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PERMANENT AND TEMPORARY INTERNAL MIGRATIONS IN SPAIN, 1877-1936: DETERMINANTS AND LABOUR MARKET IMPACT*

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1.- INTRODUCTION

A considerable literature has appeared in the past two decades to analyse the channels, causes, and consequences of intercontinental emigration during industrialisation.[1] However, empirical studies devoted to explaining internal migrations are few. Given that internal immigrants were even more numerous than overseas emigrants, further research is needed to understand the increase in labour mobility as a whole. Undoubtedly, the best known case study is England and Wales, in particular owing to the works by Baines (1985), Boyer (1997), and Boyer and Hatton (1994, 1997). The former, shows, *inter alia*, that the relationship between overseas emigration and internal migration was complementary, and that both can be seen as part of the same phenomenon. The latter examine the causes -mainly real wage and expected income gaps and the cost of moving and job search- and show that relevant wage gaps persisted despite strong migration.[2]

For the Spanish case, there are several micro studies that detail the demographic and socio-economic characteristics of immigrants in different rural and urban destinations. There are also a number of macro studies that show the main channels.[3] In spite of these investigations, analysis of the determinants and the consequences is still lacking. In this sense, the recent paper on Spanish labour market integration by Rosés and Sánchez-Alonso (2002) includes several considerations and suggestions about the relationship between migration and labour market integration.

This article examines in detail the causes and effects of internal migrations and aims to answer some questions debated in the Spanish and international literature. In addition, this article reintroduces some of the suggestions by Rosés and Sánchez-Alonso (2002) which will be empirically contrasted. Were Spanish overseas emigration and internal migration complements, as in England and Wales, or substitutes? Why did not migration rates increase before the second and the third decades of the twentieth century? What was the impact of internal migration on the intense process of wage integration that took place

[1] See Hatton and Williamson (1998) and the works cited in.

[2] Previous works for England and Wales are cited in Boyer and Hatton (1997), pp. 708-712. Newman (1985) for Germany (1880-1910) and Söderberg (1985) for France, Great Britain, Prussia, and Sweden (1860-1910) estimate econometrically the effect of pull factors, however the dependent variable they use includes both overseas (and return) emigration and internal migration.

[3] Examples of micro studies are Reher (1990), Camps (1992), Sarasúa (1994), and Arbaiza (1998). The abundant macro literature is cited in Silvestre (2001), p. 2.

from the central decades of the nineteenth century to the Spanish Civil War? This article also reveals the relevance of temporary internal migrations and estimates its effects on the delay in the push of a large number of agricultural labour workers, and on the wage convergence process. But first we briefly summarise the evolution of European and Spanish internal migration.

2.- INTERNAL MIGRATION AND INDUSTRIALISATION IN EUROPE AND SPAIN

Despite the characteristics that are peculiar to each country and the problems associated with measurement, it is nevertheless true that many northern and central European countries present a similar evolution of their rates of internal migration during their respective industrialisation processes. Thus, we find that internal migration flows increased over the length of the nineteenth century, before stabilising and even falling by the end of the century or soon after (Baines, 1994). This pattern is demonstrated by Boyer (1997) for England and Wales, by Hochstadt (1999) for Germany, and by Tugault (1973) and Dupâquier (2000) for France. The evolution of internal migration in Southern European countries was related to their late industrialisation (see Table 1). In Portugal the rate of internal migration, overwhelmingly focused on the development of Lisbon, increased during the last years of the nineteenth century and the first of the twentieth (Baganha and Marques, 1996). In Italy, the rate of internal migration increased during the 1920s (and 1930s), due in part to the fall in overseas emigration provoked by the disruption of the international labour market (Treves, 1976; Sori, 1979).

In the Spanish case rural exodus on a significant scale may date from the mid-nineteenth century, due to the impact of the beginnings of industrialisation on employment prospects in the countryside (Erdozáin and Mikelarena, 1996). However, towards the end of the century the arrival of foreign grain put pressure on agricultural labour in Spain and elsewhere in Europe (Robledo, 1988; Tortella, 1994). Most of the ensuing outflow took the form of overseas emigration, mainly to Argentina, Brazil, Cuba and Uruguay (Sánchez-Alonso, 1995, 2000b). Nevertheless, the increase in the pull of internal destinations increased over time until it peaked in the 1920s, precisely when overseas emigration had lost its force. Table 2 illustrates this evolution using ten-year flows of internal migration

based on *Born in Another Province* (BAP) data referring to the migrant stock at each census date.[4]

What were the main destinations of internal migration during this period? What was their pull? How was this migration concentrated? A significant number of the main destinations in 1930 were already regarded as such in 1877 (Pérez Moreda, 1985; Silvestre, 2001). Furthermore, in the interim the majority of migrants concentrated on a limited number of destinations. This evolution of the migratory pattern is consistent with the increase in regional divergence in terms of per capita income and the concentration of productive specialisation in the Spanish economy between approximately 1860 and 1950.[5] By 1930, the provinces of Madrid and Barcelona accounted for 45.97% of the total stock of 2,189,450 BAP, whilst Seville 4.36% and Vizcaya (4.29%), the other two large centres of attraction, coming far behind. The fifth destination in terms of importance is Valencia, 3.07%, and thereafter the pull of each destination gradually fell away.

3.- DETERMINANTS OF INTERNAL MIGRATION

Although internal migration flows followed an ascending path from at least the last decades of the nineteenth century, it was during the 1920s that they really intensified, practically doubling their earlier level (see Table 2). Indeed this intensification may date back to the second half of the preceding decade, given the industrial expansion generated by Spanish neutrality in World War I (Pérez Moreda, 1987). In this regard, the share of labour force in agriculture, which was stable at around 72% until 1910, began to fall in the following decade (63% in 1920) and continued to do so with increasing force during the 1920s, reaching the figure of 50.6% in 1930 (Erdozáin and Mikelarena, 1999). One of the purposes of this section is to identify the determinants of internal migration associated with

[4] Specific disaggregated information of internal migrations is only available from 1962 onwards. For earlier dates, the only available data are the Born in Another Province (BAP) data for each province collected every 10 years in each decennial population census from 1877. For the era prior to the Spanish Civil War, the origin (provincial) of the migrants is given only in the 1920 and 1930 censuses. Nor do the Spanish statistics offer information on the distribution per age groups of the BAP, making it impossible to apply, for example, the Baines (1985, chapter 4) method of evaluating the number of migrants who died during the decade, thus allowing a more precise estimation of the migration flow. When faced with this situation, the usual recommendation is to employ the global survival rate of the census (United Nations, 1970).

