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Ana María ARAGONÉS

*Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México, México D.F.  
amaragones@gmail.com*

Uberto SALGADO

*Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México, México D.F.  
ubesk8@gmail.com*

Esperanza RIOS

*Instituto de Investigaciones Económicas, Universidad Nacional Autónoma de México, México D.F.*

## Foreign Direct Investments and the New Migration Pattern for Europe

### SUMMARY

The present paper explores the relationship between Foreign Direct Investments (FDI) and immigrant workers. Two different groups of countries are compared: traditional host (United Kingdom, France and Germany) and new host (Spain, Portugal and Ireland) EU Member States, in order to highlight that the actual reasons for the flows of immigrants are the needs of international movements of capital. FDI features are studied along with its stimulating impact, mainly on job generation. A comparative approach is used to evaluate both the demographic situation of each country and the difficulties they face to fulfil the gaps in their labour markets as the diminishing native workforce calls for foreign labour. This article primarily focuses on the “pull” factor. Finally, an econometric dynamic panel model is presented; the empirical evidence indicates that the economic-demographic pull factors in the receiving countries like unemployment rate, the real Gross Domestic Product and the inflows of FDI and the ratio of the economically active population over the total population, are significant variables related to the migration flows in both groups of countries, new and traditional.

**KEY WORDS:** pull factors, foreign direct investment, immigration in Europe, demography, labour markets, traditional receiving countries, new receiving countries

### 1. INTRODUCTION<sup>1</sup>

The new global economy that emerged in the last decades of the past century has undoubtedly changed the world. In this scenario, the migratory pattern that begins within the framework of political, economic and social transformations, reformulates the conditions of the flow of workers granting them new features, which place them as a central factor for destination economies. Therefore, it is possible to

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state that “Human mobility has become an integral component of world economy” (Oficina Internacional del Trabajo, 2006).

A phenomenon worth mentioning regarding this new world stage is the extraordinary spread of workers known as “unauthorized, irregular or undocumented”, who have gained enormous relevance, not only because of their growing number, but because of their impact on the production processes where they participate. According to the Global Commission on International Migration (GCIM) report, at least 5 million of Europe’s 56.1 million migrants in 2000 had irregular status (that is, 10%), and it is estimated that some 500,000 undocumented migrants will arrive in the region each year. This represents an enormous increase in this type of worker, much greater than anything seen in other periods and which, we believe, demonstrates their economic importance. Moreover, if we take into account only the fifteen original member states of the European Union, Eurostat statistics on population show that by 2000, foreigners represented 18.5% of the total residents of 376 million inhabitants of the euro area. Of all foreigners registered, over 13 million people were from non-EU countries, representing 3.5% of the total European residents. This phenomenon should be analysed in terms of the labour markets operation and as an expression of the new logic of capital that seeks to maximize profits.

Due to the scarcity of data on undocumented migration in some European countries, our approach uses information on total migration flows because undocumented immigration behaves in a similar way to total immigration (Yoshida and Woodland, 2005: 7) and thus both are affected by the same factors.

From our point of view, one of the factors that represents a pull element for migrants is foreign direct investment (FDI), the main component of global economic processes. It is also important to note that the developed world monopolizes most of the capital inflow and outflow worldwide. Insofar as FDI energizes economies and raises employment, it affects labour market conditions as the requirements for different kinds of workforces increase. In our research, we employ the concept of FDI flows rather than domestic or total investment flows, as the first tend to be a factor of mobility in the context of globalization and create functional imbalances<sup>2</sup> in the receiving economies, while domestic investment is an established source of capital as well as the native workforce. When economies receive additional capital, these greater resources must be complemented by an additional foreign labour force. If we link this circumstance with the demographic difficulties found in most European

<sup>2</sup> Within this framework migrations are conceived as a compensation factor aiming to restore the functional balance of several factors (Herrera Carrasou, 2006); in this specific case: labour market balance.

countries, it is possible to observe that labour markets suffer from a serious mismatch problem as the economically active population (EAP) diminishes and, thus, the need of foreign workers remains high.

We may turn to data that show this reality: the world population of working age grew from 3,900 million in 1995 to 4,640 million people in 2005, and a substantial part of such an increase was observed in the developing world, whose working-age population registered an annual growth rate of 2 percent during this period, rising from 3,160 million in 1995 to 3,850 million people in 2005. On the other hand, in industrialized countries, the annual growth of working-age population was 0.8 percent between 1995 and 2005, due mainly to the effect of United States immigration. It is estimated that since 2005 the growth rhythm of the population of working age has decreased in almost every European country, as well as in Japan (ILO, 2004).

The importance of foreign workers is explained not only by the fact that they complement labour markets in terms of the increase of employment, but because they are paid less and are unlikely to receive social benefits. This is the case of unemployment insurance, which is considered by some authors (Ochoa, 2005) as a potential job inhibitor.

Salary differences between natives and foreigners allow companies to reduce costs and pursue a policy of a flexible workforce,<sup>3</sup> all of which favour productivity. Although workers have fought to reduce the gap between productivity and wage, unfortunately this is not often achieved; furthermore, this imbalance is commonly present in the case of immigrant workers, especially the undocumented, and represents an additional benefit factor to the company. Therefore, it should be asked if the actual conditions of world polarization (into capital- versus labour-abundant economies) and the extreme asymmetries among countries must be maintained so that receiving countries can have at their disposal the population surplus from underdeveloped countries.<sup>4</sup>

European countries are immersed in a significant effort to improve productivity, scientific and technological development related to the so called “knowledge

<sup>3</sup> The escalation of the global competitive environment has led the companies to undertake faster, broader and more frequent changes in order to achieve “flexibility”. The increase of labour flexibility may have, in practice, very different meanings based on the company and the sector in question. Labour economists often distinguish between functional flexibility and numerical flexibility: the first kind involves modifications in staff assignments, functions and schedules within the frame of a stable workforce; the second indicates the capacity to hire or fire with greater ease, in an effort to adjust the number of workers when firing (Oficina Internacional del Trabajo, 2006).

<sup>4</sup> This would explain why wealthy countries are not interested in alternative projects that could help to surmount global polarization, quite the opposite in fact, they increase agricultural subsidies, which total some 300 billion dollars – ironically, this figure is six times the total government aid to developing countries (GCIM, 2005: 22).

economy". These new circumstances force them to qualify their native population, leaving positions vacant in some production processes and strengthening market segmentation. It is in this framework that foreign workers – qualified as well as less qualified – find their functionality, and such a scenario has produced a growing income inequality and has triggered a severe fragmentation of the social structure (Oficina Internacional del Trabajo, 2006).

