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„The Impact of Immigration on International Trade:
Empirical Evidence from Austria“

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Declaration

The work in this master thesis is based on an empirical research carried out at the Chair for Organization and Personnel of the Department of Business Administration, Faculty of Business, Economics and Statistics, at the University of Vienna (Austria). No part of this thesis has been submitted for any other degree or qualification and it is all my own work unless referenced to the contrary in the text.

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ABSTRACT

Immigrants may expand trade with their home countries mainly through two channels: the preference for the home country products and the transaction cost channel. The first one can have an influence just on the host country imports, while the second channel has an ample effect and can impact exports and imports between these countries. The first mechanism predicts an increase in the host country imports due to the preference of immigrants for consuming home country products. The second channel can be connected with the information and knowledge that the immigrants bring with them about their home markets, and if this information is exploited, could increase trade. We tested both mechanisms using Austrian trade flows data with 68 partners from 2001 to 2011. We made use of a country specific gravity model, which is a gravity model that explains the trade pattern between one country and a group of partner countries. For this study we decided to use this type of model because it suites the purpose of this research focusing on a single county the best.

The results show that between immigration, exports and imports there is a positive link. A 10% increase in foreign born population is associated with 0.8 % increase in exports and 0.5 % increase in imports. This paper report evidence for both transaction cost channel and preference one. To analyze also the mechanism behind the immigrant-trade link we split the immigrant stock in EU and non-EU immigrants. The results show that immigrants from EU have a positive impact on imports, mainly through preference mechanism. The impact that immigrants from non-EU countries have on bilateral trade are really interesting. First, they have a significant and positive impact on Austria's exports. The mechanism behind this link is the additional information brought by the new immigrants about products, about social and political institutions that lead to a decrease in transaction cost. Second, non-EU immigrants have an imports substitution effect.

To our knowledge, this paper is the first empirical analysis to examine the Austrian trade-immigrant link. Thus is the first to announce pro trade effects of immigration on Austria's bilateral trade flows.

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ABBREVIATIONS

CEEC	Central and Eastern European Countries
Cepii	Centre D'Etudes Prospectives et D'Informations Internationales
EU	European Union
FDI	Foreign Direct Investment
FGLS	Feasible Generalized Least Squares
FPO	Freiheitliche Partei Österreichs (Freedom Party of Austria)
GDP	Gross Domestic Product
GLS	Generalized Least Squares
H-O	Heckscher– Ohlin
NTT	New Trade Theory
OECD	Organization for Economic Co-Operation and Development
OLS	Ordinary Least Squares
UK	United Kingdom
UN	The United Nations
US	United State

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CHAPTER 1 INTRODUCTION

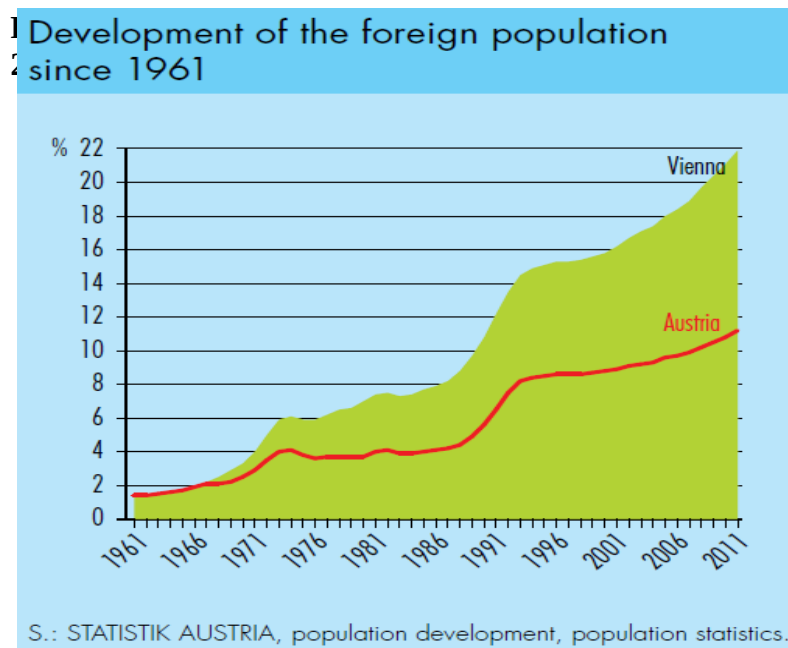
“Immigration...expands the size of the market. It will almost certainly enable many new interactions among workers and firms, so that both native workers and native-owned firms might potentially learn valuable information without paying for it. ...American firms...gain, because they can now use the social and information networks that link immigrants and the source countries to better market their products in foreign markets.”

George J. Borjas, Heaven's Door, 1999, p. 96

The debate if the immigrants have some impact on bilateral trade in their destination countries has economical and political importance. It could be a really helpful concept in the dispute over the immigration policy. Borjas, as we can see from the text above, also distinguishes important crucial ways in which immigrants may have an impact in their receiving country.

1.1 Motivation

Due to the globalization process the world faces a considerable increase in international migration. Just in the last 20 years, all over the world, the number of immigrants rose from 155.5 million to almost 214 million, that's equal to 3% of the world's population (United Nation Statistics). Economic and political instability, wars and conflicts in their home country and the search for a better life are the most common reasons for migration. Taking a look at Austria, it can be seen also from Figure 1, that Austria and especially Vienna has had an increased rate of foreign population (non-Austrian citizens) since 1961, achieving a level of 11.5 % in 2011. The number of foreign population increase to 1,349 million residents, if we take into consideration also immigrants that have achieved Austrian citizenship but are born outside the country. This number represents the equivalent to 16.0% of the population (Migration & Integration: figures data indicators 2012 pp. 22).



Migration from Eastern to Western Europe also increased remarkably, mostly because of the elimination and relaxing restrictions that had limited migration in the past. In consequence, a large number of immigrants from the former communist countries migrated to the Western Europe countries. EU plans to expand the union and this will lead for sure to a prominent level of migration.

S: Migration & Integration: figures data indicators.2012, pp101

Migration represent an important political and sociological issue, mainly because it has numerous economic consequences for both host and home country. Most of the papers that exist in the literature have concentrated on the effect that immigration has on the host country labor markets, but just recently the researchers begun to look at another important consequence of migration: the impact that the immigrant population may have on international trade.

Even if this new topic immigration-trade was studied since the early 1990s, the research literature is still scarce. I could find a couple of researches that have analyzed the link between international migration and international trade, most of them with empirical evidence from U.S, U.K, Australia, and Canada. Regarding Europe there are also a few researches focused on the empirical data from Spain, Italy, Greece, Sweden and Germany.

Several studies exist for Austria that examine the effect of immigration on international trade but all are focused on labor market. Aiginger, Winter-Ebmer, and Zweimüller found evidence for the manufacturing sector looking at a panel of Austrian workers. An increase in the CEEC export/output ratio would lead to a considerably negative influence on unemployment risk and a growing export ratio had a positive effect on wages, raising the wage growth as well.(Aiginger, et al., 1996, p. 496). Using trade flows with industry specific productivity data

Alzinger (1995) found that an increase in exporting to CEEC countries would lead to a positive rise in employment on the Austrian labor market. In another econometric paper, Winter-Ebmer and Zweimüller (1997) found out that the increase in immigration did not lead to an increase in unemployment of the Austrian workers, but the results showed an increased unemployment duration. Pollan (1990) studied the wage impact in Austria, and found that the dispersion of wages in the industry was positively correlated with the large share of foreign workers.

To the best of my knowledge there is no such study focused on the impact of immigration on Austrian's exports and imports. This drives my motivation to conduct such a research as my Master Thesis to improve the existing literature on this specific topic.

1.2 Objective of the study

This master study has the main objective to examine the impact of immigration on international trade dominantly from the host country's perspective, Austria. This study follows other studies on this topic and uses a linear gravity model of imports and exports augmented with the immigrant stock from 68 source countries, as an explanatory variable. The results of this analysis could be important for those who are in charge of formulating immigration policy. The new perspective of looking at the immigrant effect in a country could change the existing long-term immigration policies.

The specific objectives are:

- To test in an empirical way the country specific gravity model (a gravity model which describes international trade of one country with a group of other trade-partner countries) using a panel data for the case of Austria.
- To test the hypothesis that international immigration has a positive impact on both imports and exports of Austria.
- To identify not just the existence of a positive relation between immigration and trade, but to identify also the mechanisms behind this link.
- Using a set of dummy variables to check the robustness of our results and to test if some particular characteristics of partner countries could have some impact on trade.

1.3 Limitation

It is known that the conventional neoclassical trade theory (for example H-O model) predicts a substitution effect between migration and trade. But the empirical evidence, presented also in this paper in the literature review section, show that migration and trade are mostly complementary. Also the simultaneous increase in both migration and trade shows that maybe the traditional trade theory had miscalculated the relationship between immigration and trade. The contradiction between theory and reality had led to some debates between researchers.

This master thesis concentrates on Austria as a receiving country for the immigrants and examines the possible effect that immigrants from Austria may have on trade with immigrant home countries. The selection of the 68 country partners of Austria will also influence the final result. The selection was based on diversity criteria and the number of immigrants. This study doesn't take into consideration a classification of trade products in differentiated or homogeneous goods. This classification seems to be important, since the empirical studies provide evidence that the foreign population may have a greater impact on differentiated goods than for homogeneous ones. Another limitation could be the use of just a subdivision of migrants – stock of immigrants (permanent legal immigrants), that not take into consideration the so called circular migration, migrants that work in a foreign country for a couple of months than return back to their home countries. This could be also important because researchers found out that the impact of immigration on both imports and exports is higher in the first years of staying, than begin slowly to decrease.

1.4 The Outline of the Study

This study is organized as followed. Chapter 1 presents the motivation for choosing this specific topic and presents also the main objectives. Some encountered problems and limitation are also offered. Further this study dedicates a full chapter in presenting a picture of the Austria's immigration process from early 60' till nowadays. It presents a description and explanation of the migration stocks and flows, its trends and shows the most important countries of origin. Actually Austria is a country that seems to be very attractive for

immigrants, receiving relative to her size, more family members, asylum seekers and independent migrants than Germany and Switzerland.

Chapter 3 explains the theoretical foundation on which this study is based. It presents a literature overview of migration and trade theories. The causes and impacts of internal and external migration are diverse. This diversity can be seen in different theories and models of migration and is also reflected in the empirical researches. The literature proposes a variety of models to explain why international migration begins, but all of them use different concepts, assumptions and frameworks. In the second part of this chapter we investigate the literature about international trade that exist till now, from the classical example of absolute advantage to the New Trade Theories. A special attention is given to the relation between trade and migration.

The focus of this thesis is to empirically test the link between immigration and trade with data from Austria. All the theoretical foundations about immigration-trade link are presented in chapter 4. The hypothesis to be tested in the empirical part, is also presented in this chapter.

Next part of this thesis describes the gravity model, its particularity and the data used in the empirical part. We make use of a gravity equation augmented with an immigration stock to test if foreign born population that live in Austria may have some impact on bilateral trade of the country. Chapter 6 provides information about the methodology that we used and argues why exactly we decide for a particular estimation method. Following part introduces the empirical results and their interpretation. In the last Chapter the concluding remarks are presented.

CHAPTER 2 AN OVERVIEW OF AUSTRIAN IMMIGRATION HISTORY AND POLICY

This chapter presents a picture of the Austria's immigration process from early 60' till nowadays. It presents a description and explanation of the migration stocks and flows, its trends and shows the most important countries of origin. Actually Austria is a country that seems to be very attractive for the migrants, receiving more family members, asylum seekers and independent migrants than Germany and Switzerland, of course not in absolute numbers but relative to her size. It takes also in consideration the actual and past policies on migration and tells something about naturalization rates.

2.1 Immigration: Structure and Trends

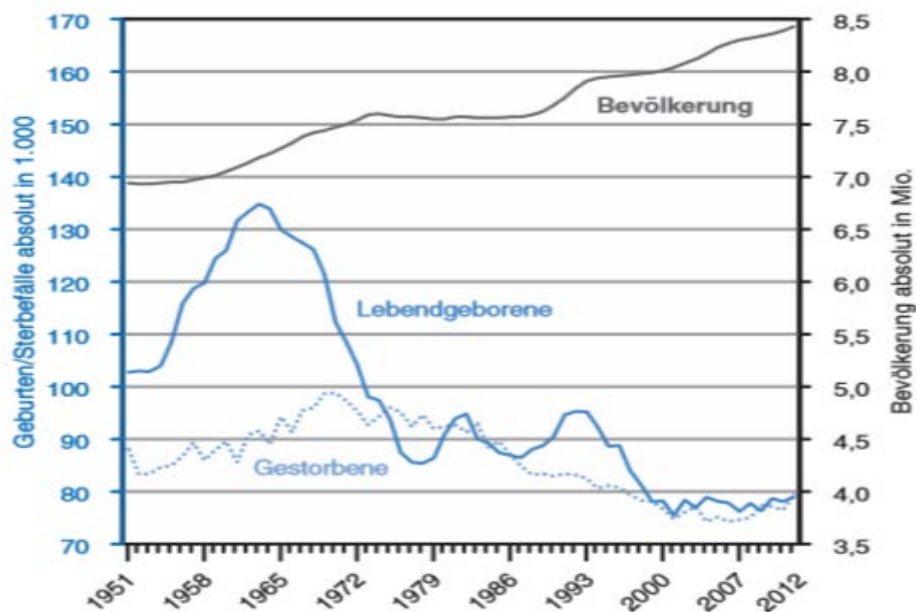
Mainly the Austrian immigration history is associated with the “guest work migration” that started at the beginning of the 1960s and the new phenomenon of Eastern European, African and Asian migrants that started at the beginning of the 1990s. The 2001 census data shows that Austria had a foreign population of about 8.9 % of the total population, and if it is taken in consideration the “place of birth” that was again introduced in the 2001 Census questionnaire, the percentage rose to 12,5%(Kraler, 2004, p. 2). If we take a look at the structure of the immigration, the Turkey and former Yugoslavia immigrants, which was the major country source for the labor recruitment in the 1960s, still form the majority of foreigners in Austria. It is obvious, that the policy Austria had adopted for migration over the history has an important impact on today's population structure.