[5] A more detailed analysis of this concentration process and subsequent dispersion of the migrant population and its relationship with the industrialisation during the nineteenth and twentieth centuries can be found in Silvestre (2001).

the most rapid and diversified period of growth enjoyed by the Spanish economy during the 1920s.[6] To that end, we will use the econometric estimation of various migration macro functions aggregated to the level of province. Our starting hypothesis has its origin in the disequilibrium models according to which migrants move from one place to another in function of economic and social disparities between two or more areas.[7]

From a more formal point of view, we assume that the decision to migrate consists basically in the choice of a specific destination from amongst a finite number of mutually exclusive destinations. That is to say, the potential migrant makes a comparison between the expected costs and benefits by specific destination and chooses that which maximises his utility function. The empirical representation of this process takes the form of a polynomial logistic function described in McFadden (1979), and which has more recently been modelled in the area of research into migration by Maier and Weiss (1991), of the type:

$$p_{ij} = \exp(z_{ij}) / [\sum_j \exp(z_{ij})], \qquad i, j = 1,..., n$$

where p_{ij} is the probability of migrating from origin i to destination j, and the sum of probabilities is 1, $\sum_j p_{ij} = 1$; and where it is further understood the probability depends on a vector of characteristics of the origin and the destination, z_{ij}. Following Gabriel et al. (1993), if z_{ij} is a linear combination of the characteristics of the origin (x_i) and of the destination (x_j) and of the displacement cost (c_{ij}), $z_{ij} = \alpha + \beta x_i + \phi x_j + \gamma c_{ij}$, imposing the restriction relative to the sum of probabilities (equal to 1), using the probability of not migrating (p_{ii}) as normaliser and applying logarithms, we obtain the following linear equation:

[6] The evolution of the percentage of Spanish GDP with respect to the average of Italy, France, Germany and the UK is as follows: 61.2 in 1870; 66.2 in 1890; 60.8 in 1913 and 70.8 in 1929 (Prados de la Escosura, 1997), p. 89.

[7] In the desequilibrium models there is the underlying concept of the migrant as labour force. In the equilibrium models, the migrant is also perceived as a consumer of amenities (climate, a better preserved environment, security and other not strictly economic factors). The upsurge of equilibrium models is related with the change in the pattern of internal migration that has taken place in a number of developed countries since the 1970s and, in general, with the increase in prosperity in a range of countries. In this regard, see Greenwood (1997).

$$\ln(p_{ij}/p_{ii}) = z_{ij} - z_{ii}, \qquad i, j = 1,..., n; i \neq j,$$

which can be re-written as[8]:

$$\ln(p_{ij} / p_{ii}) = \phi (x_j - x_i) + \gamma c_{ij}.$$

This specification allows for different approaches to the analysis of the determinants of internal migration. In the case that concerns us here, in a first model we reflect a series of demographic and socio-economic characteristics of the origins, without at this time taking into account the destinations chosen and the intensity of that choice. This restriction is equivalent to assuming that the conditions of the destinations and the displacement costs are the same for all the origins (Boyer and Hatton, 1997). However, such a condition allows us to examine the common features of the provinces from which the population was pushed to a greater or lesser degree, and compare the results with those obtained by Sánchez-Alonso (2000b) for overseas emigration. However, migration is not solely a function of conditions in the sending region, so in a second model we take account of the election criteria of a specific destination; that is to say, of the costs and benefits associated with the choice, the displacement and the insertion in a given location.

The dependent variable, ln(pij/pii), can be approximated by the Naperian logarithm of the migration rate (number of emigrants or immigrants, according to the model, divided by the total population at the beginning of the decade). In both models, the dependent variable is based on the BAP data supplied by the only two consecutive censuses that offer disaggregated information on the origins and destinations of out-migrants/in-migrants, those of 1920 and 1930. We are dealing therefore with an estimation of the decade-long flow of out-migrants in the first model and in-migrants in the second.[9] The use of the BAP items implies that, for the moment, we are not taking into account seasonal or temporary migration, but rather that considered as permanent. On the basis of these criteria, the first model that we test econometrically takes the form:

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[8] It is assumed that the non-displacement costs, c_{ii}, are equal to 0.

[9] For England and Wales, several works have used the existing stock at a given date (a choice that we could also have made here) rather than the flows. However, as Boyer and Hatton (1997), p. 710, indicate, this method tries to explain the accumulation of migrants in a given location on the basis of the value of specific independent variables at a given moment in time and, therefore, the result could be biased.

$$\ln[OUTMI(20\text{-}30)_{i,n-i}] = \alpha_0 + \alpha_1 POP_i + \alpha_2 URB_i + \alpha_3 AGLF_i + \alpha_4 WAG_i + \alpha_5 PRO_i + \alpha_6 LIT_i + \alpha_8 STO_i + \alpha_9 OVER_i + \varepsilon_i$$

The sources of all the variables are included in Appendix 1. The independent variables are those usually included in this type of specification, conditioned by availability and quality of information. Although Sánchez-Alonso (2000b) has demonstrated the lack of any significant relationship between demographic pressure (POP) and overseas emigration, it would appear that population growth or an abundant stock of young people could be significant determinants of internal migration.[10] The provincial urbanisation rate (URB) has been included as an approximation to the existence of non-agricultural job opportunities close to the place of origin and the disincentive effect that such opportunities could have on migration to other provinces. The relative importance of the agricultural sector, proxied by the share of labour force in agriculture (AGLF), has been considered by Sánchez-Alonso (2000b) as an indicator of economic backwardness and, in the case of overseas emigration, as a limiting factor on population outflow. In the case of internal migrations, however, during a period of intense structural change such as that being analysed here, the abundance of surplus agricultural labour could have contributed significantly to the expulsion.

The next economic variables we introduce are the level of real agricultural wages (WAG) and the agricultural output per worker (PRO). These variables attempt to approximate the income level in a society that was still predominantly agricultural. It is probably the case that none of these could by themselves offer a precise estimation of the quality of life but, in our view, their combined use can do so to a certain extent. In principle, it could be assumed that these variables would be inversely related with migration, in the sense that people moved to wealthier areas. However, poverty was a limiting factor of Spanish overseas emigration at the end of the nineteenth century and the beginning of the twentieth (Sánchez Alonso, 2000a; 2000b).

