GLOBALIZATION AND MIGRATION FLOWS. SOME EFFECTS OF IMMIGRATION ON THE SPANISH LABOUR MARKET IN THE LAST DECADE

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Abstract

One of the main consequences of Globalization process is migrations flows. Migration has two sides; one is related to positive gains in the host country in that migration is a source of invaluable human resources and contributes to increase the production of goods and services. The other side has to do with the impact of immigrants on the native labour market especially on wages and employment conditions. Both effects will have an influence on the native income distribution.

The case of Spain is unique in the context of Europe. Spain has been a traditional emigration country with a long history of emigration. This tradition has changed in recent years and now Spain has become an important country for immigration such as Germany or the USA. The immigration process in Spain has been strongly concentrated especially in recent years. This large flow of immigrants, (over 5 millions in less than 15 years) has caused a strong impact on several political, social, demographic and economic aspects in Spain. One of the most important reasons for immigration into Spain is connected to the good evolution of the Spanish economy during the long period 1995-2007 and a similar evolution of the Labour Market.

The impact of immigration flows is large, complex and shows different perspectives for the Spanish society and economy. In this paper we will consider some impacts of migration on the Spanish economy and the Spanish Labour Market. Having this objective in mind the paper is organized as follows. After this introduction, in section 2 we present some selected facts of the importance of migration flows into Spain as compared to other European countries. In section 3, we will estimate the impact of migration on Spain's GDP over the last decade using a simple labour market model. In section 4 we will focus on the impact of immigration on the structure of the Spanish labour supply and especially on the participation of women in the Labour Market, which is one of the most outstanding events having taken place in the last decade. The paper finishes with some conclusions.

1. INTRODUCTION

The history of Spain has been a history of emigration during the last five centuries. The discovery of America, at the end of the 15th century, provided an opportunity for the Spanish population to migrate to a New World. Between the 16th and the 19th century, hundreds of thousands of Spaniards went to America. This flow continued after the Latin-American Colonies became independent. Migration flows continued during the 20th century. Likewise, there was a strong process of internal migrations during the first half of the 20th century (such flows consisting basically of migration from rural areas to cities and from the southern agricultural regions of Spain to the northern and industrial regions). In the 1960s and 1970s there was also a strong flow of Spanish emigrants to Central Europe (Germany, France, Switzerland, etc). So, Spain has been a country of emigrants over the last 500 years. However, this tradition has changed in the last 15 years.

The continuing process of economic growth that took place in Spain between 1995-1996 and 2007 went together with a steady growth in the creation of employment and gave rise to new opportunities to immigrants.

Since 1996 foreigners came to Spain at an increasing rate; in 2008 the total immigrant population in Spain exceeds 5.2 million (Sandell, 2008). Immigration has been both legal and illegal.
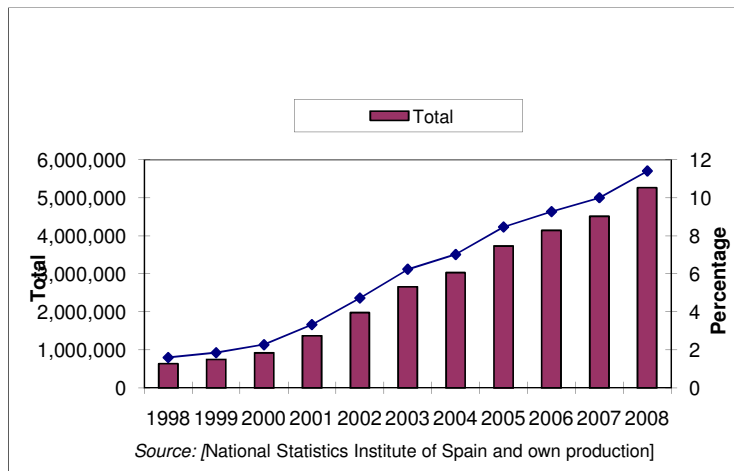

Figure no. 1 Foreign population in Spain. 1998-2008

Migrations have an important effect both on the country of origin and on the host country. The arrival of immigrants not only affects the domestic economic system, but also social aspects, public goods and services. The labour market impact of immigration has been studied by the neoclassical economy from the Human Capital Theory developed by Sjaastad

(1962). Since then, the economic literature has extensively studied these aspects mainly for the USA (surveys by Borjas 1995,1999, 2001, 2003a, 2003b, 2006 or Card 2001, 2005), Europe (for example Angrist and Kugler 2003) or Spain (Dolado, Jimeno and Duce, 1998, Carrasco, Jimeno and Ortega, 2007, Fernández and Ortega, 2007, Amuedo-Dorantes and de la Rica, 2007).

The labour market impact of immigration depends not only on the size and geographic location of the immigrant population, but also on the skills that immigrants bring to the labour market—and, particularly, on how the skills of immigrants compare with those of natives. One of the most important factors to understand the impact of immigration is the *relative* skills of immigrants as compared to those of natives. In a study on the UK Manacorda *et al*. (2006) find that immigrants and natives are imperfect substitutes. A similar result is obtained by Amuedo-Dorantes and de la Rica (2007), for the case of Spain at the aggregate level.