2.1.1 Size and structure of the foreign population

The final results of the 2011 Census, shows that Austria had 8 401 940 inhabitants. Since the last Census in 2001, the number of population has risen by 369 083 people or 4.6%. This

percentage is quite high if we are thinking that the increase between 1991 and 2001 was 3.0%. This growth of the population number was only exceeded between the years 1961 and 1971, when the population increased by 417 000 persons or 5.9% (Statistik Austria, 2013). As we can see in the Figure 2, since the turn of the millennium the population had a continued growth phase.

Figure 2 Population size with births and deaths levels 1951-2012



Source: *Demographisches Jahrbuch 2012, Statistik Austria, Wien 2013, pp.21*

From a demographic view, the increase in the size of the population is due two components: birth rate (births rate minus mortality rate) and the net migration (immigrants minus emigrants). The main reason for this growth in the population in the last decades and also between 2001 and 2011 was the increase of immigration into Austria. On the other side, as we can see also from Figure 1, the natural increase (balance of births and deaths) made just a small contribution to the population growth (Demographisches Jahrbuch 2012, p.19).

In 2011 the net population increases where 35,000 due to migration rate. More than 130,000 people moved to Austria while 95,000 left the country. Compared with the year 2010, in 2011 the percentage of immigrants that entered in Austria increased by 14,0 % and the percentage of individuals that left the country reached the level of 9,2 %, this representing an important increase in the foreign population (Migration & Integration: figures data indicators, 2012 p. 8). This growth of the immigrants can be attributed to the relatively good economic situation

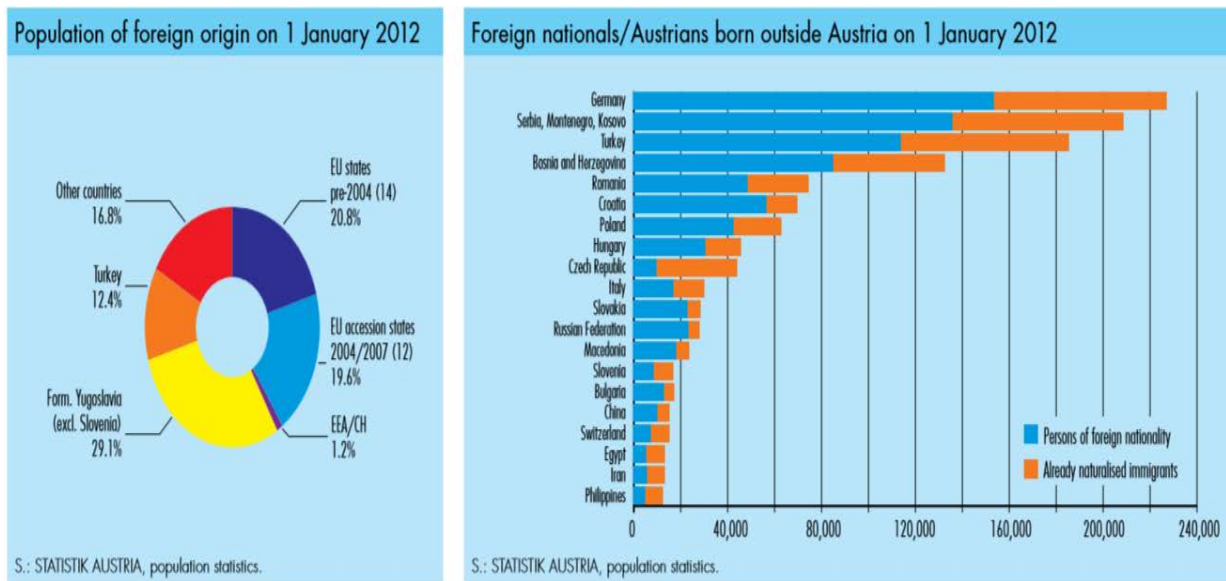
in Austria, relatively to the other countries from EU, to the increase in the number of students attending the Austrian Universities and the increase in the number of asylum seekers.

From those 130,000 of people who moved to Austria in 2011, 15,000 were Austrian citizens returning home, 75,000 were citizen from EU countries and 43,000 were people from “third countries”. The largest group came from Germany (nearly 18,000), followed by persons from Romania (13,713), Hungary (9,638), and Poland (6,907). In the top of immigrants from the third country are those from countries of the former Yugoslavia, reaching a level of 14,500 people, 12,300 were from Asian countries and 3,800 from Africa. A relative small number of immigrants were those from Turkey with 3,900 (Migration & Integration: figures data indicators, 2012 p. 8).

According to Migration & Integration data (2012, p.8) in 2011 the number from asylum seekers increased from 11,000 in 2010 to 14,000. Most of the immigrants were from Afghanistan (3,609), the Russian Federation (2,314), Pakistan (949), Somalia (610), Syria (422). Regarding the absolute number of asylum seekers received in 2011, Austria was on the seventh place in EU.

As Figure 3 presents, at the beginning of 2012, the country whose citizens represented the largest section of the immigrant population was Germany (227,000 individuals). Next came the group of immigrants from Serbia, Montenegro and Kosovo (209,000 persons). In third place with a number of 186,000 was Turkey. Next place is taken by the immigrants from Bosnia and Herzegovina and the fifth place is taken by Romanian immigrants 75,000. After the accession to the EU in 2007, there was a significant increase in the number of immigrants from this country. Living in Austria on January 1st 2012 were 63,000 Poles, 46,000 Hungarians, 44,000 Czechs and 30,000 Italians. Most of non-European immigrants came from China, Egypt, Iran, India, and USA (Migration & Integration: figures data indicators, 2012, p. 26).

Figure 3 Foreign population on 1 January 2012

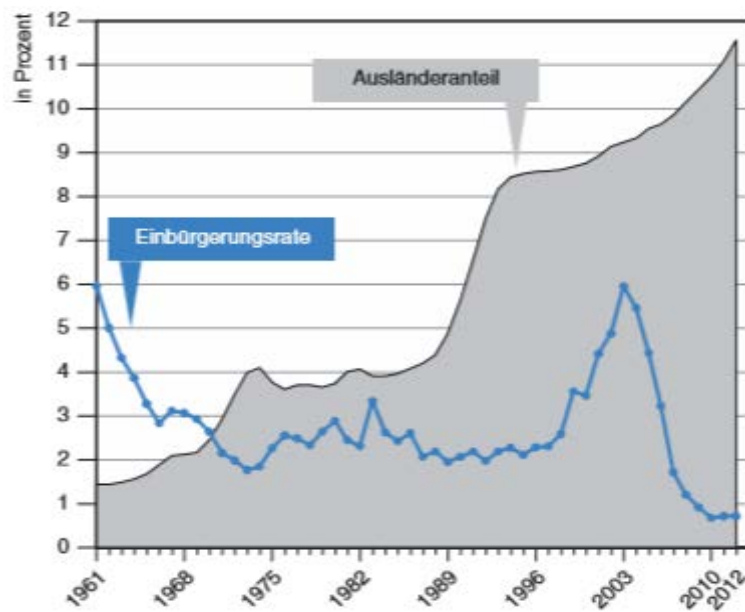


Source: Migration & Integration: figures data indicators 2012 pp. 27

2.1.2 Naturalization and Citizenship Rate

During recent years naturalization has played an essential role in Austria. In terms of nationalities, just 35% have become naturalized Austrians the other 65% keeping their foreign nationality. In the case of immigrants from other EU countries, the percentage of those with Austrian citizenship is slightly higher than that of people from other countries. This can be mainly attributed to the high numbers of persons from Eastern Europe who became naturalized Austrians before their countries joined the EU. The number of immigrants from the core 14 EU countries who have become naturalized is below the average (Migration & Integration: figures data indicators, 2012 p. 26). The naturalization rate was in 2012 almost at the same level as in the previous year, 0.7%. Looking at the past decades the naturalization rate was relatively stable between 2%-3%, until the middle 1990s when it went up sharply reaching a peak in 2003 of 6% with 44,694 nationalizations (see figure 4). This was the highest number registered since 1948 (Demographisches Jahrbuch 2012, p. 21).

Figure 4 Foreigners and naturalization rate 1961-2012



Source: Demographisches Jahrbuch 2012, Statistik Austria, Wien 2013, pp.21

This wave of naturalization must be seen in relation with the immigration process of ten years earlier. After this time of permanent residence in Austria the naturalization is an easy process. The decreasing immigration rate after mid '90s explains the decreasing rates after 2003 and the low rates of naturalization in 2010-2012. So we can see that there is a strong correlation between migration history and naturalization and citizenship rate. Because the migration trends from the past affects the actual structure of population, we will focus more on this topic in the next section.

2.2 Historical Patterns of Austrian Migration

During the history Austria has experienced various forms of migration: immigration, emigration, and transit migration. During the 19th and early 20th centuries, migration was mainly driven by the new forces that dominated that period: industrialization, and urbanization. Looking at the Austria's migration experience we can define different phases during its history (Jandl & Kraler, 2003).

1. During the Habsburg empires- internal migration and emigration

The migration flowed from east to west, primary destination being urban and industrial centers. This is so called “internal migration”. The monarchy was also an important country of emigrants, people choosing to move for Germany, Switzerland, Italy, and more often, America (Jandl & Kraler, 2003)

2. Between the two World Wars - emigration

From 1919 -1937 was an important emigration period, with more than 80,000 Austrians left for overseas destination. Main reason was the bad economic situation due to the fact that Austria had a really hard time after the disappearance of the Habsburg Empire and losing its main trading partners Hungary and Czechoslovakia. People migrated to Palestine, mostly the Jewish, to Soviet Union, the communists and the social democrats, and to Germany, mostly the Nazi supporters. (Jandl & Kraler, 2003). The Austrian regulation regarding immigration, employment and residence was severely affected after the Nazi German annexed Austria in 1938. Nazi had severe restrictions on Jews mainly regarding employment, social benefits and property acquisition. All these restrictions were imposed also to Austria. During this time the so called “Arisierung” was also popular. This refers to a spontaneous Jewish expropriation of their assets. Around 128,000 Jewish people were forced to leave Austria between 1938 and 1941 and till 1945 more than 64,000 Austrian Jews were murdered in death camps (Jandl & Kraler, 2003).

3. After World War II, 1945-1989 – transit migration and asylum

Austria, mostly because of its geographical position, was one of the most receiving and transit countries for the refugees. It is about two million individuals that found a temporary staying in Austria during this time. Many of them received the asylum and stayed in Austria, and others continued their journey to other Western countries. Because of the political crises in the communist countries there were three main immigration inflows in Austria. In 1956 due to political repression in Hungary more than 180,000 refugees entered Austria. From those just 20,000 got granted asylum and remained in Austria. In 1968 due to “Prague Spring” 162,000 Czechoslovakians entered Austria, the majority of them going to other Western countries. After the crush of the Solidarity movement in Poland in 1981-1982, an inflow of about 150,000 Poles entered Austria, but the Poles were less generously received, and in 1981 a visa requirement for Poles was introduced (Jandl & Kraler, 2003).

4. 1960-1973- labor migration, “guest worker” phenomenon

This period is considered by a lot of researches to be the real initial phase of immigration into Austria. Immigration flow started due to an economic boom that raised the demand for labor. Austria followed the German and Swiss example and adopted a guest worker regime (Fassmann & Reeger, 2008, p. 27). Austria was entering bilateral agreements with south and southeastern European countries, mostly focused in recruiting temporary workers. In 1964 Austria entered in an agreement with Turkey and in 1966 with Yugoslavia. Recruiting offices were established in those countries and even an employment center was installed directly at the train station in Vienna (Ostbahnhof). In 1969 the number of foreign workers was around 76,000 and by the end of 1973 reached the level of 227,000 (Jandl & Kraler, 2003). The public and the politicians accepted this labor force because these people were taking the unqualified and low paid jobs, this way helping the domestic companies.

This phase brought mainly young males to Austria, who after finishing school couldn't find a job in their home country or were just interested in earning more money in another country. The guest workers were welcome and were seen as an additional source of wealth but not as a part of the Austrian society. This migration policy was dominated by the interest of the entrepreneurs. The plan was to grant them temporary work permit and then send them back home. Joining of the family members was not included and long-term residence and integration was not on the agenda.(Fassmann & Reeger, 2008, p. 23). They should just stay for a limited period of time, with no permanent settlement, family migration or social integration.

This kind of immigration was not seen as a regular inflow but rather as an exceptional plan in a boom economy. Even the term “guest migration” is a signal to the temporary limitation for the migrants.(Fassmann & Reeger, 2008, p. 22). The labor migration policy clearly had affected the current composition of Austrian population. The census data from 2001 showed that from the total foreign population more than 62% were from former Yugoslavia and Turkey (Jandl & Kraler, 2003).

5. 1973-1993 – family unification and more balanced migration

At the beginning of 1973 the oil crisis recession decreased the demand for foreign workers, a phenomenon that repeated also in 1981 at the second oil shock. The booming economic situation changed dramatically and led to rising unemployment, reduced working hours,

increased public debts and inflation. As a result the authorities ended the recruitment process and restricted the access to employment for the foreigners. In 1976 the Aliens' Employment Act (Auslaenderbeschaeftigungsgesetz) was admitted that actually determined the primacy of the Austrian nationals on the labor market (Fassmann & Reeger, 2008, p. 22).

In this period the structure of the immigration changed from mostly single men to family migration. There was also an increase of Turks, as a country of origin, in the total foreign population. The guest worker regime turned into an immigration regime. The guest workers who wanted to stay simply didn't go back home and in addition they brought also their families. This kind of immigration is not about what labor market needs but is regarding the family reunification of the guest worker that were present in the country (Fassmann & Reeger, 2008, p. 27)

6. 1994 till today

Another change in immigration policy brought the Austrian accession on the EU. Being a part of the EU also means that you lose the possibility to control the EU-citizens immigration and their family members. Now immigration is considered to be a constant phenomenon. To compensate this Austria reduced all the other immigration possibilities. Asylum and political refugee laws became austere and the inflow of other labor is limited. The exception was made for the really qualified persons that Austrian labor market needed. They could still enjoy privileged access (Fassmann & Reeger, 2008, p. 27).

