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Abstract

We review the different migration episodes in Spain since the beginning of the 20th century, with special emphasis on the pieces of empirical work that have tried to identify the factors behind them. Migrations abroad for the 1900-1950 and 1950-1973 periods are considered. Foreign immigration is also discussed. Special attention is devoted to internal migration, both to inter-regional and intra-regional flows. Since the early 1980's net inter-regional flows have fallen and, following the expansion of the welfare state, the traditionally poor and high unemployment regions have become net immigration regions, while the reverse has happened with the better off ones. Intra-regional migration, which has not received much attention so far, is also analysed to understand its spectacular increase in all regions since 1982. This is associated to the increased employment opportunities in the services sector that has prompted moves (mainly within regions), mostly of skilled workers, towards larger towns where the new jobs are.

I. INTRODUCTION AND PRELIMINARIES

1. Introduction

Spaniards have historically moved in large numbers in response to economic incentives. At the beginning of the 20th century the outflow to South-America was massive and later, from the 1950's through the 1960's and 1970's, emigration to Europe was impressive. At the same time, during the 1960's and 1970's inter-regional mobility inside Spain was also substantial.

However, since the mid-1980's we are witnessing in Spain what may seem a migration puzzle: despite persistent unemployment differentials, high unemployment regions are not any more net outmigration regions while rich and low unemployment ones are no longer net immigration regions. Since this is the currently important migration issue in Spain, in this Chapter more attention will be devoted to internal migration and its determinants. Nevertheless we also aim at describing the different migration episodes in recent Spanish history relying on the various pieces of empirical work that have tried to identify the economic factors behind them.

In Section II we will examine migrations abroad, first for the 1900-1950 period and then for the 1950-1973 period. Spanish emigration at the beginning of the 20th century was very significant and headed basically to South-America. This mass migration was triggered by the crisis in the European agricultural sector but mainly by activity and growth in the destination countries. The First World War and the Spanish Civil War put on end to those flows. Over the 1960-73 period more than 100000 workers were emigrating per year to Germany, France, and Switzerland due to excess supply of labour in Spain, and the need for non-qualified workers in Europe. This outflow stopped with the 1973 crisis.

In Section III we will study internal migrations, distinguishing between two different inter-regional migration periods: 1960-1982 and 1983 onwards.

Inter-regional migrations during 1960-1973 were very intense given strong economic growth with substantial regional imbalances at the time. People left rural and poor areas like Andalusia and Extremadura towards richer and more industrial zones like Madrid, Catalonia or the Basque Country.

However, since the early 1980's and continuing during the early 1990's net inter-regional flows declined substantially despite the persistence of regional differentials and sustained high unemployment. High aggregate unemployment is precisely to blame for this drop in inter-regional migration according to Bentolila and Blanchard (1990), Bentolila and Dolado (1991) and Bentolila (1997). However, after 1982 and up to 1996, despite persistent high aggregate unemployment, gross inter-regional migration flows have increased to levels similar to the ones prevailing in 1960-1973, while net flows have dramatically fallen. Following the work of Antolin and Bover (1997) we present evidence supporting the idea that the profile of the migrant in the late 1980's and early 1990's has changed with respect to the 1960-1973 period. People who move between regions are educated people, moving in search of cheaper housing and better quality of life. High regional unemployment does not trigger any more migrations to more prosperous regions. Registered unemployed (probably reflecting unemployed receiving benefits) living in regions with high unemployment rarely change regions.

In the second part of Section III we consider intra-regional migration, which has not received much attention so far, in spite of the fact that it has increased spectacularly since 1982 and represents 1.43% of the population in 1995. Remarkably, this unprecedented increase has taken place in all the Spanish regions. These are obviously short-distance moves but we believe to be interesting to study the forces that have driven such an increase. Results in this paper and in Bover and Arellano (1998) support the view that part of this increase in intra-regional migration

responds to the increased employment opportunities in the services sector in all regions since the late 1970's, which has prompted (mainly within region) moves, mostly of skilled workers, towards larger towns where the new jobs are.

Finally in Section IV we will briefly discuss foreign immigration. It is believed that for the first time in modern times, Spain is now a net immigration country. However foreign immigration is a very small proportion of the population, although it is growing rapidly, and overall, it does not seem to be a very important economic issue in Spain at the moment, in contrast to other countries. In this section we will describe the work by Dolado, Jimeno and Duce (1996) who study the impact on some labour market variables of the lifting of some restrictions on immigration policy in 1991.

Before turning to the main body of the paper we would like to briefly describe which are the data at our disposal to study migration issues in Spain.

2. Spanish Data sources on migrants

The official data for Spanish emigration abroad is widely agreed to underepresent the level of migration, but more dramatically so for the most recent period. Until 1971 an emigrant (or immigrant) was defined as a passenger travelling third class from (or to) a Spanish port. From 1972, only emigrants "assisted" by the "Instituto Español de Emigración" (IEE) (or estimated to be an immigrant by the IEE) were counted as emigrants (or immigrants). For the period 1882-1930 Sanchez Alonso (1995) constructs a new time series using data on destination countries and concludes that although in the official data the migration level is clearly underestimated, they capture correctly the fluctuations and trends. Again, for the migrations to Europe during 1950-1973, official data appear to capture fluctuations

adequately when compared to data on Spanish immigrants from France and Germany.

Since the early 1980's there is a much more precise information on foreign immigrants to Spain through the Residential Variation Data ("Estadística de Variaciones Residenciales") which has traditionally registered new arrivals (and departures) at the municipality level. For the earlier period there is far apart Census information and information on foreign residents from the Ministry of the Interior.

To study internal migrations in Spain there are two main data sources, aside from Census data. The first one is the Residential Variation Data we mentioned above. Its drawback is the very scarce information on the characteristics of the migrants. On the other hand it is the only source on migration flows inside Spain since the 1960's and has therefore being the main source for work on aggregate internal migration. It should be noted that around the years when the municipal census is renewed, migrations drop artificially because during the months the renovation takes place, migrants are considered as new registers to the census and not as immigrants[1]. In this paper we have interpolated the values for those years when referring to series from this source. The second source is the Migration Survey, included in the second quarters of the Labour Force Survey, which takes as migrants those persons whose municipality of residence is different from the one a year before. This information is very rich in individual characteristics but is available only since 1987, the year in which a general break in the Labour Force Survey methodology took place. Due to the short time span together with the small number of migrants and the sample size, the Migration Survey may be subject to sampling errors for certain purposes. From 1980 to 1986 the Internal Migrations Survey was conducted, also as part of the Labour Force Survey. In contrast to the new Migration Survey which takes place only every second quarter, this would take place every quarter.

II. MASS MIGRATIONS ABROAD (1900-1973)

1. The South-American experience and its decline (1900-1950)

After having pioneered mass migration to America in the sixteenth century, Spain was, together with Italy and Portugal, a late comer to the European mass migrations of the last part of the 19th century. However, when Spanish emigration started at the beginning of the 20th century (see Figure 1) it grew distinctively more than in the rest of the latin countries. Between 1900 and 1913, the rate of growth of Spanish emigration was almost 12%, compared to 4.7% for Italy and 9.9% for Portugal (see Sanchez Alonso, 1995). The chosen destinations were overwhelmingly. South-American countries (Argentina, Brasil, Cuba and Uruguay particularly) and also North Africa (Argelia). Note however that, in common with other latin countries, return migration was significant (see Figure 1) and higher than for previous mass migrations from northern Europe (see Hatton and Williamson, 1994).