2. INMIGRATION IN SPAIN. SELECTED FACTS.

Immigration is the most relevant phenomenon experienced by Spanish society during the first years of the new century. In September 2005, according to the Eurobarometer, immigration was the fifth most important problem for the European society (UE citizens ranked immigration behind unemployment, crime, economic situation and social health). In 2008 immigration ranked third in the context of economic crisis behind terrorism and unemployment (Sociological Research Center).

In recent years new migration patterns have emerged in the southern EU countries and they have been especially relevant in Spain. Immigration into Southern Europe (Portugal, Spain and Italy) reflects colonial and historical patterns as well as geographical proximity. Moreover, emigration results from economic changes in South American and Caribbean countries and in the economies of Southern Europe (economic growth): favourable visa issuing policies and dual citizenship.

September 11th 2001 and the subsequent immigration policy in the USA has also redirected flows from South America to Europe. These flows coexist with regularization programmes that have had a significant effect on the size of the non-national population in Spain.

During the first part of the 20th century over six million people left Spain. Until the 1930s, 80% of those emigrants chose the Americas as their destination. During 1950s, 1960s and until the mid 1970s, 74% of Spanish emigrants went to countries of Northern Europe. During this period, a large *exodus* of Spanish people to foreign countries takes place. Then, the onset of the Oil Crisis, which took place at the same time of the Transition to Democracy in Spain (1976-1981), is the scenario determining the end of Spanish emigration to Europe and the beginning of the return of emigrants to Spain. As a whole, we can accept that the period 1985-2007 is, in general, a period of economic growth for Spain (although there was a short but deep economic crisis in 1992-1995 and another softer economic crisis in 2000-2003). During the 1996-2007 period Spain's economy grew above the EU average. This difference continued even during the first year of the present economic crisis (See Figure 2).

Since the 1980s and until 1996, Spain starts to be considered as a destination country for migration. First as a quiet country, an attractive destination for *wealthy* European people such as retired people who stayed in southern Spain (mainly in the Costa del Sol and the Ba-

learic islands) beyond their holyday periods, to enjoy a comfortable weather especially in winter   (permanent residents). Spain became an attractive destination for migrants from northern Europe. Then, in 1998-1999 started a second flow of immigrants to Spain, in this case due to economic reasons, from poorer and less developed countries initially mostly from North African and Latin American countries and, later from Eastern Europe. In Figure 3 we can see the increasing number of foreigners coming to Spain as compared to other European countries with a larger tradition of immigration.
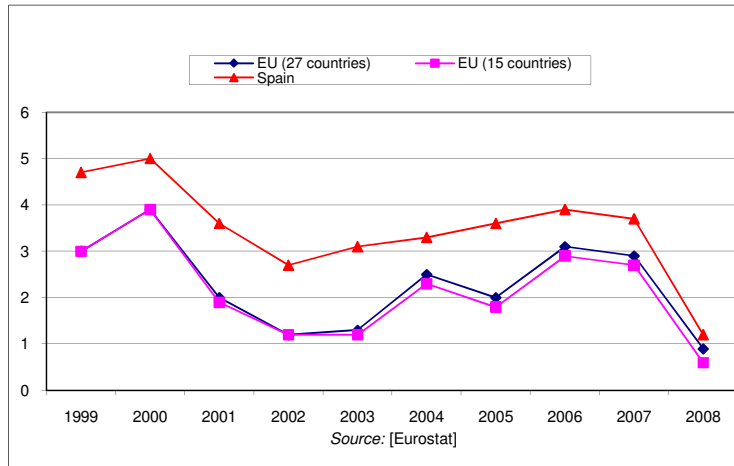

Figure no. 2 GDP growth rate. Percentage on previous year

On average, 500.000 immigrants have come to Spain every year since 2001, which means that Spain has become the second country in number of immigrants received during the last decade, ranking only behind the U.S.A. The reasons for this are difficult to establish in a conclusive manner, way but we can consider several factors: political, sociological and mainly economical. We may also consider other reasons such as the use of Spain as a gateway to other European countries with better employment opportunities, economic crises in several Latin America countries or the long-standing decline of Africa. In demographic terms, the percentage of immigrant population has changed from 1.6% in 1998 to 11.41% in 2008. These are official figures, and according to non-official sources the figures may be even higher, due to irregular economy which has traditionally been large in Spain. In this case estimates set the figure above 15%.
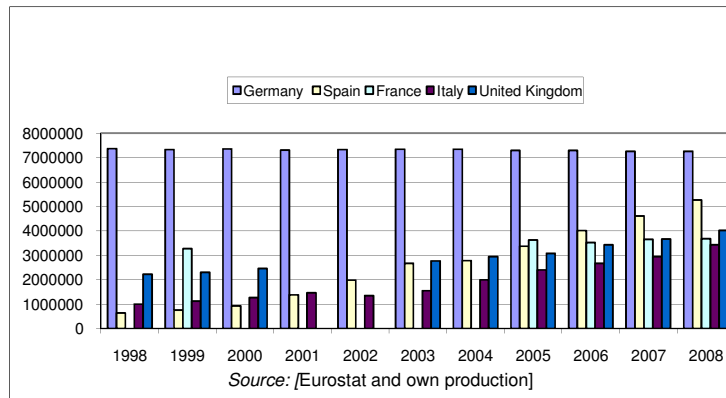
Figure no. 3 Population by Citizenship. Foreigners.
Selected U.E. Countries 1998-2008

