab Republic	2.35		
Tunisia	4.44		
Turkey	0.27		
Egypt	3.46		
United Kingdom	4.30		
United States of America	1.91		
Venezuela	0.93		
Congo (both)	1.29		
0- ()	-		
Total	100.00		

Table 4.1 Countries of origin by the migration wave

Netherland

Wave 1		Wave 2	Wave 2		
Country of birth	Percent	Country of birth	Percent		
Austria	1.33	Algeria	0.11		
Belgium	10.34	Austria	0.16		
Denmark	1.92	Belgium	1.42		
Germany	18.28	Czech Republic	1.79		
Indonesia	34.14	Denmark	0.42		
Ireland 2.02		Finland	0.05		
Morocco	0.05	Germany	11.68		
Netherlands Antilles	2.71	Hungary	2.68		
Aruba	2.91	Indonesia	27.05		
Suriname	6.16	Italy	0.05		
Turkey	3.15	Korea, Republic of	0.11		
Ukraine	3.15	Morocco	6.16		
Former Netherlands East-Indies	13.84	Netherlands Antilles	7.21		
		Curaçao	0.79		
Total	100.00	Norway	1.79		
		Philippines	0.16		
		Poland	0.05		
		Serbia	1.84		
		Suriname	14.37		
		Switzerland	1.63		
		Tunisia	1.79		
		Turkey	7.63		
		United Kingdom	4.42		
		Uruguay	3.79		
		Socialist Federal Republic of			
		Yugoslavia	2.68		

Table 4.1 Countries of origin by the migration wave

Congo (both) Total 100.00

Way	/e 3	Wave 4	Ļ
Country of birth	Percent	Country of birth	Percent
Algeria	5.14	Algeria	7.83
Canada	4.11	Bosnia and Herzegovina	18.67
Chile	3.60	Bulgaria	5.42
Germany	8.05	Cape Verde	6.63
Hong Kong	5.14	Germany	25.90
India	5.48	Morocco	10.24
Indonesia	11.13	Netherlands Antilles	9.64
Malaysia	5.31	Norway	1.81
Morocco	9.42	South Africa	3.01
Aruba	1.88	Suriname	3.61
Romania	0.17	Syrian Arab Republic	0.60
South Africa	4.97	United Kingdom	6.63
Suriname	14.21		
Switzerland	4.97	Total	100.00
Turkey	15.58		
United Kingdom	0.86		
Total	100.00		

Table 4.1 Countries of origin by the migration wave



Figure 4.1. Employment rate by age and wave

Chapter 2

Labor Market and Immigrants Naturalization 2.1 Introduction

In this chapter, we investigate if, and to what extent, facing longer waiting periods to apply for citizenship and to complete the process matters for the economic assimilation of migrants in the hosting country. Labor force participation of immigrants is of great relevance for European countries, in light of the huge migration waves experienced over many years, prompted by demographic changes, conflicts, political instability, and poverty around the world (e.g., Dustmann and Fabbri 2003, Peri G. 2016.) European countries have experienced migration waves both within Europe and from outside Europe. Indeed, thanks to the advantage of sharing a common language, countries like Great Britain and France have become preferred destination countries for many people from India and Africa, while more recently, Germany has become the main destination country for migrants from the former Soviet Union countries.

This line of research looks at labor market outcomes, such as employment and wages, and compares the performance of immigrants with the ones of natives: good economic indicators of immigrants are usually associated with "economic assimilation". If, on the one hand, naturalization and becoming a citizen can change the life of immigrants mainly through their labor market position, on the other hand, a more complete and deeper analysis of the economic performance must take into account the "social assimilation" of immigrants. This is when immigrants "feel at home" in the hosting country and when natives and immigrants develop reciprocal trust, common views, and shared values. In light of these considerations, a key policy to foster the assimilation of the immigrant population is granting citizenship. While most developed countries offer the possibility to naturalize, there exist important differences in the requirements regarding the number of years an immigrant has to reside in the hosting country.

The labor market mechanisms and implications of gaining citizenship range from direct effects related to entry requirements to indirect effects which assign a signaling role to the naturalization process and outcome. As for the former, citizenship is typically an eligibility condition for several civil servants' jobs, public sector jobs, or self-employment jobs, while an example of the latter is that employers might be unwilling to offer a job to a foreign employee who is perceived to have lower

commitment to stay in the host country. When applying for naturalization, the immigrant provides a signal to the employer that he/she is a good match. In addition to these domains, an immigrant feels accepted and part of the community in the host country when the access to citizenship is faster (e.g., Steinhardt, 2012; Helgertz et al., 2014). As a result, the acquisition of citizenship is associated with better employment chances, higher earnings, and more prestigious occupational positions (Liebig and von Haaren, 2011).

Over the past fifteen years, a rich empirical literature has developed, using micro-data based on Surveys, Census data, and Population Registers, mainly looking at Europe and North America (e.g., Bratsberg et al., 2002; Fougère and Safi, 2009; Rallu, 2011; Bevelander and Pendakur, 2012). While these studies have unraveled many important patterns in the data, it is hard to document the interaction between changes in the legislation and labor market behavior of immigrants without a detailed and sufficiently long panel of data that considers several countries.

We contribute to the naturalization literature by modeling the impact of a change in the citizenship policy by the host country on the employment probability of the immigrants; in particular, we look for the intention to treat that is characterized by this kind of legislation and we do so by exploiting the exogenous variation in eligibility rules in Europe.

Indeed, we are in a unique position to look in detail at past migration waves that have involved European countries and to assess the medium-run and long-run effects of different citizenship policies. We use the SHARE data (and the retrospective ShareLife survey) along with variation in residency requirements induced by citizenship reforms in Germany and Austria. Traditionally, Germany implemented a restrictive citizenship policy tied to ancestry and ethnic origin, but since 2000, most immigrants can naturalize with a relatively short period of residency. On the other extreme, Austria increased the residency requirements in 1999. The SHARE data allow us to compare the effect of two opposite and almost simultaneous reforms in two countries that are characterized by the same language and similar history and culture.

In order to set up a suitable timeframe, which is crucial to the analysis, we focus on the period between 1990 and 2007. During this time-span Germany and Austria experienced different waves of migrations: first, the migration following the crises of the Soviet Union, then the inflow of immigrants was mainly from the Balkans, and finally, the European immigrant resulting from the European Union enlargement, which included Eastern countries as explained in the first chapter of this thesis. This variety of nationalities and cultures of the immigrant population, coupled with the

same language present in both countries, which however adopted different migration policies, provides a very rich set of helpful information for analyzing the underlying mechanisms of the naturalization process.

The chapter is organized as follows: Section 2.2 describes the citizenship law history both for Austria and Germany and while section 2.3 describe how the economic literature view immigrants and their naturalization. Section 2.4 shows our data. In section 2.5, we present our empirical strategy, and then in section 2.6, we show our findings. The last section 2.7 concludes the chapter with our contribution and final comment.

2.2 The institutional setting in Austria and Germany

Historically (Ludvig 2004), both Germany and Austria have experienced forms of local and federal citizenship with different degrees of coverage; for example, in Austria, the Länder, rather than the federal government, implements federal citizenship laws.

In 1949, The Austrian citizenship law stated the basic rules (which did not change for many years), including the jus sanguinis principle, i.e., the principle that grants citizenship only to people who have Austrian parents, and it did not allow for dual citizenship. However, the 1949 law also treated men and women quite differently. For example, the jus sanguinis principle was applied only, and only children born out of marriage could receive their mother 's nationality. There was also the female privilege where women acquired their Austrian husband 's nationality by simple declaration, while husbands of Austrian wives had to wait for three years before being admitted to citizenship.

After the UN Convention on the Status of Married Women in 1957, the UN Convention on the Reduction of Statelessness in 1961, and the Convention of the Council of Europe on the Reduction of Multiple Nationality in 1963, the Austrian policymakers, in 1965, introduced changes to reduce the cases with statelessness and multiple nationalities.

Around the same time, Austria instituted a program envisaging "guest-workers". The idea was that temporary workers should help reduce labor shortages and eventually return to their home countries in response to changes in the labor market. Although parts of them returned to their country, many "guest-workers" ended up staying longer than originally planned within the program, and families of these workers followed them to Austria as a permanent migration.

This dual legislative scheme created a variety of rules, so efforts to tighten Austrian naturalization requirements gave rise to a law in 1998, designed by a coalition of Conservatives and Social

Democrats, that explicitly established new requirements for the naturalization, such as knowledge of German. Furthermore, the law attempted to restrict the discretion of Länders in the application of the residency-years requirement. The new law brought about a list of reasons, which would go in the direction of shortening a ten-years requirement, but in the end, EU citizens and asylum-seekers could be naturalized after six years of residence, while the other categories were required ten years of residence. Moreover, requirements for knowledge of the German language (and sufficient income) were tightened as well, so that naturalization candidates had to take an exam testing also their knowledge of the Austrian government and history.