With respect to the level of literacy (LIT), it has traditionally been argued that a more skilled population has bigger propensity for mobility (Sandberg, 1982). Although it is possible that this relationship was stronger in the case of overseas emigration, in which the

[10] As regards natural increase, Arango (1976) confirms this for the provinces falling within the hinterland of Barcelona. Furthermore, see the importance of young migrants in Reher (1990), p. 252, Camps (1992) and Arbaiza (1998). For the case of developing countries in the second half of the twentieth century see Mazumdar (1987), p. 1119. From a theoretical point of view, the higher expected returns of investment in migration by the younger population in Sjaastad (1961).

distance, the risks, the bureaucratic requirements, and the cultural change were usually bigger. In any case, *a priori*, the greater the level of literacy, the greater expectations to reach better jobs and higher wages. On the other hand, the existence of previous out-migrants (STO) implies much more than the transmission of information on opportunities in potential destinations, in that its existence also assists in the costs of moving, job and accommodation search, etc.[11] Finally, we introduce the overseas emigration rate (OVER) to better understand the relationship with internal migration. For the period of maximum overseas emigration rates, 1880-1914, Sánchez-Alonso (2000b) has confirmed the traditional view on the essentially substitute nature of both types of migration using the urbanization rate as a proxy of the pull of nearby cities, whose relationship with the overseas emigration was negative and strong significant. We estimate if this relationship remained when the increase in the pull of internal destinations converted internal migration into a clear alternative to emigration for the whole country.[12]

Up to this point, we have considered the variables that form part of the first specification of internal migration. Nevertheless, such internal migrations cannot be fully understood by considering only push factors. For this reason, the following model takes into account the costs associated with the choice, displacement, and insertion in a given destination. Given the high level of concentration of the migrant stock in Spain around 1930, we have chosen to analyse the migration from each of the origins towards the twelve

[11] See, for example, from a theoretical point of view, Massey (1990), and from an empirical point of view, Dunlevy (1993) and his reflections on the use of proxies of this variable.

[12] Following Sánchez-Alonso (2000b), we took into consideration two *institutional* variables, the proportion of wage earners in the agricultural sector and a variable relating to inheritance systems. The extension of wage relationships in the countryside is an indicator of the existence of complementary jobs. One of the arguments used when seeking to explain the retention and even attraction of labour in the South of Spain during the last decades of the nineteenth century and the first decades of the twentieth century**.** With regard to the role played by inheritance, on the one hand, the impartible systems could act as an incentive to migrate for those who were not the firstborn. On the other, the partible systems could have permitted a less economically pressured migration by some descendants, above all thanks to the *mejora*, that is to say, to the bequest arbitrarily given to one or various of the beneficiaries in excess of that legally prescribed. However, perhaps due to the bad quality of the suitable proxies, neither of the two variables entered significantly in the estimations and, therefore, we decided to exclude them from the results presented in the text.

destinations with the greatest attraction capacity in the country, with these accounting in total 70.33% of migration.[13] In this case, the migration function is obtained from:

$$\ln[INMI(20\text{-}30)_{i,j}] = \alpha_0 + \alpha_1 WG_{ij} + \alpha_2 STO_{ij} + \alpha_3 DIS_{ij} + \alpha_4 DESAGLF_{ij} + \varepsilon_{ij}$$

The group of independent variables is included in Appendix 2. For the wage gap between origins and destinations (WG) we take the difference between the wages earned by bricklayers in the destinations and agricultural workers in the origins. This assumes that the average wage of an urban bricklayer represents a set of low skilled urban jobs to which migrants would have easy access.[14] The 'friends and relatives effect' between an origin and specified destinations is reflected in the variable (STO). The distance variable (DIS) tries to reflect displacement costs in a broad sense. Thus it includes the costs of the journey, the costs of entry and search in a new labour market, the income not received during the transition period, "psychological" costs, etc. (Schwartz, 1973). Apart from these three variables, we have included a further one that tries to reflect the differences between destinations, given that not all of these had the same attraction capacity. In this sense, the percentage of the non-agricultural active population (DESAGLF) is an approximation to the existence of greater or fewer job opportunities in both industrial and service sectors.

The results of the first estimation are presented in Table 3.[15] The percentages of variation of gross internal migration explained by the variables taken into account are quite

[13] Apart from destinations with great pull, such as Madrid, Barcelona, Sevilla, Vizcaya or Valencia, other intermediate destinations such as Guipúzcoa, Cordoba, Zaragoza, Cadiz, Valladolid, Santander and Alicante are also included.

[14] This is the thesis of, for example, Sicsic (1992) for the case of France, Simpson (1995) for Spain, and Boyer and Hatton (1997) for England and Wales.

[15] The estimation of the two models (Tables 3 and 4) is by ordinary least squares. One limitation of this method is the possible endogeneity of some independent variables considered as exogenous. Especially in the case of the relationship between wages and out-migration. Given the scarcity of instruments and the type of dependent variable we are using, a data that makes reference to the migration flow during ten years, an estimation by instrumental variables would be very complex. Nevertheless, we consider POP, AGLF, WAG and PRO, in the first model, and WG, DESAGLF, WAG_i and WAG_j, in the second, which are susceptible of being endogenous variables affected by the dependent variable. The non-wage variables, constructed from the 1920 census, were instrumented on the basis of their 1910 lagged value. The wage variables for 1920 were instrumented on the basis of the 1914 lag. The application of the Hausman test, which allows us to choose between the estimation by ordinary least squares and, in this case, an alternative estimation by instrumental variables, indicates that, save in equation 2 of the second model (Table 4), in all other cases this

high. We can see that the demographic determinants had an important influence over internal migration in the 1920s, above all the existence of high proportions of young people (POP), but also the share of labour force in agriculture (AGLF).[16] This surplus labour was less likely to migrate if it had the choice of nearby non-agricultural employment, as is demonstrated by the negative sign of the correlation between the urbanisation rate (URB) and migration. With respect to the income level, the two variables (WAG and PRO) are correlated with out-migration, though only in the first equation PRO is significant at the 0.10% level. Similarly, the contribution of the literacy rate (LIT) is not significant.[17] The existence of previous migrants (STO) increases the incentive to migrate, and the inverse relationship between overseas emigration (OVER) and internal migration reinforces the idea that they were substitutes.