Among the factors that may explain this important emigration in the early 1900, it has often been cited how the arrival of agricultural products (cereals particularly) from America triggered a crisis in the European agricultural sector, which was unable to compete. This crisis had significant effects on the rural population, inducing it to migrate. Like in most European countries, tariff barriers were introduced. Additionally, a depreciated rate exchange rate played an extra protectionist role in Spain (see Sanchez Alonso, 1995). This double protection kept people attached to their land for a while, through an artificially sustained agriculture. Therefore, when the peseta started appreciating in 1903-04 the increase in migration was spectacular. However, even more important than the internal push factors was economic activity and growth in the destination countries. As an example, in her econometric work Sanchez Alonso (1995) shows how the building sector in Argentina, with a high demand of non-qualified workers, is the most influential

factor in Spanish migration during the period 1882-1913, together with fluctuations in Argentina's GDP. On the basis of their econometric evidence, Hatton and Williamson (1994) emphasize the widening of the wage gap between Spain and the destination countries, and, more generally, the much more pronounced economic failure at home relative to other countries, as the main force driving the rise in Spanish emigration at the time. They note that, in contrast with other latin countries, the increase in emigration did not follow from an increase in the proportion of the population in prime emigration age group which, on the contrary, experienced a fall in Spain. At the time, migration legislation in Spain was basically of a protective nature towards the emigrants (both the 1853 Order and the 1907 Law)[2].

However, migrants in the early 20th century in Spain came from a reduced number of regions (namely Galicia, Asturias, and the Canary Islands) and hence, to complete the aggregate factors at play, attention should be paid to regional differences as well. Sanchez Alonso (1995) in a cross-section analysis for 49 Spanish provinces in 1911-13 stresses some factors that would explain why some regions stayed out of that migration process. From her results migration would be undertaken in regions where the land surface per agricultural worker was small and also where the increase in literacy allowed access to information. Agricultural wages played a double role. On the one hand, high wage levels in the preceding years induced migration by allowing people to afford the cost of migrating, while wage increases had the expected negative effect on migration. Finally, differences in urbanization across provinces also played a role. Developed cities in some provinces stood as an alternative to migration abroad.

The First World War brought to a halt migration towards those that had been so far the traditional destinations. However important flows of migrants headed towards France which was very much in need of workers given the war. These

migrations declined in the second part of the 1920's due to economic recession in France. On the other hand at that time we should mention that there was an increase in internal migrations given Spain's role as an international supplier of various goods during the war period. Eventually, while for the period 1901-1910 61% of migrants went abroad, for 1921 to 1930, only 6% did so.

The Spanish Civil War was the last blow to migration outwards. However, although migrations for economic reasons diminished, migrations for political reasons were notorious. In Spain, the Civil War induced a revival of rural activity, with the number of people working in agriculture increasing between 1930 and 1940. However this meant a surplus of badly paid people in agriculture which would lead eventually to a massive exodus from the rural areas during the 1940's and continuing through the 1950's and 1960's.

2. The European experience (1950-1973)

The flow of workers from agriculture to manufacturing intensified due to the growing importance of the manufacturing sector and to the increase in agricultural mechanisation. It was a period of very high migration both abroad and inside Spain. During the 1950's alone a million workers left agriculture (seventeen times more than during the previous decade).

Migrants to other countries started heading to South-America again but restrictive immigration policies against non-qualified workers stopped migration to those countries in the second part of the 1940's. France, short of workers after the European and the Argelian wars attracted Spanish emigrants, together with Germany and Switzerland, over the 1960's and early 1970's. Over that period it is estimated that more than 100000 workers per year were emigrating to France, Germany and Switzerland. On average, from 1962 to 1970, around 42% of Spanish migrants to

Europe were heading to Germany, 23% to France, and 28% to Switzerland. In Spain these migrations were particularly welcomed as a source of finance for imports. Transfers from migrants abroad covered between 17 and 30% of the trade deficit over 1960-1973 (see Rodenas, 1994b). In 1956 the Spanish Migration Institute was created and it acted as the basic instrument of employment policy at the time. All along, the period, as we can see in Figure 1, return migration was significant. An indication of the "temporary" nature of migrations abroad could be the very high proportion of males, around 80%, both during this period to Europe and to America at the beginning of the century[3].

The sharp drop in the migration series in 1967 corresponds to the German economic recession of 1967-68. But this was short-lived and emigration to Europe picked up again. However, from 1973 emigration abroad ceased to be a significant phenomenon. Indeed the 1973 crisis hit the destination countries as well. Furthermore, technological progress reduced their need for manual workers. Finally, the economic gap between Spain and Europe would diminish over the 1970's and 1980's. Antolin (1992) using French and German data on Spanish immigrants for the years 1960 to 1988 shows how migration over this period responded as expected to differentials (between Spain and Germany and France) in income, wages, housing costs and unemployment, as well as to unemployment rate in the destination countries.

Migration abroad was a much more relevant phenomenon in certain regions (see Figure 2). In Galicia, *per capita* emigration was double than in any of the also poor and heavily migrant regions (eg. Andalusia and Extremadura).

III. INTERNAL MIGRATIONS

1. Inter-regional migrations 1960-1982

The period 1960-1973 is seen as a very intensive period for internal migration as well as for emigration abroad. It was a period of strong economic growth but with very substantial regional differentials. People left rural and poor areas towards the richer industrial towns. As we can see in Figure 6, Andalusia, NewCastile-La Mancha, Old Castile-Leon and Extremadura were net emigration regions, while Catalonia, Madrid and the Basque Country[4] were net immigration ones (see Table 1 for regional unemployment rates).

Santillana (1981) analyses the economic determinants of migrations between Spanish provinces[5] for different years during the 1960-70 period. In particular, his dependent variable is defined as the number of migrants from province i to province j and the explanatory variables capture characteristics of both the origin and the destination provinces. The estimated effects of these explanatory variables go in the expected direction. The stock of previous migrants and distance to destination confirm the importance of social interactions and uncertainty in the decision of migrating. Importantly, people respond by migrating to wage and employment opportunities, measured by income, size of the labour market and employment. Along the same lines, Rodenas (1994a) studies the determinants of region to region migration for 1973 and her results confirm the relevance of distance and previous migration stock and the expected effect of wage and employment differentials on migration.

During the late 1970's and early 1980's there was a considerable decline in inter-regional migration in Spain (see Figure 3). From the 0.62% average during the 1962-73 period, with a 0.91% peak in 1964, it declined to its through in 1982, 0.32%. This decline cannot be justified in terms of reductions in differentials across

regions. Although wage differentials have declined (see Bentolila and Dolado, 1992), the absolute differences in unemployment rates across regions have greatly increased over the period, as reported by Bentolila and Dolado (1992). Bentolila and Blanchard (1990) argued that it is the rise in overall unemployment that has been responsible for inhibiting labour mobility in Spain[6]. On this basis, Bentolila and Dolado (1991) estimated an econometric model of inter-regional migration using data from 1964 to 1986. They chose net migration as their explanatory variable because they consider net and gross flows to be very similar over that period. In order to capture the effect of the overall unemployment rate, they allow for their regression coefficient to depend inversely on the level of the unemployment rate. They find that net inter-regional migration responds to unemployment and wage differentials but with long lags and low elasticities. In particular, their estimate of the unemployment differential elasticity depends inversely on the aggregate unemployment rate, both in the short and in the long run.

2. Inter-regional migration 1983-1995

Since 1982, after the prolonged fall of the earlier years and despite consistently high aggregate unemployment rates, gross inter-regional migrations started to increase. In fact, for 1995 the gross inter-regional per capita migration rate is at 0.62% as high as the 1962-73 average (see Figure 3). However, as Bentolila (1997) reports, absolute net migration[7] has fallen by 90% from 1962-64 to 1990-94. Additionally, in contrast to the pattern in the previous two decades, following the expansion of the welfare state, the traditionally poor and high unemployment regions (Andalusia and Extremadura) have become net immigration regions, while the better-off ones (like Madrid and Catalonia) have become net outmigration regions. Furthermore, for the period 1987-91, only 31.2% of the unemployed would accept

a job implying a change of residence[8]. In this section, following the work of Antolin and Bover (1997) we will explain which have been the factors behind the migration decision in the late eighties and early nineties in Spain, what is it that has made people stay in or move from regions in Spain. Indeed, since the early 1980's and compared with the 1960-73 period it is not so much the number of inter-regional migrants that has changed but their profile.