The German nationality law implemented until 1999 was dating back to 1913: the rules were general and only specified minimum requirements for obtaining the citizenship. The administrative Act defined naturalization, and appropriate authorities could ask for additional requirements. After the birth of the Federal Republic, the West German Länders had to apply the naturalization law; therefore, they created more detailed guidelines. The North-Rhine Westphalia Länder established the irreversible nature of naturalization in the granting process, and in particular, the authority should aim for single citizenship within any given family and therefore avoid dual citizenship. Naturalization could not occur if there were grounds to suspect that the applicant would endanger German security or fail to support the so-called free democratic order. Naturalization candidates had to be healthy and be able to support themselves and should not have a criminal record. Furthermore, the candidate had to be culturally integrated, which included knowledge of German in its oral and written forms. Finally, there was a minimum residence requirement of fifteen years, which could be reduced under certain circumstances.

In 1977, although there was no change in the naturalization law, (West) Germany adopted federal guidelines, which replaced the earlier Länder guidelines without inducing the administrative practices to be fully harmonized. These guidelines made quite clear that (West) German authorities viewed naturalization as an exceptional Act, still allowing the administrators much discretion.

With German unification in 1990, we saw a liberalizing trend. These arrangements were made permanent in 1993, and the rule for obtaining citizenship was transformed into a right to naturalization. The debate over a more fundamental reform of German nationality law continued throughout the 1990s. In 1999 the federal government, under chancellor Schröder, had planned not only to incorporate the territoriality principle (jus soli) into German nationality law but also to move away from the presumption against dual citizenship. However, the opposition began a campaign

against dual citizenship, gathering more consensus until the federal government lost its majority in the upper house representing the Länder. The government had to review its first legislative proposals to ensure passage in the parliament.

In the end, the law that passed in May 1999 contained a number of significant changes. Children born in Germany automatically acquired German citizenship if at least one of their parents "had legally lived for eight years in Germany and had for three years had an unlimited right to remain" (Nathans, 2004:249). However, by their 24th birthday, they had to choose between their German citizenship and the citizenship of their parents. Furthermore, the grounds for tolerating dual citizenship were expanded. At the same time, the residence requirement for naturalization as of right was lowered from fifteen to eight years. On the other hand, foreigners who wanted to take advantage of this provision had to declare their loyalty to the principles of the constitution and show command of the German language.

These two countries that have, to some extent, similar histories and the same language represent an ideal laboratory to study the impact of naturalization rules on the behavior and labor market participation of immigrants. We can exploit these legislative changes and their implementation since they went in the opposite direction with respect to the assimilation of the immigrants. Although we will mainly focus on the changes in the years of residence required for the citizenship, both reforms, as explained before, embody a broader set of changes that can lead immigrants to identify a country as a lenient or a strict one.

2.3 Naturalization and immigrants

The economic literature on the naturalization process of immigrants consists of two lines of research: a first approach focuses on the immigrant's initial decision to acquire citizenship. In contrast, a second approach investigates the ex-post economic consequences of the naturalization process.

The former looks at the determinants of acquiring citizenship based on socioeconomic characteristics such as education and family composition (Portes & Mozo, 1985) or cultural assimilation (Barkan et al., 1980; Portes & Curtis, 1987), while the latter emphasizes the economic performance of the immigrants. We have the opportunity to carry out a study that borrows from

both approaches, taking into account the characteristics of immigrants based both on the home and host country at the time when the immigrants may decide to apply for citizenship (Yang, 1994). The second approach is focused on the effect that citizenship can have on the performance of the immigrants in the host countries, such as their employment or wages (Euwals et al., 2010; Hainmueller et al., 2019) or the immigrants' political and social integrations (Hainmueller et al. 2015, 2017).

Naturalization policies are selection mechanisms that countries implement in order to govern the transition of individuals from "residents with legal status" to actual citizens. The impact of these policies, and their changes, on immigrants' behavior and opportunities, involves several aspects, including the initial decision to migrate. In this study, we focus our analysis on the requirements to apply for naturalization and its ex-post implications, not on the individuals' decision to migrate or to currently apply for citizenship, which we take as given. Our approach is to look at citizenship as a necessary step for integration in the host country in following the human-capital interpretation (Antje Ellermann, 2020).

Naturalization policies are a selection mechanism that countries implement in order to govern the transition of individuals who are "residents with legal status" to actual citizens. The impact of these policies, and their changes, on immigrants' behavior and opportunities, involves several aspects, including the initial decision to migrate. In this study, we focus our analysis on the requirements to apply for naturalization and its ex-post implications and not on the decision to migrate or to currently apply, which we take as given. Our approach is to look at citizenship as a necessary step for integration into the host country in following the human-capital interpretation (Antje Ellermann, 2020).

The interpretation of citizenship as a human-capital value has increased during the final decades of the twentieth century, and it transformed not only the nature of naturalization but also the strategy of immigrant admissions. With the conception of the individual as the bearer of human capital, states have privileged the admission of highly skilled, highly educated, and wealthy immigrants by allowing them access not only to their territories and labor markets but also to citizenship. On the other hand, foreign workers classified as low-skilled rarely enjoy similar opportunities to achieve naturalization, and they are only given temporary access to labor markets. Basically, from the host country's point of view, citizenship can be used as a signal that differentiates the type of foreign.

Immigrants learn the rules for naturalization and set up their strategy to stay permanently in the host country (or return to their birth country). In this context, we expect that new requirements in the naturalization process affect the labor supply by immigrants. In fact, naturalization involves a minimum income requirement for most countries, which induces immigrants to exert more effort. Also, changes in the rules proxy for the difficulties they would encounter in the integration process in the host country.

2.4 Data and Methodology

For our empirical analysis, we use the Survey of Health Retirement and Ageing in Europe (SHARE), augmented with the SHARELIFE module. The latter collects retrospective information about the lives of SHARE respondents by combining a life-grid Event History Calendar with questions on all their life circumstances dating back to age ten. The methodology allows tracking all the main aspects of the early life of individuals, which then gets directly coded and can be merged with other waves of data on the sample members.

Following the innovations of Blane (2005), respondents are allowed to fill in the grid non-linearly and in whatever order suits them. To take the example of the default order, however, the questions might start with questions about children, i.e., the year of birth of the oldest child, his or her name, gender, and so on. Once the timing of events has been established using the life grid, follow-up questions on those events or further background questions on more general early-life situations and circumstances can be asked.

The SHARELIFE component of SHARE was delivered in 2008 in the thirteen countries that were part of SHARE at that time. A second SHARELIFE wave was carried out in 2016–2017 (wave 7) and was implemented on the refresher samples of the existing countries and on the new SHARE countries to cover 28 countries altogether.

Both wave 3 and wave 7 data are released as an individual-level dataset organizing sequences of life events in a flat-file format (Stuck et al., 2010; Malter, Schuller, and Börsch-Supan, 2018). The Job Episodes Panel (JEP) (Brugiavini et al., 2019) organized the information about working life available into a retrospective panel, where each respondent contributes to as many observations as there are years of age from birth to the age at which they are observed at the moment of the interview. Individual information, migration, and household composition are also included; moreover, the JEP

also incorporates variables describing the jobs and the activities carried out between the various job episodes during the respondent's life.

Using this dataset, we identify a sample for the first generation of immigrants through the comparison between the country of residence each year and the reported country of birth of the respondent. Finally, we focus our analysis on individuals who lived in Austria or Germany between 1990 and 2007. With this time span, we consider immigrants that are affected by the policy change in both countries and not those that are long-term immigrants who were not influenced by it, so we exclude those immigrants that were eligible for citizenship before the nineties. Moreover, during those years, the main migration ways were affected by political and war events (i.e., the Dissolution of the Soviet Union, and Balkan wars).

The following table shows the descriptive statistics of the final sample of immigrants in Austria and Germany, distinguishing between males and females.

		А	ustria			
		Mal	e		Fema	le
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Working	828	0.649	0.478	978	0.638	0.481
Year of residence	337	7.217	4.855	351	7.207	4.973
Age	828	51.762	12.056	978	48.575	12.050
Living with partner	828	0.728	0.445	978	0.778	0.416
Married	828	0.757	0.429	978	0.815	0.389
N. Of children	828	1.681	1.292	978	1.900	1.239

Table 1.

Germany						
		Mal	е		Fema	le
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Working	3602	0.737	0.440	2119	0.666	0.472
Year of residence	2211	7.687	4.863	1541	7.256	4.880
Age	3602	50.265	10.785	2119	47.369	1.112
Living with partner	3602	0.939	0.239	2119	0.860	0.347
Married	3602	0.949	0.220	2119	0.866	0.341
N. Of children	3602	2.078	1.359	2119	1.989	1.233

Table 1 suggests that immigrants to Germany are mostly married people who live with their partners and have, on average, two children (both men and women). In Austria, male and female migrants show significant differences: the proportion of married/with partners in Austria is lower than that of the migrant group in Germany, and the average number of children is less than 2. Finally, female immigrants are, on average, younger than males. No large differences emerge between countries and across genders in the working position and the years of residence.