In fact, if we compare these results with those obtained by Sánchez-Alonso (2000b) for overseas emigration, it emerges that the provinces contributing the highest internal migrations were those with the greatest surpluses of young agricultural labour, not necessarily skilled, and with the lowest rates of overseas migration. Again by contrast with overseas emigration, which is generally costlier, internal migration was not constrained by lack of income, although we can not find strong evidence that the poorest provinces showed the highest levels of internal migration. Does this mean that internal migrants in Spain did not response to wage gaps? The results of the second estimation do not support this thesis (Table 4, columns 1, 2, and 3). Internal migration responded both to the wage gap (WG) and to the minimisation of the costs of job search, accommodation, etc. (STO).[18] In addition, our findings confirm the importance of other pull factors such as job opportunities, particularly those corresponding to non-agricultural employment (Simpson, 1995).

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latter specification is the preferred one. However, the global results and the significance of the variables, not shown here, rarely vary with respect to those estimated by ordinary least squares.

[16] We have also introduced the natural growth, whose effect is positive but not significant.

[17] Several combinations of age groups (from 11 to 20, 25 or 30; from 16 to 20, 25 or 30; and from 11 or 16 upwards) and lagged inter-census variations were taken in account, but the impact were not significant in any case.

[18] Since the work of Ravenstein (1885), the relevance of displacement costs, understood in their broadest sense, as inhibitors to migration and approximated by the distances between origins and destinations (DIS) could be interpreted as a form of reducing the risk associated to migration. Nevertheless, in the case of Spain it could also be reflecting the polarisation of the industrialisation process, concentrated in the North Eastern quadrant and in the capital city (Silvestre, 2001).

Column 4 also confirms the strong pull of the destinations from another point of view. With the inclusion of the variable (WG) in the first three columns of the second model, we have considered that the wage conditions of the origins and the destinations act symmetrically. That is to say, that potential migrants have the same amount of information on origins and destinations, and respond in the same way to changes in both labour markets (Gabriel et al., 1993). However, if we include the impact of wage incentives in the origins (WAG_i) and in the destinations (WAG_j) separately, we find that these act asymmetrically and that, in this particular case, pull has greater strength than push. This result demonstrates, first, that potential migrants were informed on the opportunities available in the destinations, as this is further reflected in the significance of (STO) and, indeed, of (DIS), if we accept that it would be easier to obtain information about closer destinations. Secondly, and perhaps more importantly, if we attend the results of both models (Tables 3 and 4), the relative low importance of economic push factors and the greater relevance of pull factors confirm the traditional interpretation on the delay in the rural exodus, the lack of pull of the industrial destinations before the second or the third decade of the twentieth century (Pérez Moreda, 1987; Prados de la Escosura, 1997).[19] In any case, Section 5 offers a complementary explanation on this issue.

4.- LABOUR MARKET IMPACT

In a recent study, using the methodology proposed by Barro and Sala-i-Martin (1995), Rosés and Sánchez-Alonso (2002) show an intense wage convergence process for both skilled and unskilled urban and rural wages during Spain's industrialisation. On the one hand, the authors demostrate the existence of a reduction in wage dispersion, namely σ-convergence, despite three external shocks: the Spanish protectionist policies, the change in the pattern of industrial specialisation provoked by Spanish neutrality in World War I, and the return of many overseas emigrants during the 1920s due to the increase in restrictive immigration policies. On the other hand, Rosés and Sánchez-Alonso also show that this σ-convergence was caused by a strong β-convergence, that is to say, the tendency of regions with lower wages to experience greater wage increases than regions with higher wages, only interrupted as a consequence of World War I. Moreover, as the convergence

[19] See also Nadal (1975) and Tortella (1994), although their interpretation is more ambiguous. Both authors do not distinguish clearly between the lack of pull of the industrial areas or the lack of push of the countryside. The modest rate of industrialisation was also the main determinant for the weak labour demand in French cities (Sicsic, 1992).

approach raises some methodological problems, the authors also estimate wage gaps and wage elasticities between different occupations to confirm the increasing convergence.[20]

According to the speed of convergence (β) estimated by Rosés and Sánchez-Alonso and the volume of migration flows showed in Table 2, we can identify two periods. From 1854 to 1914, the catching-up process occurs while internal migration remains low. From 1920 to 1930, wage convergence accelerates with respect to the previous period (the implied-β increases from 0.0488 to 0.0670 in rural occupations and from 0.0415 to 0.0755 in urban unskilled) and migrations doubling. The aim of this section is to determinate whether the dramatic increase in internal migrations had a significant impact on wage convergence during the 1920s**.** For this purpose, we include migration as an explanatory variable in β regressions.

Barro and Sala-i-Martin (1995) indicate that if the migration of workers with low human capital from poor to rich regions tends to speed up the convergence of, in this case, wages, the convergence coefficients estimated would include this effect from migration. Therefore, if migration is a important source of convergence, then the estimated convergence coefficient β should become smaller when migration is included. However, the estimations by Barro and Sala-i-Martin for the United States (1920-90), Japan (1955-90), Germany (1950-90), United Kingdom (1960-90), Italy (1950-90), France (1950-80) and Spain (1960-90) suggest that migration plays only a minor role in the convergence processes. We try to determine the direct effect of migrations during the 1920s considering two kinds of impacts, that is to say, of internal migrations and of internal migrations plus overseas emigration. Following Barro and Sala-i-Martin we have considered *net* migrations. With respect to the impact of internal migrations, NETINTMIG, we have constructed the net rate on the basis of the BAP of the 1920 and 1930 censuses and the coefficient of the census survival rate.[21] Similarly, NETMIG is the traditional rate of

[20] Several methods of measuring wage convergence and labour market integration, specially in historical contexts, are explained by Hatton and Williamson (1993), pp. 90-97, Boyer y Hatton (1994), pp. 89-91, and Collins (1999), pp. 259-265.

[21]
$$NETINTMIG(20\text{-}30)_{i,n\text{-}i} = [[SI(30)_{i,n\text{-}i} - (S(20\text{-}30)*SI(20)_{i,n\text{-}i})]\text{-}[SO(30)_{i,n\text{-}i} - (S(20\text{-}30)*SO(20)_{i,n\text{-}i})]] \,/\, POP(20)_i\ ,$$

where SI is the stock of in-migrants and SO is the stock of out-migrants, in such a way that the first term on the right hand side is an estimation of the flow of in-migrants and the second term an estimation of the flow of out-migrants, both for the decade of the 1920s. These are introduced in the form of a rate and, therefore, all the above is divided by the population at the beginning of the decade.