Population in Spain has grown in 5.643.871 people in the period 1998-2008 from which 4.625.006 are foreigners. The impact of this migration flow to Spain has led to major changes in the Spanish economy and society as a whole and probably in future policy. This process has nothing to be compared with the rest of Europe although there are several countries that have suffered a similar process such as Italy or the United Kingdom. Nevertheless, these countries has experiment the inflow of population at a lower level and, in the case of the U.K., it has taken place during a longer period. It is interesting the case of Germany where both, the total number and the percentage of foreign people is stable during the last decade according to Eurostat data (Figure no. 4).
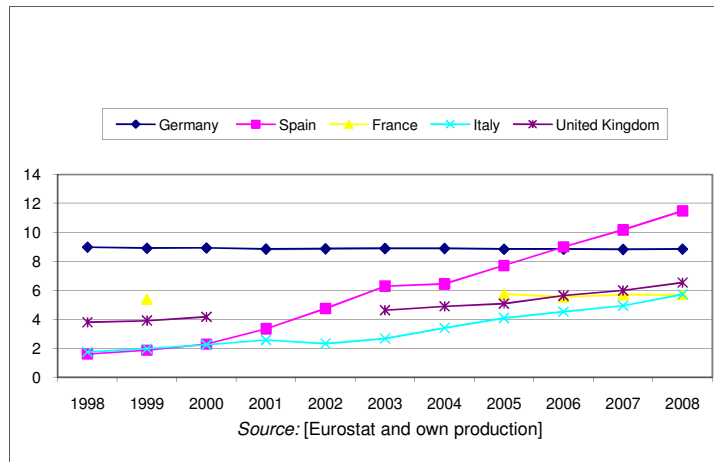
Figure no. 4 Percentage of Foreign Population in some European Countries. 1998-2008

2. AN ESTIMATE OF THE ECONOMIC IMPACT OF IMMIGRATION IN SPAIN

The influence of immigration on the host economy, society and labour market is complex. On the one hand, immigrants contribute to the economic growth of the host country and bring human capital and initiative; on the other hand, immigrants can be considered as a threat to the native workforce because they increase labour supply and may affect wages and employment conditions. As a consequence, they may cause a decrease in the well-being of native workers with fewer skills (similar to those of immigrants) and an increase in inequality. Empirical research confirms that the immigration of low-skilled workers has, in theory, an ambiguous impact on inequality, because they have little impact on earnings and employment of the least skilled native workers. This effect has been studied for the case of Spain by Fernandez and Ortega (2007), Amuedo and de la Rica (2007) and Carrasco, Jiménez and Ortega (2007).

The impact of immigration on the labour market can be studied using an elementary model of labour demand and can be extended to its impact on the whole economy. Following the analysis of Cahuc and Zylberberg (2004, p.608-609) we can consider the impact of immigration with an elementary short-run labour demand model in which we assume the hypothesis of labour being homogeneous, and we do not distinguish between skilled and unskilled workers (In this case, immigrants less qualified than native workers would lead to a reduction of wages of the group of least-skilled native workers).

An approach to the impact of immigration using a short-run labour demand model

To study the impact of immigration we propose a model in which the labour force comprises N natives and M immigrants and the labour market is supposed to be competitive. In Figure 5 we represent a simple model of a competitive labour market. If the labour demand function $F_L(K, M)$ has the conventional characteristic of diminishing returns, w_0 is the wage in absence of immigration and w_1 the wage in the labour market after the arrival of M immigrants. The income of immigrants is $M w_1$. Before the arrival of immigrants wages are $w_0 = F_L(K, M)$ and after the arrival of the immigrates the new wage level is given by then the equation $w_1 = F_L(K, N+M)$. The arrival of immigrants increases the GDP of the country and generates a surplus S. This profit to the native economy is equal to the triangle *BCD* in Figure 5. The surplus represents the sum of the variations in labour remuneration and capital earnings. We can approximate it by the term $(M/2)(w_1-w_0)$. Since $w_1-w_0=F_L(K, N+M)-F_L(K, M)$, assuming that M is small as compared to N, a first order expansion gives $w_1-w_0=F_{LL}(K,N)$, and the surplus $S=-(M^2/2) F_{LL}(K,N)$. The surplus can be related to the product Y, if the elasticity of labour demand is $n_w^L=F_L/LF_{LL}$, we get (1)

$$\frac{S}{Y} = -\frac{1}{2}\left(\frac{M}{N}\right)^2 \frac{NF_{LL}}{F_L} \frac{F_L N}{Y} = \frac{m^2 s^L}{2n_W^L} \qquad (1)$$

$s^L= wL/Y$ participation of labour earnings in the GDP.
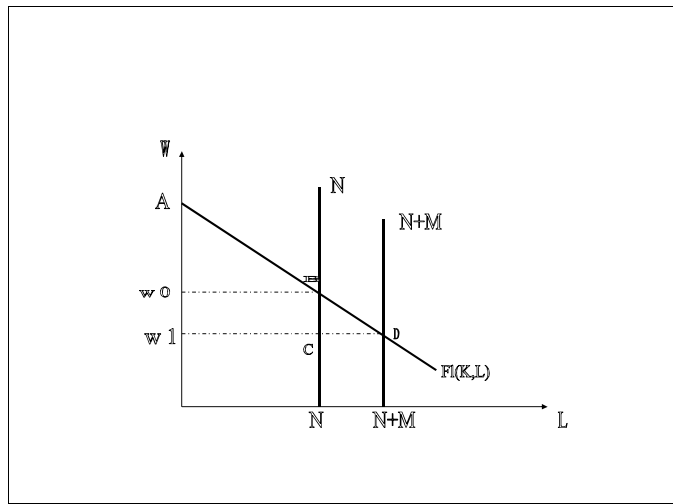m=M/N represents the ratio of the number of immigrants to the number of natives.