The following graphs show the pattern of the relevant variables over time: the trend of the fraction of individuals who meet the minimum requirements (years of residence) and those who are eligible for obtaining citizenship. We can see how this fraction increases sharply in the year 2000 for migrants in Germany, who experienced a reduction in years of residence required for citizenship. In Austria, the opposite is true: in 1999, the fraction of immigrants who meet the residency requirements to obtain citizenship was reduced due to the tightening of the rules.



Figure 1. Percentage of eligible immigrants.

The fraction of the employed in Germany is slightly higher than the employed in Austria, but the trend for both groups is the same. In particular, given the characteristics of our sample, we see that the proportion of employed decreases over the years as it increases the exit from the labor market due to individuals reaching retirement age. While Figure 2 shows how the fraction of employed immigrants in Germany and Austria are very similar both in level and in their evolution over time.⁷

⁷ The declining trend is an effect of the aging of the individuals in the sample. Those are individuals that, at the moment of SHARE sampling (2004/2006 for those interviewed in wave 3, a bit later for those interviewed in wave 7), are 50 or over.



Figure 2. Percentage of employed immigrants.

We also report in the following tables the classification of immigrants given their origin. Given the great difference and the reduced numbers of immigrants for each country, we have classified the zone of origin according to the geographical areas. In particular, Austria has a greater number of non-EU immigrants from Balkans countries and the Middle East, while Germany has a greater number of non-EU immigrants from Eastern Europe countries and Turkey; the remaining immigrants were classified as people from countries belonging to the European Union and the residues from other continents countries.

We include in the Balkans: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, Macedonia, Romania, Serbia, and Slovenia, while for the Middle East, we include immigrants from Turkey, Cyprus, Syria, Lebanon, Iraq, Iran, Israel, Egypt, Sudan, Libya, Saudi Arabia, Kuwait, Yemen, Oman. Finally, the East Europe group includes Belarus, Bulgaria, Czechia, Hungary, Moldova, Poland, Romania, Russia, Slovakia, and Ukraine.

AU	STRIA		GE	RMANY	
origin_zone	Freq.	Percent	origin_zone	Freq.	Percent
EU	374	52.68	EU	1,350	45.64
Balkans	137	19.30	East Europe	1,368	46.25
Middle East	118	16.62	Turkey	110	3.72
Other	81	11.40	Others	130	4.39
Total	710	100.00	Total	2,958	100.00

Table 2.

2.5 Empirical Specification

We follow the difference-in-discontinuity design proposed by Grembi, Nannicini, and Troiano (2016). In our case, the assumption that the confounding discontinuity must be time-invariant is satisfied under the conditions that the policy change does not influence the already eligible immigrants. The second assumption requires that there must be no interaction between the treatment and the confounding discontinuity. Since we are not able to have information about when individuals obtain their citizenship, we are not able to test this condition. Moreover, this implies we will estimate the Intention to Treat (ITT) of naturalization rather than the actual treatment effect.

In our setting, accumulated years of residence in a given country is the running variable, and eligibility for naturalization is the treatment, which takes value 1 from the year in which the running variable satisfies the requirement for naturalization (Regression Discontinuity part of the identification strategy). In addition, we create a before/after policy change dummy variable, and we interact it with our treatment variable (Difference in Difference part)⁸.

We can group individuals into 3 groups. Group A is composed of those who have exceeded the number of years of residence required before the reform $(k_0 \leq yres_{it})$. Group B comprises those who have years of residence between the pre- and post-reform thresholds $(k_1 \leq yres_{it} \leq k_0)$. Finally, in group C are those who have not reached the years of residence required by the policy $(k_1 \geq yres_{it})$.

	Table 3.		
Germany	Before	After	
Germany	yres ≥ 15	yres ≥ 8	
Eligible	A	A & B	
Not Eligible	B & C	С	

The following tables show the shifts of these groups before and after the reform:

Austria	Before	After	
Austria	yres ≥ 6	$yres \ge 10$	
Eligible	A & B	A	
Not Eligible	С	B & C	

⁸ In appendix we report the graphs showing the difference in the outcome by eligibility before and after the reform.

The equation to be estimated is then a Fixed Effects Linear Probability Model:

$$Working_{it} = \beta_0 + \beta_1 Elig_{it} + \beta_2 Yres_{it} + \beta_3 Post_t + [\beta_3 Elig_{it} + \beta_4 Yres_{it}] * Post_t + \gamma X_{it} + a_i + \delta Z_t + \varepsilon_{it}$$

The model is estimated separately for Germany and Austria. Where $Working_{it}$ is the dummy variable that indicates the employment status of an individual, $Elig_{it}$ is the treatment dummy, $Post_t$ identifies the years post the reforms in the naturalization requirements, $Yres_{it}$ is the running variable with the years of residence in the host country, while X_{it} is a vector of individual and household characteristics such as marital status, number of children, and living with partner, a_i is the individual fixed effect. Finally, Z_t is a vector that includes the dummy variable used to control for the waves of migration given the specific switch regime and historical events that have characterized the 90s.

2.6 Results

Table 4 shows the estimated results for Germany and Austria. Column (1) reports the model's estimation, which includes only the independent variable and the individual fixed effect. Column (2) consists of the model specification with the addition of the control variables, while (3) shows the results with time fixed effect.

The evidence emerging from column 3 of the following table is that naturalization is associated with higher employment rates, by 6.93% for immigrants in Germany and 1.85% for immigrants in Austria. However, this effect increases in the German case after reducing the years of residence required for naturalization by 2.11%. At the same time, there is no statistically significant difference for the immigrants in Austria. Since we always include the year of residence as a control variable that captures the process of natural assimilation due to living in the host country, we can interpret the impact of eligibility as explained before, namely a signal for employers that immigrants can obtain naturalization.

As expected, the years of residence increase the probability of being employed and is statistically significant in each specification. This can be interpreted as an approximation of the integration and accumulation effects of the immigrants in the host country. So, the main channels through which eligibility may influence the employment probability are the immigrant that gives a sign of his/her commitment to stay in the host country or the immigrant perceives to be more welcome and more inclined to identify with the host country.

	Germany				
VARIABLES	(1)	(2)	(3)		
Eligible	0 0518**	0.0576**	0 0693*		
Ligible	(0.0318)	(0.0225)	(0.0093		
Post rif	0.0248)	(0.0225)	(0.0343)		
103111	(0.0401)	(0.0443)	(0.322)		
Eligible X Post rif	0.0754**	0.0309*	0.0211*		
-	(0.0315)	(0.0172)	(0.0120)		
Year of res	0.0713***	0.0755***	0.0599***		
	(0.0079)	(0.0179)	(0.0217)		
Controls		х	х		
Time FE			Х		
Observations	2,748	2,748	2,748		
R-squared	0.694	0.703	0.718		
	Austria				
	0.0000		0.0405*		
Eligible	0.0922**	0.0764**	0.0185*		
	(0.0407)	(0.0381)	(0.0099)		
Post rif	0.0605	0.0495	0.0488		
	(0.0449)	(0.0419)	(0.451)		
Eligible X Post rif	-0.0355*	-0.0104	-0.0725		
	(0.0180)	(0.0389)	(0.0573)		
Year of res	0.0078**	0.0624**	0.0578*		
	(0.0038)	(0.0259)	(0.0302)		
Controls		x	х		
Time FE			х		
Observations	688	688	688		
R-squared	0.767	0.791	0.796		

Table 4. Employment and Eligibility

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

In order to investigate heterogeneous treatment effects, we run the same regressions, including dummies for the area of origin of the immigrants in Germany specified as follows: EU, East Europe, Turkey, and Others, while for the immigrants in Austria, the area of origin is defined like EU, Balkans, Middle East and Others. In the following table, we report the estimated employment probability by each origin group before and after the policy change; then, we test when this estimated probability is statistically different before and after the reform.