migration obtained from the inter-census balance method and which, therefore, is reflecting the migration/emigration of both internal and overseas migrants.[22] The big difference between both variables is that the second also reflects the return to internal destinations of overseas emigrants during the 1920s and which totalled 1,038,407 according to the figures produced by Sánchez Alonso (1995). In order to avoid problems of endogeneity, both variables have been introduced into the regressions by using as instruments a number of the independent variables that form the models on the determinants of migrations considered in Section 3 (see note to Table 5). However, the results obtained were basically the same as when the migration variables entered as exogenous. The main results are showed in Table 5, and they are similar to those obtained by Barro and Sala-i-Martin. Following Rosés and Sánchez-Alonso (2002), we also estimate the β-regression for the wage gap and include the migration rate. When the migration rates are added, the impact is insignificant and the value of β hardly changes.[23]

In any event, a global approach, which takes into account all the provinces at the same time, can be hiding partial convergence processes between regions. In order to determine whether this is so, we use a model of regional labour markets linked by migration as proposed by Boyer and Hatton (1994) and based on the estimation of time series that relates the wage evolution between two regions.[24] We divide Spain into the six regions proposed by Rosés and Sánchez-Alonso, Andalusia, the Ebro Valley, Mediterranean, North, Northern Castile, and Southern Castile. Except for two regions, Andalusia and North, the other regions present significant and high short and long integration coefficients with the other regions. However, in the agricultural market,

[22] The inter-census balance method consists of the difference between the growth of the census or total population and the natural increase (births less deaths).

[23] Including regional and provincial dummies (with different desaggregation criteria) and other variables (exogenus and instrumented) that try to capture the structural differences, for example the importante of agricultural sector, does not change substantially the results. For the wage gap, the impact of NETINTMIG and NETMIG were practically the same and we decided to present only the latter.

[24] Specifically, the error correction model was estimated for the fairly complete daily series of nominal agricultural and bricklayer wages, disaggregated on a provincial basis, for the period 1914-1931 and included in the *Anuario(s) Estadístico(s)*. Some non-available observations were interpolated. Then the nominal wages were adjusted by cost of living calculated by Rosés and Sánchez-Alonso (2002) for 1914, 1920, 1925, and 1930, as follows. The wages between 1914 and 1919 were adjusted by the 1914 index; from the period 1920-1924, by the 1920 index; from the period 1925-1929, by the 1925 index; and the 1930 and 1931 wages, by the 1930 index. The results are not presented here but are available from the author.

Andalusia is only integrated in the long run with the border Southern Castile region. In the urban market, Andalusia is not integrated in the long run with Mediterranean and Ebro Valley, and North is only integrated with Southern Castile.[25] This result is consistent with the evolution of regional migration rates. Thus, both North and Andalusia had relatively low rates of out and in-migration.[26] On the one hand, North and coastal Andalusian provinces have the high rates of overseas emigration (Sánchez-Alonso, 1995, 2000b). On the other hand, in the second and third decades of the twentieth century, Andalusian provinces had lost their pull for southern migrants. Why was emigration from the agrarian and poor southern provinces not more intense, and why did even these provinces remain destinations until the end of the nineteenth century? We examine this issue in the next section.

5.- THE PERSISTENCE OF TEMPORARY MIGRATIONS AND THEIR CONSEQUENCES

It is well known that one characteristic of most migration in Europe during the nineteenth century and, indeed, earlier centuries was its temporary and short- or medium-distance nature.[27] As the nineteenth century advanced the industrialisation process partially substituted this type of mobility for one that was more concentrated on a limited number of destinations, more permanent in nature and with a higher proportion of medium and long distance movements (Leboutte, 1993; Baines, 1994; Postel-Vinay, 1994). In the case of Spain, a number of works have demonstrated the importance of seasonal mobility both in agricultural areas (for example, Florencio and López Martínez, 2000) and towards pre-industrial cities (Reher, 1990; Sarasúa, 1994) or industrial centres undergoing a process of expansion (Camps, 1992; Arbaiza, 1998). For the twentieth century, the majority of the studies have focused on permanent migrations and their responsiveness and contribution to

[25] In the agricultural sector, whithout Andalusia, the predicted lag between an initial shock and the return to equilibrium is 3.0 years; the Andalusian lag is 4.8. In the urban sector, without North, the lag is 2.8 year; and the North lag is 3.8.

[26] Gross out-migration and in-migration rates for each region with respect the rest of the country during the twenties are: Andalusia, 4.53 and 1.55; Ebro Valley, 8.14 and 2.33; Mediterranean, 5.35 and 4.39; North, 2.76 and 2.53; Northern Castile, 7.18 and 2.26; Southern Castile, 5.22 and 4.12.

[27] For Germany, see Hochstad (1999); for France, Poussou (1989); for Italy, Kertzer and Hogan (1990); for the UK, Baines (1993) as well as Nicholas and Shergold (1987) where the predominance of short-distance movements is made relative.

the structural change. However, it is noticeable that temporary migrations do not seem to decrease during the whole first third of the twentieth century.

Why does temporary migrations occur? According to Simpson (1995, 2000), the existence of seasonal or temporary demand for labour in agriculture, as well as aspirations to move up the *agricultural ladder*, led part of the labour force to consider migrations to the urban areas as a temporary option, made permanent only by the inability of the agricultural demand to absorb excess labour or by a substantial improvement in urban job opportunities and wages.[28] The availability of specific information on temporary migrations for all provinces, reflected in the Censuses, allows us to confirm that this type of migration in Spain did not appear to decline throughout the period under study, even during the years of highest permanent migration (Table 6).[29] The importance of this phenomenon until probably the early 1960s (Pérez Díaz, 1967) suggests that the Spanish case may be similar to that of other Southern European countries, such as Italy for example, where temporary mobility continued to be relevant until the middle of the century (Sori, 1979; Kertzer and Hogan, 1985).

Moreover, together with the lack of pull from industrial areas, the persistence of seasonal or temporary migrations could be a complementary reason to understand the delay of rural population in leaving the countryside. Table 6 shows that, although the level of temporary migrations remains constant, there is a change in the ranking of the destinations. Thus, the agricultural -and occasionally the urban- destinations of the South belonging to Andalusia and Southern Castile are falling their pull in favour of the industrial and urbanised centres of the north and the east, which also are important destinations for permanent immigrants.[30] Table 7 summarises this information from another point of view.

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[28] Apart from the bibliography cited, the first-hand evidence of the French sociologist J. Valdour (1919), who passed himself off as a worker in various Spanish cities and villages during the second decade of the twentieth century when preparing his study of the conditions suffered by the working class, refers to the existence of the large number of rural labourers working for some months as bricklayers or in the mines in places such as Barcelona, Zaragoza, and Bilbao.