Figure no. 5 Inmigration in a model with homogeneous labour and fixed capital

We can estimate the surplus *S* using this equation and the data provided by the National Statistics Institute of Spain. The official figures provided by the *National Accounting of Spain* give an estimate of the Gross Domestic Product at Market Prices, and also for the *Compensation of employees,* so that we can calculate a *proxy* to the participation of labour earnings in the GDP (s^L). From the National Statistics Institute we can also obtain an estimation of the number of immigrants in Spain through the statistical use of the Municipal Register.

To complete our study, we need an estimate of the elasticity of labour demand in Spain. This variable is difficult to estimate and especially in the case of Spain because over the last decades Spanish unemployment figures have been traditionally much higher than the EU average. In the literature we can find several estimates of the elasticity of labour demand in Spain. The values of elasticity range between 0.2 (Lamo and Dolado, 1992) and 0.5 (Raymond, 1993). If we use these estimates we can calculate the surplus generated by immigrants. The results are shown in Table 1 according to the estimate of s^L. We have included a third column to consider the case of elasticity equalling one, in order to show the results for labour demand elasticity being one.

Table no. 1 Estimate of the Surplus for the Spanish Economy. 1998-2008

	S/Y as GDP Percentage			S (Thousands of euros)		
Year	n=1	n=0,5	n=0,2	n=1	n=0,5	n=0,2
1998	0.0063	0.0127	0.0317	34.198	68.396	170.991
1999	0.0086	0.0171	0.0429	49.719	99.438	248.594
2000	0.0129	0.0257	0.0644	81.141	162.282	405.704
2001	0.0273	0.0545	0.1363	185.577	371.153	927.883
2002	0.0545	0.1090	0.2725	397.411	794.822	1,987.055
2003	0.0941	0.1883	0.4707	737.013	1,474.026	3,685.064
2004	0.1175	0.2350	0.5876	988.323	1,976.647	4,941.617
2005	0.1697	0.3393	0.8483	1,541.767	3,083.534	7,708.834
2006	0.2028	0.4056	1.0139	1,995.998	3,991.996	9,979.989
2007(F)	0.2378	0.4757	1.1892	2,503.845	5,007.690	12,519.225
2008(L)	0.3153	0.6306	1.5766	3,432.207	6,864.415	17,161.037

(F): forecast
(L) : lead estimate

Source: [National Statistics Institute of Spain and own production]

Applying the model to the data gives us some information on the impact of immigration on Spain's economy. Obviously, the estimate produced depends on the value of labour demand elasticity. The highest impact on S corresponds to a rigid elasticity. The impact of immigration increases steadily during the 1998-2008 period, starting from 0.03% in 1998 to reach 1.57% in 2008, if we consider the lowest elasticity (0.2). On the other hand, if we assume an elasticity of one, the impact of immigration on S increases from 0.006% in 1998 to 0.31% in 2008.

The second part of Table 1 shows an estimate of the surplus generated by immigration calculated in absolute values. In this case the increasing impact of immigration into Spain has been estimated in a range going from 3,432 million € to 17,161 million € in 2008.

This estimate of the impact of immigration on the Spanish economy gives us an idea of the real impact of immigration on the Spanish economy as a whole; however, the distribution of immigrants in Spain is not homogeneous. We can find a high concentration of immigrants in the North and East of Spain, in the Mediterranean regions, and mainly in Madrid. On the other hand, the presence of immigrants in other Regions of Spain is much lower. Nevertheless, there has been a substantial increase of the foreign population in every Spanish region during the last decade. Its distribution is related to the economic development of Spanish regions due to the fact that the most important factor for migration is economic reasons. It is evident that the concentration of immigrants is higher in regions where economic activity is stronger and there are better opportunities for employment and making money. Table 2 shows the evolution of the percentage of foreign population in the different Spanish regions.

Table no. 2 Percentage of Foreign Population in Spanish Regions

	1998	2001	2005	2008
SPAIN	1.6	3.33	8.46	11.41
ANDALUSIA	1.38	2.22	5.35	7.6
ARAGON	0.66	2.09	7.63	11.67
ASTURIAS	0.56	1.01	2.49	3.78
BALEARIC ISLANDS	4.78	8.38	15.9	20.79
CANARY ISLANDS	3.39	6.06	11.29	13.67
CANTABRIA	0.6	1.27	3.65	5.71
CASTILLE AND LEÓN	0.61	1.07	3.64	6.05
CASTILLE-LA MANCHA	0.57	1.59	6.08	10.08
CATALONIA	1.97	4.05	11.42	14.99
VALENCIA	2.54	4.75	12.4	16.85
EXTREMADURA	0.38	1.08	2.34	3.22
GALICIA	0.72	1.21	2.51	3.43
MADRID	2.26	5.69	13.09	16.03
MURCIA	1.07	4.66	12.35	15.82
NAVARRE	0.81	3.5	8.41	10.48
BASQUE COUNTRY	0.72	1.31	3.43	5.44
LA RIOJA	0.96	3.03	10.32	13.81
CEUTA	4.32	4.33	4.03	4.04
MELILLA	4.09	9.54	4.41	9.06