Germany				Austria			
ligibility re-reform	Eligibility post- reform	P-Value T-Test		Eligibility pre-reform	Eligibility post- reform	P-Value T-Test	
.540 (0.094)	.697 (0.102)	0,13	EU	.872 (0.042)	.823 (0.038)	0,15	
.586	.774	<0.01***	Balkans	.803	.768	0,27	
.8047	.896	0,13	Middle East	.7406	.702	0,08*	
(0.074) .567 (0.075)	(0.041) .646	0,14	Other	(0.031) .489 (0.1172)	(0.027) .548 (0.140)	0,39	
	Eligibility re-reform .540 (0.094) .586 (0.046) .8047 (0.074) .567 (0.075)	Eligibility Eligibility re-reform Eligibility .540 .697 (0.094) (0.102) .586 .774 (0.046) (0.055) .8047 .896 (0.074) (0.041) .567 .646 (0.075) (0.066)	Eligibility Eligibility P-Value reform T-Test .540 .697 0,13 (0.094) (0.102) .586 .774 <0.01***	Eligibility re-reform Eligibility post- reform P-Value T-Test .540 .697 0,13 EU (0.094) (0.102) .586 .774 <0.01***	Eligibility re-reform Eligibility post- reform P-Value T-Test Eligibility pre-reform .540 .697 0,13 EU .872 (0.094) (0.102) (0.042) (0.042) .586 .774 <0.01***	Eligibility re-reform Eligibility post- reform P-Value T-Test Eligibility pre-reform Eligibility post- reform .540 .697 0,13 EU .872 .823 (0.094) (0.102) (0.042) (0.038) .586 .774 <0.01***	

Table 5. Predicted probability to be employed by origin

Given the sample size of the respective group, we could not fully assess the relevance of the heterogeneity of the effect among different groups of immigrants. However, for both countries, the reform seems to affect a particular group of immigrants. The East European immigrants in Germany are more likely to be employed after the policy change. In contrast, the policy change negatively affects the Middle East immigrants in Austria.

So far, we have looked at the new policy's impact on the immigrants' probability of being employed; however, we know that obtaining citizenship can take time. We proceed with our analysis looking if there is a significant relation between the eligibility to obtain citizenship and the probability of being employed three years after the minimum requirements are reached. In this way, we can include the group of immigrants who managed to obtain citizenship in the host country since the timing of achieving citizenship for Germany and Austria is, on average, less than three years.

We rewrite our linear probability model as:

$$Working_{it+3} = \beta_0 + \beta_1 Elig_{it} + \beta_2 Yres_{it} + \beta_3 Post_t + [\beta_3 Elig_{it} + \beta_4 Yres_{it}] * Post_t + \gamma X_{it} + a_i + \delta Z_t + \varepsilon_{it}$$

The estimated effects, reported in the following table, not only confirm the previous results but reinforce them. The estimated impact that regime change has on the probability of being employed

is higher for the immigrants in Germany, while for the immigrants in Austria the estimated impact is now negative and always statistically significant in each specification.

	Germany			
VARIABLES	W 3y	W 3y	W 3y	
Eligible	0.201***	0.135***	0.099**	
Post rif	(0.0342) 0.113 (0.0780)	(0.0338) 0.0697 (0.0559)	(0.0472) 0.131 (0.111)	
Eligible X Post rif	0.182***	0.137***	0.115***	
	(0.0322)	(0.0435)	(0.0340)	
Year of res	0.0231***	0.0271***	0.0391***	
	(0.0014)	(0.0074)	(0.0103)	
Controls Time FE		Х	x x	
Observations	2,748	2,748	2,748	
R-squared	0.665	0.677	0.681	
	Austria			
Eligible	0.193**	0.154**	0.160**	
Post rif	(0.0594) 0.165 (0.0971)	(0.0586) 0.0943 (0.0872)	(0.0595) -0.300 (0.185)	
Eligible X Post rif	-0.192***	-0.126***	-0.116**	
	(0.0494)	(0.0484)	(0.0494)	
Year of res	0.0258***	0.0342**	0.0577***	
	(0.0023)	(0.0139)	(0.0186)	
Controls Time FE		X	x x	
Observations	688	688	688	
R-squared	0.767	0.791	0.796	

Table 6. Employment after 3 years and Eligibility

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

2.7 Conclusions

This study investigates the relationship between naturalization and employment probability for immigrants in Germany and Austria. We take advantage of the retrospective panel dataset, which provides detailed and comparable information on immigrants during the 90s, and we apply a difference in discontinuity strategy that allows us to look for the intention to treat of two exogenous variations, with the opposite approach, generated by reforms in naturalization regulations in the two countries.

For Germany, we have seen that changing the years of residence from 10 to 8 required to obtain citizenship had a statistically significant impact on the probability of being employed after the policy change; moreover, this impact increases if we consider the probability of being employed after 3 years from the achievement of the eligibility condition.

On the other hand, in Austria, the tightening of the rules for obtaining citizenship does not seem to have an impact on the relationship between eligibility and the probability of being employed. However, if we look at the impact that eligibility has on the probability of being employed after three years, this is reduced in Austria after the policy change.

Interesting are the results related to the analysis based on the countries of origin of immigrants. As we have seen, the estimated effects seem to play a major role for some migrant groups; however, it is not possible to conclude whether a heterogeneous effect actually exists or whether the result is due to the composition of the sample.

Overall, the analysis suggests that a more liberal citizenship policy boosts the economic integration of immigrants, mainly because immigrants and employers can make different choices in terms of human capital investment and labor supply. In contrast, a stricter citizenship policy may reduce the incentive to be committed in the host country by immigrants and, therefore, negatively affect their labor outcome.

3.8 Appendix



Figure 3.1. Employment rate by Eligibility Before and After policy change.

Chapter 3

Culture and Financial Market Participation: comparing the second generation of migrants from EU countries and East Europe

3.1 Introduction

Researchers have observed a wide variation in economic outcomes across countries and ethnic groups. Is there a role of culture, independent of economic factors and institutions, that can explain part of this diversity of outcomes?

Until the last decade, economists have been reluctant to rely on culture as a possible determinant of economic phenomena, mainly because its definition is so broad and the channels through which it can enter economic debate are so vague and widespread that it is difficult to design testable hypotheses.

However, awareness of cultural factors as possible determinants of economic outcomes has increased considerably. Guiso et al. (2006) define culture as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation"; although there are other ways to define culture, most economists use this definition or others that are very similar. The main point highlighted by this definition is the channel through which it is reasonable to suppose that cultures influence economic phenomena: beliefs and preferences (values).

In this chapter, we look at whether cultural differences influence financial decisions. We focus on the different roles trust, sociability, risk aversion, and time horizon play in financial market participation between natives and immigrants.

So far, this literature has offered three main approaches to measuring culture or analyzing its impact on a broad set of economic outcomes. The most common is survey questions on self-reported preferences and beliefs (e.g., Alesina et al., 2013; Gorodnichenko & Roland, 2017).

The second approach collects experimental evidence on differences in people's behaviors from different countries and ethnicity (e.g., Henrich et al., 2001; PascualEzama et al., 2015). Finally, the

third approach, also known as the epidemiological approach, links second-generation immigrants' outcomes in the same destination country to those observed in their countries of ancestry (e.g., Fernandez and Fogli, 2006, 2009).

The first approach tries to turn around the problem of identifying cultural factors and focuses directly on the channels through which culture could influence economic phenomena. The second one uses the feature of the experimental methodology to infer significant differences in the behaviors of the individual that can be attributed to differences in cultural factors. The epidemiological approach links the behavior of the new generation of migrants, whom all face the host country's common economic and institutional aspects, to the attitudes and behaviors of individuals in the home country of their ancestors. According to this interpretation, if culture is persistent, second-generation immigrants should still possess the values and beliefs of their parent's home country culture.

Since the factors that are reasonably influenced by culture are related to individual behaviors and preferences, the economic phenomena that are affected by it are many, for instance: female labor supply (e.g., Fernandez, 2007; Alesina & Giuliano, 2010; Blau, 2015), male employment (Moriconi & Peri, 2015), fertility (Fernandez & Fogli, 2009), family living arrangements (e.g., Giuliano, 2007; Furtado et al., 2013). Another important aspect is household saving decisions. Until now, evidence on the link between culture and household saving behavior is still weak and contradictory; for instance, Carroll et al. (1999) do not find evidence that differences in saving rates between cultural groups can be attributed to cultural factors. On the contrary, Guin (2017) shows that low- and middle-income households in the German-speaking part of Switzerland are more likely to save with respect to similar households in the French-speaking part. An exciting aspect of this paper is that the researcher used a spatial discontinuity design based on the differences in the main languages spoken in Swiss cities for its identification. The critical assumption of the paper is that linguistic difference may proxy cultural difference that influences the distributions of time preferences across different cultural groups.

The literature focusing on saving decisions, such as financial market participation, has shown that the main channels through which culture can influence this aspect are temporal preferences and risk aversion (Chen, 2013) or trust and sociability (Georgarakos & Pasini, 2011). However, the cultural channels that could potentially matter for the financial market participants may be many and interlinked. In the book "The Psychology of Saving," Warneryd (1999) reviews the economic and psychological literature to identify factors that determine saving behavior, such as thrifty habits,

desire for effective accumulation and improvement, self-control, attitude towards the future, and uncertainty. Since all these aspects highlighted by Warneryd enclose a large part of an individual's preferences and characteristics, these characteristics and elements can be determined by the parent's education of their children. This broad psychological aspect may be another reason to implement an epidemiological approach to identify the relationship between culture and household decisions.