In Antolin and Bover (1997) the focus is on identifying which regional economic factors influence male migration decisions, taking into account personal characteristics. Individual data from the Labour Force Survey are used, pooling cross-sections from 1987 to 1991. The sample includes men, aged 16 to 70, who are in the labour force both at the time of the survey and a year before. Women were excluded because their migration behaviour could be quite different from that of men and, in particular, they are more likely to move for family reasons. In that paper only push factors from the origin region (and differentials with respect to the national average) were considered due to the small number of inter-regional migrants in the sample. The proportion of migrants is 0.295 percent (664 out of 224,714 individuals). This is a very small probability. With the Residential Variation Data the probability for the whole population is 0.58 percent. One possible reason for the discrepancy is that the Labour Force Survey compares the place of residence with the one a year before and therefore it may miss other moves within the year. However, Pissarides and Wadsworth (1989) have a 1.2% of migrants using a single cross-section of the British Labour Force Survey.

One contribution of Antolin and Bover (1997) is the emphasis on the importance of interactions between individual characteristics and regional variables. Personal characteristics not only have an important direct effect on migration but also alter the effect of regional economic variables on migration. Many migration

studies report a lack of significance of area economic variables, in particular unemployment, in explaining migration (Hughes and McCormick, 1989; Pissarides and Wadsworth, 1989; Grenwood, 1975, 1985). Da Vanzo (1978) finds, for the US, that unemployment is relevant only for unemployed persons. For Spain it turned out to be very important to distinguish between persons that are registered as unemployed at the Official Employment Office (INEM) and the unregistered unemployed.

We reproduce in Table 2 the final estimated inter-regional migration equation from Antolin and Bover (1997) and the predicted probabilities in Table 3. Only non-registered unemployed respond to their own unemployment. Without distinguishing by the registration variable, being unemployed did not appear to be significant for the migration decision. Employed people have a higher probability of migrating than the registered unemployed but lower than the unregistered unemployed. Among the employed most move probably with jobs (on that point see also Gil and Jimeno, 1993). That would explain the much higher probability of public sector employees.

One reason by which registered people tend to migrate less is because of unemployment benefits since registration is a necessary condition for receiving benefits and the official register is not seen to perform well as an employment agency. Furthermore, registration is also found to alter the effect of regional unemployment[9]. Higher than average unemployment in the individual's region will only have a positive effect on the probability of migration if the person is a non-registered unemployed but will have an important negative effect if the person is registered. Some estimates in Antolin and Bover (1993) suggest different impacts on the same lines for the national unemployment rate, a negative effect for registered unemployed, a barely significant positive effect for unregistered unemployed, and no effect for the employed.

Some of the other personal characteristics have effects on migration that are worth mentioning. Being single and not head of household reduces significantly the probability of migration, which reflects the strong family bonds in Spain. On the contrary, higher education not only increases directly the probability of migrating but individuals with higher education tend to be sensitive to their region's unemployment. The positive effect of education on migration is important and it is an indication of the different profile of migrants as compared to the 1960-73 period.

House prices are among the most important items in the cost-of-living calculations when migration is envisaged. Furthermore, substantial increases took place in the second half of the 1980's in some of the Spanish regions. In Antolin and Bover (1997), given that owner occupied housing involves an investment decision, an asymmetric effect of house price differentials was allowed for[10]. The results show that people who would normally migrate are more likely to do so if they live in a region with above average house prices. This ties up with the effect of real wage differentials. Real wage differentials show the opposite sign to what one would expect if wage differentials were to correct regional disequilibria by encouraging migration from low wage regions[11]. An appealing explanation is the quality-of-life motive: people leaving high wage regions because of an increased demand for a better quality of life, once a certain income threshold is reached (Greenwood, 1985).

The conclusion in that work is that reasons that make people migrate to another region in Spain in the 1980's and early 1990's are probably different from the reasons that made people move in the 1960's and 1970's. People that move now between regions are people with higher education and they seem to do so in search of cheaper housing, better quality of life and perhaps professional promotion[12]. High regional unemployment or own unemployment do not trigger substantial migration from people in poor regions. Unemployment will only increase the

probability of migration if the individual has higher education or is unemployed and not registered as such. Registered unemployed with low education and living in high unemployment regions have the lowest probability of moving to another region.

These factors seem to be behind what we observe in Figures 4 and 5, namely that people are leaving regions like Madrid, Catalonia or the Basque Country and staying in or moving to regions like Andalusia or Extremadura.

3. Intra-regional migration 1983-1995

Until the early 1980's inter-regional migration and total internal migration moved together. Per capital intra-regional migration was, from 1967, higher than inter-regional migration but it evolved around a more or less constant level since 1962 until 1982. However from 1982 this has changed dramatically but has surprisingly not received much attention (it was first noted by Olano, 1990). As we can see in Figure 7 intra-regional migration has been climbing very rapidly since 1982 and was in 1995 at an alltime high: 1.43%, taking overall internal migrations at their highest level ever and representing 70% of them. Most of these moves are obviously short-distance (intra-provinces) ones (see Figure 7) but it is interesting to try and see what are the forces behind such a steady and unprecedented increase in short distance moves. It is noteworthy that this increase in intra-regional movements is a feature shared by all the Spanish regions (see Figure 8). Furthermore, it has been accompanied by an important movement from rural areas to cities, as can be seen in Table 4 where we decompose intra-regional migration according to size of town of origin and destination.

Below we associate part of the increase in intra-regional migration with changes in the composition and location of employment. In particular, employment opportunities have increased substantially in the services industry since the late

1970's. Employment in services climbed from 42% in 1977 to 61% in 1995. While from 1964 to 1978 it grew at an annual rate of 0.79%, from 1980 to 1993 the annual rate was 1.12%, the highest among OECD countries together with Portugal. This increase in the service share of employment has taken place in all regions, opening up new employment opportunities inside the regions but usually in large towns.

In Table 5 we report some results on the estimation of per capita intra-regional migration equations, using pooled data for the 17 Spanish regions, over the 1978 to 1995 period. As explanatory variables we include regional unemployment, regional real house prices, as well as the percentage of employment in the services sector in the region[13]. All explanatory variables refer to t-1.

The effects of the region's unemployment and house prices change over our sample period. They are both negative at the beginning and positive later. We model this varying effects by allowing the coefficients of these variables to vary with logt and its square[14]. This change in the effect of the economic variables after the mid-1980's may be part of the explanation of the increase in intra-regional moves. For instance, high unemployment in the region would not induce moves within the region during the 1960's and 1970's; it would rather prompt migration to other regions with lower unemployment (see results cited in previous section, eg. Rodenas, 1994a). After the large increase in the service sector however, high unemployment may be inducing people to move within their own region, probably to larger towns. It would have been nicer to be able to explain these across time variations in the effect of regional unemployment and house prices with economic variables, but tried and failed, probably due to the lack of sufficient information in our data set.

As for the proportion of employment in the service industry, we obtain an important and significant effect, which is stable along our sample period. We do not include variables like wages due to the impossibility to obtain real measures of these

variables that are comparable across regions. We have however included the log of real regional wages in the specification that includes regional dummies to see if it helped explain the time-series evolution of intra-regional migration but it was not significant[15].

Bover and Arellano (1998) use individual migrants records from the Residential Variations Data, for the years 1988, 1989, 1990 and 1992, to study the determinants of within region moves distinguishing by size of town of origin and destination[16]. The effect of the proportion of regional employment in the service sector is found to double the probability of moving to large towns when the share of services is changed from the average to the maximum value observed in the sample period and reaches its highest value for the more educated. House prices are also found to have a very sizeable effect on within region migration but in the opposite direction, pushing people from larger cities towards smaller towns, where house prices are usually lower. House prices at their peak treble the probability of these large to smaller moves, as compared to mean value house prices.

The available empirical evidence therefore supports the view that part of the unprecedented increase in intra-regional migration in all Spanish regions is in response to the increased employment opportunities in the services sector in all regions since the late 70's, which has prompted moves, mostly of skilled workers, towards larger towns where the new jobs are.