Finally the immigration entered into a new phase of stability. The immigration from the EU-countries became more and more important and if we see the EU as a big mother country the immigration turned into an EU-internal migration.

In 1993 so called Residence Law was introduced, which was actually an immigration law, establishing a contingent for different categories of migration. The contingents were defined as absolute number of permits to stay that would be issued for every year. The migrants were divided into two groups: EU or third country nationals. The individuals that wanted to migrate to Austria needed a residence permit, had to provide evidence that they have enough money and a place to stay. It was more difficult if the persons were from outside the EU area. They were subject to a selection procedure. Spouses, underage children and parents of foreigners that are settled in Austria were given priority (Fassmann & Reeger, 2008, p. 26).

3.3 Austrian Policy on Migration

An EU migration policy has to take into consideration the particularity of the European market and the abolition of the interior borders. When a foreigner enters the EU territory, his further migration can no more be controlled. That's why EU is looking for a common migration law within its members. Since 1988, the European Union migration policy is influenced by two developments. One is the Treaty of Rome from 1957, from which the most important is the Article 8a of the Single European Act. This act states that the movement of people, capital and goods has to be free by the 1 of January 1993, and also request the abolition of the interior borders of the EU. The second regulate the immigration from outside the EU. A unified EU migration policy started with Schengen I from 1985 and Schengen II from 1990 and got ahead with the Maastricht Treaty of 1992. Actually the main objectives were to eliminate the internal borders check, to strengthen the external border control, a common visa policy, and a cooperation to fight the illegal migration (Bauer & Zimmermann, 1999, p. 75).

Now the focus will be directly on the Austrian migration policy over time. At the beginning of the '60s Austria followed the German and Swiss example and implemented a guest worker regime. In this time the migration policy was driven by the interest of the entrepreneurs. In 1961 is signed the *Raab-Olah Agreement*, an agreement between employers and trade unions, which set a number of 47,000 foreigners that enterprises could temporarily employed without proving that there were no Austrian labor for that certain position (Fassmann & Reeger, 2008, p. 23). Also in this time the Agreement Act with Turkey and Yugoslavia was signed. The most important part of those agreements, was that they should stay just temporarily, with no permission for permanent settlement, family migration or integration into Austrian society.

After the economic boom from 60s, at the beginning of '70s the oil crisis grabbed Austrian economy into recession. During these years there were lots of attempts to reduce the foreign labor migration to Austria. In 1976 the Aliens' Employment Act regulated the admission of the foreigners to Austrian labor market. According to this act the Austrians have the primacy to the country labor market and the foreigners could be employed just in these jobs were there was no demand from Austrians nationals (Fassmann & Reeger, 2008, p. 25).

In the late '80s it became clear, that the existing immigration laws were no more compatible with the reality and they were also violating the Aliens Act from 1957 regarding freedom of movement. An important law was also the "residence Law" from 1993, that regulate the contingents for different categories of migrants (Jandl & Kraler, 2003). The contingents for residence were the absolute number of the residence permits that should be issued every year.

In the '90s migration become an important phenomenon and got also political attention. FPO used migration in their political campaigned to sharpen their profiles. The mobilization against migration by the FPO reached its highest level in 1992-1993, when the political right-wing party organized a campaign with the "Austria first" as a slogan.(Kraler, 2004, p. 8). The main demands were more severe restrictions for the immigrants, tighter borders and internal controls.

From 1997 the new political principal was "integration before new immigration", meaning present immigrants in the country should be taken care of and new immigration should be avoided. The Naturalization Act from 1998 puts into practice the new concern of integrating the immigrants (Fassmann & Reeger, 2008, p. 26). The act states that a period of ten years of non-stop residence in Austria is needed before naturalization. Other requirements were the proficiency in German language, the knowledge about history and traditions (Fassmann & Reeger, 2008, p. 26). The applicants also have to prove that they were economical independent and that they don't need social benefits.

The really big inflow of Romanian asylum seekers in 1990, caused by the revolution against the communist regime in 1989, created also the impression of so called "asylum crisis" (Jandl & Kraler, 2003). In response to this the Government began a series of reforms. In 1991 a new Law was adopted on the reception of Asylum Seekers that cut the state benefits for a large number of individual asylum seekers. During this year the New Asylum Act was passed that basically introduced the motions of "safe third countries and "safe country of origin" (Jandl & Kraler, 2003). This act also introduced the visa requirement for certain countries, especially for Romania, and the sanctions imposed on those companies which were caught transporting illegal migrants.

Austrian immigration policy is characterized by ambivalence, on the one part welcoming and on the other part restricting immigration.

To best summarize the Austrian migration policy over time this chapter will end with the table made by Fassmann and Reeger (2008).

Table 1 General trends and specific measure

<i>phase</i>	<i>General legal trends</i>	<i>Specific measures</i>
1960 up to 1973	No specific immigration policies at hand; labour market policy is dominating	1962 Raab-Olah-Agreement with the dominance of the rotation principle 1964 Recruitment Agreement with Turkey 1965 Recruitment Agreement with Yugoslavia 1968 First Austrian Asylum Act
1973–1993	Oscillating between liberalization and tightening of political measures	1975 Aliens Employment Act introduced a system of stepwise access to different types of permits 1991 Asylum Act, introducing the principles of ‘safe third countries’ and ‘safe country of origin’ 1993 Residence Law marks the beginning of a controlled immigration system following the American example
1994 until today	Differentiated legislation with a multitude of ‘channels of immigration’ to control migration more efficiently	1997 Revision of the 1991 Asylum Act, abolished the heavily criticized ‘safe country of origin’ principle and provided for the inclusion of the Schengen Agreement and the harmonization of the Austrian asylum law with the 1990 EU Dublin Convention 1997 Aliens Act, merged the 1992 Aliens Act and the 1993 Residence Act into a single law. The main aim of the reform was to promote the integration for aliens already living in Austria, in the place of new immigration. This concept was called ‘Integration before immigration’, and the law became known as the ‘Integration Package’ 1998 Naturalization Act retained the core elements of the previous regulations: principle of <i>ius sanguinis</i> and a regular waiting period of 10 years for naturalization. It shifted the burden of proof to the individual immigrant, who now has to prove that he/she is sufficiently integrated into Austrian society, is economically self-sufficient and has a sufficient command of German language 2005 Aliens Law Package, a comprehensive legislative reform on order to implement EU directives and strengthened measures against irregular immigration and fraudulent marriage and adoptions. The reform contains among others the Settlement and Residence Act, the Aliens Police Act and the revised Aliens Employment Act

Source: Fassmann H., Reeger U., “Austria: From guest worker migration to a country of immigration” IDEA Working Papers, 2008, pp.24

CHAPTER 3 THEORETICAL BACKGROUND

This chapter's purpose is to explain the theoretical foundation of this study. It presents a literature overview of migration and trade theories. The first part of this chapter presents the most important theories of international migration that exist till nowadays in the literature. The second part of this chapter focuses on the literature about trade theory, from the early mercantilism and absolute advantage theory to the New Trade Theories, presently used by a lot of countries to create the industrial policy and trade policy. A special attention is given to the arguments about trade and migration relation.

3.1 Determinants of Migration: Models and Theory

The causes and impacts of internal and external migration are diverse. This diversity can be seen in different theories and models of migration and is also reflected in the empirical researches. The literature proposes a variety of models to explain why international movement begins, but all of them use different concepts, assumptions and frameworks. That is why at the present we don't have a single coherent theory of migration, but rather a divided set of theories that have grown in isolation from one another (Massey, et al., 1993, p. 432).

3.1.1 Neoclassical Theory of Migration: Macro and Micro Framework

Ernest G. Ravenstein is considered to be the first who made a scholarly contribution to migration theory after he published in 1885 and 1889 the papers entitled "The Laws of Migration". He was a German geographer who worked at the Royal Geographical Society in London, receiving also the gold medal from the society for his work. The first study was based on the census data from 1871 and 1881 taking in consideration just the United Kingdom, but a few years later, in 1889 he return to the subject taking in consideration data from more than twenty countries (Ravenstein, 1889, p. 180).

Since the Ravenstein's migration laws, a variety of explanation have been proposed to explain how international migration is initiated and which consequences it has for the destination countries. At present the best known theory that explains the causes of migration is the neoclassical theory. The main purpose of this theory was to explain the labor migration in the process of economic development. Neoclassical economists focused mostly on employment conditions, the differences in wages between countries and on migration costs.¹

The neoclassical theory of migration can be divided in macro and micro theory, taking into account the labor market forces but also the individual choice that lead people to move from one place to another (Massey, et al., 1993, p. 433).

a. Macro Framework

According to the macro-level model, migration results from the unequal distribution of labor and capital through geographical regions and by differences in wages between countries. Actually wage differential is the main argument for migration in neoclassical approach. Under this theory all countries are divided into *labor-abundant countries*, which have a large amount of labor resources compared to capital and low wages and *labor-scarce countries*, which have a low amount of labor but with a high wage level (Massey, et al., 1993, p. 433). Due to those differences, workers from the low wage countries² will move to the high wage countries. As a result, in the capital poor country (low wage markets) the supply of labor decreases and therefore the wages will rise, while in the capital rich countries (high wage markets) the supply of labor will increase and the wages will fall, leading to equilibrium on international market. But there is also a counter-flow to the flow of workers from labor-abundant to labor-scarce countries. This counter-flow takes place because of the high rate of return that a capital poor country yield leading to capital investment into these countries. The capital investment includes also human capital, with highly skilled workers moving from rich countries to poor countries, taking advantage of the high returns on their skills (Massey, et al., 1993, p. 433).

¹The model was basically developed in the papers from Lewis "Economic development with Unlimited Supplies of Labor" 1954 and Harris and Todaro "Migration, Unemployment and Development: A Two-Sector Analysis" 1970

² Countries with a large endowment of labor relative to capita have a low equilibrium market wage; on the opposite side are the high market wage countries, which have a limited endowment of labor relative to capital.

The migration process ends as soon as, the wage differences between the two regions equal the costs of movement. Labor migration results from the wage inequality between regions. The larger the wage inequality between counties, the larger the migration flow.

Massey et al (1993) have done a really good classification of the neoclassical macro theory in five propositions and assumptions:

1. “The international migration of workers is caused by differences in wage rates between countries”;
2. “The elimination of wage differentials will end the movement of labor, and migration will not occur in the absence of such differentials”;
3. “International flows of human capital-that is, highly skilled workers- respond to differences in the rate of return to human capital, which may be different from the overall wage rate, yielding a distinct pattern of migration that may be opposite that of unskilled workers”;
4. “Labor markets are the primary mechanisms by which international flows of labor are induced; other kinds of markets do not have important effects on international migration”;
5. “The way for governments to control migration flows is to regulate or influence labor markets in sending and/or receiving countries”

b. Micro Framework

Micro-level model also called human capital model was introduced by Sjaadstad (in Kurekova, 2011, p.6) who discovered that socio-demographic characteristics of the individual are important determinants of the migration. Skills, age, occupation, marital status, preferences, all these factors will affect migration decision or which destination country will be chosen.

The reason why individuals respond to those differences between countries and decide to migrate is given by the micro level of the neoclassical theory. A rational actor decides to migrate where he can be most productive and to achieve income maximization (Massey, et al., 1993, p. 432). But they also have to make certain investments: material cost of traveling, cost of maintenance, the difficulty of learning a new language and adapting to a new culture, a

new labor market. The migrants have to deal also with some psychological cost like separation from family and friends (Bauer & Zimmermann, 1999, p. 15). Under this model, migration is seen as an investment decision of an individual. Every individual will evaluate the benefits and costs from migration in different ways, depending on personal characteristics. For example:

- Individual human capital characteristics like education, experience, trainings, language skills, will increase the chance of success in other countries, thus increasing the likelihood of international migration. Individuals with higher education are capable to collect and process information better, reducing the risks of migration (Bauer & Zimmermann, 1999, p. 15).
- Likelihood of migration decrease with age, showing that for older people the expected lifetime gain from migration is smaller, so their incentives to migrate is also lower (Bauer & Zimmermann, 1999, p. 16).

Trying to answer the questions: "Who migrates?" and "Why do people migrate" Todaro (1976, p. 377) came out with the same results concluding that migrants *"tend to be disproportionately young, better educated, less risk-averse, and more achievement-oriented"* and incline to have better personal connections in destination regions. Answering the second question he argues that individuals migrate mostly for economic reasons. Greater the gap in economic development, greater the flow of migrants, from low wage to high wage countries. But in addition to the economic reason, he also enumerates some other reasons that have more to do with individual decision making:

- People migrate to improve their personal education and skills;
- To get away from social and cultural imprisonment in homogeneous areas;
- To get away from political instability;
- To join family or friends who already migrated to other regions;

The main contribution of the human capital approach in the determinants of migration is that we shouldn't only concentrate on labor market variables like wages and unemployment but we should also look at the heterogeneity of individuals. Individuals from the same countries may have different reasons to migrate and the salary level depends on the skill level of the migrants.

Neoclassical theory is simple, elegant and has the advantage of combining the micro factors of individual decision and macro factors of structural determinants. The decision to migrate is taken by rational actors who seek to improve their life quality. It is an individual, voluntary act, which result from a cost-benefit calculation, that takes into consideration the present situation in the home country and the “expected net gain” from moving (Arango, 2000, p. 285).

But the neoclassical theory of migration has received a lot of criticism. If we assume complete employment, the model anticipate a linear correlation between wage differentials and migration flows. In the literature lots of empirical studies exist that found out that this linearity does not hold (Massey et al. 1998, de Haas 2008).