Source: [National Statistics Institute of Spain and own production]

In view of this distribution and using the economic model applied to the regional figures, we can estimate the impact of immigration on the different Spanish regions. Table 3 shows an estimate of the impact of migration on every region, considering only an estimated value for labour demand elasticity of 0.2 (The Appendix includes estimates for elasticity values of 0.5 and 1). In this case we find that the highest impact is found in the Balearic Isl-

ands, Valencia, Catalonia, Madrid and Murcia. On the other hand, the lowest impact is found in Extremadura, Galicia, and Asturias.

Table no. 3 Estimate of the Contribution of Immigrants in Spain and in each Autonomous Community

to the GDP

ELASTIICTY 0,2	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
TOTAL ESPAÑA	0.0317	0.0429	0.0644	0.1363	0.2725	0.4707	0.5876	0.8483	1.0146	1.1822
ANDALUSIA	0.0226	0.0273	0.0367	0.0584	0.0943	0.1601	0.1983	0.3236	0.4287	0.4970
ARAGON	0.0054	0.0071	0.0129	0.0546	0.1629	0.3122	0.4684	0.7028	0.8148	1.0945
ASTURIAS	0.0039	0.0040	0.0065	0.0125	0.0232	0.0411	0.0524	0.0734	0.0931	0.1085
BALEARIC ISLANDS	0.2644	0.3427	0.4851	0.8107	1.3674	2.0595	2.2248	2.9851	3.2978	4.0031
CANARY ISLANDS	0.1408	0.1736	0.2481	0.4437	0.7212	1.0640	1.1066	1.5008	1.5972	1.8194
CANTABRIA	0.0043	0.0052	0.0075	0.0187	0.0423	0.0717	0.0993	0.1504	0.1956	0.2417
CASTILLE AND LEÓN	0.0044	0.0047	0.0063	0.0132	0.0339	0.0650	0.0916	0.1481	0.1973	0.2472
CASTILLE-LA MANCHA	0.0038	0.0041	0.0072	0.0289	0.0837	0.1748	0.2680	0.4297	0.5540	0.7620
CATALONIA	0.0486	0.0678	0.1059	0.2037	0.4234	0.8016	1.0702	1.5613	1.9512	2.1801
VALENCIA	0.0803	0.1268	0.1780	0.2731	0.5869	1.0335	1.2498	1.8247	2.2835	2.6792
EXTREMADURA	0.0017	0.0058	0.0077	0.0137	0.0233	0.0329	0.0409	0.0637	0.0755	0.0840
GALICIA	0.0062	0.0076	0.0107	0.0177	0.0289	0.0459	0.0526	0.0731	0.0823	0.0997
MADRID	0.0670	0.0903	0.1342	0.4253	0.8341	1.3488	1.6450	2.1390	2.1966	2.5049
MURCIA	0.0133	0.0270	0.0598	0.2501	0.5323	0.9093	1.1867	1.7000	2.1421	2.3719
NAVARRE	0.0085	0.0158	0.0369	0.1594	0.3743	0.5754	0.6950	0.8842	1.0542	1.0664
BASQUE COUNTRY	0.0067	0.0082	0.0129	0.0218	0.0418	0.0682	0.0958	0.1408	0.1895	0.2488
LA RIOJA	0.0105	0.0180	0.0311	0.1040	0.3382	0.5787	0.8186	1.1861	1.4631	1.5904
CEUTA	0.2706	0.2445	0.2343	0.2661	0.2668	0.2523	0.2030	0.2241	0.2239	0.2135
MELILLA	0.2458	0.0912	0.7715	1.3384	1.2447	1.2178	1.0789	0.2807	0.5091	0.8459

Source: [National Statistics Institute of Spain and own production]

As a result of the above tables, we can conclude that the strong immigration process that has taken place in Spain in the last decade of the 20th century and the first decade of the new century has contributed substantially to the economic evolution of the Spanish economy in these years. We can also remark the fact that this impact has not been homogenous. In this case, we can conclude that the different level of economic development of Spanish regions has had a direct impact on the attraction of immigrants and in this sense they have also contributed to a higher economic development (Impact) in these regions[i].

4. THE IMPACT OF IMMIGRATION ON EMPLOYMENT IN SPAIN

As it has been explained in previous sections, the influence of immigration on the Spanish economic development during the period under study has been essential to understand the strong economic growth that our country has experienced. The final objective of most of immigrants coming to Spain has been entering the labour market, as a way of earning money. The Spanish labour market is a unique case within the European Union. Unemployment rates have traditionally been among the highest in the EU. The best figure ever reached over the last 30 years was 8% in the second quarter of 2007, after a steady period of decrease from the 24% that was estimated by the National Statistics Institute for the 1994. During the 1996-2007 period, the Spanish economy has grown systemically even at a higher rate than the EU. In this context there have been opportunities of employment for Spanish and also for foreign people and this may explain the strong process of immigration into Spain.