In conclusion, our picture about internal migration in Spain is that in contrast to the extended view of low mobility, many Spaniards move nowadays in response to economic incentives, in particular, in search of better employment prospects. However, those who move are different from the low educated, manual worker migrants of the 1960's and 1970's. Furthermore, these moves in search of better employment prospects are not necessarily inter-regional moves, as they used to be,

since employment opportunities in the services, non-manual sector have increased substantially within all regions, but mainly in large towns.

IV. FOREIGN IMMIGRATION

Until the late 1980's the number of foreign immigrants per year was less than 10000, which amounts to less than 0.02% of the population (see Figure 10). Numbers have increased since but still the percentage over the population of foreign immigrants is only 0.05% in 1995. These numbers refer to legal immigrants and not much information is available on illegal migration. Izquierdo (1992) estimates the number of illegal immigrants in 1989 to be between 18 and 28 percent of the legal ones[17]. In Figure 11 the total number of foreign residents in Spain is represented. Again we can see a substantial rise from the mid-1980's and nowadays they account for 1.4% of the population. Most of foreign immigrants have traditionally come from Europe and South America, although from the end of the 1980's immigration from Africa has increased more than from other parts of the world and accounts in 1995 for slightly over 25% of the total (see Figure 12). The preferred destinations are mainly Madrid and Catalonia followed well behind by Valencia and Andalusia.

Given this situation, not much effort has been devoted so far to study the labour market consequences of foreign migration in Spain. There is however a recent study by Dolado, Jimeno and Duce (1996) where they try to measure the effects on the labour market of an increase in the number of work permits following the lift of some restrictions on immigration policy in 1991. In that work, along the lines of Altonji and Card (1991) and using data disaggregated at the provincial level (50 provinces), they regress the change between 1990 and 1992 of the variable of interest (total and unskilled employment, skilled and unskilled wages) against the change over the same period in the number of work permits (from the Ministry of Employment) and in the other conditioning variables. For all the variables of interest the reservation wage (as the minimum bargained wage in each province) and the sectoral composition of employment in each province are included as control

variables. As additional controls, they use the ratio of skilled to unskilled wages for the total employment equation and the provincial unemployment rate for the rest. The equations are estimated both by OLS and by instrumenting using lagged unemployment and migration changes. They find a small positive elasticity for wages and total employment to the migration change, and a negative one for unskilled employment. It should be noted however that the number of work permits variable, mainly over that period, is mostly the result of policy action and does not reflect any underlying evolution of the number of foreign workers. Furthermore, it is not clear that the sort of endogeneity present in these equations could be solved using lagged values of the endogenous variables.

In any case, and to summarise this section, we should note that in Spain the number of work permits have until now accounted at the most for 1% of employment.

Notes

1. Years ending in one or six usually.

2. A full historical index on emigration legislation in Spain is provided as an annex in *Revista de economia y sociología del trabajo*, september 1990, nlº 8-9, 164-240.

3. The existence of difficulties by the destination countries in Europe to accept dependants might have induced some illegal migration of women and children.

4. Note that Valencia, despite appearing as a net immigration region, had a substantial emigration abroad at the time.

5. Continental Spain is administratively divided in 17 regions (or "Comunidades Autónomas") and 50 provinces.

6. Although causation here may go both ways, since the decrease in labour mobility is also seen as resulting in an increase in equilibrium unemployment.

7. Absolute net migration taken as the sum of the absolute values of net inflows to regions divided by population.

8. Information from the Labour Force Surveys.

9. Rodenas (1994a) finds a positive effect on migration of the unemployment in the destination region using aggregate inter-regional data por 1985 and 1989 (but not for 1973).

10. Owner occupation is around 82% in Spain and includes subsidized housing.

11. Also found by Rodenas (1994a) in her 1985 estimation.

12. They do not seem to reflect return migrations of individuals who originally migrated from the poor regions of origin in the 1960's and 1970's.

13. We have constructed a regional house price variable for our sample period from regional housing CPI data available for the whole period (but not comparable in levels across regions) and the level regional house prices data from "Sociedad de Tasación", available since 1985. The resulting variable has been deflated by the national general CPI and will therefore be capturing other differences in cost of living across regions aside from house prices.

14. Similar results were obtained using bounded trends of the form log (1+T/t) and $[\log (1 + T/t)]^2$ where T is the total number of periods in the sample.

15. Note that in this case the different unobservable base year CPI levels in each region would be captured by the regional dummies.

16. Identification is achieved by comparing the distribution of characteristics of the migrants with the distribution of characteristics in the population.

17. Some information on illegal migrants and their characteristics could be also found in that reference, as well as explanations about legislation on residence and work permits in Spain.

TABLE 1

Regional Unemployment Rates

	1962	1971	1975	1980	1985	1990	1995
Andalusia	3.4	4.3	13.5	17.5	29.7	25.6	33.9
Aragon	0.2	1.4	2.8	8.6	17.6	9.5	15.9
Asturias	0.3	1.0	2.9	8.5	18.4	17.3	20.2
Balearic Islands	0.4	0.3	2.3	7.7	13.9	10.5	14.3
Canary Islands	1.1	0.7	9.3	12.3	25.7	23.0	23.7
Cantabria	0.5	1.6	2.7	7.3	15.5	16.8	22.3
New Castile-La Mancha	0.5	1.1	8.5	10.6	16.6	13.0	20.2
Old Castile-Leon	0.3	1.4	3.0	8.4	18.1	15.3	20.5
Catalonia	0.8	1.2	2.8	12.0	22.7	12.7	19.9
Valencia	1.2	1.9	3.7	9.7	20.8	14.3	22.4
Extremadura	1.7	2.7	7.6	14.8	27.3	24.5	30.6
Galicia	0.3	0.8	4.4	4.8	12.8	12.0	17.6
Madrid	1.1	2.4	4.5	12.9	22.1	12.5	20.9
Murcia	1.4	5.2	8.0	10.0	20.1	15.8	23.7
Navarra	0.1	1.9	5.3	11.6	18.9	11.7	12.9
Basque Country	0.2	0.7	2.4	12.8	23.6	18.8	23.0
La Rioja	0.3	0.4	1.6	5.1	17.3	8.4	16.1
NATIONAL	1.4	1.9	5.6	11.4	21.6	16.2	22.9

Source: Labour Force Survey (INE) and Banco Bilbao Vizcaya

TABLE 2

Final Estimated Migration Equation Using Pooled Cross-Sections for 1987-1991

	1 (logit)
Constant[2]	-4.382 (20.58)
Aged 16 to 24	0.404 (2.72)
Aged 25 to 34	0.512 (4.83)
Aged 50 to 70	-1.035 (6.14)
Primary education	-0.451 (5.15)
Higher education	0.416 (3.23)
Children	-1.027 (10.07)
Not head of household, single (nhhs)	-1.331 (11.76)
Married with working wife	-0.630 (4.76)
Unemployed	0.587 (2.76)
Registered at INEM	-1.511 (6.07)
Tenure ≥ 3 years	-0.980 (9.92)
Employee in public sector	1.366 (8.01)
Employee in private sector	0.945 (6.04)
Agriculture	-0.719 (3.33)
Industry	-0.891 (5.94)
Services	-0.238 (1.96)
Unemployment differential	-0.121 (0.08)
Unempl.diff. *unemployed	3.698 (1.59)
" *registered	-13.641 (2.85)
" *higher education	4.055 (1.61)
" *children	-5.210 (2.81)
" *nhhs	-8.367 (4.01)
Participation rate growth differential	0.125 (4.56)
Partic. rate growth differential *higher education	-0.106 (1.43)
House price differential	0.665 (3.32)
|House price differential|	1.698 (6.12)
Real Wage differential	2.426 (5.34)
D88	-0.136 (1.09)
D89	-0.359 (2.73)
D90	-0.261 (2.08)
D91	-0.343 (2.72)
Association of predicted prob. and observed responses	
concordant	73.8%
tied	14.1%
- log likelihood	3970.70

NOTES:

1. t-ratios in brackets.
2. the constant term will determine the probability of migrating for individuals with the following characteristics: head of household single or married to non working wife (or not head, but married), aged between 35 and 49, with either no schooling or secondary education, no children, self-employed in the construction sector with less than three years in the current job, and living in a hypothetical region where the value of the relevant regional variables equals the national average.
3. Sample size=224,714. Migration frequency=0.295%.