We consider that migration is rather selective, and that the movement of workers is restricted under the needs of the receiving economies. That is to say, it is a self-regulated migration,<sup>5</sup> as workers only move to those poles that represent possibilities of labour participation in different economic sectors.<sup>6</sup> In previous essays (Aragonés, Salgado and Rios, 2007) we were able to demonstrate that the migration flow decreased sharply as the flows of foreign investment declined during the recession encountered by the United States in 2001 – 2002, before rising again in 2003, when the economic depression was overcome, showing a relation among these variables; our estimations were based on the immigration data from Passel and Suro (2005).

In the present work we analyse the performance of foreign direct investments on six European labour markets, three of which are considered new receiving countries (Spain, Ireland and Portugal) and the other three are regarded as traditional receivers (Germany, France and the United Kingdom).

It is interesting to confirm that in the three-year 1998 – 2000 period the European Union gained the most ground as a receiving region of foreign investment. It is our belief that this latter element triggered migration. The case of Germany stands out above all since the country became, for the first time in 2000, the main receptor of FDI in Europe (Sánchez, 2003). The idea of making a comparative study among nations – traditional receiving countries as well as new receiving ones – was considered in order to understand if the aforementioned factors behave as an additional attraction element, and if they appear in all cases. With this, we are trying to reaffirm our proposal that the migration phenomenon responds to an integrated group of economic and demographic factors, notably FDI, for its dynamic impact on the

<sup>5</sup> The arrival of these workers responds to the necessary amount of workforce. In the case of the United States, the current participation of undocumented immigrants is almost larger than the legal or native participations and for that reason it cannot be considered as an “explosive” phenomenon even though their presence has increased as never before (Passel and Suro, 2005). In the same line of ideas, experts estimate that there are between 200,000 and 400,000 undocumented immigrants in France, and they note that the migration flow self regulated during the last three decades, so France is not at risk of “invasion” (Mergier, 2008: 45).

<sup>6</sup> It is not strange that Latin-American migration had moved towards Europe in 2000 – 2001, when the United States was going through a recession process.

economy and its effects on labour markets. In the midst of demographic difficulties, this situation becomes a requirement for the incorporation of migrant workers.

These six countries have had different migration histories; however, today they share a common horizon articulated in the same model of economic development within the framework of the new economy. In former researches (Aragonés, Salgado and Rios, 2007), we have found a close relationship between immigration and the pull factors attracting migrants to the United States: at the macroeconomic level, we found that migration flows are highly related to FDI flows due to the generation of employment in the secondary and tertiary sectors.

The first section of our study tackles the economic pull factors, and through the explanation of the data obtained from diverse economic variables (such as Gross Domestic Product, unemployment rate, FDI inflows) we will be able to establish a descriptive relationship between the economic pull factors and the flow of migrants. The second part analyses the demographic pull factors, such as economically active population and fertility rates. In the third section we develop an econometric model that integrates the economic as well as demographic pull factors, to attain a generalization of the behaviour of the flows of migrants in the six receiving countries, traditional and new. Finally, conclusions are presented in the last section.

## **2. FOREIGN DIRECT INVESTMENTS AND THEIR EFFECT ON LABOUR MARKETS**

Globalization has radically altered the nature of labour markets, one factor that has influenced such a transformation is the movement of capital within the new global economy, and this flow of financial resources has increased constantly over the past several years. It should be emphasized that foreign direct investments (FDI) move to those economic environments that provide the conditions for productivity growth, as well as the opportunity for competitiveness. The incentives and policies promoted by governments have practically eliminated barriers to FDI, allowing regions to be more and more integrated. A very different situation is found in migration flows, which face restrictive policies that have resulted in greatly increased illegal immigration.

Foreign workers' participation in national economies has a positive effect by heightening the levels of the economically active population, but it also contributes to the growth of some economic driving forces, such as construction industries, services and agriculture, thus supporting the growth of Gross Domestic Product (GDP). Furthermore, their participation favours the enforcement of flexibility

mechanisms in the labour market, in the field of hiring as well as in salary,<sup>7</sup> since we must not disregard the fact that there is an income difference between natives and foreigners, which ultimately affects productivity in a positive way (Doudeijns and Dumont, 2003).

Among the pull factors mentioned before, the increase in jobs is noteworthy, since within a context of demographic problems this situation raises the demand for immigrant labourers.

In our analysis we have differentiated traditional receiving countries (Germany, France and the United Kingdom) from new receptors (Spain, Portugal and Ireland). Although this might seem like an arbitrary categorization, we have taken into account the migration history of these countries. In this sense, the new receiving countries analysed were clearly sending countries until the 1980s (fairly recently),<sup>8</sup> but since that date they have undoubtedly become receiving countries. It is worth mentioning that Spain, for example, is ranked as the third country in the European Union with the largest net migration flow (5.5 immigrants per 1000 inhabitants), only surpassed by Ireland (7 per every thousand) and Portugal (6.1 per every thousand), according to the last data for 2003 accounted by the statistical office Eurostat.