This theory mechanically reduces migration determinants, because it focuses just on migration of workers, ignores the market imperfections and excludes the political dimension. The micro-level or the human capital theory is criticized for the optimistic perspective, because migration is not always a voluntary process for income maximization (Kurekova, 2011, p. 7).

Another critique to this theory is the inability to explain differential migration. Why some countries have a high immigration rate and other countries, with similar condition to them, do not; or why some countries have a high rate of outmigration and other countries that are similar, do not. Finally, neoclassical theory also fails, in explaining the decision to stay (Arango, 2000, p. 286). The idea that migration will end when the wage differentials will equal the cost of movement, seem not to hold, neither the fact that migration will lead to an equalization of the wage levels between countries.

3.1.2 New Economics Theory of Migration

This theory has developed out of the neoclassical tradition and is one of the most migration specific of all. Associated primarily with the name of Oded Stark (Stark 1991), the theory offers a new level of analyses and a new nature of migration determinants. The main argument, and an interesting point of this theory, is that decision to migrate is not taken anymore by individual persons, but rather by families or household.

Under this theory migration is seen as a family strategy, not only to maximize income, but also to minimize risks, like loss of income, unemployment or crop failures (Arango, 2000, p. 288). Migration is also an investment decision. Households are able to control risks, by diversifying the family resources. Some family members remain and work in the local economy, while others are sent to work in a foreign labor market where the wages and unemployment are negative or weak correlated with those in the local area. If the local economy crumble, than the family relays on the support of the family members, that have migrated (Massey, et al., 1993, p. 436).

Another interesting point of this theory is that families do not only assess their income in absolute terms but rather compare with other households. Family members migrate not necessarily to raise the absolute family income but rather to improve the family position with a certain reference group. This is called “relative deprivation approach” (Stark & Taylor, 1999, p. 1164). We can see now that not only the income differences between the origin and destination regions matters but also the income inequality from a certain location. Therefore, a high income inequality in the country of origin results in a stronger “relative deprivation” which leads to a higher migration rate. It is important to mention that this model is mainly applicable to developing countries, in which it is not possible or is inaccessible for poor people, to secure the family income through private insurance markets or programs initiated by governments. In developed countries, the credit markets are well developed and accessible to families who want to finance new projects. In most developing areas credit is not available or is just accessible at a really high cost. In absence of any help from government and inaccessible credit programs, it creates strong pressure for international migration.

Under this approach the *remittances* play an important and integral part, serving as household strategies to overcome local development constraints. Remittance plays not only an important role for the family, but has also macroeconomic implication. For many countries the household input and national output are strongly connected with the income of migrant living and working abroad. Lots of studies have shown that remittances have a positive impact on long-term economic growth.

There is enough evidence that remittances are an important and relatively stable source of external finance. It is proved, that “*remittance is less volatile, less pro-cyclical and, therefore, a more reliable source of foreign currency than other capital flows to developing countries such as foreign direct investment and development aid*”. It is also said that remittances are

almost three times the value of the official development assistance provided to third countries (Haas, 2007, p. 8).

Evidence from around the globe shows that remittance raise the family's income and therefore remittance may be an important anti-poverty force in poor countries (Ratha , 2013, p. 5).It is hard to measure the size and significance of remittance flows to developing countries. The World Bank estimates that migrants remitted \$401 US billion in 2012 and forecast for 2015 a growth by another \$114 US billion. But the actual amounts may be even higher, if we take into consideration the money sent through informal channels, which often go unrecorded.

Now returning to the migration theories, the new economics of migration has a set of proposition and hypothesis that are quite different from the neoclassical ones, which Massey et al. (1993) summarized, such as:

1. Families and households take the decision for migration, not the autonomous individual.
2. The presence of wage difference is not anymore obligatory for people to migrate; families may have powerful motivation to diversify risks through migration even if the wages between two regions are the same.
3. International movement is not automatically stopped, when wage differentials across countries are eliminated. Incentives for migration still exist if other markets continue to be imperfect, or in disequilibria.
4. Governments may have the power to influence the international movement through policies that affect labor markets, but also through policies that have an influence on insurance markets, capital markets, and futures markets. Government insurance programs, principal unemployment insurance, can also affect the migration decision.
5. Government policies and economic changes that will lead to an increase in income inequality, will change the relative deprivation of some households and thus increasing the incentives to migrate.

3.1.3 Migration Networks – perpetuation of migration

Immigration may begin for large variety of reasons, such as: a desire for individual income gain, the wish for risk diversification to household income, a recruitment program initiated from an employer to satisfy the demand for low-wage jobs, etc. But the conditions that initiate the international movement may be very different from the conditions that perpetuate it across time and space. This perpetuation of international movement is the central issue in the network theory of migration.

A new and fresh view of migration theories is given by the network approach. Under this theory, migration may become a *self-perpetuating process* (Massey, et al., 1993, p. 449), because the costs and risks of migration are minimized by social and information networks. Migrant networks are actually some sets of interpersonal ties that connect migrants, previous migrants and non-migrants through commitment of kinship, friendship, and shared community origin.

The first migrants who leave their homes for a new destination have no social connections, have not much information about the labor market in the new destination, and that's why the first person who is moving faces really high cost and risk, especially if the entry is without documents. After the first person has migrated, the migration costs decrease for the relatives and friends of this individual. *"The existing network ties lower the risks associated with migration to a foreign region, because individuals can expect help from previously migrated people to find a job in the destination country"*(Bauer & Zimmermann, 1999, p. 28). The decrease of cost and risk makes the net return from mobility higher leading to a higher migration probability. Each new immigrant increases the number of individuals in the destination country, who themselves hold social connections to their home country. Once the number of network connection in an origin area achieves a critical threshold, migration becomes self-perpetuating because every new migrant will decrease the cost and thus sustain even more migration. Every new immigrant reduces the cost for the migration of friends and relatives, and so on. That's why migration networks have a multiplier effect (Bauer & Zimmermann, 1999, p. 28)

From the moment it begun, the international movement tend to grow over time as the network connections in the receiving country become very dense and widespread. People that

are still in the origin countries and want to migrate may do that without big problems. But then the migration begins to fall. Also experience has shown that ever-expanding dynamics will not hold endlessly. There is a moment when the saturation point is reached. After this point the de-acceleration process sets in (Arango, 2000, p. 292). But the dynamics of migration networks growth and stagnation is an area that needs further investigation.

Governments might have great difficulty in controlling flows, because the process of network formation is out of their control and occurs no matter what policies they will adopt (Massey, et al., 1993, p. 450).

The new vision, this model brings, is that it suggests a smaller relationship between difference in wages, employment rate and the decision to migrate than the neoclassical model. The migration drivers are the falling costs and risks of moving determined from the growth of migrant networks over time.

The network theory of migration doesn't pay attention at the determinants which initiate migration, but they look at what perpetuates migration over time and space. This new way of looking at migration is really helpful in understanding why migration continues even when wage differential or recruitment policies are inexistent. This theory helps to explain also the reason why migration is not the same distributed across counties and how migrants may choose their destination countries.

3.2 International Trade Theories

Countries engaged in international trade for two basic reasons. First, because countries are really different from each other and thus nations can benefit from their differences. Second, countries trade to achieve economies of scale in production. If each country produces only a certain range of goods, it can produce at a larger scale and more efficiently than if it would produce everything. We will see how differences between countries lead to rise in trade and how this trade can be mutually beneficial. The major concern of international trade theories was to explain flows of bilateral trade between countries. These theories didn't concentrate on explaining the labor movement, but it took it into consideration, as an international mobility of one of the factors of production.

3.2.1 Mercantilism

Mercantilism saw trade as a zero-sum game. One country may have a trade surplus, which is offset by the trade deficit of another country.

After Columbus discovered the New World in 1492, Magellan reaches the Philippines in 1519 and opened the route to India for the western, the merchants and traders wanted to explore these new markets, because trading Eastern and Western products was really profitable. We can see that international business became an important issue even in the 15th century. At this time also emerged an economic theory that last till 18th century called “mercantilism”(Cho & Moon, 2000, p. 4).

Mercantilists thought that the most important for a country was the accumulation of precious metals. To achieve this goal, the country had to export the maximum of what she can produce and to minimize the imports from other countries. By forcing a favorable trade balance, countries could achieve a net inflow of precious metals, mostly used to finance the expansion of the nation's armed forces and strengthen the King's power. The policy of accumulating precious metals was called bullionism (Cho & Moon, 2000, p. 4). The policy was encouraging domestic production, because producing more goods that will be exported could achieve a positive balance of trade and with it a bullion inflow into the country.

People were instructed to profile in the agriculture of the unused land, to reduce consumption of foreign products, to develop specific industries that supply the necessities. Doing so, the country will sell more than she buys from the others countries increasing in this way the “wealth of the nation”. *“However, the wealth of the nation was measured by the stock of resources, which are used to produce goods and services for its citizens”*.(Lung, 2008, p. 13). The well-being of the people is determined by the satisfaction from consuming goods and services.

Not only the people but also the government had an important role in mercantilism. It should prohibit imports and subsidize exports. The tax policy became really important at that time. The taxes for export were lowered and the tariffs on imports became higher, in this way achieving the mercantilist goals. But the mercantilist's “favorable balance of trade doctrine” was put to the question by the objections of the free trade supporters.

To summarize, the mercantilism has five main boards: the accumulation of precious metals, a favorable balance of trade, the promotion of the infant industries, beliefs in an international zero-sum game and the preservation of the domestic stability.

3.2.2 Adam Smith Theory of Absolute Advantage

The main concept of absolute advantage is accredited to Adam Smith for his publication in 1776 “An Inquiry into the Nature and Causes of the Wealth of Nations” in which a large part is devoted to attack mercantilist ideas. He mostly attacked the import protectionism and export promotion in order to achieve trade surplus. His idea was that moving from protectionism to free trade, will generate an efficiency gain: the costly domestic production is replaced by imports, leaving the domestic resources for more productive uses including exports (in Sally, 2008, p.35-36). His analysis was based on absolute cost advantage.

Contrary to mercantilists, Smith viewed trade as a positive sum game in which all trading patterns can benefit if a country is specialized in the production of goods in which it had an absolute advantage. He was the first that described the principle of *absolute advantage* in the context of international trade, using labor as the only input.(Cho & Moon, 2000, p. 4). The absolute advantage is defined just by an unsophisticated comparison of labor productivities. Because of its simplicity it is possible for one country to have no absolute advantage. If this is the case, no trade will occur with the other party. “*In economics, the principle of absolute advantage refers to the ability of a party (an individual, or firm, or country) to produce more of a good or service than competitors, using the same amount of resources*”.(O’Sullivan & Sheffrin , 2003, p. 443).

Smith truly believed in the operation of natural law, or an invisible hand. That’s why he favored for free-trade. Individuals could be aware of their own needs and desire and the natural law, rather than the government restrictions would serve to prevent abuses of this freedom (Cho & Moon, 2000, p. 5). But he was also aware that in the real world there are a lot of barriers set by the governments such as granting monopole, subsidizing exports, restricting imports, regulating wages, which restricted the free flow and damage the natural growth of economic activity. Adam Smith (in Cho & Moon,2000, p.6) proposed the specialization by regions and nations and showed how each nation would be better off

economically by concentrating on what it could do best, rather than trying to do everything like in the mercantilist doctrine. Here is one of his famous passages:

“The natural advantages which one country has over another in producing particular commodities are sometimes so great that it is acknowledged by all the world to be vain to struggle with them. By means of glasses, hotbeds, and hotwalls, very good grapes can be raised in Scotland and very good wine too can be made of them at about thirty times the expence for which at least equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of foreign wines, merely to encourage the making of claret and burgundy in Scotland?”(Smith, 1937(1776), p. 338).

A number of economists like for example Mill, Ricardo and Torrens, improved Adam Smith’s ideas and concluded that free trade can take place and also be mutual beneficial even if a country has no absolute cost advantage.

3.2.3 Ricardian Model

After Adam Smith’s publication in 1776, many economists have made an important contribution to international trade theory. Among all, David Ricardo contribution was that important that this theory refers as the Ricardian Model. The Ricardian model is the simplest and most basic general equilibrium model of international trade that we have. It is usually presented in an early chapter of any textbook on international economics. In this section we will review the Ricardian model with one factor, as it is understood today, including its main implications. Another aspect that is taken into account is the relation between trade and factor labor that this model predicts.

3.2.3.1 The Concept of Comparative Advantage

The Absolut Advantage theory had a main problem that one country may not have benefits from trade because it can have an absolute advantage in both products that are traded (could be the case of an advanced country). According to Ricardo the advanced country should

focuses the production where it has the greatest absolute advantage, and the other country (the inferior one) should specialize where it has the minimum absolute disadvantage. This rule is known as the *theory of comparative advantage* (Cho & Moon, 2000, p. 7).

Comparative advantage is about the ability of one party to produce a good or a service at an inferior marginal and opportunity cost over another. This concept can be simply illustrated with a numerical example like in Pomfet (2008) with one single input: labor. We assume that in Thailand a worker can create five clocks or produce 100 cabbages in a month, while one worker in Laos can produce two clocks and 50 cabbages in a month. According to Adam Smith's theory, the Thai workers have an absolute advantage in both activities, but according to Ricardo, have a comparative advantage in making clocks. A country has a comparative advantage in producing a good if the opportunity cost of producing that good in terms of other goods is lower in that country than it is in other countries. The opportunity cost of producing more of one good is the required reduction in the production of the other good. Similarly, the opportunity cost of producing some amount of one good is the amount of the other good that could have been produced with the same resources. The opportunity cost of clocks in terms of cabbages, is the number of cabbages that could have been produced with the resources used to produce a certain number of clocks. We suppose that a Thai farmer is not growing cabbages anymore and make just clocks, and that the Laotian clock maker starts growing cabbage. As a result of this specialization, combined production improved: cabbage productions remain the same but the clock production is higher. The key to the increase in total output is the existence of differences in opportunity cost. This is a very powerful argument for trade because for any pair of countries we take it is impossible that the opportunity cost for goods or services to be identical, so that all countries may have some comparative advantage in some activity (Pomfet, 2008, p. 5). Specialization by comparative advantage will create a win-win situation.