[29] According to Gómez-Díaz and Céspedes-Lorente (1996), p. 48, the 1920 figures of transients and absents are under and over valued, respectively, due to the coincidence between the dates of the census counts and the election of senators. On the other hand, the censuses do not distinguish between seasonal or (longer) temporary migrations.

[30] For example, whilst during the last decades of the nineteenth century and the first years of the twentieth, southern provinces as Badajoz, Cáceres, Córdoba, Cádiz, Ciudad Real, Huelva, Jaén o Sevilla, occupy the first places, by 1930 they had fallen to intermediate of low positions (save for Badajoz, Caceres and Seville,

The preference of permanent migrants for urban or predominantly non-agricultural destinations is constant. However, this is not the case with temporary migrants whose relationship with the degree of urbanisation of the destinations would appear to be associated, amongst other reasons, with the industrial and economic decline of Andalusia.[31] Thus, during the last decade of the nineteenth century and the first third of the twentieth, the provinces or regions of Southern Spain fed on the temporary agricultural labour that came essentially from the same or neighbouring provinces.

From a theoretical standpoint, with regard to seasonal migration, the impact of this kind of mobility is ambiguous. As Margo (2000) has indicated for the first phase of U.S. industrialisation, there is no reason why seasonal migrations between sector should be an impediment to the proper functioning of the labour markets, in the sense that the demand for agricultural and service sector labour can arise alternatively or be compatible. In the Spanish case seasonal migration has been seen as promoting integrated labour markets in this sense (Simpson, 2000). However, it is possible that in those areas where this type of mobility was more common and, therefore, the supply of labour more variable, the wage fluctuations derived from the scarcity or surplus of workers were themselves greater. For France, Postel-Vinay (1994) has demonstrated how during the nineteenth century a large number of workers abandoned the factories in the summer months in order to work as seasonal agricultural labourers. These movements gave rise to systematic variations in agricultural and industrial wages, at least until the end of the nineteenth century when working relationships began to become more permanent. Did temporary migration have any impact on wage convergence in Spain? The size of this migration is not irrelevant. If at each census date we add the percentages of permanent migrants with respect to the actual population in each province -reflected in the BAP stocks- and those of the temporary transients-immigrants, we find that temporary migration accounts for about 25% of the total for the whole of the period 1877-1930.[32]

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which, in any case, occupied lower positions than before). Indeed, by 1930 various northern provinces as Guipúzcoa, Barcelona, Madrid, Vizcaya, or Zaragoza, held significant number of both kind of immigrants, permanent and temporary. The Pearson and Spearman correlation coefficients of the transient series between 1877 and 1930 are 0.35 and 0.51, respectively.

[31] On this issue, see Martín-Rodriguez (1990).

[32] The central problem posed by this total is that the calculation of the Censuses and, therefore, the count of the BAPs and of temporary migrants takes place on one single date in December, not a month characterised by an increase in the demand for temporary agricultural labour.

Despite the problems associated with the use of average (daily) wages when seeking to draw conclusions on the evolution of seasonal migrations, we have tried to test the impact of this type of migration through its inclusion in β convergence equations and to compare it with the impact of the permanent migrations that we have already considered. To that end, we have constructed a temporary migrations index, TEMMIG, made up of the total of transients and absents over the actual population for the years 1910 and 1930, with the latter being instrumented by using the lagged value of 1910 in order to make it exogenous.[33] Table 8 shows the impact of only the 1910 value, given that that of 1930 is practically identical.[34] Considering rural and urban markets separately (Columns 1 and 2), there is no impact in the latter (the value of β holds invariable, 0.053). However, in the rural sector the relationship between temporary migration and wage convergence is significant and negative, and the value of β increases about a 15% (from 0.067 to 0.073). This finding suggests that the seasonal and temporary variations in agricultural labour supply hardly eroded the wage convergence.[35] If we consider the integration between rural and urban markets (see column 3), the impact of temporary migration on the wage gap reduction is positive and significant. Moreover, the speed of convergence (β) decreases about a 25% (from 0.127 to 0.095). This result indicates that the increase in the rural-urban seasonal or temporary migrations (see Tables 6 and 7) from the second decade of the twentieth century contributed to a higher wage integration of the labour markets.

6.- CONCLUSIONS

The lack of pull from the industrial and urban centres was probably the main explanation for the low internal migration rates up to the 1920s. The rapid and diversified growth experimented from the years of World War I provoked a spectacular increase in migrations. The standard factors –wage gaps, and cost of moving and job search- account for much of this migration. The migrants were, up to a point, different from those who emigrated overseas. Internal migrants were predominantly unskilled and drawn from poor

[33] We do not use the data for 1920 because they are probably biased (see note 29).

[34] Unfortunately, the information on temporary migratory movements is not disaggregated by sectors of origin or destination.

[35] The fact that the impact is imperceptible in the case of urban labour markets is coherent with what we currently know about the internal migrations that took place in Spain, where there was an abundance of rural-rural migrations linked to the agricultural cycles or rural-urban migrations associated to changes of sector. By contrast, the inter-urban migrations linked to unskilled labour were probably much less numerous.

and rural areas with abundance of young workers. Overseas emigrants were also young but more skilled, more urban, and less poor. Obviously, the higher costs and risks associated to overseas emigration determined the type of migrant.

The impact of the increase in permanent migration rates on the wage convergence process was, from a macroeconomic point of view, low. However, when we use a regional approach, the integration between pairs of regions was high, apart from those least connected by internal migrations. In any case, as Boyer and Hatton (1997) state, market integration cannot be identified with wage convergence, given that the wage gap between two locations could diverge, despite the proper functioning of the labour market, if the factors that condition the demand and supply of labour do not coincide. Put in another form, wage convergence is possible in the absence of mobility on the part of the labour factor if the demand and supply of labour tend towards equality. In the Spanish case, Rosés and Sánchez-Alonso (2002) have demostrated that rural and urban labour markets were competitive and well integrated during industrialisation, with wage gaps falling and remaining low. These phenomena took place both in a period of little migration, 1850-1914, and in a period in which migration increased dramatically, 1920-1930.

Finally, this article shows that the persistence of rural-rural and rural-urban temporary migrations, which have become a thing of the past in other more industrialised countries, may have been another significant reason for the delay in the rural exodus in Spain. In addition, the impact of temporary or seasonal migration, one-fourth of all internal migration, on wage integration was a double one. On the one hand, rural-rural seasonal and temporary migrations provoked some variability in agricultural wages. On the other hand, the rise in rural-urban temporary migrations contributed to a better integration of rural-urban labour markets.