## **2.1. FDI in traditional immigration host countries in the European Union: Germany, France and the United Kingdom**

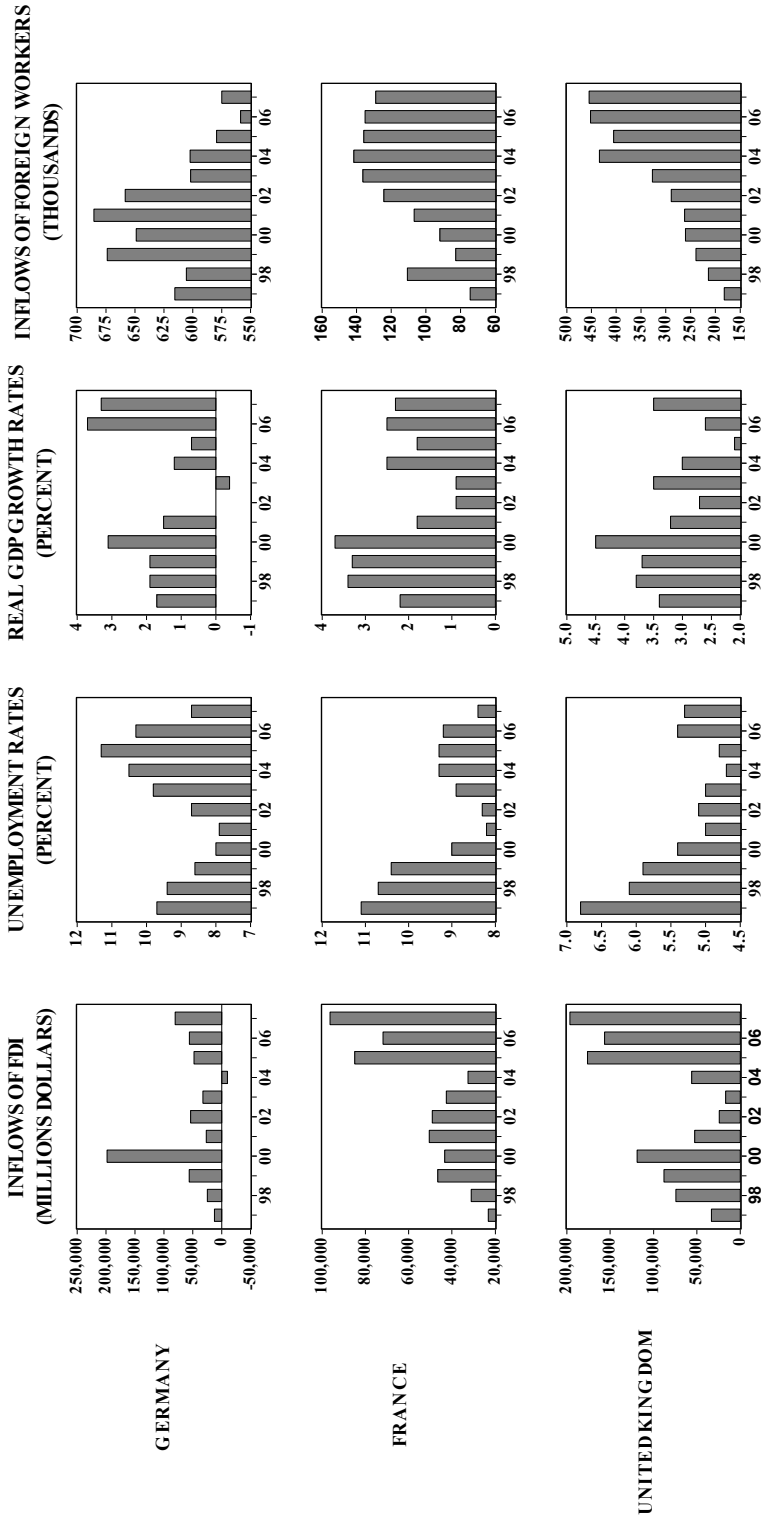
Detailed below are the data for the period of 1997 – 2007 corresponding to those considered as traditional receiving countries, as well as the existing relation between FDI performance, the growth in Gross Domestic Product, the unemployment rate and migration flows trends. This effect, within contexts of demographical difficulties and increasing requirements of flexibility and competitiveness, turns out to be a pull factor for the foreign labour force. These three countries present a decreasing unemployment rate during 1996 and 1997, until 2001 when the level of that variable starts rising. It is rather interesting to note that migration flows remain closely related to both factors.

We observe (Figure 1) in the case of Germany an inverse relation between the FDI inflows and the unemployment rate. There is a considerably increase in the FDI

<sup>7</sup> “Flexible labour market is flexible supply and demand for workers, facilitating the hiring and firing and individualizing forms of payment in accordance with marginal productivity, that is, from this aspect, the protection of workers across the state welfare, worker representation through unions, job security and the guarantee of minimum wage perceptions are seen as a ‘lock’ that precludes the use of efficient labour and does not allow adequate profit maximization” (Ibarra and De la Garza, 2010: 38).

<sup>8</sup> The causes of this change are diverse; among them we could mention economic growth within the context of the global economy and the end of dictatorships in Spain and Portugal.

Figure 1: Macroeconomic variables selected from the traditional receiving countries of Europe 1997 – 2007



Source: Personal compilation based on data from UNCTADstat, OECD.stat, Eurostat (2012).

inflow during 1997 – 2000 period, followed by an important drop in the unemployment rate in the same period. Moreover, if we pay attention to the behaviour of foreign workers flows in Germany, we may observe a strong growth from 1998 to 2001, but after that year the immigrant flows stagnated and remained stable for the following years; we can see a drop in real GDP from 2001 to 2003 and an important recovery between 2006 – 2007, these oscillations being related to the unemployment rates.

In France the FDI flows began to rise from 1997 to 2001 and in 2004 – 2007, with a significant decline in its unemployment rate, going from 11.1% in 1997 to 8.2% in 2001; this behaviour is related to the growth rates in real GDP, as the flows of immigrant workers increased from 74 thousand in 1997 to nearly 141 thousands in 2004. It is interesting to note that the rate of unemployment decreases as FDI increases and vice versa (Figure 1).

The United Kingdom exhibits a declining unemployment rate, falling from 6.8% in 1997 to 4.7% in 2004 and the big drop in the unemployment rate is related to the highest growth rates in real GDP between 1997 and 2000. As for FDI, the flows began to grow at a significant rate between 1997 and 2000 and 2004 and 2007. At the same time, the flows of immigrant workers show a constant rise during the 1997 – 2007 period (Figure 1).

We may conclude through this data that foreign workers inflows are closely related to FDI inflows and work availability, as can be seen in the simultaneous changes of the variables in the figure 1.

## **2.2. FDI in new immigrant receiving countries in the European Union: Spain, Portugal and Ireland**

Within this section we analyse the situation of Spain, Portugal and Ireland, countries we have considered as new immigrant receptors after having radically shifted their status of emigration countries since the 1990s. Spain and Portugal became active member states of the so-called Economic European Community (EEC) in 1986. Ireland, on the other hand, although a member of that Community since 1973, was characterized by economic emigration until the 1980s. Nonetheless, this country has become a major receptor of foreign labourers since the 1990s, due to extraordinary economic growth that has meant the virtual disappearance of unemployment. In the following graphs, we use the same variables as used previously. The aim is to observe if the relationship between FDI inflows, unemployment rates and migration inflows persists.

As a result of trade liberalization during the 1990s and the attractiveness of foreign direct investment, the Irish economy underwent rapid growth, encouraging



many high-skilled emigrants to return (mainly from non-UK destinations, where the cost of migration was probably higher because of differences in culture and language). Furthermore, thanks to its rapid economic growth, Ireland became a country of immigration that attracted highly-skilled EU workers and that sought to attract highly-skilled European Union Accession (ECA) workers as well (Mansoor and Quillin, 2007).

The case of Portugal provides a good contrast to that of Ireland. This country has a long history of emigration, and its overseas territories have served as migrants' main destinations in past centuries, particularly Brazil (Baganha, 2003). The Portuguese followed the emigration pattern set by Italian and Spanish workers during the second post-war period, who moved first to France, then to Germany and Switzerland. Gradually, the Portuguese economy grew and emigration declined. This situation changed remarkably when Portugal joined the European Union in 1986, and years later the country underwent an economic boom period, mainly because of the arrival of FDI and the financial assistance of the European Social Funds, all which lead to significant growth (Mansoor and Quillin, 2007).

In Figure 2 we can see the variations of the FDI, unemployment, real GDP and migration flows in the new immigrants receiving countries.