3.2.3.2 One- Factor Model

The great contribution of David Ricardo was to establish the comparative advantage as the basis for mutual beneficial exchange. The advantages from trade isn't influenced if a country is being absolutely better at producing one good and another country is being absolutely better at producing another good, but on comparatives differences.

The Ricardian model, often named the classical trade model, assumes two goods, two countries and one input (2-2-1). The only one factor of production is labor, which is assumed to be fully mobile across sectors or industries but immobile across countries. The labor efficiency is constant in each activity but labor productivities differ between countries, countries display exogenously differences in production costs (Rivera-Batiz & Oliva, 2003, p. 5).

The salary level from each region is determined by its absolute advantage and the amount of products a country can produce with its labor. This could clarify why countries with poor technologies are still able to export: because their low salaries permit them to overcome their low productivity.

If the basic assumptions of the model are relaxed, permitting also the free movement of factors, this will bring an inflow of factors to the area with the higher productivity. The main reason for this movement is the higher reward factor in the country with higher productivity. The initial comparative advantage is improved, *thus movement factor complements trade* (Bruder, 2004, p. 5). We said that trade is augmented by factor movement.

The Ricardian model of international trade is a very valuable instrument for explaining the motives why trade may occur and how trade raises the welfare of the trading partners. However, this model is incomplete and because of the simplifying assumptions it makes it inappropriate to answer many questions about international trade. In particular, there are two main difficulties. First, the simple Ricardian model expects a very high degree of specialization. But in the real world, countries produce not just one but many products as well as import-competing products. Second, it describes trade based on differences in productivity levels across countries, but it does not explain from where these differences come. (Cho & Moon, 2000, p. 9).

3.2.4 Heckscher-Ohlin Model

This section introduces a model that is often well-known as the neoclassical model because it applies the microeconomic theory, as established in the late 19th century, to international

trade. It is also acknowledged as the Heckscher-Ohlin (H-O) model after the name of two Swedish economists who added the factor proportion of trade flows to the model.

It is important to specify that the H-O theory is constructed from a number of more restrictive assumptions as presented in the book from Rivera-Batiz and Oliva (2003, p.6):

1. Consumers have the same preferences. For any given relative price, both countries consume goods in the same proportion.
2. Countries have access to the same technologies, factor endowment is the only difference between countries.
3. Countries share equal constant returns to scale production functions for each sector.
4. The two factors are perfectly mobile across industries in the same country but are not mobile across countries, and are fully employed.
5. Perfect competition triumphs in all goods and factors markets.
6. There are no taxes, subsidies or trade barriers such as tariffs and transport costs.

Ricardo explained in his theory that comparative advantage arises from differences in labor productivity, but did not reasonably explain from where this difference in labor productivity came from. It was in 1919, Heckscher who asked the question, why should factor cost, be different across countries. He suggested that, if factors of production don't move across countries, *"a factor is rewarded by the scarcity of supply relative to the demand, not but different productivity. If a factor of production has an abundant supply but in relatively low demand, the factor price will be relatively lower"* (Lung, 2008, p. 14). Heckscher then concluded that the commodity that uses the most abundant factor would have a lower cost, because as we know when something is abundant it is cheap. In a competitive world, the product would be cheaper if the cost is lower. This low product price is the basis of comparative cost advantage and the foundation for international trade. This is why countries will continue to specialize in the production of commodities and services that exploit their most abundant resources, factors.(Lung, 2008, pp. 14-15). For example, China has relatively abundant labor supply. According to H-O theory, China exports labor intensive commodities and USA on the other hand will exports capital intensive products.

The basic version of the H-O model of trade focuses on a 2-2-2 world, consisting of two countries, two goods, and two homogeneous factors of production capital K, and labor L. One of the goods is more capital intensive than the other, because it uses more capital per unit of labor. Accordingly all countries can be divided into capital abundant (in reality this category mostly contains the developed countries) and labor abundant (developing country). Consequently, differences in the factor endowments of many countries explain variances in factor costs, which leads to different comparative advantages. Labor abundant countries become net exporters of labor intensive goods because of its comparative low prices and importers of capital intensive goods. With free trade this will cause gradual commodity price equalization³ and lead to price equalization between countries. This also leads to an equalization of wages between the two countries, which tend to eliminate the incentive for labor from low wage country to move to the labor scarce country with higher wages. From this the incentive for factor movement are reduced. Thereby according to H-O theory *trade and migration are substitute* (Lung, 2008, p. 16). Price equalization removes the incentives for either trade or migration. When movements between countries are allowed, the Heckscher-Ohlin model illustrates that international migration and trade are substitutes.

But in reality the complete equalization of prices is impossible because of several reasons, the most important of all is transaction cost of international trade that differ a lot with distance, thus affecting also the factor price.

Studies that are based on the Heckscher-Ohlin model showed that an increase in trade impediments will lead to an increase in incentives for factor movements and that restriction to factor movements tends to increase trade in 14 commodities. Gains from trade can thus be realized through movement of either goods or factors (Mundell, 1957, p. 331).

As previously said, the understanding of *international migration and trade as substitutes* is based on the assumption that trade is caused by differences in factor endowments and that factor movement will equalize this disparity. This pattern will change, if we instead assume models with non-identical technologies or increasing returns to scale. This kind of models, have proven in the literature that *international trade and migration flows are complements* (Markusen, 1983, pp. 341-342).

³ In the literature, it is known as Factor Price Equalization Theorem which was introduced by Samuelson in 1949. The theorem had an extraordinary result because it says that trade in goods has the ability to equalize factor price. In this sense trade in goods is a perfect substitute for trade in factors.

All these theories are really important in understanding the international trade patterns. Classical trade theories were the fundament for the development of other modern trade theories which take into account important considerations such as government intervention and regulation. However, these theories make some strict assumptions which weaken their potential significantly and contribution to international business.

3.2.5 New Theory of Trade

In contrast to endowment base models, The New Trade Theory (NTT) supposes a complementary relationship between trade and migration. NTT theories are a number of trade theories established in the 1980s by well-known economist like Ethier, Krugman, Spencer, Grossman, Helpman, which are concentrating on the phenomena of increasing returns to scale.

New trade models include important improvements within neoclassical models such as: market imperfections, strategic behavior and the new industrial economics, new growth theory and political economy arguments. Many trade models, which are based on market imperfections and strategic behavior defend intervention in trade policy (Deraniyagala & Fine, 1999, p. 813).

According to the theory, *the external increasing return to scale* is achieved not at a firm level but at an industry level. Under free trade and external increasing return to scale, the countries will specialize in order to gain from specialization. The factor reward is different between countries, and thus factors will move and create additional supply of export output and thus increase trade. *Factor movements and trade are complements* (Bruder, 2004, p. 6).

New Trade Theory also studies cases where one sector of production is characterized with imperfect competition and *internal economies of scale*. One factor of production is characterized by the constant return to scale, and the other by the increasing internal return to scale. With two economies, in the existence of the monopolistic competition and internal increasing return to scale, the larger the economy will be, greater the net exporter of the monopolistic sector. Real factor returns will be higher and thus induce factor movements. The factor movement increases the differences in factor endowments and thus increases trade

between the two economies. From here we conclude that factor movements and trade are thus complementary (Bruder, 2004, p. 6).

As a summary, the trade models that are based on technological differences, the trade and the factor movements are complements. The opposite situation we have just in the standard H-O model, which suggest that the technological differences across the countries are constant and the only difference is in factor endowment. The model predicts a substitute of trade and factor movements. Models that focus on increasing return to scale and monopolistic competition (NTT), also strongly suggest the complement between trade and factor movements. A summary of the relation between trade and migration is also presented in Table 2.

Is it important to say, that none of these theories has disappeared during the time. They remain useful tools in understanding many of today's industrial and trade policies.

Table 2 Migration and trade relation in different trade theories

Trade Theory	Explanation for trading	Migration and Trade Relation
Ricardian Model	Trade occurs because of the differences in production technology and Comparative advantages	Complements
Heckscher-Ohlin	The differences in factor endowments across countries	Substitutes
New Trade Theory	External Increasing returns to scale, internal returns to scale and monopolistic competition	Complements

CHAPTER 4 THE LINK BETWEEN MIGRATION AND TRADE

Following the chapter which presents the main theories of migration and international trade, we will focus the attention in this chapter on the linkage between the movement of people and the international trade flows. As the first chapter presents, the migration of people has grown rapidly over time and this phenomenon is still continuing. Also other aspects of international activity have developed really fast in the last century. Like for example the global international trade rose from 6% of the GDP in the 1960 to 20% of the GDP in 2004. The same trend followed also the direct foreign investments (FDI) which rose from almost nothing in the '50s to almost 1.3 trillion U.S dollars in 2000⁴. Growth of both migration and international trade may suggest that there is a relation between them. The researchers find growing evidence that support the idea that immigration can have a positive effect on trade between immigrant host and home country.

4.1 A Literature Review

This section of the study presents the main empirical studies that focus on the linkage between immigration and trade.

The first researchers that tried to find out if there is a connection between trade and immigration include Gould (1994), Head and Ries (1997), Dunleavy and Hutchinson (1999, 2001), Grima and Yu (2002). Gould (1994) used a panel data set of 47 US trading partners to investigate the role that the immigrants play in facilitating the trade between United States and the immigrant's home countries. The empirical results reveal a strong positive impact on both imports and exports.

Grima and Yu (2002) investigate the mechanism through which immigrants can decrease the transaction cost of bilateral trade and were the first to make such studies with evidence from the U.K. They study the bilateral trade between 48 trading partners, classifying the countries

⁴ See UCTAD 2001

in Commonwealth (those which were part from former colony, including Hong Kong) and non-Commonwealth (countries that weren't under U.K. colony). Their assumption is that the Commonwealth countries have a much more similar social and political institution to the U.K. than the others due to the colonial ties. The additional information brought from immigrants from Commonwealth countries are less valuable than the information brought from the immigrants from non-Commonwealth countries. The results indicate that the impact of immigration on the U.K.'s exports is very different across the two country classification. The immigrants from non-Commonwealth countries have a substantial trade-improving effect. From their econometric model results that an increase of 10% in the stock of immigrants leads to an increase in the U.K. exports by 1.6 % to those countries (Grima & Yu, 2002, p. 117). These findings suggest that immigrants can have an impact on bilateral trade through their knowledge about their home markets and social institutions. They also found a "trade substitution effect" of the immigrants that came from the Commonwealth countries. It is important to mention that from these countries, there are a great number of immigrants in the United Kingdom, and can appear an "import substituting activities" by immigrants. Production of some products can be more profitable than importing them due to the economies of scale. 10% Increase in the Commonwealth immigrant stock reduces U.K.'s imports by 1% due to "immigrants' import-substituting activities" (Grima & Yu, 2002, p. 125).

The paper from Grima and Yu (2002) provide information that the immigrant impact on the economy might not exist universally. This argument is sustained also by other studies. For example Halliwell (1997) analyzed the trade between Canadian provinces and between Canada and United States during 1988-1992. The results suggest that immigration has an effect on trade but just for international trade, not for interprovincial trade. This can be due to the fact that immigration between provinces has less impact on trade because knowledge about markets and institutions are not something new for the host province.

Head and Ries (1998) also investigated the impact of immigration on the Canadian trade flows with 136 trade partners during 1980-1992. They found a positive and significant effect on Canadian trade, imports increasing more than the exports. A 10% increase in immigration stock leads to a 1% growth in exports and a 3% growth in imports (Head & Ries, 1998, p. 60). To see how exactly the immigrants influence trade they classified immigrants into three categories: family, refugees and independent. According to the results, the biggest influence

on the bilateral trade is exerted by the independent immigrants, the family immigrants are in the middle and at the bottom, with the less impact on trade are the refugees (Head & Ries, 1998, p. 49).

Positive effects of immigration on trade are found also by Dunley and Hutchinson (1999, 2001) and Mundra (2003). Dunley and Hutchinson in their paper from 1999 analyze the impact of immigration on American import trade. They found a greater effect for counties that share the same language and countries that have almost the same per capita income. In the second paper from 2001 they focused their attention on the impact on American export trade. The impact that immigrants had on exports have decreased over the period from 1870 to 1910. The semi-manufactured goods were the only product group for which the existence of immigrants had a significant pro-trade effect (Dunley & Hutchinson, 2001, pp. 21-22). The results show a positive effect of immigrants on exports, as it was on imports. Similar to Gould (1994) and to Head and Ries (1998), they found that the effect of immigrants on exports degraded previously than it did for imports.

Mundra (2003) examines the effect of migration on the U.S. trade flow. Using a panel data and a classification of goods, the study shows that there is a positive effect on all U.S. imports (aggregate, intermediate and finished goods) but not on the intermediate goods for exports. A positive effect for the exports can be seen just for the finished goods. This result was quite predictable because for the finished goods the “country-specific information” is really important in trading activities.(Mundra, 2003, p. 19). The results of Mundra are in contradict with the results of the earlier empirical study of Gould (1994), who found out that immigrants networking had a positive effect on trade across all types of goods. Rauch (1999) also found out that immigration networking is stronger for differentiated finished goods than for homogeneous intermediate goods.

Bruder (2004) presents an examination of the relationship between migration and trade for the case of Germany during 1970-1988 with its main foreign migrants, most from Spain, Portugal, Greece, Italy and Turkey. The paper pays attention to the relation of complementary or substitution between factor movement and trade. The results in the case of Germany indicate that like traditional trade theory suggests (like Heckscher-Ohlin), trade reduces labor migration significantly. The effect can be due to the migration policy that encouraged the immigrants to go back home after 1984. Also the study presents no significant impact of labor

migration on imports and exports. This could be explained by the little magnitude of the endowment change and the special legal conditions (Bruder, 2004, p. 14).