As it was mentioned above, migration processes are is complex but there are also important effects on the labour market that should be considered. One of the most interesting, and perhaps least studied, is the coexistence of two phenomena that have taken place at the same time. One of them is the strong immigration process (we have already considered this factor), the other is the continuous process of incorporation of women into the labour market. We will give a brief insight into this process in this section of the paper.

Traditionally, the labour market has been a male issue. This feature changed dramatically in most European countries during the 1960s and 1970s. However, this process took place in Spain some years later. There are several reasons for this time gap. It has to do with tradition, culture and the political system during Franco's dictatorship or even the economic crisis of the 1970s. During the 1960s and especially after democracy arrived to Spain, an important changes took place in many aspects of Spanish culture, society, economy and politics. One of these changes was the new role of women in Spanish society. An indicator of such change is the increasing involvement of women in labour market, which gave them economic and social independence. This increasing involvement of women in the labour market is related to a process of systematic and massive access women to the educational system.

Table no. 4 Active Population According to Citizenship. Spain.
Second quarter of each year. (Thousands and percentage)

	1996	1999	2001	2004	2008	Total growth 2009-1996	Cumulative growth rate (%)
Total	16429	17288,3	17932,1	20093	22806,7	6377,7	2.77
Spanish	16226,3	16927,2	17168,6	18235,3	19283,6	3057,3	1.44
Foreign	202,7	361,1	763,5	1857,8	3523,1	3320,4	26.86
Men	10142	10530,7	10933,2	11854,7	13042,3	2900,3	2.11
Spanish	10017,4	10321	10469,1	10777,2	11062,5	1045,1	0.83
Foreign	124,6	209,8	464,1	1077,6	1979,7	1855,1	25.92
Women	6287,1	6757,6	6998,9	8238,2	9764,4	3477,3	3.74
Spanish	6209	6606,3	6699,6	7458	8221	2012	2.27
Foreign	78,1	151,4	299,4	780,2	1543,3	1465,2	28.22

Individuals with dual citizenship are considered as Spaniards
Source: [National Statistics Institute and own production]

This increased presence has had a huge impact on the organization of society and especially on the traditional role of women, related to home production and care of children and elderly. Even when women enter the labour market, these social needs must be fulfilled. Such needs are not disappearing but, on the contrary, they are growing scale as the population is aging and the birth rate declines. These processes were already noticed some years ago, and at the European Level they were clearly established by the European Commission White Paper on *Growth, competitiveness, and employment* (1993), also known as *Delor's White Paper.*

The participation of women in the Spanish labour market has grown at a steady rate during the last 15 years. At the same time and especially in the last ten years, there has been a strong immigration process into Spain. The issue is that the immigrants have come to take over tasks that have been given up by native women and, in this way, immigrants have contributed to a greater participation of women in the labour market. Conclusive evidence of this process requires a more in depth analysis, but we can show some approximation of this process[ii].

Figure 6 shows that there is very high the correlation between the number of Spanish women that participate in the labour market and the number of foreigners (both men and women) that are actively present in Spain's labour market in Spain. If we consider a linear equation the result is $R^2 = 0,959$, if we consider a polynomial equation the result is a lower $R^2 = 0,9717$.
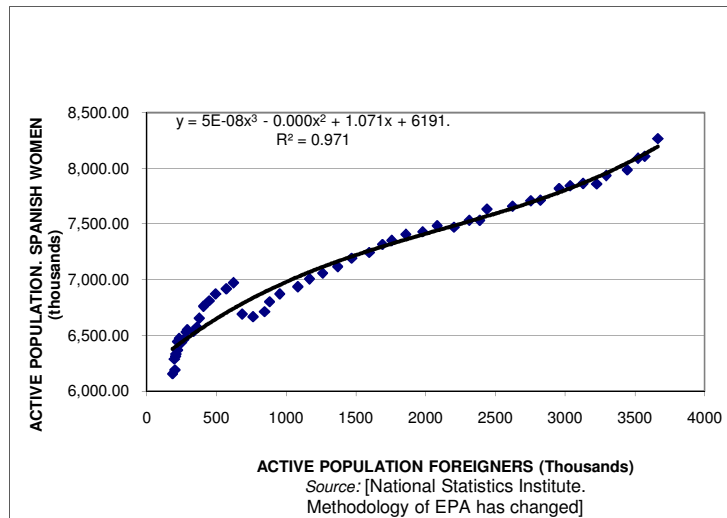
The chart shows the relationship between ACTIVE POPULATION FOREIGNERS (Thousands) on the x-axis (0 to 4000) and ACTIVE POPULATION. SPANISH WOMEN (thousands) on the y-axis (6,000.00 to 8,500.00), with the fitted curve:

$$y = 5E\text{-}08x^3 - 0.000x^2 + 1.071x + 6191.$$
$$R^2 = 0.971$$

Source: [National Statistics Institute.
Methodology of EPA has changed]