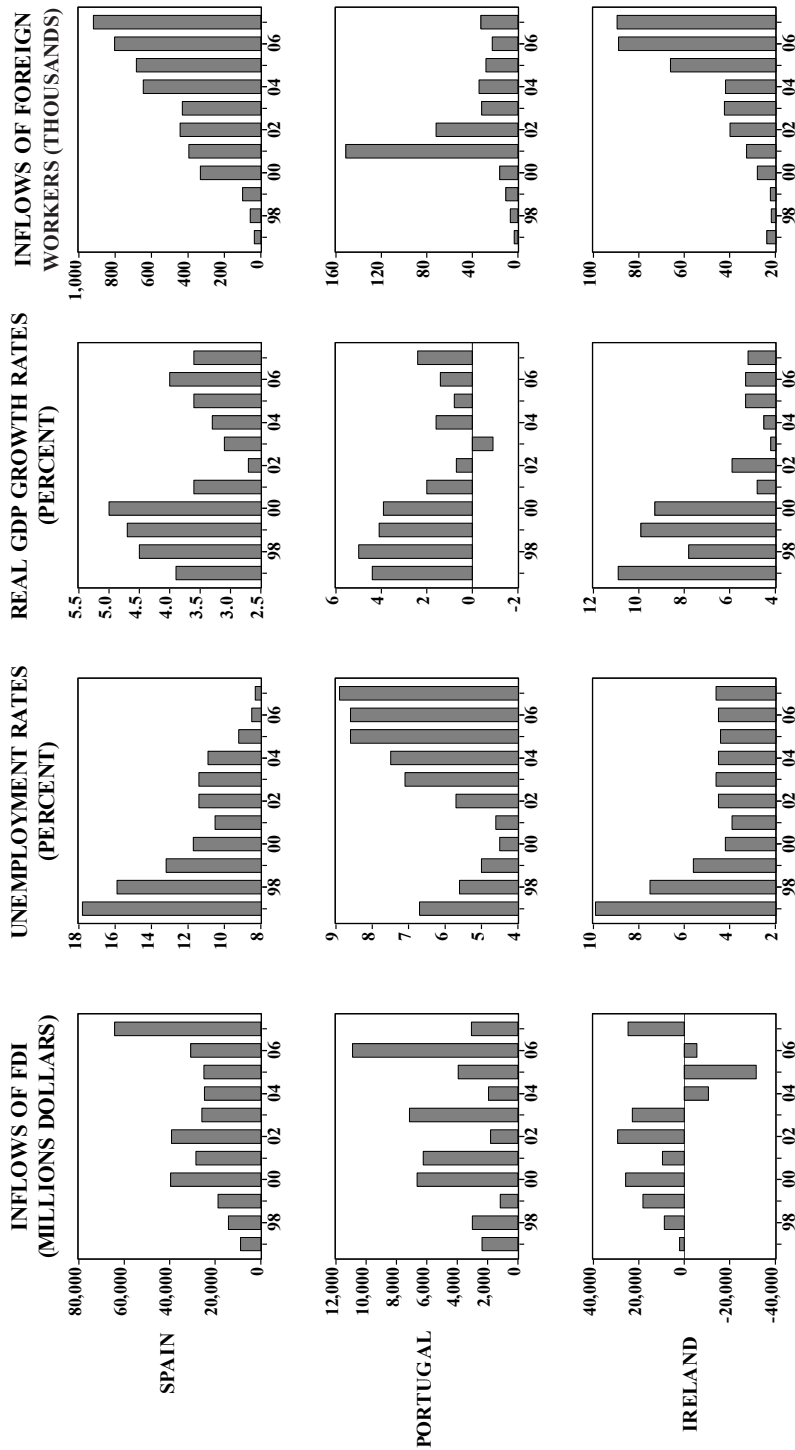
In Spain, the FDI flows (Figure 2) entering the region grew considerably between 1997 and 2000, and kept flowing constantly until the big increase in 2007. This trend is linked to an increase in the flow of foreign workers, which before 1997 had accounted for less than 40,000 labourers, but by 2000 had more than quadrupled and reached 330,000 workers, with continuing growth until reaching 900,000 workers in 2007.

As for the unemployment rate, Spain exhibits a declining trend since 1997, with a rate of approximately 18% falling to 10.5% in 2001 and 8.1% in 2007; the growth rate in real GDP exhibits a sustained growth until the big drop during the 2000 – 2002 recession and a recovery during the 2003 – 2006 period.

Ireland also exhibits a sharp increase in FDI inflows (Figure 2), which reached nearly 4 billion dollars in 1997 and rose up to 30 billion in 2002. At the same time, the unemployment rate of the country declined from 9.9% in 1997 to its lowest level at 3.9% in 2001 and it kept at that level until 2007. The growth rate of real GDP has suffered an important drop between 1997 and 2001; after those years the rate of growth appears to be more stable, oscillating between 4.5% and 5.5%. We can also observe that migration flows present an increasing trend since 1997, which is aligned with the big drop in the unemployment rates.

In the case of Portugal the rise in FDI began in 1997 (Figure 2) when foreign capital reached 2.3 billion dollars, recording its highest level in 2006 at 11 bil-

Figure 2: Macroeconomic variables selected from new immigrant receiving countries of Europe 1997 – 2007



Source: Personal compilation based on data from UNCTADstat, OECD.stat, Eurostat (2012).

lion dollars. On the other hand, the rate of unemployment showed an important decrease, falling from 6.7% in 1997 to 4.6% in 2001, after that there was a notable increase in the unemployment rate, reaching 8.8% in 2007. The growth rate of real GDP exhibited an important deceleration from 1998 to 2003; after those years the growth rate was maintained at low levels. As for immigrant worker inflows, Portugal recorded strong growth in 2001 and a later decline that was related to the fall in the economic variables.

According to these readings, is possible to consider the existence of a relationship between immigrant inflows, the FDI, the unemployment and the business cycle. That is to say, the three new countries of destination experienced a rise in foreign investments since 1996, reaching the highest level in 2000. At the same time, their unemployment rates decrease starting from 1997, registering the lowest amount in 2001. In the cases of Spain and Ireland, the unemployment rate climbs a little, owing to the fact that investments experienced a slight fall after 2001.

Figure 2 shows that migration flows have grown considerably since 1997. In Spain and Ireland such flows have continued to grow steadily until the point in which the foreign investments begin to decrease, whereas in Portugal we observe a strong fall in the flows of migration starting from 2001.