Contrary to the findings of Bruder for the case of Germany, empirical evidence suggests the complementarity between migration and trade. But the growth of both trade and migration in the last decades insinuates that the traditional neoclassical trade theory, that suggests the substitution effect, doesn't look at the entire relation between migration and trade (Bruder, 2004, p. 14).

Pro-trade immigrant influences have been attested also for Spain (Blanes 2003, 2006), for Italy (White & Tadesse 2007), New Zealand (Bryant et al. 2004).

The study from White and Tadesse (2010) is important because they want to examine if the immigration entry classification has an influence on trade. They analyze if refugees and non-refugees have an equal impact on the trade between home and host country. This is essential because it may have policy implication (White & Tadesse, 2010, p. 291). The results indicate that generally the immigrants exert positive influence on American trade. The influence that refugees have on trade is positive, but with a far less magnitude than the influence of non-refugee immigrants. The results also indicate that generally the immigrants compensate the trade-inhibition effects like cultural distance, with the effects of non-refugees migrants being stronger than those of refugees (White & Tadesse, 2010, p. 313). White and Tadesse's findings clearly suggest that there is a considerable difference in the way the refugees and non-refugee immigrants have an impact on U.S. trade.

4.2 How Migration May Create Some Impact on Trade

Gould (1994) was one of the first researchers who examined the possible effects of migration on trade. He identified two main channels through which immigrant links can benefit bilateral trade flows between immigrant's home and host country:

1. *Immigrants tend to bring with them a preference for their home country products.* (Gould, 1994, p. 303)
2. *Immigration can reduce trading transaction costs.* (Blanes, 2006, p. 4)

The first one can have an influence just on the host country imports, while the second channel has an ample effect and can impact exports and imports between these countries. The first mechanism predicts an increase in the host country imports due to the preference of immigrants for consuming home country products. The presence of an immigrant community may create a market for imports of these goods (Gould, 1994, p. 303). After Gould, this channel was studied a lot in the literature by White and Tadesse (2010), Dunlevy and Hutchinson (2001) and Blanes (2003, 2006) who refers to this channel as “*transplanted home bias*”. The second channel can be connected with the information and knowledge that the immigrants bring with them about their home markets, and if this information is exploited, could increase trade. Dunlevy describe this channel as “*information bridge hypothesis*” while Greenaway et al. refers as this channel as “*cultural and enforcement bridge*” (White & Tadesse, 2010, p. 290). The information bridge is also related to the creation of ethnic networks, which by reasons of knowledge of home country markets and business contacts, cultural ties can reduce transaction costs. Immigrant language abilities, the knowledge about the home country customs and business practices, the understanding of some complicated contracting structures, can lower the asymmetric information between the two countries, increasing the trade flows.

Grima and Yu (2002) classified the transaction cost channel in two: individual specific and non-individual specific. For the first case the effect of the immigrants is universal, doesn't depend on where the immigrants come from. The transaction cost is declined because of the immigrants business connections or personal contacts with their home countries. This will help the importers find a reliable source of supply and the exporter getting access to distribution channels in unfamiliar environments. If the mechanism is non-individual specific, transaction cost are reduced because of additional information that immigrants brought with them about their home markets and different social institution (Grima & Yu, 2002, p. 116).

Studies show that the ethnic groups living outside their home countries create formal or informal networks to which business persons from both the receiving countries and the mother country have access. The networks overcome the informal barriers like weak international legal institutions, weak information about trade opportunities, to international trade (Rauch & Trindade, 2002, p. 116). Rauch and Trindade (2002) empirically analyze the Chinese networks in international trade. Their results show that ethnic Chinese networks have a significant impact on international trade, mainly through the mechanism of market

information and matching and referral services. The study also confirms that the informal barriers to trade are big enough, so that the ethnic networks become very useful. According to their research the Chinese networks increase bilateral trade by 60% for differentiated products.

The literature suggests that the relevance of these channels is different for the different types of goods or for different types of immigrants. The additional information brought by the migrants may have a significant impact on consumer or processed food than on producer goods, crude or semi manufactured goods (Blanes, 2006, p. 6). The different characteristics of immigrants can also have different trade impact. Gould (1994), Head and Ries (1998) and Blanes (2006) argue that the more skilled or educated the immigrants are, the better influence on trade they have, due to the knowledge and information they possess.

Another link between immigration and trade is pointed out by Dunley and Hutchinson (2001). They argue, that the host country's exports can increase due to the development of the new industries by the "*immigrant entrepreneurs*" (Dunley & Hutchinson, 2001, p. 5). The effect of the entrepreneurship is pro-trade in the case of exports. In the case of immigrants and imports, there is an opposite effect. It has been recognized that immigrant entrepreneurship will have a substitution effect on imports, leading to a reduction of imports.

The importance of immigrant networks and entrepreneurship is attested also by Gould who assert "*Although entrepreneurial activity may differ between immigrant group and destination countries, immigrants typically have found trading activities an accessible niche to fill in the labor market*" (Gould, 1994, p. 302). Min (1990) attests that the most common occupation of the Korean immigrant entrepreneurs from Los Angeles is in trading activities, mainly in the fashion sector. He observed that with the accumulation of the Korean immigrants, the U.S. imports from this country have also increased "*Korean exports to the U.S. have substantially increased since the early 1970s, when a massive influx of Koreans to the U.S. started. By virtue of the advantage associated with their language and ethnic background, many Korean immigrants have been able to establish import businesses dealing in Korean-imported merchandise*" (Gould, 1994, p. 303).

However immigration can have also a negative effect on bilateral trade, known as *trade-substitution immigration effect*. Immigrants can transmit important information about production methods or technology to the host-country's local producers, and the previously imported goods could be substituted by local production (Blanes, 2006, p. 7). In the case of immigrants and imports, it is seen that immigrant entrepreneurship can cause import substitution leading to an import decrease in the host-country. Anyway pro-trade effects are expected in the case of immigrants and exports. All this patterns attest that migration may have an impact on bilateral flows, and drive the motivation of this study to investigate the possible trade enhancing links of immigration in the case of Austria.

4.3 The Hypothesis

Taking into account all this theoretical foundation about the link between immigration and international trade, this paper tries to find out how exactly this mechanism works in practice for Austria.

According to this theoretical foundation, and following Blanes (2003, 2006) approach of the gravity model the following hypothesis are being tested:

H1: Immigrants have a positive effect on both Austria's export and imports with their home countries.

If we just find a positive influence of immigrants on imports and no positive relation on exports, we can confirm that the immigration affect trade just through preferential channels, immigrants having a desire for consuming home country products. If a stronger positive effect of immigration is found for exports, than the mechanism behind the immigration trade link is the additional information brought by immigrants that result in a reduction of the transaction cost.

H2: Immigrants from more institutionally and culturally dissimilar to Austria have stronger impact on Austria's trade with their home countries.

This hypothesis is used to identify the mechanisms that are behind the immigration-trade link, using information on the immigrants home-country to capture the different characteristics of immigrants from Austria (Blanes, 2006, p. 9).

Immigrants that come from countries that are more culturally and institutionally more dissimilar to Austria, would bring with them more additional information and they would contribute to decrease transaction cost. For the transaction cost mechanism, the influence of immigration on bilateral trade would depend on the immigrant home country (Blanes, 2006, p. 6).

Analyzing this mechanism on the Spanish data, Blanes (2006, p. 7) suggests *“if we find a positive effect of immigration on trade with countries which present different social and political institutions but not with countries with similar ones, then the mechanism through which immigrations increases trade is the additional knowledge about these institutions brought by immigrants. If the positive effect is bigger for trade with the former group of countries than with the later, this mechanism would account for the difference. If there is no difference between the two groups of immigrants, personal contacts or connections with immigrant’s home-country would explain the immigration-trade link”*.

CHAPTER 5 DATA AND MODEL DESCRIPTION

The fifth chapter of the thesis is like a bridge between theory and empirics. It starts with a discussion about the gravity model, then describing the personification of the gravity model for a country specific and presents also the data and variables used in the empirical part of the research. The chapter also presents the equations set up for the empirical analysis, used to test the hypothesis.

5.1 Description of the Gravity Model

All the other researches that have studied the link between immigration and trade have used a gravity equation for trade augmented with an immigrant stock variable. Gravity models (in many forms for different studies) have been the most popular empirical tools used to describe international trade flows. The “gravity equation” name is derived by the analogy with the Newton’s Theory of gravitation. *“Just as planets are mutually attracted in proportion to their sizes and proximity, countries trade in proportion to their respective GDPs and proximity”*(UN & WTO, 2012, p. 103).

The concept for this model as we said before is by the usage of Newton’s Law of Universal Gravitation, which states that the attraction between two centers can be attributed to their masses. The force is weakened by the distance between two centers:

$$F_{ij} = G \frac{M_i M_j}{D_{ij}}$$

Where F is trade flow, M_i and M_j are masses of two counties (usually measured in GDP), D_{ij} is the distance between the two countries, and G is the constant proportion.(UN & WTO, 2012, p. 104).

In economics the gravity model reflects the bilateral trade flows that are a positive function of the two countries GDP. That represents their economic mass, and a negative function of distance, representing the impediments to trade between countries.

The first one who applied the gravity model in international trade was the Dutch economist Tinbergen in 1962, whose preliminary data was presented and requested the need of further investigation in the future studies. The form of the gravity equation as used by Tinbergen (in Lung, 2008, p. 87) was:

$$E_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha_2} D_{ij}^{\alpha_3}$$

where: E_{ij} = Exports from country i to country j

Y_i = GNP of country i

Y_j = GNP of country j

D_{ij} = Distance between country i and country j

α = Scaling factors

Tinbergen made an analogy of a country's exports E_{ij} with Newtonian's Universal Gravitation force F , which equation has been presented before. The masses of M_i and M_j were replaced by Y_i and Y_j , representing the income levels or the dimension of economies of the trading partner countries. *"Tinbergen believed that the size of exporting country's economy positively influences its ability to supply to the world market; and the importer's income level is positively related to the market size for imported goods"* (Lung, 2008, p. 87).

The gravity equation has encountered empirically success not just in explaining trading flows but has been extended to explain migration and even tourism flows. Basically the log linear equation explains the flow between two countries by the flows' economic force in the origin and in the destination country, and adding other economic forces that can facilitate or can restrict the flows between the two countries. The well-known international trade models like Ricardian's model, which concentrates in explaining trade flows based on differences in technology across countries, and H-O model, which explains trade due to differences in factor endowments, were also not compatible to provide a foundation for the gravity model. For example country size, that plays a significant role in the gravity model, is not taken into consideration by the H-O model (UN & WTO, 2012, p. 104).

The gravity, equation is very stable (the coefficient estimates are stable across years) and explains very well the trade pattern. That's the reason why researches begun to search for a

theoretical basis for this equation. The model provided also very good empirical evidence on trade flows but had a lack in the theoretical foundation. The researches of Bergstrand (1985, 1989) are important works in this way.

The studies of Tinbergen and Linnemann inspired the research interest on the gravity model. The importance of the gravity model as a popular tool used in explaining the international flows between countries was soon recognized by the economists and the researchers. A lot of new research papers that focused on international trade flows were conducted using diverse forms of the gravity models.

5.2 Country Specific Gravity Model

A country specific gravity model is a gravity model that explains international trade between one country and a group of trade-partner countries. For this study we decided to use this type of model because it suites the purpose of this research the best, focusing on a single country Austria with 68 of its trade partners.

As we stated also before, this study makes use of the gravity equation from Blanes (2006, p. 6), who made an empirical research on the impact of immigration on international trade using Spanish data. His country specific equation for trade is augmented with an immigrant stock variable and has also a set of control variables.

The equation adapted for the Austrian trade looks like this:

$$y_{it} = \beta_0 + \beta_1 mig_{it} + \beta_2 rgdp_{it} + \beta_3 dist_{it} + \sum_{t=2002}^{2011} \beta_4 yeart_t + \mu_{it} \quad (equation 1)$$

Where * mig_{it} : define the stock of immigrants from country i in Austria in year t

$$* rgdp_{it}: \text{measure the size of two countries} (rgdp_{it}) = \frac{GDP_{it} * GDP_{austria,t}}{GDP_{world,t}}$$

* $dist_{it}$: measure the distance between the capital of the two counties and is a proxy for trade cost. Measure with great circle distance

* $yeart_t$: including a dummy variable for controlling the time effects

* y_{it} represents the real value of Austrian imports ($imports_{it}$) from or exports ($exports_{it}$) to immigrants home-country i ,

* μ_{it} is the i.i.d. error term

The equation is a form of the pooled cross-section and time series model, and represents a reduced form of the full panel gravity model because it focuses only on a particular country. This practice is known as the country specific gravity model.

The use of cross-section and time series (panel) data on a country specific model is another new direction in the use of the gravity model. Researchers like Lung, Kalirjan and Gunawardana (in Lung 2008, p.97) also used the country specific model to analyze the Australian trade with its trade partners.

This equation 1 is used to test the first hypothesis, which attests that immigrants have a positive effect on both Austria's export and imports in regard with their home countries. The first equation is used to test if there is a positive or negative relation between the immigration and bilateral trade. According to the existing literature the two channels through which immigration can influence international trade would be different for export and import flows. That's why in this paper we will analyze export and import flows separately. If there will be a greater effect for imports than for exports than we interpret that the mechanism behind this link is due to immigrant preference for their home country products. If there will be a greater effect of immigration for exports and a little or no effect for imports, than we have evidence of transaction cost reduction, due to additional information brought by the immigrants.

Following Blanes (2006) we also test for the robustness of our results, including a set of control variables to catch some particular characteristics of partner countries, which could have also some impact on trade flows. The first variable is a dummy variable for membership of the European Union (EU_{it}). This variable is important because the trade between its members is facilitated by creation of the European single market. The second variable is a dummy variable for sharing a common language ($lang_i$). Knowledge of the language could facilitate trade, reducing the trade transaction cost. And finally the last variable is a dummy variable for sharing the same border with Austria (fr_i) (Blanes, 2006, p. 10).