TABLE 3

Predicted probabilities (%)

	Employed				Unemployed	
	Agriculture	Construction	Industry	Services	Registered	Not registered
Standard[1]	0.35	0.69	0.28	0.55	0.30	1.30
BUT						
age 35-49	0.21	0.41	0.17	0.33	0.18	0.78
Working wife	0.18	0.37	0.15	0.29	0.16	0.69
Children	0.13	0.25	0.10	0.20	0.11	0.47
Not head, single	0.09	0.18	0.07	0.14	0.08	0.34
Higher education	0.82	1.63	0.67	1.29	0.70	3.02
tenure < 3 years	0.91	1.80	0.75	1.43	--	--
self-employed	0.14	0.27	0.11	0.22	--	--
REGIONAL DIFFERENTIALS						
House Prices= (i)+0.5235 (eg.Madrid 1989)	1.07	2.11	0.88	1.68	0.91	3.90
(ii)-0.3842 (eg.Aragon 1989)	0.47	0.94	0.39	0.75	0.40	1.76
Participation rate of change *100=1.3 (eg.Catalonia 1989)	0.41	0.82	0.34	0.65	0.35	1.53
Unemployment rate = 0.1 (eg.Andalusia 1989)	0.35	0.69	0.28	0.55	0.11	1.85

Notes:

1. Standard: head of household, age 25-34, wife not working, no children, primary education, employee private sector, tenure over three years, average region.

TABLE 4

Intra-regional migration, by size of town of origin and destination (as a percentage of the population in the corresponding size of town of residence). Men aged 20 to 64.

1988				
	Destination			
Origin	Small	Medium	Large	Total
Small[1]	0.49	0.46	0.29	1.24
Medium	0.31	0.45	0.30	1.06
Large	0.29	0.43	0.25	0.97
1995				
	Destination			
Origin	Small	Medium	Large	Total
Small	0.74	0.71	0.45	1.90
Medium	0.57	0.68	0.45	1.70
Large	0.58	0.75	0.32	1.65

[1] Small, medium and large are defined as less than 10,000 inhabitants, between 10 and 100 thousand inhabitants, and over 100,000 inhabitants, respectively.

Source: Own calculations from Residential Variations individual data and Labour Force Survey.

TABLE 5

Equations for intra-regional migration using pooled

data for the 17 Spanish regions, over the 1979-1995 period

Dependent variable: Per capita intra-regional migration	Pooled OLS	Pooled OLS with regional dummies
Unemployment rate$_{(t-1)}$	-.023	-.020
	(3.14)[1]	(2.68)
Unempl. rate$_{(t-1)}$ * log t	.010	.009
	(3.24)	(3.14)
Real House Prices$_{(t-1)}$	.003	.001
	(5.28)	(0.67)
Real House Prices$_{(t-1)}$ * log t	-.003	-.002
	(5.88)	(5.64)
Real House Prices$_{(t-1)}$ * (log t)^2	.001	.001
	(5.59)	(5.36)
Services as a proportion of total employment$_{(t-1)}$	.013	.021
	(5.80)	(4.50)
Regional dummies	no	yes
R^2	0.70	0.98
Test for autocorrelation[2]	-.001	-.009
	(.02)	(.19)

NOTES:

1. t-ratios in brackets, from heteroskedasticity consistent standard errors.

2. As a test for autocorrelation we report the coefficient and the t-ratio of the lagged residuals in a regression of the residuals on lagged residuals and the rest of the variables in the original equation.