Figure no. 6 Active Population Spanish Women and Foreigners. Spain 1996-2008

Since the second half of 2007 the Spanish economy is changing quickly and there is a decline in the labour market variables such as employment level. A deep economic crisis is taking place and unemployment is rising quickly. As a result, the situation of foreign workers in the Spanish labour market is quickly deteriorating. We can see that the impact of the crisis on employment is important and the evolution of labour market is quickly becoming negative. Figure 7 shows the relationship between employment rates of Spanish women and of foreign population. There is clear a deterioration of employment rates in both population groups, which has become especially severe in the last quarters. Nevertheless, this is only an approximation to the new scenario. A more in depth analysis of the impact of economic crisis on immigrants in the Spanish labour market lies beyond the aim of this paper (see for example Conde-Ruiz, et al. (2008) who address this issue).
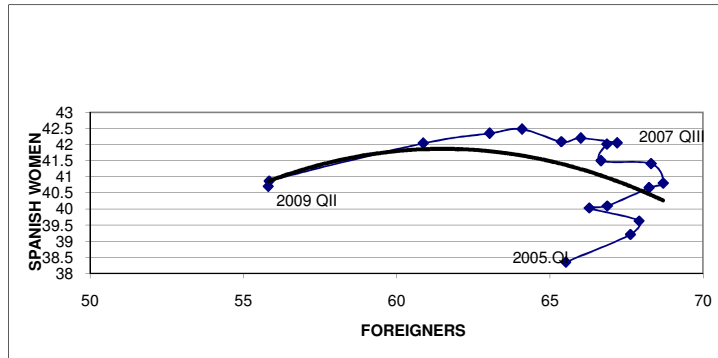
Figure no. 7 Employment rates. Spanish women and total Foreigners

5. CONCLUSIONS

From an historical point of view, massive immigration is a new phenomenon in Spain. In the decade between 1988 and 2008, over 5 million foreigners have come to Spain mainly due to economic reasons. This process has lead to an increase in the percentage of foreigners in Spain from 1.6 % in the late 1990s to 11.41% according to official figures in 2008. However, it is usually considered that the percentage of immigrants is much higher in real terms. The impact of this immigration flow must be considered from different points of view. The impacts on the short and long run are very deep from the cultural, sociological, political and economic point of view. This paper has focused on the economic impact of immigration using two perspectives. First we have provided an estimate of the economic impact of immigration using a simple model of labour demand to approximate the contribution of migrants (impact) to Spanish GDP in the considered period. Second, we have considered the effect of immigration on the evolution of the participation of women in Spain's labour market.

The contribution of immigration to Spain's GDP has increased substantially in the period under study. A simple model of labour demand (using a value of 0.2 for labour demand elasticity) changed from an estimate of 0.0317%, in 1998 to a 1.5766% in 2008. Due to the distribution of immigrants in Spain, the economic impact on the diverse regions of Spain has been very different. In this case, the contribution of immigration to the GDP per capita has been greater in the eastern part of Spain (Mediterranean) and Madrid than in the rest of Spain. This asymmetrical influence has to do with the productive specialization of each Spanish region.

During the period analyzed and using the simple labour demand model, we can conclude that the surplus of Spain's GDP generated by immigrants has been growing steadily and has reached a substantial amount. Therefore, we can conclude that immigration has not only been benefited from the Spanish economic miracle but has also contributed to this performance.

The arrival of immigrants has determined a strong increase in Spain's labour supply in recent years. The number of workers in Spain has also grown due to a steady process of incorporation of native women into the labour market that has taken place since the 1970s but has increased its rate in the 1990s. We have shown in a very intuitive manner that the process of increasing participation of native women in labour market coexists with the arrival of foreign workers; therefore, we can conclude that it has been a complementary process between this two groups rather than a substitution effect. Nevertheless, it is clear that a more in depth study of this assessment is needed and that it is a question for further research.

One final fact must be kept in mind with regards to the recent economic evolution of Spain. Since second half of 2007 onwards, the Spanish economy has entered a deep economic crisis. Unemployment is growing very quickly and economic growth is now showing negative rates. This situation is not new for our economic system (there where also deep economic crises in the late 1970s and early 1980s and in the first half of the 1990s), but what it is completely new is the presence of such a large number of foreign workers. The impact of unemployment on this group of workers and how will Spanish society cope with this new situation of unemployed native and foreign worker in competition for less and less jobs will be a completely new challenge not only from the economic perspective, but also and more important from the social and political points of view.

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APPENDIX

Table no. I Estimation of Contribution of immigration to GDP in Spanish Autonomous Communities