The aim of this study is not just to find a relation between trade and immigration but to distinguish also the mechanism that lies behind the linkages. The purpose of the second hypothesis is to identify exactly this mechanism, using information on the immigrants home-county to capture the different characteristics of immigrants from Austria.

To test the second hypothesis “*Immigrants from more institutionally and culturally dissimilar to Austria have stronger impact on Austria’s trade with their home countries*” we split our sample in Immigrants from EU and non-EU. The main reason for doing this classification between countries is our assumption that immigrants from the EU bring with them less additional information, and hence will have less impact on bilateral trade. The equations are similar to equation 1 the only difference is, it distinguishes between EU and non-EU immigrants.

$$y_{it} = \beta_0 + \beta_1 migEU_{it} + \beta_2 rgdp_{it} + \beta_3 dist_{it} + \sum_{t=2002}^{2011} \beta_4 yeart_t + \mu_{it} \quad (equation\ 2)$$

$$y_{it} = \beta_0 + \beta_1 mignonEU_{it} + \beta_2 rgdp_{it} + \beta_3 dist_{it} + \sum_{t=2002}^{2011} \beta_4 yeart_t + \mu_{it} \quad (equation\ 3)$$

5.3 Core Explanatory Variables in the Gravity Model

The model is estimated using bilateral data for Austria with its 68 partner countries. Actually we have two equations for the regression analyze, one representing the exports of Austria to the partner countries and the other representing the imports from the immigrants home countries to Austria. Due to limitations in availability, the data covers the years from 2001 to 2011. All variables except the dummy variables are expressed in logarithms in order to establish a linear relationship. Next, we give a brief description of the variables included in the equation.

5.3.1 GDP Variables

Economic mass that we used in the gravity equation for trade is estimated by the product of a country pairs GDP divided by the world GDP. Data on GDP is from the World Bank database and is expressed in current US dollars. Larger economies are likely to trade more and thus the expected value of this variable is positive.

5.3.2 Immigrants stock

In our estimation we are using the stock of foreign born population, which include also the immigrants that are born outside of Austria but have achieved the Austrian citizenship. The reason we decided to use the stock of immigrants instead of flows is due to the purpose of this study. Using stocks lets us analyze the effect of immigrant networks and the reduction in cultural barriers to trade. Flows of immigrants are usually used for studying the free movement of people.

Four types of sources are used: population registers, residence permits, labor force surveys and censuses. The data is about thousands of people and is taken from the OECD Database.

5.3.3 Distance and dummy variables

The distance and other dummies for colonial ties, common language and common frontier are from the Cepii distances database. Cepii (Centre D'Etudes Prospectives et D'Informations Internationales) is one of the leading French research institution for international economics. The distance measures the distance between the capital of the two countries and is used in the gravity model as a proxy for trade costs. A long distance should reduce trade due to the increase in transaction cost. On the other side, the common language, membership of the EU and contingency are expected to increase trade.

5.3.4 Export and Import Prices

Both import and export prices are taken from the OECD Database. Values are expressed in current United States dollars (USD) and refer to declared transaction values. Imports are reported c.i.f. and exports are reported f.o.b. with the exception of Australia, Canada, Mexico, Slovak Republic and United States where imports are reported f.o.b. For the United States exports are reported as f.a.s. Data published by the OECD Database are expressed as monthly averages and the annual data are calculated as averages of monthly figures.

5.3.5 Preliminary data analysis

After a short review of the independent variables used in the gravity equation, we have done some preliminary analyses of our variables, analyzing the correlation between the core explanatory variables. Appendix B presents the pairwise correlation between all the variables that we use in the empirical part. Distance as expected has a negative correlation with the other variables, excepting the imports, on which has a positive influence. This could be explained if we recall the H-O trade model, which states that trade between two countries occur because of the difference in factor endowments. Distance could be a proxy for these differences. A bigger distance could signalize different climate, different natural resources. It seems that Austria imports more from more dissimilar countries. Taking a look at our variable of primary interest, immigration stock ($\ln mig$), we observe that immigrants are negatively correlated with the GDP, distance and language variables. This is quite predictable, because distance and a new language are seen as barriers to international movement. The only unexpected sign is the negative sign from GDP. This is contrary to the migration theory, which states that a larger country is a sign of diversity and potential, and is an attraction for international movement. Just distance and GDP have a negative influence on trade (imports and exports), all the other variables have a positive correlation. From the preliminary test we conclude that almost all variables have the expected sign, just the sign from GDP is unexpected. Thus we shall pay attention to this variable in the empirical part.

CHAPTER 6 METHODOLOGY AND RESULTS

In the previous chapter we have talked about the country specific gravity model and presented the three equations, which we will use in order to test the hypothesis. Further this chapter will focus in presenting the econometric methodology and the tests we have done to decide which estimation method suit our regressions the best. In the second part of this chapter we will present and discuss our results.

6.1 Estimation method

This study makes use of a panel data with 68 trade partners of Austria over 11 years, to analyze the impact of immigration on trade. For implementing the country specific augmented gravity model Stata software is used.

Panel data models describe the individual behavior both across time and across individuals (2 dimensions). Panel data gives more accurate results as it makes it possible to control for individual heterogeneity. Cross-section and time series are not controlling for this heterogeneity and it is possible to obtain biased results. Panel data gives also more informative data, provides more variability and degrees of freedom. Micro panel models, when the $N > T$, like the panel used in this study, allow for studying more complicated behavior than the cross section or time series (Baltagi, 2008, pp. 6-7). Another advantage of using a panel framework, is that it allows to understand how the relevant variables evolve through time and helps to identify the specific time or country effects such as institutional, cultural, economic time-invariant factors (Gomez Herrera & Milgram Baleix, 2009, p. 9). There are two main types of panel data according to their structure: balanced and unbalanced panels. This study uses a balanced panel data, meaning that for all observations we have the same time periods.

Before deciding for one estimation method we have used some test on the original data. Likelihood ratio test, Parasan test and locally best invariant LBI test are implemented to test for panel level heteroskedasticity and cross- section dependence that may be problems for our

data. After doing the test, the results illustrate the presence of heteroskedasticity. This is a violation from the basic OLS assumption that the variance of the error term is constant. If the error term does not have constant variance, it is said to be heteroskedastik. In the presence of heteroskedasticity, the standard errors are biased and the t statistic and confidence intervals cannot be trusted, but does not lead in biased parameter estimates. Even if we are using a micro panel with observation across eleven years, after doing the Parsan test, the results indicate the presence of cross-sectional dependence. Non-stationary data are unpredictable and may deserve our attention. Using non-stationary time series instead of stationary data may lead to spurious results. It may indicate a relation between two variables, where that relation actually does not exist. The panel data have to use stationary data, in order to receive consistent, reliable results. That's why we are testing all variables for unit roots, using Fisher unit root test. The null hypothesis being tested by the fisher test is that all panels contain a unit root, the alternative is that at least one panel is stationary. All four of the tests strongly reject the null hypothesis that all the panels contain unit roots. The results are presented in the Appendix B, and show that we don't have any problems with non-stationary variable.

Since we have time invariant country characteristics such as common language and border, distance, membership of EU, the use of fixed effects regression is not taken into account, because variables will be dropped out from the regression. The feasible generalized least squares (FGLS) is selected as the appropriate econometric estimation method. The selection of FGLS estimation method is the most appropriate to use in the presence panel-level heteroskedasticity and cross-sectional dependence in the original data(White & Tadesse, 2007, p. 497).FGLS method was used by White and Tadesse (2007), because it allows the estimation of efficient coefficients when you are dealing with such problems.

6.2 The Results

Table 3 includes the panel data results for all 68 trade partners for the whole period 2001-2011, for both exports and imports dependent variables. As we mentioned before the regressions were done separately for imports and exports, to capture the different impact that immigrants may have on international trade.

Immigrant stock, the variable of primary interest, has a positive and statistically significant coefficient at 1% level for both exports and imports. The export coefficient of 0.078 is closed with the export elasticity of 0.08 found by Dunley and Hutchinson (2001) for the case of the United States and 0.08 found by White and Tadesse (2007) for the case of Italy. Taking into consideration the impact of immigration on Austria's imports, we found a positive and significant effect. An increase of 10% in the foreign born population will lead to an increase of 0.8 % in exports and 0.5 % in imports with their home countries.

Table 3 Immigrants impact on exports and imports

	Exports	Imports
Immigrant stock	0.0785*** (5.22)	0.0528*** (4.35)
RGDP	-0.0558* (-2.33)	-0.0645* (-2.18)
Distance	-0.207*** (-7.93)	0.253*** (11.02)
Constant	16.79*** (78.02)	15.11*** (70.12)
N	748	748
Groups	68	68
Wald chi2	1157.49	448.39

GLS estimations including time dummies variables

* p<0.05, ** p<0.01, *** p<0.001, indicates significance at 5%, 10% and 1%.

t-ratios, based on heteroskedasticity robust standard errors, are given in parentheses.

A higher immigrant impact on exports than on imports was found also by Gould (1994) and Grima and Yu (2002) in their studies made for USA and UK. As we can see in Table 3⁵, we have found that immigration has positive influence on both export and import of Austria. A stronger positive effect of immigration for export, leads us to the conclusion that the mechanism behind the immigration trade link is the additional information brought by immigrants about their home county market, which results in a reduction of the transaction cost.

⁵In order to keep the tables of a manageable size, we do not report the coefficients of time dummy variable, which control for time effects. For all regression they are significant and have a positive sign.

Distance shows also significant coefficients at 5% level for both imports and exports. This variable is used as a proxy for trade cost, that's why we expected a negative sign. As expected for exports we have a negative coefficient of 0.2 but surprisingly for imports we found a significant positive coefficient. This could be explained if we recall the H-O trade model, which states that trade between two countries occur because of the difference in factor endowments. Distance could be a proxy for these differences. A bigger distance could signalize different climate, different natural resources. Austria will import more from more dissimilar countries. An increase of 10% in the distance between Vienna and other capital will lead to a 2.5 % increase in imports.

RGDP is also significant having a negative sign for both exports and imports. This result is contrary with what the gravity model theory predicts. A negative *RGDP* shows that Austria is trading more with countries that are closer to her size.

After we have done the first regressions, we added also some dummy variables to check for robustness of our results. The findings can be seen in Table 4. Adding the dummy variables reduces the coefficients of export and import, also we can see that imports have lost the statistical significance.

EU membership has a significant and positive influence on both exports and imports, with a much stronger effect for export. This means that Austria exports more to their trade partners from EU than imports from these countries. The EU membership is an export enhancement for Austria. *Common language* and *common frontier* have pro-exports and pro-import effect. As in the case of EU, the coefficients are larger for exports than for imports. The sign of these dummy variables are consistent with the gravity models and perform as expected. Common language and a common border have a large and positive coefficients reflecting a decrease in trading cost due to less language and cultural barriers. Lower cost will lead to an increase in trade between these countries.

Table 4 Immigrant impact on bilateral trade: robustness check

	(1) Exports	(2) Imports	(3) Exports	(4) Imports
Immigrant stock	0.0394* (2.44)	0.0314 (1.79)	0.0344* (2.08)	0.0389** (3.20)
RGDP	-0.0640** (-2.97)	0.0134 (0.50)	-0.0697** (-2.92)	-0.0769** (-2.60)
Distance	-0.419*** (-12.10)	0.143*** (4.21)	-0.300* (-2.37)	0.258*** (5.33)
EU	1.574*** (29.27)	0.545*** (7.34)	2.215*** (13.46)	0.656*** (4.58)
lang	1.738*** (21.61)	1.418*** (9.40)	-----	-----
frt	2.200*** (31.25)	1.429*** (12.55)	-----	-----
Constant	17.17*** (72.78)	14.86*** (60.58)	16.74*** (30.84)	15.08*** (55.38)
N	748	748	748	748
Groups	68	68	68	68
Wald chi2	7509.47	1349.18	3434.02	649.35

GLS estimations including time dummies variables

* p<0.05, ** p<0.01, *** p<0.001, indicates significance at 5%, 10% and 1%.

t-ratios, based on heteroskedasticity robust standard errors, are given in parentheses.

As it was mentioned in Chapter 4, to test the second hypothesis we split the immigrant stock in immigrants from EU countries and immigrants from non-EU countries. Table 5 presents the results of the EU immigrants, and their impact on Austria's international trade. Splitting the sample of immigrants shows different and interesting results. Immigrants from the EU have a positive significant impact on Austria's imports. A 10 % increase in foreign born population leads to a 2.09% increase in imports. This percentage decreases to 1.85 if we include also the dummy variables. The impact of EU immigrants on exports is more controversial. Without the dummy variables the immigrants have no significant impact on exports. In this case we found evidence for the second channel, the preferential channel. Immigrants from EU bring with them a preference for consuming their home country products. A rise in demand of such products will lead to an increase in Austria's imports from

other EU countries. If the dummies are included in the regression the EU immigrants have a negative impact on trade.

Table 5 Impact of the EU immigrants on bilateral trade

	(1) Exports	(2) Imports	(3) Exports	(4) Imports
Immigrants stock EU	-0.00107 (-0.14)	0.209*** (20.41)	-0.0529*** (-5.80)	0.185*** (10.71)
RGDP	-0.0707*** (-7.96)	0.0648*** (10.81)	0.00873 (1.34)	0.121*** (12.47)
Distance	-0.497*** (-58.68)	0.660*** (56.88)	-0.778*** (-30.58)	0.456*** (38.04)
lang	-----	-----	0.907*** (26.67)	0.728*** (8.89)
frt	-----	-----	1.890*** (112.87)	1.301*** (18.36)
_cons	20.18*** (195.17)	11.98*** (144.18)	20.46*** (137.06)	12.08*** (99.83)
N	253	253	253	253
Groups	23	23	23	23
Wald chi2	12033.60	65811.34	63679.23	35552.26

GLS estimations including time dummies variables

* p<0.05, ** p<0.01, *** p<0.001, indicates significance at 5%, 10% and 1%.

t-ratios, based on heteroskedasticity robust standard errors, are given in parentheses

This substitution effect for exports is not common in the literature. Bruder (2004) found for the case of Germany that labor migration had no significant influence on both export and import. She found that trade reduces significantly the labor migration. She reasoned that growing in international trade because of an increase in European integration leads to a decrease in wage difference and thus labor migration decreases.