FIGURE 1: SPANISH EMIGRATION
1882-1995

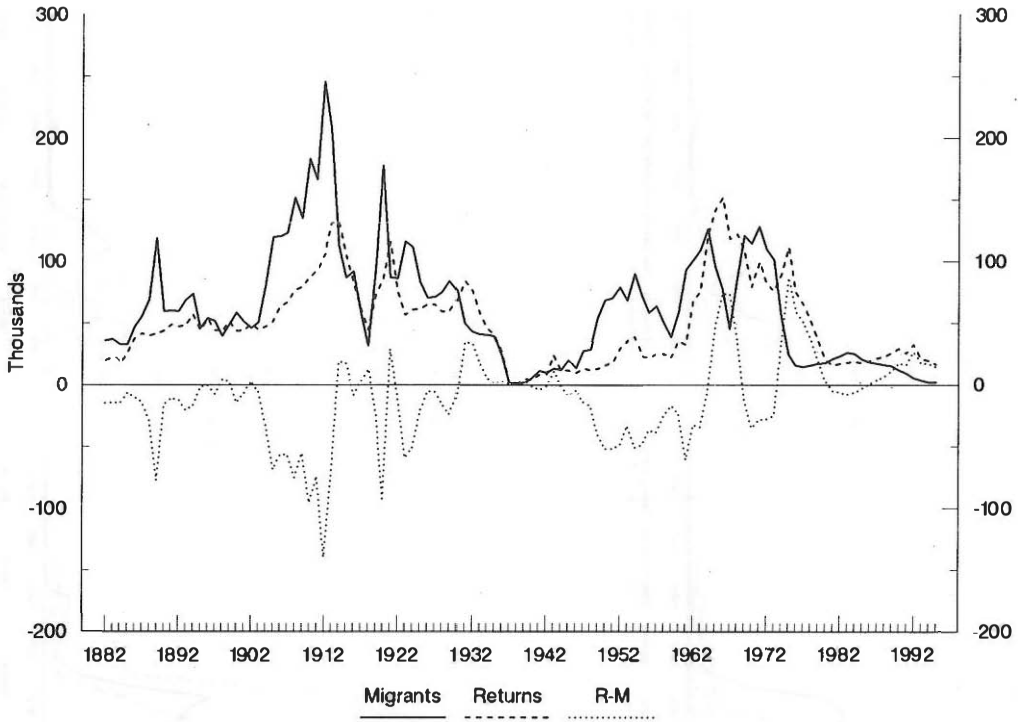


FIGURE 2: SPANISH EMIGRATION BY ORIGIN REGION
(in per capita terms)
1962-1995

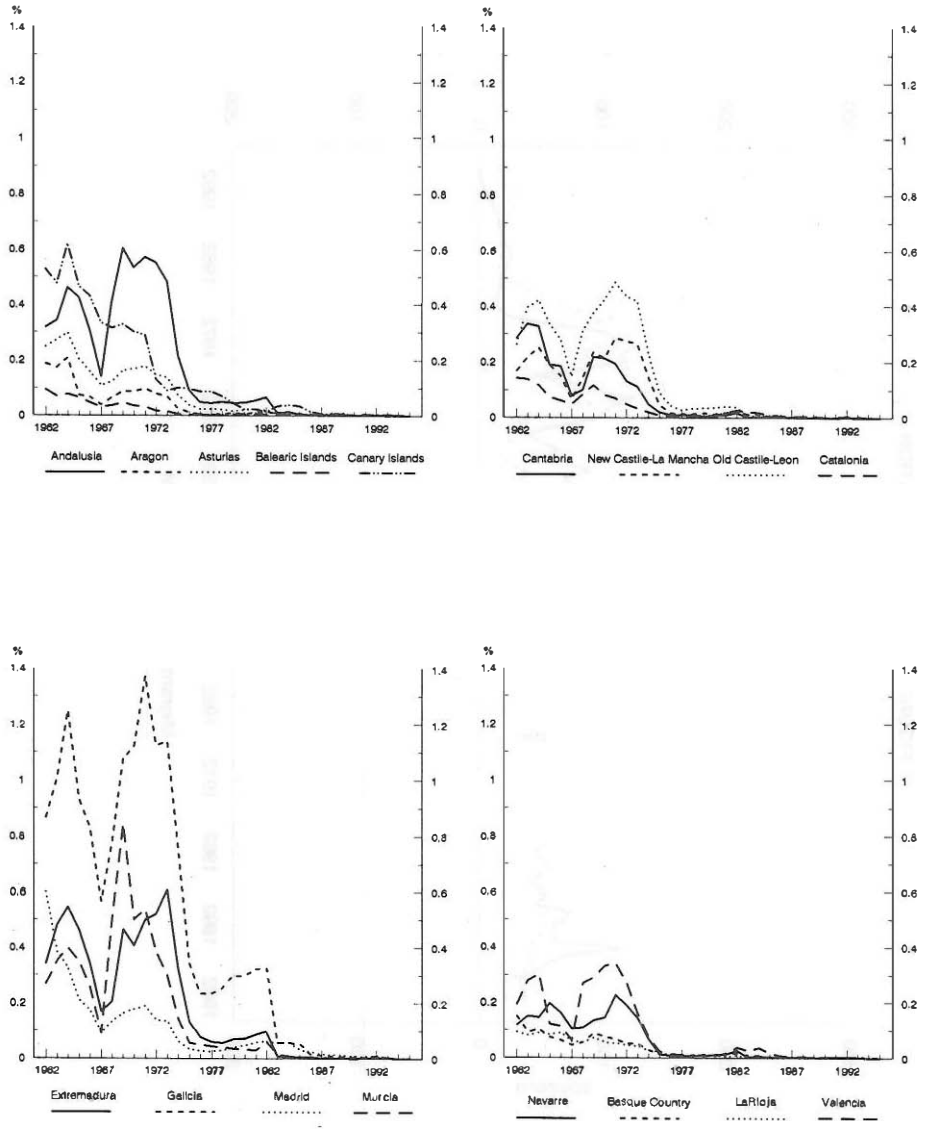


FIGURE 3: INTER-REGIONAL MIGRATIONS
(In per capita terms)
1962-1995

FIGURE 4: INTER-REGIONAL MIGRATIONS
EMIGRANTS
(In per capita terms)
1962-1995

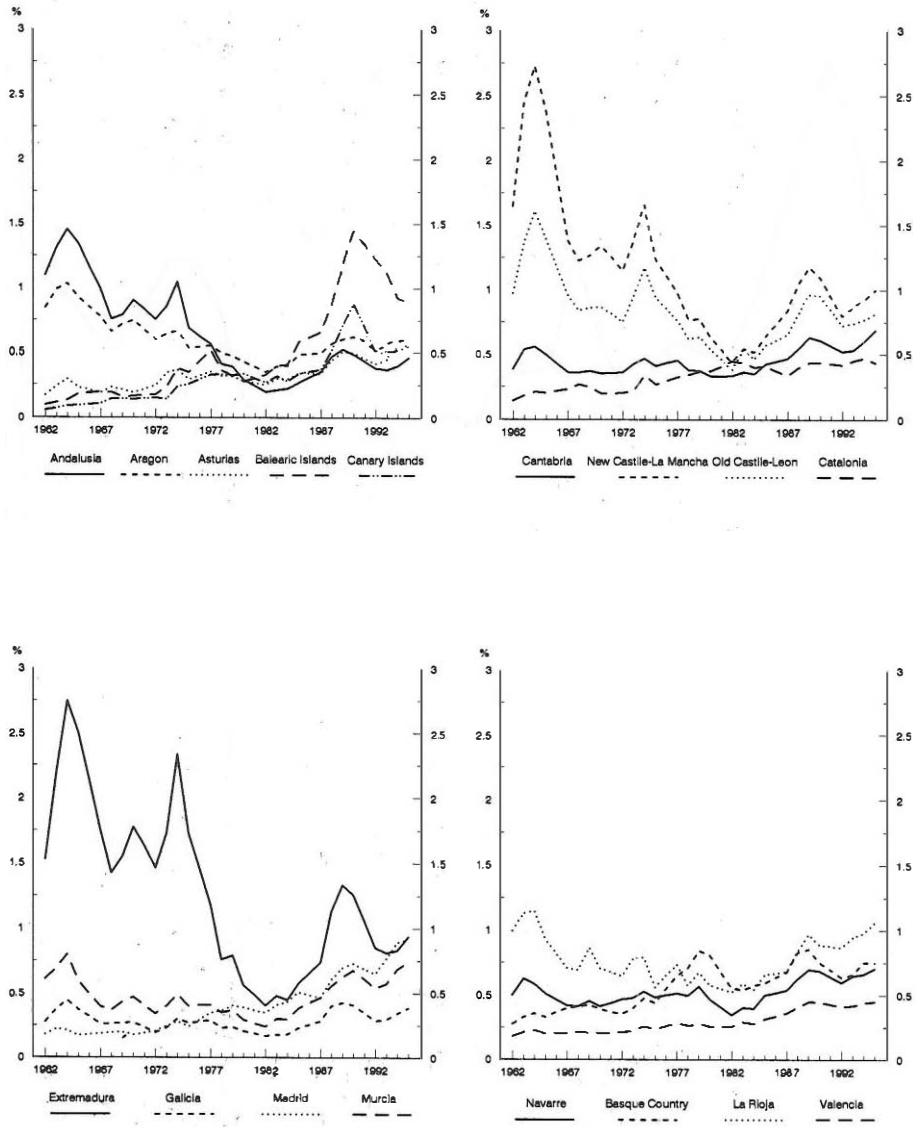