ELASTICITY	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
ANDALUSIA	0.0063	0.0086	0.0129	0.0273	0.0545	0.0941	0.1175	0.1697	0.2029	0.2364
ARAGON	0.0045	0.0055	0.0073	0.0117	0.0189	0.0320	0.0397	0.0647	0.0857	0.0994
ASTURIAS	0.0011	0.0014	0.0026	0.0109	0.0326	0.0624	0.0937	0.1406	0.1630	0.2189
BALEARIC ISLANDS	0.0008	0.0008	0.0013	0.0025	0.0046	0.0082	0.0105	0.0147	0.0186	0.0217
CANARY ISLANDS	0.0529	0.0685	0.0970	0.1621	0.2735	0.4119	0.4450	0.5970	0.6596	0.8006
CANTABRIA	0.0282	0.0347	0.0496	0.0887	0.1442	0.2128	0.2213	0.3002	0.3194	0.3639
CASTILLE AND LEÓN	0.0009	0.0010	0.0015	0.0037	0.0085	0.0143	0.0199	0.0301	0.0391	0.0483
CASTILLE-LA MANCHA	0.0009	0.0009	0.0013	0.0026	0.0068	0.0130	0.0183	0.0296	0.0395	0.0494
CATALONIA	0.0008	0.0008	0.0014	0.0058	0.0167	0.0350	0.0536	0.0859	0.1108	0.1524
VALENCIA	0.0097	0.0136	0.0212	0.0407	0.0847	0.1603	0.2140	0.3123	0.3902	0.4360
EXTREMADURA	0.0161	0.0254	0.0356	0.0546	0.1174	0.2067	0.2500	0.3649	0.4567	0.5358
GALICIA	0.0003	0.0012	0.0015	0.0027	0.0047	0.0066	0.0082	0.0127	0.0151	0.0168
MADRID	0.0012	0.0015	0.0021	0.0035	0.0058	0.0092	0.0105	0.0146	0.0165	0.0199
MURCIA	0.0134	0.0181	0.0268	0.0851	0.1668	0.2698	0.3290	0.4278	0.4393	0.5010
NAVARRE	0.0027	0.0054	0.0120	0.0500	0.1065	0.1819	0.2373	0.3400	0.4284	0.4744
BASQUE COUNTRY	0.0017	0.0032	0.0074	0.0319	0.0749	0.1151	0.1390	0.1768	0.2108	0.2133
LA RIOJA	0.0013	0.0016	0.0026	0.0044	0.0084	0.0136	0.0192	0.0282	0.0379	0.0498
CEUTA	0.0021	0.0036	0.0062	0.0208	0.0676	0.1157	0.1637	0.2372	0.2926	0.3181
MELILLA	0.0541	0.0489	0.0469	0.0532	0.0534	0.0505	0.0406	0.0448	0.0448	0.0427
ANDALUSIA	0.0492	0.0182	0.1543	0.2677	0.2489	0.2436	0.2158	0.0561	0.1018	0.1692

Source: [National Statistics Institute of Spain and own production]

Table no. II Estimation of Contribution of Immigration to GDP in Spanish Autonomous Communities

ELASTICITY 0,5	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
TOTAL SPAIN	0.0127	0.0171	0.0257	0.0545	0.1090	0.1883	0.2350	0.3393	0.4059	0.4729
ANDALUSIA	0.0090	0.0109	0.0147	0.0233	0.0377	0.0640	0.0793	0.1294	0.1715	0.1988
ARAGON	0.0022	0.0028	0.0052	0.0218	0.0652	0.1249	0.1874	0.2811	0.3259	0.4378
ASTURIAS	0.0016	0.0016	0.0026	0.0050	0.0093	0.0164	0.0210	0.0294	0.0372	0.0434
BALEARIC ISLANDS	0.1058	0.1371	0.1941	0.3243	0.5469	0.8238	0.8899	1.1940	1.3191	1.6012
CANARY ISLANDS	0.0563	0.0694	0.0993	0.1775	0.2885	0.4256	0.4426	0.6003	0.6389	0.7278
CANTABRIA	0.0017	0.0021	0.0030	0.0075	0.0169	0.0287	0.0397	0.0602	0.0783	0.0967
CASTILLE AND LEÓN	0.0017	0.0019	0.0025	0.0053	0.0135	0.0260	0.0366	0.0593	0.0789	0.0989
CASTILLE-LA MANCHA	0.0015	0.0016	0.0029	0.0115	0.0335	0.0699	0.1072	0.1719	0.2216	0.3048
CATALONIA	0.0194	0.0271	0.0424	0.0815	0.1694	0.3206	0.4281	0.6245	0.7805	0.8721
VALENCIA	0.0321	0.0507	0.0712	0.1092	0.2348	0.4134	0.4999	0.7299	0.9134	1.0717
EXTREMADURA	0.0007	0.0023	0.0031	0.0055	0.0093	0.0131	0.0163	0.0255	0.0302	0.0336
GALICIA	0.0025	0.0030	0.0043	0.0071	0.0115	0.0184	0.0210	0.0292	0.0329	0.0399
MADRID	0.0268	0.0361	0.0537	0.1701	0.3336	0.5395	0.6580	0.8556	0.8786	1.0019
MURCIA	0.0053	0.0108	0.0239	0.1001	0.2129	0.3637	0.4747	0.6800	0.8568	0.9488
NAVARRE	0.0034	0.0063	0.0147	0.0638	0.1497	0.2302	0.2780	0.3537	0.4217	0.4266
BASQUE COUNTRY	0.0027	0.0033	0.0052	0.0087	0.0167	0.0273	0.0383	0.0563	0.0758	0.0995
LA RIOJA	0.0042	0.0072	0.0124	0.0416	0.1353	0.2315	0.3274	0.4744	0.5852	0.6361
CEUTA	0.1082	0.0978	0.0937	0.1065	0.1067	0.1009	0.0812	0.0896	0.0895	0.0854
MELILLA	0.0983	0.0365	0.3086	0.5353	0.4979	0.4871	0.4316	0.1123	0.2036	0.3384

Source: [National Statistics Institute of Spain and own production]

[i] The study of Conde- Ruiz, *et al.* (2008) developed a comparative analysis of the evolution of regional GDP over the 2000-2006 period. They concluded that the effects of immigration have been very different in each region and show that GDP at market prices and GDP per capita have grown in almost all Spanish Autonomous Communities with the exception of the Balearic Islands due to the fact that almost all the population increase is of retired people.

[ii] The impact of immigration flows on labour participation of natives has been addresses by Card, D. and DiNardo, J. (2000).