In household consumption or portfolio choice models, household preferences play an important role in various ways. Most of the economic theory of household consumption and saving behavior is based upon the life cycle hypothesis, where household preferences depend on the rate of time preference and the household's rate of risk aversion. For instance, according to the standard two-period Markowitz portfolio model, the choice between holding risky and risk-free assets will depend on the agent's risk aversion parameter. The model of Henderson and Ioannides (1983) extends the previous model, including a role for time preference in household consumption or portfolio choice with respect to the tenure choice in the housing market. In addition to these two main individual preferences, more recent literature has introduced personal beliefs as possible factors determining household consumption and portfolio choice, such as trust in financial intermediaries and institutions (Guiso et al., 2006).

Our analytical framework extends the standard household consumption and portfolio model based on the individuals' preferences and beliefs. We use the information of the second generation of European immigrants to see whether there is a difference in their financial market participation according to our proxy of culture. Moreover, we try to examine how this difference is characterized with respect to individuals' preferences and beliefs, such as trust, sociability, risk aversion, and time horizon. We focus on the difference between the second-generation immigrants from Western European countries and the second-generation from East European countries. The latter's parents were influenced, during the 20th Century, by the communist regime (Tabellini, 2008), and they may have transmitted to their children a different culture that may persist in the second generations.

The remainder of the chapter is organized as follows. Section 3.2 describes the theoretical background for the relationship between culture and institutions; then, we present basic economic models to highlight channels with which culture can affect household saving decisions. Section 3.3 describes the data we use and the choices we made to build our variable of interest. Section 3.4 reports the empirical strategy, and section 3.5 the analysis results. Section 3.6 writes some robustness checks, while Section 3.7 discusses our findings and draws some conclusions.

3.2 Theoretical background

3.2.1 Culture and Institutions

Culture and institutions are simultaneously determined variables that affect each other and many other factors, such as geography, technology, epidemics, wars, and other historical shocks. For this reason, the relation among them is studied differently in the literature. Putnam (1993) took advantage of a natural experiment involving an institutional reform: in the early 1970s, Italy's central government established fifteen new regional governments. Ideally, they should have performed identically throughout the country, but in practice, they have not. The discrepancy was most pronounced between the center-north and the south. Putnam and his colleagues hypothesized that the variance was due to regional differences in levels of cooperation, participation, social interaction, and trust. They argued that these regional differences, dating back at least as far back as the twelfth century, were a function of whether the given region had experienced the institution of free cities.

Free cities developed a form of early participatory democracy, generating a feeling of belonging to a polity whose functioning could guarantee both protection from aggression and the provision of public goods. As a result, citizens of free cities developed a deep sense of civic and cooperative behavior, a cultural trait they transmitted from generation to generation. Subsequent studies have shown strong evidence of this direction for the relationship between culture and institutions, although other research focuses on the inverse relation (Buonanno et al., 2019).

In the spirit of this approach, we tried to see if there is space for artistic effect in households' decisions in Europe, exploiting the influence that the Soviet Union had during the 20th century.

Throughout the Soviet Union year of existence, the culture underwent many stages, moving from relative independence to oppressive control and repression. Art and culture were strictly regulated under the Stalinist system. Only positive, upbeat, and realistic representations of the Soviet man and woman were allowed to be displayed publicly; this is known as "socialist realism." The goal of this style was to mold popular culture into a particular, strictly controlled artistic expression that supported Soviet ideology. In order to demonstrate how much the standard of living had increased as a result of the new regime, they exalted the average worker, whether in the factory or the fields. They did this by portraying their life, work, and leisure as admirable and beautiful. Art was used as a tool to imprint those ideas in all individuals.
The Soviet people benefited from social liberalization during this time, having equivalent education and civic positions for women, free and improved healthcare, and other social benefits. In terms of employment rights and educational eligibility, at least legally speaking, women enjoyed parity with males. The socioeconomic standing of women has generally improved as a result of these initiatives, even though these goals were not actually attained in actuality. Prenatal care was created in the main cities, and in those years, the women in these cities were the first to access this type of care in the country. All these changes have improved the development of the country's economy. Those born during this leader were the first in which the illiterate were the minority of the population. The Soviet Union's leadership launched a full-scale campaign against organized religion from the beginning, and all governments have actively pushed for atheism.

In order to allow us to see a similarity among the countries under socialist influences, we can use the indexes derived from Hofstede's study (1980). He assesses five dimensions of work values: power distance, uncertainty avoidance, individualism, masculinity, and long-term orientation. Together, these five dimensions have substantial face validity, which is empirically demonstrated to be related to many aspects of management and organization.

Similarly, in the theoretical framework of household decisions, we have seen those individual traits that matters are risk aversion, time preferences, and trust. The following analysis will explain a simple theoretical framework that shows how those traits matter. We will look for their impact on the financial market participation between children of those who have experienced the socialist regime and natives or second-generation immigrants from other countries.

3.2.2 Risk aversion and time preference

In the standard economic theory, the household financial market participation is just a way for the individual to solve their Intertemporal choice between consumptions and savings. The basic models used in the modern literature on consumption and saving choices are based on two main assumptions: identical economic agents maximize an intertemporal utility function, defined on the consumption levels in each period of the optimization horizon, subject to the constraint given by the overall available resources. Under uncertainty, the maximization is based on expectations of future relevant variables.

We will look at how risk aversion and time preference matter in the most straightforward theoretical framework to the optimal behavior of a representative agent who lives in an uncertain environment and has rational expectations, that faces an infinite horizon and solves at time *t* an intertemporal choice problem of the following general form:

$$\max_{\{c_{t+i}, i=0,1....\}} U(c_t, c_{t+i}, ...)$$

subject to the constraint:

$$A_{t+i+1} = (1 + r_{t+i})A_{t+i} + y_{t+i} - c_{t+i}$$

Several assumptions are often made to easily derive empirically testable implications from the basic model. The main assumptions are as follows: Intertemporal separability, the adoption of expected utility as the objective function under uncertainty, there exists only one financial asset with a specific and constant rate of return r, and a way of discounting utility in future periods that guarantees intertemporally consistent choices (usually interpreted as individual time preference) $V_{t+k}(c_{t+k}) = \beta^k u(c_{t+k})$

Assuming the utility function (i.e., $u(c_t)$ is an increasing and concave function of consumption), the first-order condition of the previous problem necessary and sufficient to solve the dynamic intertemporal problem. The Euler Equation is:

$$u'(c_t) = \frac{1+r}{\beta} E_t u(c_{t+1})$$

In this simple setting, we immediately find the theory's relevance to the individual time preferences that, together with the rate of return, govern the evolution over time of consumption and saving, and consequentially investment decisions such as participating in the financial market. With simplicity, we can include in this setting the standard constant relative risk aversion (CRRA) utility function that allows seeing the impact that risk aversion has on the intertemporal choice of the individual.

$$u(c_t) = \frac{c_t^{1-\gamma} - 1}{1-\gamma}$$

The Euler equation with this specific utility function is:

$$\left(\frac{c_{t+1}}{c_t}\right)^{\gamma} = \frac{1+r}{\beta}$$

Finally, taking logarithms and using the standard approximations we can express the consumption growth rate as:

$$\Delta \log c_{t+1} = \frac{1}{\gamma} \left(r - \frac{1}{1+\beta} \right)$$

The elasticity of intertemporal substitution, which is the effect of changes in the interest rate on the consumption growth rate, is constant and is measured as the reciprocal of the coefficient of relative risk aversion. From the standard model, we see that those individual traits are directly included in the theoretical model used to look for the household's decision to participate in the financial market.

3.2.3 Trust

Different from the time preference and risk aversion, trust is a concept that only recently attracted the attention of researchers in Economics. We use here the revised portfolio model Georgarakos and Pasini (2011) to illustrate a simple theoretical setting that explains how trust can play a role in the households' saving decision between risky and risk-free asset:

$$\max_{a_i} EU[a_i \tilde{r} W_i + (1 - a_i) r_f W_i]$$

The household has to maximize its utility between two financial assets: a risk-free asset with certain return r_f , and a risky asset with an uncertain return \tilde{r} , that is distributed with mean $E[\tilde{r}] = \bar{r} > r_f$. Finally, a_i is the share allocation of the wealth endowment W_i between the two assets. Exploiting the standard assumptions of the expected utility theory, we have that an individual invests in a risk asset, $a_i > 0$, when:

$$EU[a_i \tilde{r} W_i + (1 - a_i) r_f W_i] \ge U[r_f W_i]$$

With $\tilde{r} - r_f$ we measure the return from holding a risk asset. The risk that the household face can be uncorrelated or not accounted in the \tilde{r} (i.e., exogenous shock that affects financial market intermediaries, institutions etc.). Moreover, the value of a stock investment is related to the strength of the contracts that are signed; if a household is not able to enforce its rights, then the value of the investment is worthless. We can define mistrust as the probability p that an investor assigns to the likelihood of being unable to enforce his rights. In the social capital literature, trust is viewed as community-specific, while the mistrust is defined as common to individuals belonging to the same group. Thus, we assume that individuals of a specific group are bounded to the average level of trust in the community. Thus, we can treat this probability as given, like the standard microeconomic theory treats the prices that a single consumer faces. We can close our setup by including trust as a discount factor that a household uses to define the final value of an investment:

$$(1-p)EU[a_i\tilde{r}W_i + (1-a_i)r_fW_i] + p(1-a_i)U[r_fW_i] \ge U[r_fW_i]$$

In this setting, a lower level of mistrust means that the household discounts less the utility of the risky asset. Again, this model is a specific theoretical example of how the trust trait affects the household's decision to participate in the financial market.