APPENDIX 1: VARIABLES OF THE EXPULSION MODEL

$OUTMI(1920\text{-}1930)_{i,n\text{-}i} = [SE(30)_{i,n\text{-}i} - (S(20\text{-}30)*SE(20)_{i,n\text{-}i})] / POP(20)_i$., where SE is the stock of out-migrants born in the province i that reside in the rest of the provinces n-i; S is the census survival coefficient between 1920 and 1930; and POP is the total population of the province i. SE is measured per thousand population and all its components are obtained from the Population Censuses of 1920 and 1930.

POP: Rate of natural population increase (per thousand) twenty years prior to 1920 (Easterlin, 1961), expressed in per thousands terms and taken from Mikelarena (1993), p. 239. Or, alternatively, the percentage of the population aged between 11 and 30 in 1920. Own calculations on the basis of the Population Censuses of 1900 and 1920.

URB: Percentage of the population living in municipalities of 5,000 inhabitants or more in 1920. Taken from Luna (1988).

AGLF: Percentage of the active male agricultural population in 1920. Own calculations from Population Census of 1920.

WAG: Average daily male nominal agricultural wages taken from *Anuario Estadístico* (Statistical Yearbook) of 1920. These nominal wages have been adjusted by the purchasing-power-parity (PPP) price indices for a common market basket estimated by Rosés and Sánchez-Alonso (2002).

PRO: Agricultural output per worker in 1920. Own calculations using various published and unpublished sources and data from *Grupo de Estudios de Historia Rural*.

LIT: Proportion of individuals aged between 16 and 30 able to read and write (or only read), variation between 1900 and 1920. Own calculations from the Population Censuses of 1900 and 1920.

STO: Out-migrant stock per thousand population in 1920. Own calculations from the Population Census of 1920.

OVER: Gross rate of overseas emigration 1919-1920 (Sánchez-Alonso, 1995), pp. 292-293.

APPENDIX 2: VARIABLES OF THE CHOICE OF DESTINATION MODEL

$INMI(1920\text{-}1930)_{i,j} = [SI(30)_{i,j} - (S(20\text{-}30)*SI(20)_{i,j})] / POP(20)_i$., where SI is the stock of in-migrants born in the province i that reside in province j; S is the census survival coefficient between 1920 and 1930 (see earlier model); and POP is the total population of the province i. Own calculations from Population Censuses of 1920 and 1930.

WG: Wage gap between the average wage of bricklayers in the destinations and the average agricultural wage in places of origin in 1920. Taken from the *Anuario Estadístico* of 1920. Deflated by the cost of living index explained in WAG (see Appendix 1).

STO: Migrant stock in destination j coming from the origin i in 1920 divided by the total population of the origin i in that year expressed in per thousands terms. Own calculations from the Population Census of 1920.

DIS: Distance by rail between provincial capitals according to the criteria described in Silvestre (2001). The correlation coefficient between this distance and the aerial is 0.96.

DESNAGLF: Percentage of the non-agricultural active population at destination in 1920. Own calculations from the Population Census of 1920.

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Table 1. Stock of internal migrants in Southern Europe, 1890-1930

	1890	1900	1910	1920	1930
Portugal	6.0	7.7	8.8		8.7
Italy		4.2	4.8	4.9	7.4
Spain	8.2	8.7	9.6	10.3	12.3

Note: Percentage of population born in another district (Portugal), region (Italy), or province (Spain). Sources: For Portugal, Baganha and Marques (1996), p. 104; for Italy, Treves (1976), p. 169; for Spain, own calculations based on the corresponding Population Censuses.

Table 2. Permanent internal migration, 1877-1930

	Migrations	Share of total Population (%)
1877-1887	369,424	2.2
1888-1900	428,253	2.0
1901-1910	565,830	2.9
1911-1920	583,123	2.8
1921-1930	968,581	4.3

Notes: Internal migrations $_{t,\ t-1}$ = BAP_t – (S_{t-1}* BAP_{t-1}); where t is the corresponding census date; BAP represents Born in Another Province and S is the coefficient of the census survival rate (obtained by way of the quotient, $Population_t$ ≥ 10 years / $Population_{t-1}$), whose value for each decade is: 0.81 for 1878-1887, 0.82 for 1888-1900, 0.82 for 1901-1910, 0.84 for 1911-1920 and 0.86 for 1921-1930. The share of total population was calculated using the average population for each period.
Sources: Own calculations on the basis of the corresponding Population Census.

Table 3. Determinants of provincial internal migration, 1920-1930

Dependent variable: ln [$OUTMI(20\text{-}30)_{i,n-i}$]	(1)		(2)	
Constant	0.78		0.37	
	(0.58)		(0.23)	
Population, 11-30 age group (POP)	0.08**	[0.22]	0.07*	[0.19]
	(2.28)		(1.72)	
Urbanization rate (URB)	-0.01**	[-0.33]		
	(-3.07)			
Share of labour force in agriculture (AGLF)			0.01**	[0.29]
			(2.20)	
Agricultural real wages (WAG)	-0.02	[-0.06]	-0.02	[-0.06]
	(-0.85)		(-0.97)	
Agricultural output per worker (PRO)	-0.00001*	[-0.02]	-0.00001	[-0.02]
	(-1.84)		(-0.23)	
Literacy, 16-30 age group (LIT)	0.25	[0.07]	0.11	[0.03]
	(0.91)		(0.37)	
Out-migrant stock (STO)	0.006**	[0.66]	0.006**	[0.66]
	(6.66)		(7.56)	
Overseas emigration (OVER)	-0.04**	[-0.44]	-0.03**	[-0.33]
	(-4.10)		(-3.25)	
Adjusted R^2	0.780		0.758	
F-statistic	(24.83)**		(21.98)**	
N = 48				

* Significant for values of $p < 0.10$
** Significant for values of $p < 0.05$
Notes: Equations estimated by Ordinary Least Squares. N=48 Spanish provinces (Canary Islands are not included). *t*-statistics between brackets. Standarized coefficients between square brackets. URB and AGLF appear in separate equations due to their high correlation, 0.66.