FIGURE 5: INTER-REGIONAL MIGRATIONS
IMMIGRANTS
(in per capita terms)
1962-1995

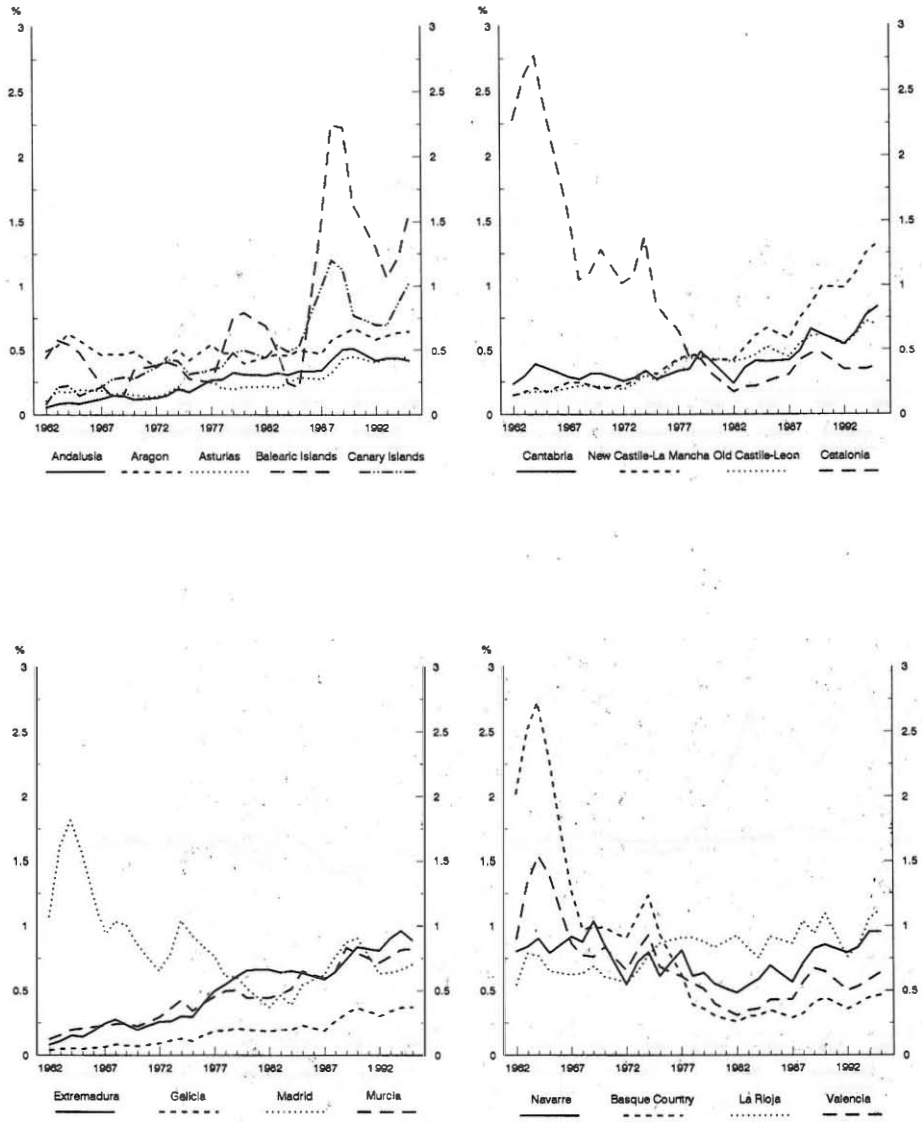


FIGURE 6: NET INTER-REGIONAL MIGRATIONS
(In per capita terms)
1962-1995

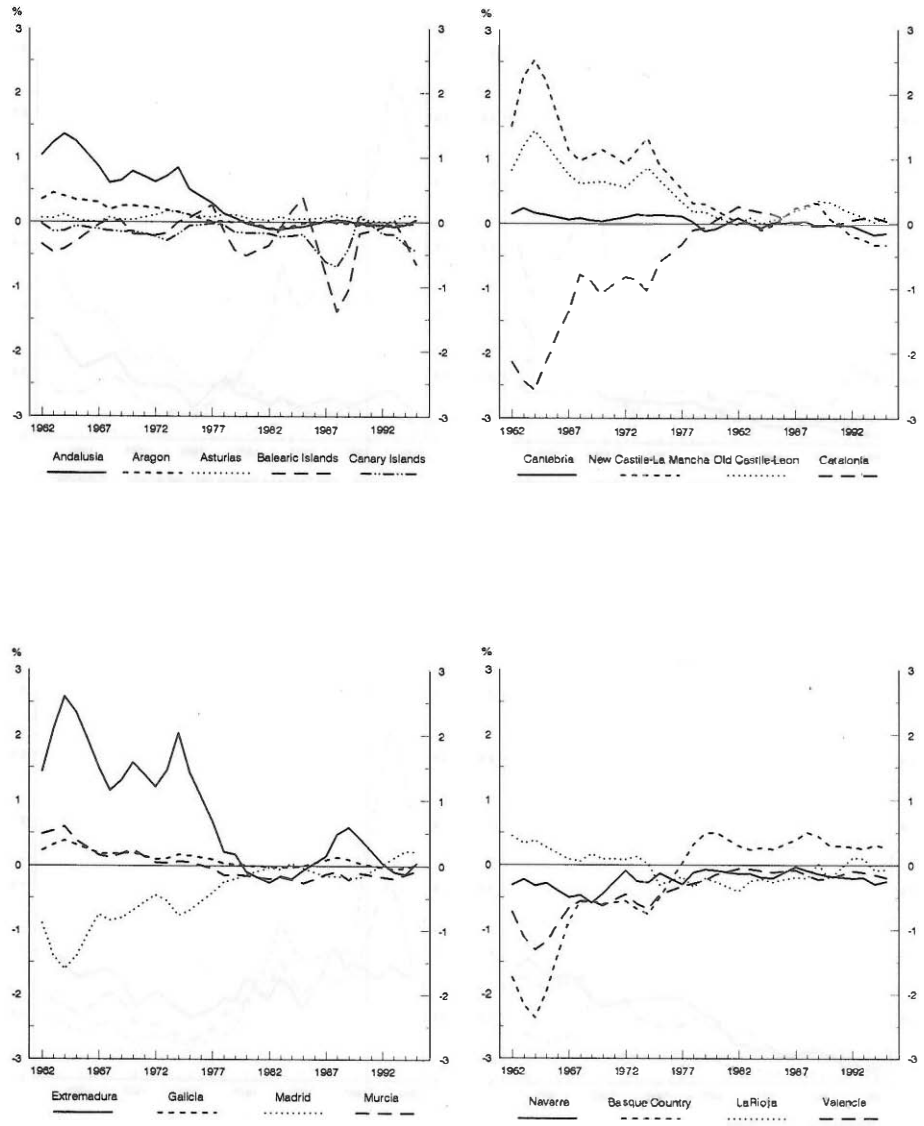


FIGURE 7: INTRA-REGIONAL MIGRATIONS
(In per capita terms)
1962-1995

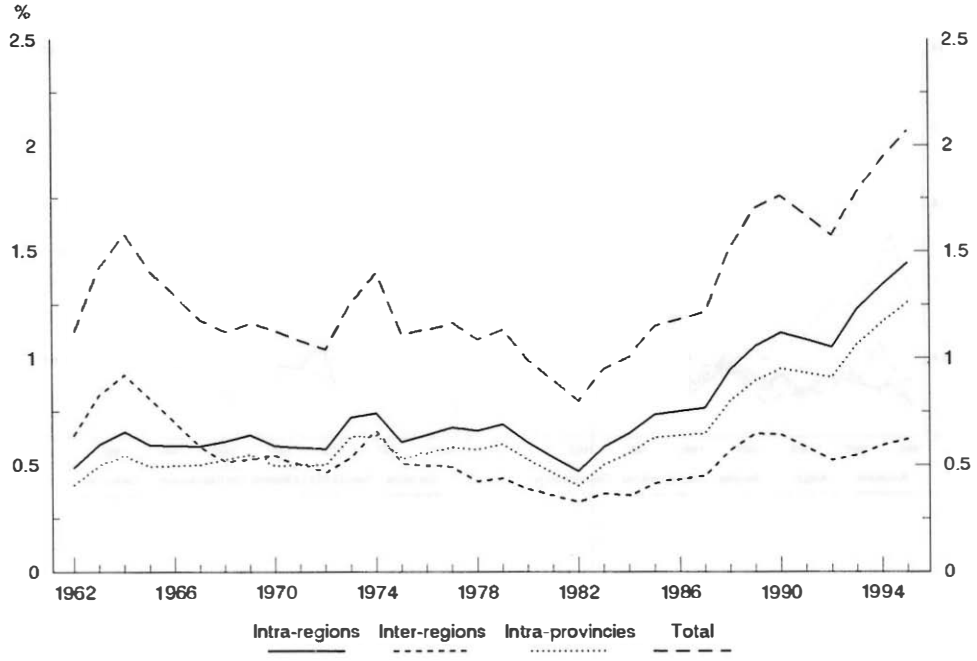


FIGURE 6: INTRA-REGIONAL MIGRATIONS
(In per capita terms)
1962-1995