3.2.4 Reduced form model

Since our study is looking for an explanation for the heterogeneity in the household portfolio decision, we may or may not observe the value of the desired level stocks w_i^* for each household *i*, but we know whether households hold a financial product:

$$w:\begin{cases} 1 & w_i^* > 0\\ 0 & w_i^* \le 0 \end{cases}$$

We assume that the desired level of financial assets w_i^* depends on a set of observable socioeconomic characteristics of the household and on a set of unobservable characteristics represented as follows:

$$w_i^* = \beta' X_i + \varepsilon_i$$

Where X_i is the set of observable socio-economic characteristics and where β' is a set of unknown parameters that we want to estimate. Therefore:

$$w:\begin{cases} 1 & \varepsilon_i > -\beta' X_i \\ 0 & \varepsilon_i \le -\beta' X_i \end{cases}$$

And

$$E(w_i|X_i) = \Pr(w_i = 1|X_i) = P(\varepsilon_i > -\beta'X_i)$$

Under the assumption that investment decisions are independent across households, then the conditional probability of stockholding w, given the observable characteristics of the households X_i , is the product of all the conditional probability; thus, ownership probabilities can be studied using standard discrete models. The simplest model for discrete dependent variables is the Linear Probability Model, which leads us to the following regression equation:

$$w_i = \beta' X_i + u_i$$

So far, we have presented only the standard discrete choice model for financial market participation. However, we are interested in determining if this discrete model is subject to heterogeneity given the cultural component. In most literature, the cultural effect on economic outcome is analyzed as a difference in levels. Basically, a proxy for culture is included in the set of observable socioeconomic characteristics as dummy or factor variables. Indeed, this approach can give us the first evidence of the relation between stockholding and culture; however, it is reasonable to expect a more pervasive effect of the culture that can even influence the marginal effect of the other relevant socio-economic characteristics. In this case, what we are trying to look for is the regression equation:

$$w_i = \beta'_k X_i + u_i$$

where β_k ' is a set of unknown parameters that we want to estimate, that can be different with respect to the culture influence (*k*) of the individual. In this way, our regression equation is just the reduced form based on the standard portfolio model presented in the previous section, where we highlighted the roles of risk aversion, time preference, and trust.

3.3. Data

Our data are from the Survey of Health, Ageing, and Retirement in Europe (SHARE). SHARE is a Longitudinal project that collects detailed information on adults aged 50 years and older from 27 European countries, plus Israel. The present study is based on waves 1, 2, 4, 5, and 6. We selected all the countries present in these waves that the Soviet Union did not influence. Therefore, our dataset includes data from Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, Greece, Switzerland, Belgium, Israel, and Luxembourg. Since we are focused on the household decision, we take from SHARE only the information about the financial respondent of each household, namely the individual that is mainly responsible for the financial decision in the house. Finally, we restrict our samples by removing all the individuals that have immigrated (i.e., the first generation of immigrants) in those countries; as known in the literature, the migrants are subject to a strong self-selection process. Table I reports the pattern of individual participation in the panel: about 14% of the individuals were observed for four waves and around 25% for three waves.

Wave 1	Wave 2	Wave 4	Wave 5	Wave 6	Percent.
Х	Х	Х	Х	Х	8.66
Х	Х	Х	Х		4.09
Х	Х	Х			5.27
	Х	Х	Х	Х	4.33
		Х	Х	Х	12.81
			Х	Х	18.36
		Х	Х		9.56
			Х		11.82
				Х	11.73
		others			13.43

Table 1. Individual panel participation

Since our main objective is to identify the cultural component in our observations, we use the reported country of birth of the individual's parents. In this way, we can directly identify the second generation of immigrants (i.e., those born in the country of the interview but with parents born in a different country). For the second generation of immigrants, we also distinguish between those that have both parents with a different country of birth with respect to the country of the interview and those observations that have just one parent with a country of birth different from the country of interview. We cluster individuals according to the country of origin into four groups: natives, migrants from a west European country (EU), migrants from an East European country (EE), and others. We have selected these groups in order to exploit the possible influence of the socialist regime in shaping a strongly different culture in the countries that were under its influence. With the specific proxy we use to identify culture, we have to focus our analysis on European countries that were not under the Soviet union's influence. Moreover, in EE countries, we do not have enough observations of the second generation of immigrants from EU countries.

Table 2 reports the frequencies of the second generation of immigrants in our dataset.

Country	Origin Zone			
identifier	Native	EU	EE	
Austria	7,375	615	349	
Germany	6,654	375	397	
Sweden	7,815	313	33	
Netherlands	5,704	227	9	
Spain	10,664	46	0	
Italy	9 <i>,</i> 68	84	18	
France	8,321	863	57	
Denmark	7,821	250	18	
Greece	1,622	5	45	
Switzerland	5,268	627	6	
Belgium	11,311	912	59	
Israel	466	671	695	
Luxembourg	1,29	291	8	
Household				
Obs.	83,991	5279	1694	

Table 2. Country distributions, by origin

The analysis focuses on households' decisions to participate in the stock market. SHARE asks households who owns mutual funds, stocks, or bond. We use this information as a proxy for the financial market participation of the household. In the baseline regression, we take from the generated variable by SHARE a dummy that is equal to one if the household holds at least one of these financial products.

Given the complexity of the relationship between the cultural components with respect to economic outcomes, the financial participation with specific individual traits, we exploit the rich information present in SHARE to obtain indexes for individuals' preferences and characteristics that are relevant in our frameworks, such as risk aversion, trust, time horizon, and sociability.

We classify a household as risk-averse if the financial respondent has reported an average financial risk or unwillingness to take financial risk. While we set the variable trust equal to one if the financial respondent has reported a level of trust greater than six (i.e., in the survey, the individual are asked to scale from 0 to 10 the statement "most people can be trusted or that you can't be too careful in dealing with people," where 0 means they cannot be too careful and 10 means that most people can be trusted).

As a proxy for time preference, we found in SHARE a variable that measures the time span that an individual uses for planning his/her saving and spending. We set a binary variable equal to one for those individuals that report a time period greater than 5 years so that we can distinguish between patient or impatient individuals. This information is treated in the SHARE survey as a time constant (i.e., they are asked this question only in their first interview). This assumption is in line with the theoretical framework we presented before. Moreover, given the specific range of age of our sample, we can reasonably think that the variation over time of the individual's preferences and beliefs is, at least, less subject to changes due to external factors, such as social environment or shock events. Although our main analysis is based on this assumption, we will control with respect to the age of the individuals and their cohorts.

We include a set of controls that can be viewed as a proxy for the family/social background, such as marital status, number of children, education, and work situation. The variable marital status represents single, married, or widow status, while education distinguishes among those with high school education, college education, or low education. Work situation, instead, identifies employed, self-employed, and retired or unemployed individuals. Finally, we use control variables for wealth, such as income and household net wealth. In the following table 3, we report descriptive statistics of our dataset. Precisely, we highlight the data distribution with respect to the cluster of origins.

Variables	Native		El	EU		EE	
variables	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Fin_active	.2834216	.4506622	.2954306	.4562841	.2633717	.4406115	
Age	67.3054	10.50467	66.2204	9.94426	65.7103	9.66102	
Risk	.7153999	.4512268	.6917778	.4618102	.6462396	.4784693	
Trust	.4633879	.4986608	.4569634	.4981904	.4227331	.4943095	
Time horizon	.4573305	.4981792	.4504505	.4975875	.5305292	.499406	
Social	.7578851	.428366	.8236154	.3811819	.8474149	.3598141	
HIS income	1073.026	1579.681	1098.645	1358.921	1083.033	1312.469	
HIS wealth	1182.023	4082.096	1175.038	4549.471	1147.754	4933.676	
Marital status	.5704401	.7874416	.5775953	.7605833	.5463778	.7606841	
N. of children	2.089	1.438	2.101	1.489	2.258	1.630	

We show in figure 1 the financial market participation of the three different groups of interest with respect to their risk attitude or time horizon (i.e., 1 for risk-averse individuals and for patient ones). In particular, we are interested in the heterogeneity of the differential across groups that is in the following graph⁹.