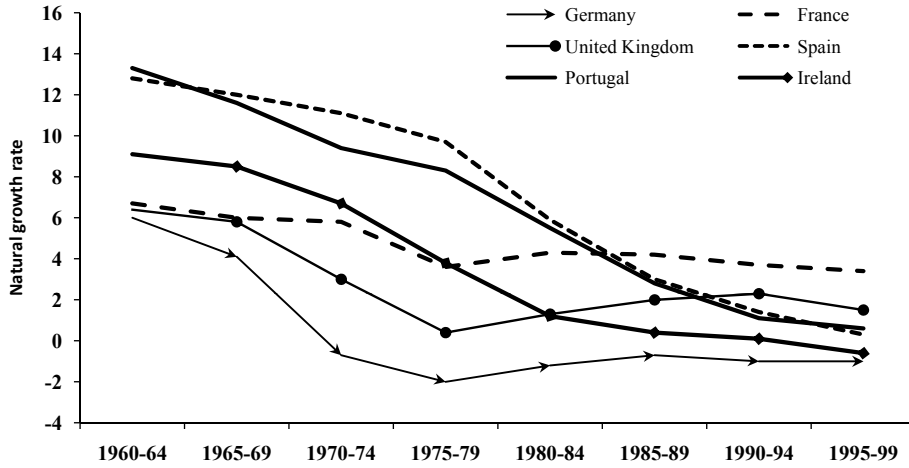
To conclude this first comparative study, we can say that there is a very close relationship between capital and workers, since both are major primary factors in the production of goods. Inasmuch as there is capital mobility among countries, a fundamental element of globalisation, and more jobs are generated, the only possible strategy to avoid imbalances in labour markets (undergoing insufficient supply of internal workers due to demographic problems) is to turn to a foreign workforce in order to complement the needed supply. Hence, it becomes evident that despite the lifting of barriers to the movement of workers, it is impossible to stop migration as long as their labour force is required by global capital to balance labour markets, as well as to favour productivity, thus achieving more competitiveness in world markets.

### **3. DEMOGRAPHIC FACTORS AND LABOUR MARKETS IN SIX EU COUNTRIES**

In this section we look at the demographics of the six receiving countries being studied, both new and traditional immigrant destinations. We consider that the demography factor should be taken into account when analysing the phenomenon of migration, since there is a difference between natural reproduction of population and labour force reproduction. All six countries analysed present declining rates in

natural population growth from 1960 to 1999, which affects the number of workers within the population, mostly since the decade of 1990 up to recent years (Figure 3).

Figure 3: Natural growth rate of the population in selected countries 1960 – 1999



Source: Personal compilation based on data from Cabré and Domingo (2002).

Our aim is to observe the consequences of the downward trend in working-age population due to the decrease in natural population growth; as such, we study behaviour of the EAP, both native and immigrant.<sup>9</sup>

The demographic situation shared by the majority of European countries presents an accelerated growth in the segment of population over 64 years of age as a result of the “baby boom”, which affects the population structure and, therefore, the labour markets. On the one hand, the number of people of working age diminishes as a consequence of the low growth in the segment between the ages of 0 to 14. On the other hand, the aging of the population increases the dependency ratio<sup>10</sup> (Lanzieri, 2007). This ratio is set to double and will reach 51% by the year 2050.

<sup>9</sup> France does not take part in this last comparison since the data were not available.

<sup>10</sup> “It is defined economically as the quotient of the economically dependent over the economically active. The values of the index may be high due to the presence of a high proportion of the population under 15 years, as well as a high percentage of the population over 64 years (...) to avoid this problem it is recommended to divide the index of dependency in two: youth (under 15s over EAP) and the elderly (over 65s over EAP)” (Welti, 1998: 61).

Such a percentage indicates that the European Union will change from having four to only two persons of working age for each citizen aged 65 and above (European Commission, 2006: 5).

Needless to say, an aging population creates huge structural and economic problems for the region, since along with the scarcity of labour force some other important changes appear, such as consumption patterns and escalation of salaries. In other words, the contraction of consumption has a negative effect on economic growth (Mäding, 2002).

If these demographic trends remain unchanged in the European Union, the size of the working-age population (15–64 years) will decrease by 48 million by 2050 (European Commission, 2006) thus affecting the production levels. In view of this panorama, immigration inflows have become a necessity given their positive effect in compensating for the drop in the native labour force, especially if we take into consideration that many of the incoming migrants are of working age and tend to bring down the average age of the population. According to Eurostat's projection, around 40 million people will emigrate to the EU between now and 2050. However, the impact on birth rates is still uncertain, as the repercussions depend on the family reunification policies as well as the nuptial and birth patterns of migrants, among other factors (European Commission, 2006: 4).

Statistics have estimated that the population of those of working age in the European Union would decline by 30% between 2000 and 2050, while the total population would decline by 17% (Hollander, 2000). It has also been suggested that the growth in migration inflows will not be enough to reverse the downtrend in population, but it will be necessary to sustain the current levels of the labour force to avoid scarcity. This potential dynamic becomes a requirement within the context of the high economic activity in the six European economies studied here. Looking more closely at Spain, for example, the impact of immigrants has been favourable, according to a study conducted by Professor Joseph Oliver Alonso for the consulting firm Manpower (2007). The study shows that the scarcity of labour force registered since 2000 – due to the economic growth of the country and the decrease in unemployment – has been covered by the greater incorporation of women into the workforce, but mainly by the migrant workforce (Oliver Alonso, 2006).

Furthermore, in order to maintain a stable workforce in the region, Europe will need an influx of 161 million migrants between 2000 and 2050. France and the United Kingdom would need an inflow of 5 to 6 million persons during the same period of time in order to maintain the share of the working population (Hollander, 2000).

### 3.1. Demographic factors in traditional immigration host countries in the European Union: Germany, France and the United Kingdom

As mentioned before, demography constitutes as a crucial, though not exclusive factor in the migration phenomenon; thus, the demographic reality of classic destination countries is presented below in order to deepen our understanding of its repercussions.

Germany exhibited, between 1996 and 2004, an average fertility rate<sup>11</sup> of 1.3 children per woman, far lower than the replacement rate. The country presents some distinctive features, particularly in the natural growth variable,<sup>12</sup> that have been negative since 1996 (according to Eurostat data), meaning that during this period the number of deaths has been greater than the number of births. There is a decline in children's population (ages 0–14) from 16.2% in 1996 to 14.1 in 2006; while during the same period of time the adult population over 65 years has been increasing from 15.1% to 16.2%. Within this context, the Federal Statistical Office forecast that German population could drop 28% by 2050 if migration inflows were to stop (Mäding, 2002).

The migrant EAP has maintained an average annual growth rate higher than the growth in the native active population, 0.1% and -0.1% respectively. (according to Eurostat and DESTATIS data). In this specific case, the variations in working-age population for both groups, native and foreign, are quite clear. Furthermore, it is worth mentioning that Germany is one of the European countries that has registered a decreased net migration balance in recent years, due to the outflow of highly qualified native workers and medium qualified migrant descendants – second and third generation. Such behaviour is, to some extent, the result of economic imbalances since 1990, caused by the reunification of Germany (Knerr, 2007). Consequently, the foreign EAP plays an important role in the labour market, reaching between 10.3 and 10.4 percent of the total EAP in 1996 and 2004 respectively.