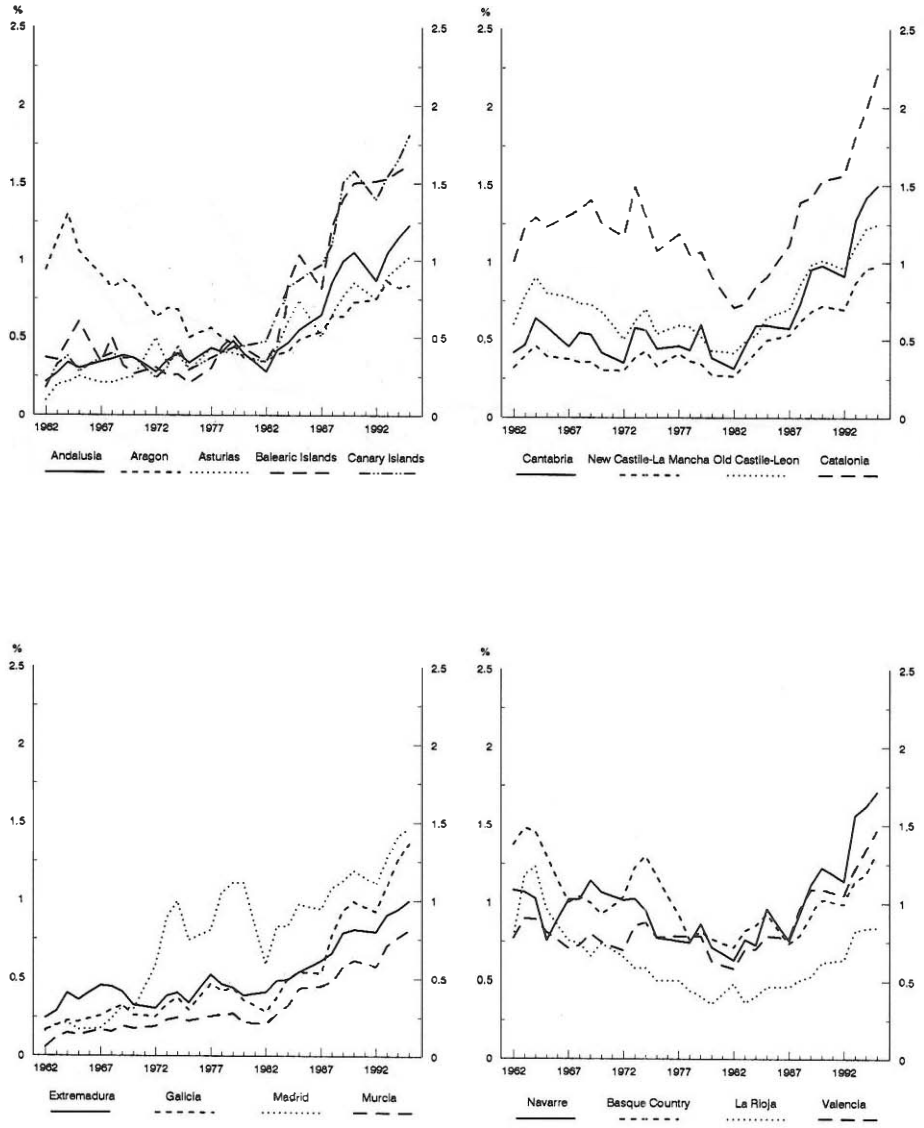


FIGURE 9: FOREIGN IMMIGRATION
1983-1995

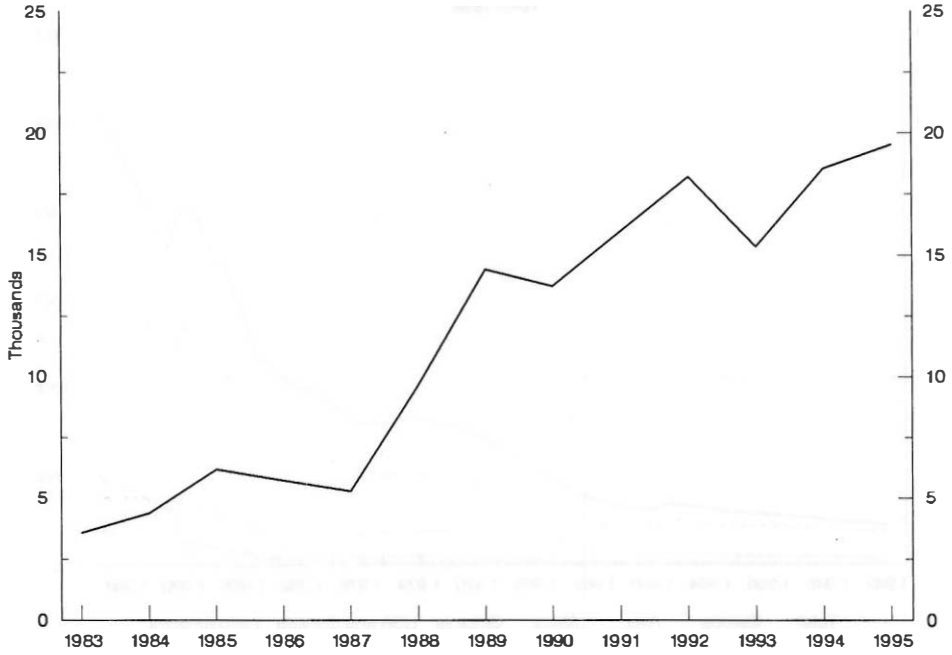


FIGURE 10: FOREIGN RESIDENTS IN SPAIN
TOTAL AND BY ORIGIN
1942-1996

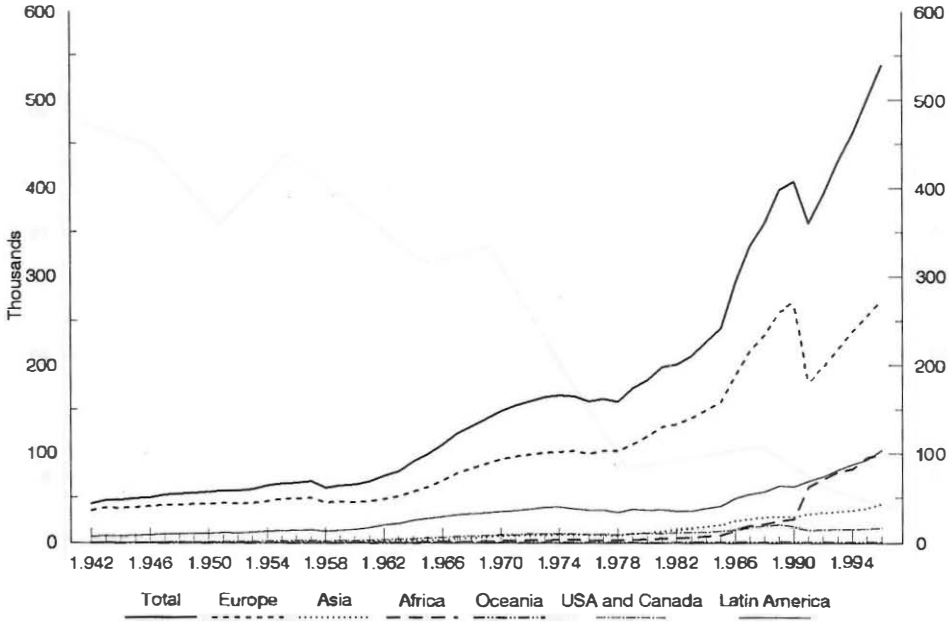
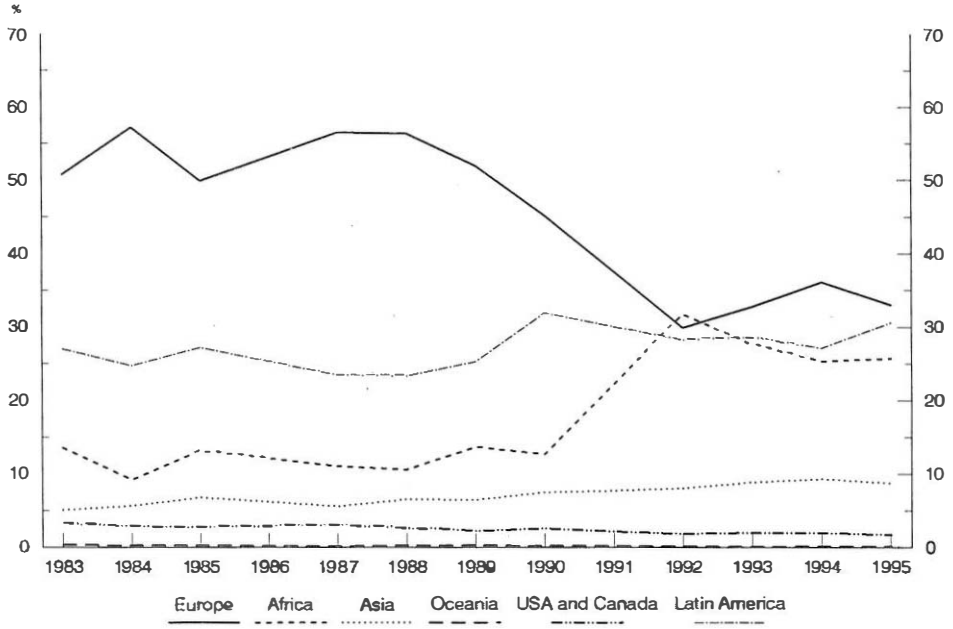


FIGURE 11: FOREIGN IMMIGRANTS, BY ORIGIN, AS A PERCENTAGE OF THE TOTAL
1983-1995



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