Figure 1. Financial market participation by risk and time horizon

⁹ In the appendix we include figures based on the other variables.

3.4 Empirical Strategy

To analyze the effect of culture on financial market participation, we use the epidemiological approach. This approach isolates the effect of culture from that of contemporaneous economic conditions and institutional factors by focusing on immigrants living in the same host country and estimates whether their country of origin affects migrants' probability of participating in the financial market in the host country.

The first way to look for the effect of culture is to see if there are differences between the second generation of immigrants and natives. The key assumption of this approach is the concept of vertical transmission (from parents to children) of beliefs and preferences. In this way, we can avoid bias due to unobservable characteristics typical of migrants.

$$Fin_{it} = \beta_1 origin_i * G_i + \delta X_{it} + \varepsilon_{it}$$

We estimate a linear probability model where the outcome variable is the probability of participating in the financial market (i.e., holding stock, mutual funds). In particular, $origin_i$ is the factor variable created by clustering individuals according to the country of origin by their geographical, institutional, and historical proximity, while G_i is a dummy variable that identifies the second generation of immigrants. We use their interaction as the factor variable that identifies the origins of the second generation of immigrants and measure, so that β_1 measures the difference in the probability of participating in the financial market with respect to natives. Finally, X_{it} is a vector of control variables, which also includes our measure for individuals' preferences and characteristics.

As explained in section 3.2, we are looking not only at the difference in the probability of participating in the financial market but also at the difference in the marginal effect of the included individuals' preferences and socio-economic characteristics that are relevant in our framework. For this reason, we add to the baseline regression the interaction term between the vector of control variables and our independent variable.

$$Fin_{it} = \beta_1 origin_i * G_i + \gamma (origin_i * G_i * X_{it}) + \delta X_{it} + \varepsilon_{it}$$

We perform the Chow-Test in order to check if the coefficients in the regression are statistically different based on the three groups. We find evidence of these differences, allowing us to split the dataset based on the proxy of culture that we have defined.

The crucial feature of our analysis is the nature of trust, time preferences, and risk aversion from a time perspective. As explained in the data section, we have assumed that those traits are time-invariant given the age range of our sample; therefore, we cannot use the fixed-effect model for our estimation. Moreover, According to Mundlak (1978), the random effects specification is a misspecified version of the fixed effects model since it ignores the possible correlation between individual effects and regressors. By controlling for this correlation, Mundlak shows that the coefficients of the random effects specification are identical to those of the within estimation unifying in this way both approaches. Our empirical strategy is based on this approach with the aim of relaxing the random-effects estimator's assumption that the observed variables are uncorrelated with the unobserved variables. For completeness, we also compute regression based on the random effect model.

3.5 Results

We first report in table 4 the results of the first step. From our data, we have that the probability of participating in the financial market for the second generation of immigrants from East European countries is slightly lower than for natives. In contrast, this difference seems to not be statistically relevant for the second generation of immigrants from other European countries. Moreover, from this preliminary step, we have obtained relevant estimations for the individual preferences and characteristics we would like to focus on. As expected in the theoretical model, the financial market participants positively correlate with the individual's time horizon, sociability, and reported trust. At the same time, this relation is negative with the individual's risk aversion.

VARIABLES	Pooled OLS	Mundlak
EU	0.0135	0.0118
	(0.0163)	(0.0152)
EE	-0.0150**	-0.0158*
	(0.0073)	(0.0092)
trust	0.0161***	0.0138***
	(0.00405)	(0.00383)
risk	-0.218***	-0.213***
	(0.00521)	(0.00495)
time_hor	0.0643***	0.0581***
	(0.00423)	(0.00398)
social	0.0480***	0.0186***
	(0.00396)	(0.00497)
Chow test	179.98***	186.74***
Observations	73,777	73,777

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Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Individual characteristics, country and waves dummies are all included, while the Mundlak terms included in the regression are the mean for the time varying variable trust, sociability, age, income, wealth and number of children. The p-value of the jointly significant of those term is 0.78.

Since our sample comprises three observation groups, we would like to know if the effects of individuals' preferences and characteristics are equal among these groups. We perform the Chow test in order to assess if the marginal effects of the above variables are different among native, the second generation of immigrants from the EU and EE. With this test, we are looking at whether it is reasonable to pool the data together or split our sample with respect to the individuals' origin. In

the previous table, we reported the statistics of the overall case, which consider the linear model's slopes and intercepts, focusing on risk aversion, time horizon, and trust. From the test results, we can support the claim that for our sample, the three groups have different marginal effects on those variables. In light of this, we proceed with the analysis by splitting our sample.

Table 5 reports the estimation of the Mundlak regressions. We follow the previous model specification and run the regression for the three groups. With respect to the marginal effect of risk aversion, we find a relevant difference between the second generation of immigrants from EE countries with respect to natives and the second generation of immigrants from EU countries. At the same time, there is no difference between the latter two groups. Although we cannot draw a relevant conclusion concerning the marginal effect of trust and time horizon since they are not statically significant for the second generation of immigrants from EE, we find similar and significant effects for the other two groups.

An interesting fact is highlighted by comparing the three groups with respect to some of the control variables. For all three groups, the difference in the financial market participation among the quantiles of wealth is similar. The literature has shown that the financial market participation is usually greater for wealthier households; thus, we included wealth in our specification with respect to the quantile of its distribution in the sample.

The situation is completely different if we look at the quantiles of labor income. The household with the highest income has financial market participation higher than the household with the lowest income. This difference is greater for the second-generation immigrants from EE than for the other two groups. These results can be due to the source of wealth for this type of individual. The wealth accumulation process of previous generations can be a disadvantage for the second generation of immigrants from East Europe, so their primary source of wealth may be labor income; therefore, a higher labor income can be perceived as a higher wealth that they use in the household investment decisions.

Tabl	e 5.
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	Native	EU	EE
VARIABLES	fin active	fin active	fin active
	<u> </u>	<u> </u>	<u> </u>
trust	0.0111***	0.00635	-0.00967
	(0.00380)	(0.0157)	(0.0272)
social	0.0184***	0.0144	-0.00805
	(0.00503)	(0.0217)	(0.0407)
risk	-0.204***	-0.223***	-0.137***
	(0.00490)	(0.0200)	(0.0327)
time hor	0.0501***	0.0569***	0.00717
-	(0.00394)	(0.0163)	(0.0285)
age	0.00578	0.00877	-0.0682**
-	(0.00399)	(0.0168)	(0.0338)
c.age#c.age	6.93e-06	-5.01e-06	0.000617***
	(2.76e-05)	(0.000119)	(0.000233)
High school	0.0333***	0.0570***	0.00499
	(0.00472)	(0.0184)	(0.0322)
College	0.0654***	0.0791***	0.0161
	(0.00538)	(0.0210)	(0.0361)
Employed	-0.0182***	-0.0132	0.0680**
	(0.00500)	(0.0203)	(0.0342)
Self-employed	0.0269***	0.0128	-0.0659
	(0.00810)	(0.0343)	(0.0462)
health	0.000153	-0.0279	-0.0540*
	(0.00435)	(0.0172)	(0.0324)
1.q_income	0.00915**	0.0304	0.0467
	(0.00450)	(0.0227)	(0.0367)
2.q_income	0.0215***	0.0405*	0.0747*
	(0.00522)	(0.0235)	(0.0410)
3.q_income	0.0580***	0.0703***	0.152***
	(0.00620)	(0.0263)	(0.0463)
1.q_wealth	0.0630***	0.0893***	0.0932***
	(0.00493)	(0.0195)	(0.0355)
2.q_wealth	0.0887***	0.106***	0.124***
	(0.00492)	(0.0175)	(0.0332)
3.q_wealth	0.223***	0.228***	0.296***
	(0.00581)	(0.0213)	(0.0410)
Single	0.0117**	-0.0159	0.156***
	(0.00485)	(0.0190)	(0.0362)
Widow	0.00766	0.0364	0.102**
	(0.00509)	(0.0226)	(0.0403)
Observations	73,384	4,531	1,365

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Country and waves dummies are all included.

3.6 Robustness check

One critical element of our empirical strategy is the type of financial market participation analyzed; as explained in section 3.3, we defined this variable as a dummy equal to one when the household hold at least one financial product among stock, bond, and mutual funds. We have therefore considered focusing on each of them separately. In Table 6, we reported the estimated results for each financial product in the three groups. We still have the same difference in the marginal effect of risk aversion in the case of stock holding and mutual funds. However, this difference disappears when we look at holding bonds. If we think of the theoretical meaning of the bonds, i.e., lowest risk asset, we do not find this result so unexpected.