Germany represents an interesting case: on the one hand, the country presents a sizeable inflow of FDI (the highest level in Europe); on the other, it registers an outflow of native population. Considering this, the inflow of foreign workers in the labour market is needed and the decline in the inflow of foreign workforce could negatively affect German economic growth (Knerr, 2007).

<sup>11</sup> The average number of children per woman of childbearing age. In developed countries the rate is at 2.1 children per woman, a figure necessary to attain the replacement level in a population. (according to Eurostat data).

<sup>12</sup> The difference between births and deaths during a year. The natural growth is negative when deaths exceed births. Data obtained from Eurostat.

Conversely, France is one of the countries that presents the highest fertility rate through the period (1996 – 2004) of 1.9 children per woman, close to the replacement rate. This exceptional situation is reflected in the age structure of the French population, which indicates a slight drop in the children's segment (ages 0–14), diminishing from 19.6% in 1996 to 18.8% in 2004. Nevertheless, the country registers a patent aging trend as the population over 65 years old maintains a steady increase.

Besides that, the share of working-age population has not registered an accelerated decrease. It has maintained a 6.5% participation in respect to total population. Such a decrease poses the need for immigrants in order to cover labour shortages. Given the lack of sufficient EAP-related data, our analysis has been performed with data for native and foreign EAP in 1997. However, it is possible to note the significant participation of foreigners in the French labour market, where they account for 6% of the total EAP (according to Eurostat and DESTATIS data).

In the case of the United Kingdom, the average fertility rate during the period was estimated at 1.7 children per woman, below the replacement rate. Such a low number of births would explain why the British age structure shows a decline in children (ages 0–14), which drop from 19.4% in 1996 to 18.2% in 2004. Despite the drop, this segment exceeds the number of elderly adults (aged 65 years and older), which has grown but not substantially, maintaining 16% throughout the period. Such a decrease will negatively affect the future growth of the EAP, which in turn means that the United Kingdom will require a migrant workforce.

Moreover, we observe increasing participation of foreign EAP in the total EAP, escalating from 0.73% in 1997 to 1.20% in 2002. Native EAP, on the contrary, registers a decreasing participation since 1997. Such a decline in relation to the total EAP reflects the situation of the average annual growth rate of foreign EAP. In the United Kingdom, through the period studied, the native active population grew at a pace of 0.43% a year, while the foreign active population grew at a 9.10% annual pace (according to Eurostat and ONS data).

### **3.2. Demographic factors in new immigration receiving countries in the European Union: Spain, Ireland and Portugal**

In the present section we analyse the changes in active population registered by new receiving countries, with the aim of ascertaining if foreign EAP complements native EAP, as happens in traditional destination countries. According to Eurostat, Spain registers the lowest fertility rate of 1.2 births per woman over the 1996 – 2004 period. This might explain the decline in children's population, which diminished from 16.4% in 1996 to 14.5% in 2004.

Spain also exhibits the most impressive case regarding high growth in foreign EAP. Though our data only covers the period from 1999 through 2003, Spain reports an average annual growth in foreign EAP of 27.05%, while the native EAP shows an annual growth of 0.68% (according to Eurostat and INE data). Such escalation mirrors a nationwide trend of growing migrant participation in labour, as foreign active population accounted for 1.4% of total EAP in 1999 and reached 3.5% in 2003, a two percentage points increase. On the other hand, native active population reports a low average growth rate which, in turn, represents a decline in their participation in the total EAP: 98.59% in 1999, dropping to 96.5% in 2003. (according to Eurostat and INE data).

Ireland reports a fertility rate of 1.9 children per woman, even though it is near replacement rate a significant reduction was observed in the population aged between 0 and 14, which registered a fall from 23.9% in 1996 to 20.9% in 2004. According to forecasts, such a contraction would represent a decrease in the size of the potential working population, even considering replacement fertility.

With regards to the EAP, the active migrant population in Ireland has seen an increase since 1996, accounting for 1.3% of the total EAP in that year and rising to 2.24% in 2002. Although the percentage diminished in 2003 it stayed relatively stable subsequently. As for the native EAP, its participation decreases until 2000, when it appears to rebound, mainly because of the return of Irish emigrants who had left the country years before due to the economic crisis. Foreign EAP exhibits an average annual growth of 4.4% during the same period, exceeding the annual growth of native EAP of 1.97% (according to Eurostat and CSO data).

In the case of Portugal, the country presents the highest share of population aged 65 and older, accounting for 17% of the total population in 2004. As in the previous cases, the child population presents a decrease: in 1996 it represented 17.5% of the total population, falling to 15.5% in 2004, and a drop of two percentage points, with the low fertility rate of 1.5 children per woman contributing to that downtrend. The segment aged between 15 and 24 registers a decrease as well, since it represented 15.6% of the total population in 1996 and lowered to 13% in 2000. These decreases will have a negative effect on the future growth of the EAP. Although we should mention the fact that the working-age population (ages 25–59) registered slight increases during the period studied, which could be due to the arrival of economic immigrants (according to Eurostat data).

The economically active native population, representing 98.23% of the total EAP in 1998 declined to 98.12% in 1999. At the same time, the foreign EAP increased at an annual rate of 7%, while the native EAP growth was at 1.12%.



According to what has been exposed, the impact of the immigrant population of working age can be generalized in all the studied countries, especially those considered as new destinations. In all of them, the size of working-age population increased during the period analysed. It would be very difficult to explain such growth if not for the inflows of immigrants, considering that year by year the labour force continues aging. The low proportion of young people, as the number of births diminishes and the fertility rate remains below the rate of replacement, inhibits the growth of the infant population.

Additionally, we have seen that, in all the cases described, the native EAP participation is diminishing with respect to the total active population. Nevertheless, when analysing the relation between the total EAP and the total population, we see that the share of active population has remained stable throughout the period, which means that the total size of the working-age population has not varied much in European countries over the period. Such behaviour can be explained by the participation of foreign EAP, which has increased over the years. That is to say, while the volume of native EAP decreases, the immigrants replace that loss of labour force and their numbers have not stopped increasing during the studied period.

This dynamic supports the projections of a downturn in the working-age population of European countries, and immigration is precisely the factor that would help to cushion such a fall. Nonetheless, foreigners are unlikely to reverse the negative growth of the working population since Europe has low fertility rates that affect the future growth of EAP. Currently, the native EAP is registering an incipient growth as a result of the existing infant population. Although this group is larger than the group aged 65 and over, it is smaller than the share of EAP. This youngest group should impel the growth of EAP over the next fifteen years, but we must raise the question if their contribution would be enough to meet the current requirements of economic growth. An economic growth triggered in part by the inflows of FDI, a factor that tends to create jobs and therefore additional workforce, is needed.