Taking a look at the table 6, we see that the immigrants from non-EU countries have different impact on Austria's bilateral trade. A 10 percent increase in immigration from non-European countries lead to 0.47 % increase in exports and 0.5 % decrease in imports. We found again evidence for the substitution effect between migration and trade as predicted by the H-O model. This could be due to the immigrant substituting activities in the case of imports.

Table 6 Impact of non-EU immigrants on international trade

	(1) Exports	(2) Imports	(3) Exports	(4) Imports
Immigrant stock non-EU	0.0467** (2.87)	-0.0492*** (-3.96)	0.0605*** (5.63)	-0.0363** (-2.91)
RGDP	-0.0741** (-2.61)	-0.143*** (-5.00)	-0.156*** (-7.85)	-0.152*** (-5.19)
Distance	-0.130** (-3.14)	0.102*** (5.63)	-0.236*** (-5.09)	0.0579** (3.15)
lang	-----	----	0	0
frt	----	----	0	0
Constant	16.01*** (58.21)	16.76*** (80.37)	16.64*** (79.56)	16.77*** (78.94)
N	495	495	495	495
Groups	45	45	45	45
Wald chi2	3907.50	537.46	569.38	502.30

GLS estimations including time dummies variables

* p<0.05, ** p<0.01, *** p<0.001, indicates significance at 5%, 10% and 1%.

t-ratios, based on heteroskedasticity robust standard errors, are given in parentheses.

Grima and Yu (2002) found also a trade substitution effect of immigration coming from UK's former colonies. Their results showed that 10% increase in immigrants lead to a 1% decrease in imports. Immigrants can transmit their knowledge about production methods or technology to the host-country local producers, and the previously imported goods could be substituted by local production, due to the economies of scale. In this case the imports from those countries will decrease. In the case of immigrants and imports, it has been seen that immigrant entrepreneurship can cause import substitution leading to an import decrease in the host-country, as reported by Dunley and Hutchinson (2001). It is important to remember that in the total foreign population the non-EU immigrants have a larger amount and that Austria has stricter immigration policy for people outside the EU. The immigrants from non-EU countries could find a way to stay in Austria becoming manufacturing entrepreneurs if there are economies of scale for production. Since we do not have further information regarding skills, education or occupation of the non-EU immigrants, it is impossible to do further test to see which, exactly is the reason for this substitution effect.

CHAPTER 7 CONCLUSION

To the best of our knowledge, this paper is the first empirical analysis to examine the Austrian trade- immigrant link. Thus is the first to report pro trade effects of immigration on Austria's bilateral trade flows. Our findings show that a 10% increase in the foreign born population will lead to an increase of 0.8 % in exports and 0.5 % in imports with their home countries. The implication of the immigrants on the Austrian economy has been studied before, but all papers focused in measuring the immigrant impact on the local labor market⁶. The finding of this study could be useful information for policy makers or for the debates about immigration in Austria.

The literature on this new topic immigration and trade is still scarce, therefore, we feel that we made a contribution in better understanding the implication that immigrants could have on bilateral trade as a whole. Another contribution of this paper is in helping understand the mechanism behind the immigration-trade link. So we can examine this, we have split the immigration data in immigrants that come from EU countries and non-EU countries. We assume that non-EU immigrants come from countries that are culturally and institutionally more dissimilar to Austria. We also assume that these immigrants would bring with them more additional information and they would contribute to reduce transaction costs.

Our results report robust findings regarding EU immigrants and their impact on imports. A 10% increase in the immigrants from EU countries leads to a 2.09% increase in imports. The effect of the EU immigrants on Austria's exports is not really clear. The export coefficient shows no statistical significance in the normal regression. After including the dummies, the coefficient became significant at 1% and presents a negative sign, denoting a substitution effect between exports and EU immigrants. Finding robust data just for imports made us conclude that immigrants from EU came to Austria with a preference for consuming their home country products, in this way having an impact in promoting imports from their home countries. These findings are evidence for the preference channel. We have discussed this channel in Chapter 4 of this paper.

⁶See Pollan (1990), Aiginger, Winter-Ebmer, and Zweimüller (1996), Alzinger (1995), Winter-Ebmer and Zweimüller (1997)

Regarding the immigrants from the other sample, we found robust and positive relation between non-EU immigrants and exports. The effect of EU immigrants on Austria's exports is not clear. Thus we interpret that the mechanism behind the trade-immigration link is driven by the knowledge and new information about home country markets and different social institution brought by the immigrants from non-EU, rather than the business connection or personal contacts with their home countries. If the reduction in transaction costs were through business or personal contacts than the immigrant link would be universal, equal for immigrants from EU and non-EU countries. These findings support our second hypothesis that the immigrants from more institutionally and culturally dissimilar to Austria will have a greater impact on trade.

The paper reveals a significant and robust trade-substitution effect of the immigrants coming from non-EU countries. This substitution effect applied just to imports. This is a really interesting finding and should be further explored. Since we do not have further information regarding skills, education or occupation of the non-EU immigrants, it is impossible to do further tests to see which, exactly is the reason for this substitution effect.

It is important to note that in this paper we have treated all immigrants as being equally capable of influencing trade flows. But it is possible, like other studies have shown, that skills, education and occupation of the immigrants have different impact on trade. Thus, a classification of the immigrant characteristics and further investigation of the Austrian immigrant-trade link is worthy. An open area for further researches to investigate the impact of immigration on Austrian bilateral trade is by considering trade flows by commodity groups, as aggregate trade flows may have important heterogeneity.

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APPENDIX

Appendix A. Country List

Country of origin	Country of origin
Afghanistan	Kenya
Albania	Korea
Algeria	Lebanon
Argentina	Lithuania
Armenia	Luxembourg
Australia	Former Yug. Rep. of Macedonia
Bangladesh	Mexico
Belgium	Moldova
Bolivia	Morocco
Bosnia and Herzegovina	Netherlands
Brazil	New Zealand
Bulgaria	Nigeria
Canada	Norway
Chile	Pakistan
China	Peru
Colombia	Philippines
Croatia	Poland
Cuba	Portugal
Czech Republic	Romania
Denmark	Russian Federation
Egypt	Serbia and Montenegro
Finland	Slovak Republic
France	Slovenia
Germany	South Africa
Ghana	Spain
Greece	Sri Lanka
Hungary	Sweden
India	Switzerland
Indonesia	Syria
Iran	Thailand
Iraq	Tunisia
Ireland	Turkey
Israel	Ukraine
Italy	United Kingdom
Japan	United States

Appendix B. Pairwise correlation

	lnexports	lnimports	lnmig	lnrgdp	lndistance	EU	lang	frt
lnexports	1.0000							
lnimports	0.4659	1.0000						
lnmig	0.0781	0.0279	1.0000					
lnrgdp	-0.0370	-0.0576	-0.0037	1.0000				
lndistance	-0.0816	0.0887	-0.1854	-0.0877	1.0000			
EU	0.4549	0.1083	0.0613	0.0412	0.0194	1.0000		
lang	0.3053	0.1582	-0.1334	0.0491	0.1689	0.2176	1.0000	
frt	0.4483	0.2210	0.0690	-0.0637	0.1123	0.3715	0.3267	1.0000

Appendix C. Fisher Unit Root Test's results

Variable		Lnexports		Inimports		Inimmigrants		Inrgdp	
ADF regressions: 2 lags		Statistic	p-value	Statistic	p-value	Statistic	p-value	Statistic	p-value
Inverse chi-squared(136)	P	354.0436	0.0000	358.9018	0.0000	346.8834	0.0000	391.1185	0.0000
Inverse normal	Z	-11.1773	0.0000	-11.2110	0.0000	-9.2897	0.0000	-12.3257	0.0000
Inverse logit t(344)	L*	-11.0608	0.0000	-11.2546	0.0000	-9.7248	0.0000	-12.4957	0.0000
Modified inv. chi-squared	Pm	13.2208	0.0000	13.5154	0.0000	12.7867	0.0000	15.4688	0.0000

Zusammenfassung

Migration zählt aufgrund zahlreicher wirtschaftlicher Auswirkungen, sowohl auf das Aufnahmeland als auch auf das Herkunftsland, zu den wichtigsten politischen und soziologischen Aspekten. Der Großteil der wirtschaftlichen Studien befasste sich mit dem Effekt, den Immigration auf den Arbeitsmarkt des jeweiligen Aufnahmelandes hat. Seit geraumer Zeit setzen Wissenschaftler ihren Forschungsschwerpunkt auf eine weitere wichtige Folgeerscheinung: die Verbindung zwischen der zugewanderten Bevölkerung und dem internationalen Handel. Da der Bestand an Fachliteratur über das Thema des Zusammenhangs von Immigration und Handel derzeit noch gering ist, wird versucht mit der Analyse in dieser Ausarbeitung, welche unter der Verwendung österreichischer Daten zustande gekommen ist, ein Beitrag zum besseren Verständnis der Auswirkungen, welche Einwanderer auf den bilateralen Handel haben, darzustellen. Zusätzlich soll diese Arbeit das Verständnis für den Mechanismus hinter dem Zusammenhang von Immigration und Handel erleichtern. Laut bestehender Literatur gibt es hauptsächlich zwei Systeme in welchen sich Einwanderungen positiv auf bilaterale Handelsströme auswirken können: die Vorliebe für Produkte aus der Heimat und das Transaktionskostensystem. Das erste System besagt, dass sich der Einfluss nur auf das Aufnahmeland bezieht, während das zweite System davon ausgeht, dass ein weitreichender Effekt die Exporte und Importe zwischen den Ländern beeinflusst. Der erste Mechanismus prognostiziert einen Anstieg der Importe von Produkten aus den Herkunftsländern der jeweiligen Einwanderer, da diese heimische Produkte bevorzugt konsumieren. Der zweite Mechanismus beruht darauf, dass die Immigranten ihren Wissensstand über die heimischen Märkte mitbringen und nutzen, um den Handel zu steigern. In dieser Ausarbeitung wurden beide Systeme unter der Verwendung von österreichischen Handelsstromdaten mit 68 Partnern aus den Jahren 2001 bis 2011 getestet. Besagte Studie gibt in einem ganzen Kapitel einen Einblick in den Immigrationsprozess Österreichs von den frühen Sechsziger Jahren bis zum heutigen Tag. Sie beschreibt und erläutert die Migrationsbestände und flüsse, Entwicklungstendenzen und zeigt die wichtigsten Herkunftsländer. Österreich scheint ein Land zu sein, welches sehr attraktiv auf Migranten wirkt. Es werden mehr Familienmitglieder, Asylsuchende und unabhängige Migranten aufgenommen als in Deutschland und in der Schweiz. Dieser Vergleich ist nicht in absoluten Zahlen, sondern im Verhältnis zur jeweiligen Landesgröße zu verstehen.

Ein weiteres Kapitel handelt von den theoretischen Grundlagen, auf welchen diese Studie basiert. Es gibt eine Literaturübersicht über Migration und Handelstheorien. Ursachen und Auswirkungen der internen und externen Migration sind vielfältig. Diese Vielfalt kann in verschiedenen Theorien und Migrationsmodellen gesehen werden und spiegelt sich auch in den empirischen Untersuchungen wieder. In der Literatur findet sich eine Vielzahl von Modellen, welche unter der Verwendung von verschiedenen Konzepten, Annahmen und Rahmenbedingungen versuchen zu erklären, warum die internationale Migration stattfindet. Weiters wird ein Überblick der vorhandenen Literatur zu Handelstheorien gegeben, welcher das klassische Beispiel der Theorie der absoluten Kostenvorteile bis hin zu der neuen Handelstheorie umfasst. Ein besonderes Augenmerk wird auf die Beziehung zwischen Handel und Migration gelegt. Der Schwerpunkt dieser Arbeit liegt darin, die Verbindung zwischen Einwanderung und Handel mit Daten aus Österreich empirisch zu testen. Unter Berücksichtigung aller theoretischen Grundlagen über die Verbindung von Einwanderung und Handel und unter der Verwendung einer Gravitationsgleichung, erweitert mit dem Bestand an Einwanderungen, ist diese Ausarbeitung der erste Versuch herauszufinden, wie dieser Mechanismus in der Praxis für Österreich genau funktioniert. Die Ergebnisse zeigen, dass es einen positiven Zusammenhang sowohl zwischen Einwanderungen und Exporten, als auch zwischen Einwanderungen und Importen gibt. Ein Anstieg von 10 Prozent bei der im Ausland geborenen Bevölkerung lässt sich mit einem 0,8 prozentigen Anstieg der Exporte und einem 0,5 prozentigen Anstieg der Einfuhren assoziieren. Wir fanden sowohl Anzeichen für das Transaktionskostensystem, als auch für das Präferenzensystem. Um den Mechanismus hinter dem Zusammenhang von Immigration und Handel zu analysieren, haben wir die Immigrantenbestände auf EU und Nicht-EU Immigranten aufgeteilt. Die Ergebnisse zeigen, dass Immigranten aus der EU einen positiven Effekt auf Importe haben. Dies kann auf den Präferenzmechanismus zurückgeführt werden. Ein weiterer interessanter Punkt ist die Auswirkung der Nicht-EU Immigranten auf den bilateralen Handel. Erstens haben sie eine bedeutende und positive Auswirkung auf Österreichs Exporte. Der Mechanismus hinter diesem Zusammenhang beruht auf den zusätzlichen Informationen über Produkte und über soziale und politische Institutionen, welche zu einer Verringerung der Transaktionskosten führen. Zweitens haben Nicht-EU-Migranten einen Einfuhrsubstitutionseffekt.

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FÄHIGKEITEN UND KOMPETENZEN

Sparchen : Rumänish- Muttersprache

English – sehr gute Kenntnisse

Deutsch- gute Kenntnisse

Italienish- Grundkenntnisse

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HOBBIES

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