Table 4. Determinants of the choice of provincial internal destination, 1920-1930

	Dependent variable: ln [INMI(20-30)$_{i,j}$]					
	(1)		(2)		(3)	
Constant	-0.00		-2.31**		-0.05	
	(-0.02)		(-8.61)		(-0.14)	
Real wage gap (WG)	0.23**	[0.11]	0.26**	[0.13]		
	(3.50)		(4.78)			
In-migrant stock (STO)	0.05**	[0.48]	0.03**	[0.29]	0.05**	[0.48]
	(6.41)		(5.29)		(6.34)	
Distance (DIS)	-0.002**	[-0.29]	-0.003**	[-0.43]	-0.003**	[-0.43]
	(-7.54)		(-11.57)		(-8.32)	
Dest. share of non agri. labour force (DESNAGLF)			0.04**	[0.34]		
			(11.70)			
Origin wage (WAG$_i$)					-0.08**	[-0.07]
					(-2.59)	
Destination wage (WAG$_j$)					0.14**	[0.14]
					(3.52)	
Adjusted R^2	0.475		0.616		0.484	
F-statistic	(155.99)**		(201.81)**		(118.50)**	
N = 502						

** Significant for values of $p < 0.05$

Notes: Equations estimated by Ordinary Least Squares. *t*-statistics between brackets. Standarized coefficients between square brackets. White standard errors. N=[(47*12)-62]: 47 origins by the 12 first destination less 62 cases in which the number of migrants resident in destination *j* and born in origin *i* fell during the period 1920-1930 taken as a whole. Canary Islands are not included.

Table 5 β-convergence and net migration, 1920-1930

	Dependent variables: (1/T) log ($W_{i,T}$ / $W_{i,0}$)							
	Agrarian	Agrarian	Agrarian	Bricklayers	Bricklayers	Bricklayers	Wage gap	Wage gap
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	IV	IV	OLS	IV	IV	OLS	IV
Constant	0.0494**	0.0509**	0.0536**	0.0664**	0.0662**	0.0663**	0.0333**	0.0307**
	(3.50)	(3.55)	(3.70)	(5.48)	(5.28)	(5.24)	(5.76)	(5.02)
ln $w_{i,1920}$	-0.0487**	-0.0494**	-0.0502**	-0.0413**	-0.0412**	-0.0413**		
	(-4.15)	(-4.17)	(-4.27)	(-4.91)	(-4.76)	(-4.78)		
ln $wg_{i,1920}$							-0.0719**	-0.0711**
							(-4.18)	(-4.14)
NETINTMIG		0.0005			-0.00004			
		(0.71)			(-0.10)			
NETMIG			0.0008			-0.00001		-0.0007
			(1.98)			(-0.04)		(-1.21)
Adj. R^2	0.26	0.25	0.26	0.33	0.31	0.31	0.26	0.30
N = 48								
β	0.067	0.068	0.070	0.053	0.053	0.053	0.127	0.127

** Significant for values of $p < 0.05$

Notes: The estimations have been made by Ordinary Least Squares or by Instrumental Variables using the following expression,

$$(1/T) \log (W_{i,T} / W_{i,0}) = \alpha + \theta \log (W_{i,0}) + \varepsilon_i,$$

where W_0 y W_T are the average real wages (columns 1 to 6) or the nominal wage gap (7 and 8) of the first three and the last three years of period (T) and β is obtained from -(1/T)log(θT+1). *t* statistics between brackets. NETINTMIG is the net internal migration rate (calculated on the basis of the BAP) for the 1920s, which has been instrumented using the following variables taken at 1920 values: the real wage of bricklayers, the share of labour force in agriculture, the total population and the gross migratory flow lagged one period (it has not been possible to calculate the net for decades prior to the 1920s), that is to say, that corresponding

to the second decade of the twentieth century. NETMIG is the net migration rate (calculated using the inter-census balance method) for the 1920s that has been constructed using the same instruments, except for the lagged variable which, in this case, is the lagged migration rate, that is to say, that corresponding to the second decade of the twentieth century.
Sources: See text.

Table 6. Temporary migrations, 1877-1930

	1877	1887	1900	1910	1920	1930
Spain						
Transients (immigrants)	2.8	2.5	2.9	3.1	2.1	2.8
Absent (emigrants)	3.6	3.3	4.1	5.3	5.6	5.2
Northen Spain						
Transients	2.0	1.9	2.6	2.6	2.0	2.7
Absent	3.6	3.3	4.5	5.9	6.4	6.0
Southern Spain						
Transients	3.9	3.5	3.1	3.4	2.0	2.3
Absent	3.2	3.0	3.3	3.8	3.7	3.4

Notes: Percentage of the total population at each census date. *Transients* refers to those immigrants coming from another municipality, whether within the province or outside it. *Absent* refers to those emigrants going to another municipality, whether within the province or not, or abroad (Gómez Díaz and Céspedes Lorente, 1996), p. 41. In this sense, we assume that the temporary and the permanent overseas emigration follow a similar pattern, that is to say, decreasing from the World War I on. The censuses do not distinguish between seasonal or longer temporary migrations. Northern Spain includes North, Northern Castilia, Ebro Valley, Mediterranean and Madrid; Southern Spain includes Andalusia and Southern Castilia (whithout Madrid).
Source: Own calculation on the basis of the corresponding population censuses.

Table 7. Evolution of the temporary and permanent migratory patterns, 1877-1930

Pearson-r	1877	1887	1900	1910	1930
		Urbanisation rate-destinations			
Permanent immigration		0.57**	0.59**	0.56**	0.55**
Temporary immigration		0.41**	0.05	0.20	0.30**
		Share of the labour force in agriculture-destinations			
Permanent immigration	-0.73**	-0.77**	-0.84**	-0.78**	-0.76**
Temporary immigration	-0.30**	-0.45**	-0.22	-0.33**	-0.49**
		Temporary immigration			
Permanent immigration	0.32**	0.29**	0.22	0.44**	0.74**

** Significant for values of $p < 0,05$
Sources: For the urbanisation rate, Luna (1988); for the rest, see text.

Table 8. Wage convergence and temporary migration, 1920-1930

	Dependent variable: (1/T) log ($W_{i,T}$ / $W_{i,0}$)		
	Agrarian	Bricklayers	Wage gap
	(1)	(2)	(3)
Constant	0.0839**	0.0654**	0.0038
	(5.28)	(4.14)	(0.36)
ln $w_{i,1920}$	-0.0519**	-0.0410**	
	(-4.93)	(-4..58)	
ln $wg_{i,1920}$			-0.0611**
			(-3.81)
TEMMIG 1910	-0.0004**	0.00001	0.0003**
	(-3.56)	(0.10)	(3.24)
Adjust. R^2	0.41	0.31	0.39
N = 48			
β	0.073	0.053	0.095

** Significat for values of $p < 0.05$
Note: *t*-statistics between brackets
Sources: See text and Table 5.