If we take into account the slow pace of growth in the active native population as well as the low levels of unemployment, we could think that the supply of labour would be small in comparison with the demand of work. From this perspective the necessity of a migrant labour force would become manifest, as we have seen its important participation within the total EAP. Furthermore, its percentage share is increasing over time, contrary to what happens to the native EAP. Faced with very low levels of unemployment and a decreasing native EAP due to birth rates below the replacement level, the pull effects intensify and seem to have no other choice than to encourage the arrival of foreign workers.

#### 4. RESEARCH RESULTS: DETERMINANTS OF MIGRATION INFLOWS IN EUROPE

Given the existing relationship among EU states considered new and traditional receiving countries, an econometric analysis is carried out in order to corroborate if these countries present a relation between the business cycle of the economy and the demographic pull factors over the migrant flows.

In a review of the empirical evidence we found a model specification based on various studies such as those of Moreno Torres and López Casanovas (2006). This study analyzes the determinants of international migration that goes to Spain and employs variables such as the annual flow of foreign immigrants, labour force, GDP per capita, unemployment rate, FDI and foreign trade and other variables; they use a panel data methodology with information on fifteen countries less developed than Spain. The results show that the variables related to the business cycle and the demographic variables had an important role in explaining migrations to Spain.

Hatton and Williamson (2004) use a specification based on the classical theory of migration (Sjaastad, 1962; Borjas, 1987, 1989), they use variables like the ratio of the workers in agriculture with the total number of workers, the logarithm of the ratio in the wages adjusted by the power purchase of parity, the birth rate of the origin country lagged 20 years and the stock of immigrants in the destination country to determine the flows of world migration; they use a panel data methodology over 80 countries to measure the performance of the demographic and economic variables as determinants of world migration.

In our study, variables that are determining migration flows in European countries, both, new and traditional receptors, have been described within the context of globalization. For that reason, the variables used here to determine immigrant flows are: the FDI inflows measured in millions of dollars, the real Gross Domestic Product (GDP) in the reception countries, this data having been obtained from the United Nations Conference on Trade and Development (UNCTAD); the economically active population related to the total population,<sup>13</sup> the unemployment rates obtained from Eurostat, and the inflows of migrant workers from the Organization for Economic Co-operation and Development (OCDE); these data were obtained for the six countries of our study during the 1997 – 2007 period, according to our classification, Germany, France and the United Kingdom are traditional receiving countries, while Portugal, Spain and Ireland are new receptors.

The methodology that we use is a dynamic panel analysis, in particular Arellano-Bond GMM estimation technique (Arellano and Bond, 1991); this will show

<sup>13</sup> Due to the scarcity of data for using the proportion of native EAP with respect to the total, we used instead the proportion of participant EAP as a proportion of the total population, which in turn we considered as a Proxy variable for the native EAP.

the dynamic nature of the migration flow and its economic-demographic determinants.

With panel data,<sup>14</sup> the dependent variable is observed over time, opening the possibility of estimating parameters of dynamic models that specify the dependent variable for an individual to depend in part on its values in previous periods; although the inclusion of a lagged dependent variable at the right hand side of the model specification causes Ordinary Least Squares (OLS) estimators to be biased and inconsistent. Arellano and Bond (1991) propose a generalized method of moments (GMM) procedure that is applied to the equation in first differences. Their estimator treats the model as a system of equations, one for each time period. The differences in the endogenous and the predetermined variables are instrumented with suitable lags of their own levels.<sup>15</sup>

The model specification follows this equation:

$$\Delta m_{it} = \alpha + \beta_p \Delta m_{it-p} + \beta_{eap} \Delta eap_{it} + \beta_{unem} \Delta unem_{it} + \beta_{FDI} \Delta FDI_{it} + \beta_{gdp} \Delta gdp_{it} + \Delta \varepsilon_{it} \quad (1)$$

Where  $m_{it}$  is the flow of the immigrant workers into the destination country;  $eap$  represents the demographic change variable reflecting the EAP with respect to the total population of the destination country;  $unem$  is the unemployment rate in the destination country,  $FDI$  stands for FDI inflows in the destination country and the  $gdp$  is the real gross domestic product plus an idiosyncratic error term represented by  $\varepsilon_{it}$ ; the lowercase letters are expressed in logarithmic terms and  $\Delta$  indicating a first difference of the variable. And finally,  $i = 1 \dots N$  y  $t = 1 \dots T$  are the respective indexes of countries and time.

Additionally, it is expected that there will be an inverse relation between the share of workforce as a proportion of the total population and the migrant inflows  $\beta_{eap} < 0$ , as some European economies present profound demographic pressure and it is likely that a foreign labour force would be needed if the population at an economically active age were to decrease. We assume an inverse relation between the rate of unemployment and migration inflows  $\beta_{unem} < 0$ , since a contraction of the rate indicates greater dynamism in the host economy, thus generating more job vacancies; whereas a positive relation is expected between FDI inflows into the destination country and migration inflows  $\beta_{FDI} > 0$ , with FDI tending to speed up labour markets by creating additional jobs. Similarly, there is a positive relation between the GDP and the migration flow due to the dynamism of the business cycle  $\beta_{gdp} > 0$ .

For consistent estimation, the methodology developed by Arellano and Bond requires that the error be serially uncorrelated, so we will validate this assumption

<sup>14</sup> The econometric methodology of the panel data allows a sequential monitoring over time of the characteristics of a group of individuals or, in this case of countries (Greene, 1999).

<sup>15</sup> For technical details, see Arellano and Bond (1991) and Baltagi (2005).

by performing Arellano and Bond's test of no second-order serial correlation. Additionally, there is a test of over-identifying restrictions; it is the Sargan test to see if the conditions on the moment population are correct (Cameron and Trivedi, 2009: 295). The results of this specification test and the estimated coefficients are shown in Table 1.

*Table 1. Dynamic panel model for the determinants of migration inflows in selected countries of Europe.*

Dependent variable $m$	Coefficient	Standard error
$m_{t-1}$	-0.0472316	0.0371443
$m_{t-2}$	-0.147441 *	0.0715327
$m_{t-3}$	0.0113021	0.0219573
$m_{t-4}$	-0.1180055 **	0.0376279
<i>FDI</i>	0.0000771 *	0.0000401
<i>Unem</i>	-1.400688 ***	0.2835437
<i>Eap</i>	-2.180415 ***	2.760123
<i>Gdp</i>	3.395807 ***	0.3600441
<b>Observations</b>	36	
<b>Number of countries</b>	6	
<b>P-value for Arellano-Bond test for first-order autocorrelation</b>	0.1576	
<b>P-value for Arellano-Bond test for second-order autocorrelation</b>	0.4959	
<b>P-value of Sargan test of over-identifying restrictions</b>	0.1477	

*Note: Estimation with robust standard errors, the regression includes a constant term (not reported in the table); the Arellano-Bond test has a null hypothesis of no serial correlation of order ( $p$ ); the Sargan test has the null hypothesis that the over-identifying restrictions are valid. \* Significant at 10% level; \*\* significant at 5% level; \*\*\* significant at 1% level.*

The final specification is presented in Table 1, and the two specification tests validate the results of the estimated model; we cannot reject the null hypothesis of no first order autocorrelation and no second order autocorrelation at a 95% statistical confidence level, and we can conclude that there is no strong evidence against

consistency of the parameters; to assess the validity of the over-identifying restrictions, the Sargan test indicates that the correct over-identifying restrictions cannot be rejected at 95% statistical confidence level.