	Native	EU	EE
VARIABLES		Bonds	
trust	0.00151***	-0.00684	0.0108
	(0.00055)	(0.0105)	(0.0206)
social	0.0151***	0.0390**	-0.0376
	(0.00401)	(0.0193)	(0.0315)
risk	-0.0315***	-0.0307**	-0.0314**
	(0.00325)	(0.0128)	(0.0125)
time_hor	0.0210***	0.0279***	0.0234
	(0.00259)	(0.0106)	(0.0207)
		Stocks	
trust	0.00411	0.00639	-0.0149
	(0.00329)	(0.0141)	(0.0221)
social	0.0181***	-0.0124	0.0872**
	(0.00432)	(0.0187)	(0.0383)
risk	-0.153***	-0.170***	-0.0787***
	(0.00451)	(0.0184)	(0.0287)
time_hor	0.0259***	0.0322**	-0.0207
	(0.00337)	(0.0144)	(0.0234)
		Mutual funds	
trust	0.00990***	-0.00129	0.00967
	(0.00327)	(0.0139)	(0.0253)
social	0.0119**	-0.0302	0.00791
	(0.00465)	(0.0224)	(0.0435)
risk	-0.140***	-0.196***	-0.107***
	(0.00437)	(0.0184)	(0.0319)
time_hor	0.0340***	0.0394***	0.00354
	(0.00333)	(0.0143)	(0.0260)

Table 6.

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Individual characteristics, country and waves dummies are all included.

In order to thoroughly assess if the second generation of immigrants from EE has a different risk aversion compared to natives and compared to the second generation of immigrants from the EU, we may look to an alternative investment decision which is homeownership. In household investment decisions, buying a house can be a substitution for riskless investment, and the impact of individual traits on this decision should be different.

We follow the same idea as our previous empirical approach. We assume that the probability of owning a home for an individual is a function of the demographic, socioeconomic, and institutional housing market characteristics:

$$H_{it} = \beta_1 origin_i * G_i + \delta X_{it} + \varepsilon_{it}$$

In the following tables, we report the results for both the steps we presented in section 3.4. We see already from the first baseline regression that there seems not to be a difference in the probability of owning a home with respect to the different origins of the individuals. Moreover, the impact of risk aversion is positive, as we expected, given the less risky nature of investing in house ownership.

Table 7

	Pooled OLS	Mundlak
VARIABLES	own house	own house
EU	-0.0182	-0.0132
	(0.0170)	(0.0151)
EE	-0.0179	-0.0105
	(0.0221)	(0.0197)
trust	0.0120***	0.00958**
	(0.00454)	(0.00407)
social	0.0174***	0.0137***
	(0.00450)	(0.00405)
risk	0.0214***	0.0141***
	(0.00524)	(0.00471)
time_hor	0.0233***	0.0147***
	(0.00463)	(0.00417)
Chow test	1.98	1.74
Observations	73,777	73,777

The Chow test supports the pooling of the data among the three groups.

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Individual characteristics, country and waves dummies are all included.

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In the following tables, we report the regression of the separated sample where any difference among groups disappears.

	Table 8		
	Native	EU	EE
VARIABLES	own house	own house	own house
trust	0.00784**	0.00830	0.0249
	(0.00358)	(0.0150)	(0.0257)
social	0.00803**	0.00950	0.0455
	(0.00388)	(0.0174)	(0.0330)
risk	0.00365*	0.0316	0.0338
	(0.00129)	(0.0270)	(0.0190)
time_hor	0.000639	0.00639	0.0139
	(0.00367)	(0.0147)	(0.0276)
Observations	68,377	4,185	1,215

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1 Individual characteristics, country and waves dummies are all included.

3.7 Conclusions

In this chapter, we have focused on the decision-making process of households in their financial market participation. In particular, we have looked for an explanation for some of the heterogeneity that existed in this economic outcome, which we found can be explained by cultural differences among individuals.

To do this, we focused our analysis on the second generation of individuals, clustering them by their country of origin. The idea is that individuals share the same culture, transmitted by their parents, which shapes part of their preferences and beliefs. We exploited the strong influence that the Soviet Union has played for nearly 70 years to cluster our observations in the second generation of immigrants from East Europe, the European Union, and Natives.

With some simple theoretical models, we have shown how traits such as trust, risk aversion, and time preferences are relevant to the household's investment decisions. Moreover, based on the simple reduced-form model of household portfolio decisions, we predicted that the impact of these traits is different with respect to their culture.

From our findings, we have seen that the main trait that is different among our groups is risk aversion. In particular, for the second generation of immigrants from East European countries, this trait impacts less in their financial market participation than natives or immigrants from countries of the European Union. We also checked if this difference remained when looking for different types of financial products, finding that it still does. On the contrary, it seems to disappear when we look for assets that can be viewed as riskless such as homeownership.

In our study, we were limited to using simple self-reported information that was linkable to the relevant traits expected in the general portfolio model, such as risk aversion, time horizon, and trust. However, although it is still difficult to assess the causal relationship between culture and financial market participation, we think that looking with more detail at the individual traits as the main link between the two can be deeply analyzed in future research.

Using comparable survey data among European countries allows us to treat the individuals' traits under the same empirical framework and compare the investment behavior of specific groups of households. We enrich the relevant literature on household financial decision-making by using an alternative way to look for the link between culture and the financial market. We provide evidence that the heterogeneity in the financial market between immigrants and natives can be driven by the individuals' preferences and beliefs, which are crucial decision processes. Therefore, even if measuring culture can be difficult, focusing on some of the channels it affects household decisions may open more possibilities for future research.

3.8 Appendix



Figure 1. Financial market participation by trust, quintile of income and wealth

0

2 3

1

EU

2

3

0

1

East Europe

0

0 1

2 3

Native

Bibliography

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Estratto per riassunto della tesi di dottorato

L'estratto (max. 1000 battute) deve essere redatto sia in lingua italiana che in lingua inglese e nella lingua straniera eventualmente indicata dal Collegio dei docenti.

L'estratto va firmato e rilegato come ultimo foglio della tesi.

Studente:	Rinaldo Naci	matricola: 956384
Dottorato:	Economia	
Ciclo:	33°	
Titolo della tesi ¹⁰ : Three essays on European immigrants		

Abstract:

Questa tesi è una raccolta di tre saggi focalizzati sugli immigrati europei. Il primo saggio confronta le caratteristiche degli immigrati rispetto alle diverse ondate migratorie in Europa e guarda al confronto con i nativi mentre gli altri due saggi guardano rispettivamente alla performance dell'immigrato nel mercato del lavoro e nel mercato finanziario. In particolare nel primo capitolo, illustriamo il vantaggio di utilizzare le informazioni sulla storia della vita per creare un set di dati che consenta informazioni comparabili tra il ciclo di vita degli immigrati nei diversi paesi ospitanti. Nel secondo capitolo, si analizzano le conseguenze sul mercato del lavoro dei cambiamenti nei requisiti di cittadinanza; usiamo la variazione dei requisiti di residenza introdotta dalle riforme della cittadinanza in Germania e Austria per cercare di misurare l'effetto di questo cambiamento sulla probabilità di essere occupati nei rispettivi paesi. La variazione degli anni di residenza necessari per richiedere la cittadinanza indotta dalle due riforme nazionali sull'immigrazione, da parte dei due paesi, ha direzioni opposte: un approccio più liberale in Germania e uno più severo in Austria. Il terzo capitolo analizza la seconda generazione di immigrati che partecipano al mercato finanziario rispetto al loro paese di origine e gli confronta tra loro e ai nativi. La partecipazione ai mercati finanziari differisce in modo significativo da un paese all'altro e le dimensioni culturali potrebbero essere un potenziale fattore che spieghi tali differenze. Per valutare se questa dimensione conta, abbiamo sfruttato l'influenza che il regime socialista ha avuto sui cittadini dei paesi dell'Europa orientale e che può essere base di differenze culturali rispetto ai nativi e migranti interni l'unione europea.

This dissertation is a collection of three essays focused on European immigrants. The first one compares the characteristics of the immigrants with respect to different migration waves in Europe and looks to a comparison with the natives while the latter two look at the immigrant's performance in the labor market and the financial market, respectively. In particular in the first chapter, we illustrate the advantage of using life history information to create a dataset that allows comparable information among the life cycle of immigrants in different host countries. In the second chapter, we analyze the labor market consequences of changes in the citizenship eligibility requirements; we use variation in residency requirements induced by citizenship reforms in Germany and Austria to look for the intention to treat effect. We can rely on exogenous variation in eligibility rules from national immigration reforms by the two countries with two opposite directions: a more liberal approach in Germany and a stricter one in Austria. The third chapter compares and evaluates the second generation of immigrants participating in the financial market with respect to their country of origin and in comparison, to natives. Financial market participation differs significantly across countries, and the cultural dimensions could be a potential factor for that. In order to assess if this dimension matters, we exploited the influence that the socialist regime has had on the citizen of the East European countries.

Firma dello studente

¹⁰ Il titolo deve essere quello definitivo, uguale a quello che risulta stampato sulla copertina dell'elaborato consegnato. Mod. TD-Lib-09-a