The transformation and differencing of the variables in the Arellano Bond estimator, makes difficult a direct interpretation of the coefficients; however, it is important to note that the variables of interest explain migration behaviour, since they are statistically significant at 1% and 10% levels, and the obtained coefficients demonstrate that the theoretical relations or assumptions previously stated were confirmed, since (*FDIs*) have a positive and significant coefficient. According to this, an increase in the inflow of FDI leads to an increase in the immigration flows into the destination country; on the other hand, the relation between the unemployment rate (*unem*) and the inflows of migrant workers appears to be inverse, as the negative coefficient shows, since there is an increase in the migrant flows caused by a decrease in the unemployment rate in the reception country; the same happens with the proportion of EAP in respect of the total population (*eap*), which is very significant and presents an inverse relation with respect to the flows of immigrant workers, the decrease in the *eap*/total population ratio provokes an increase in migrant inflows, which shows an inversely proportional relation. This would indicate that the proportion of the labour force population is diminishing more markedly in these countries, and thus the supply of a younger workforce is strongly needed. And finally, there exists a positive relation between the *gdp* and the migration flows, because an increase of the *gdp* in the destination country causes an increase in the migration flows.

These last results reveal that immigrants base their expectations on labour opportunities available in the countries of destination, where the main problem is their ageing population; although we must consider that there may be additional factors such as political or social issues affecting migration flows that were not considered in this estimation, because these variables can be measured adequately with other statistical techniques like probability models.

## 5. CONCLUSIONS

This work deals with the notion that, although the sending countries have a set of economic difficulties that are promoting migration flows, it cannot be overlooked that receiving countries have a set of needs and requirements that are solved by foreign workers. For host economies, migration is not a superfluous or imposed factor caused by the problematic circumstances of sending countries. Quite to the contrary, the arrival of foreign workers becomes functional and necessary for in-

dustrialized economies to continue their development processes, since a migrant workforce solves some of the problems generated by the mismatches in their labour markets. These mismatches or imbalances are owed, in the first place, to demographic pressures experienced by developed countries, which undergo low fertility and birth rates. Such situations affect the reproduction of the economically active population as well as the possibility of fulfilling the greater requirements of labour qualification within the framework of the economy of knowledge. And as we have seen, these requirements are heightened with the flows of FDI, since investment acts as an additional pull factor.

Foreign direct investments have important weight in the global economy, as they invigorate the regions where they take place and trigger outstanding growth in jobs. A direct consequence of this growth is the increasing labour requirements, which show a wide spectrum of needs related to qualification/skill levels, considering that FDI addresses multiple sectors, all of them associated with the so-called economy of knowledge. This is why we consider FDI as an additional pull factor for immigrant workers of all skill levels. In this sense, it is worth highlighting that, because of the great segmentation of labour markets, immigrants meet the diverse levels of qualification with the peculiar advantage that their wages are lower than those of their native counterparts, a situation that favours business productivity and competitiveness.

Throughout this research we were able to verify that the arrival of FDI causes a contraction of unemployment and an increase in labour supply, which in the context of demographic difficulties explains the presence of foreign workers. It was an interesting exercise to prove that this phenomenon takes place in a similar way in all the countries studied – new or traditional receiving states – all having a different migration history, they now share a common basis sustained by the global economy.

On the other hand, we have identified the problems of the demographic behaviour in Europe: the natural growth rates of population have been declining since the periods of economic crises in the 1970s (Cabré and Domingo, 2002). The difference between the number of births and the number of deaths remains negative; that is to say, the six European countries considered, exhibits a significant decrease in births. This natural population decline registered in Europe since the 1960s has led to low growth in the economically active population, since there is an evident drop in the number of inhabitants under 19 years, who represent the potential workforce of every country. In the face of this demographic pressure along with the economic dynamism experienced by the six studied countries, economic immigration has become an important source to complement labour markets, providing the workforce

supply needed to match the labour demand.

The empirical evidence indicates that both pull factors – economic and demographic – tend to have a positive bearing on the flows of immigrants in both groups of countries, new and traditional, as their coefficients are statistically significant and their signs agree with the theoretical expectations.

This research is a first approach to finding the determinants of migration, which should certainly be expanded to a further investigation taking into account variables such as: migration regime, political and social factors; for which new methodologies will be required to assure an adequate measurement of the variables.

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Ana María ARAGONÉS, Uberto SALGADO, Esperanza RIOS

## Izravna strana ulaganja i novi migracijski obrazac za Europu

### SAŽETAK

U članku se ispituje odnos između izravnih stranih ulaganja (FDI) i radnika imigranata. Uspoređuju se dvije različite skupine zemalja: tradicionalne (Ujedinjeno Kraljevstvo, Francuska i Njemačka) i nove zemlje primitka, članice Europske unije, kako bi se istaknulo da su potrebe međunarodnoga kretanja kapitala zapravo stvarni uzroci imigrantskih tokova. Zajedno s obilježjima izravnih stranih ulaganja ispituju se njihovi poticajni učinci, pretežno na radno sposobno stanovništvo. Komparativnim pristupom za svaku se zemlju procijenila demografska situacija i poteškoće s kojima se suočava u popunjavanju praznina na svom tržištu rada, budući da stalno smanjivanje radne snage zahtijeva strane radnike. Rad se prije svega usredotočuje na “privlačni” (*pull*) faktor. Na kraju je predstavljen dinamični ekonometrijski panelni model. Empirijski dokazi pokazuju da su ekonomsko-demografski privlačni faktori u zemljama primitka, kao što su stopa nezaposlenosti, stvarni bruto domaći proizvod (BDP) i priljev izravnih stranih ulaganja, te udio ekonomski aktivnog stanovništva u ukupnom broju stanovnika značajne varijable, povezane s migracijskim tokovima u obje skupine zemalja, i novima i tradicionalnima.

KLJUČNE RIJEČI: privlačni faktori, izravno strano ulaganje, imigracija u Europi, demografija, tržišta rada, tradicionalne zemlje primitka, nove zemlje primitka