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LATE-COMERS TO MASS EMIGRATION:  
THE LATIN EXPERIENCE

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ABSTRACT

The Latin countries -- Italy, Portugal and Spain -- were industrial late-comers and only experienced mass emigration late in the 19th century. When they did join the European mass migration, they did so in great numbers. The fact that they joined the mass migrations late, that they were poor by West European standards, and that so many went to Latin America, has generated a number of debates on both sides of the Atlantic. This paper uses a late 19th century panel data set (including purchasing-power-parity adjusted real wages) for twelve European countries to find that Latin emigration behavior was no different than that of northwestern Europe: for example, Latin emigrant labor supplies were not relatively elastic, contrary to the hypothesis made famous by Sir Arthur Lewis. What made Latin experience different was the underlying economic and demographic fundamentals driving the experience.

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## I. WERE THE LATINIS DIFFERENT?

The Latin countries -- Italy, Portugal and Spain -- were industrial late-comers, at the European periphery, and only experienced mass emigration late in the 19th century. When they did join the European mass migration, they did so in great numbers. So great, in fact, that the historiography makes much of their contribution to the switch in European origin from "old" to "new" emigrant sources, an event which has often been characterized as a switch from relatively skilled to relatively unskilled migrants. The fact that they joined the mass migrations late, that they were poor by West European standards, and that so many went to Latin America, has generated a number of debates on both sides of the Atlantic. The debates imply that the Latins were different. Were they?

The big question "were the Latins different?" can itself be decomposed into six additional questions. The first five deal with the determinants of emigration, that is with behavior: did Latin emigrants respond in different ways to economic and demographic events compared with northwest Europe? The last deals with the economic and demographic environment: were Latin attitudes toward emigration no different than those of Swedes, Germans, Irish and other early emigrants, such that the different Latin experience can be explained by appealing to different underlying economic and demographic "fundamentals"? If so, which fundamentals contributed most to the different Latin experience?

Certainly Sir Arthur Lewis thought that the Latins responded in different ways to economic and demographic forces. Indeed, he thought that his famous

model of development (Lewis, 1954) with immigrant-augmented elastic labor supplies applied to Latin America in the late 19th century (Lewis, 1978), and many Latin American scholars agree. Carlos Diaz Alejandro (1970) wrote that the labor supply in Argentina was highly elastic: he thought that the labor supply before 1930 was "perfectly elastic at the going wage (plus some differential) in the industrial centers of Italy and Spain, the main sources of emigration to Argentina" (pp. 21-22). Nathaniel Leff believes the same was true of Brazil and that elastic labor supplies can account for stable wages in the Sao Paulo and Santos area from the 1880s onwards: "The similarities between Brazil's historical experience in the nineteenth century and W. A. Lewis' celebrated model ... are evident" (Leff, 1992, p. 6). If late 19th century Latin emigration was characterized by elastic labor supplies, then it should have been reflected by a much more elastic response of Latin emigration to wage gaps between home and abroad compared with the early emigrants to the North. Only then could it be argued that the Latins glutted labor markets and created a labor surplus in the Latin New World, while the non-Latin Europeans -- in less elastic emigrant supply -- had a smaller impact on North American and Australasian labor markets. Large wage gaps between the Latin and the non-Latin New World, gaps that persist well into the late 20th century, could then be partially explained by those alleged more elastic Latin labor supplies. This is an important issue, and interpretations of long run economic development in Latin America hinge on the answers.

Second, if Latin emigration was really more responsive to wage gaps between home and abroad, why were the wage gaps between southern and northern Europe so big? One of the present authors (Williamson, 1992) has shown that urban real wages for the unskilled in Italy and Spain were far below those in

the USA, Argentina and Germany in 1870, but both countries catch up to those destination regions a bit by 1890 (Table 1). Between 1890 and 1913, however, these two countries underwent quite different real wage experience: the wage gap between Italy and destination countries fell (Italian economic success), while it rose for Spain (Spanish economic failure). Italian wages in 1870 were only 22 percent of those in the USA, 41 percent of those in Argentina and 43 percent of those in Germany. By 1890, the Italian figures were 24, 60 and 46 percent, evidence of significant catching up. By 1913, the Italian figures were 33, 60 and 60 percent, evidence of even stronger catching up. Spanish wages in 1870 were only 30 percent of those in the USA and 57 percent of those in Argentina. By 1913, the Spanish figures were 30 and 54 percent, revealing absolutely no evidence of catching up. Table 1 shows that Portuguese experience was much like that of Spain. Big wage gaps that persist for so long, at least for Spain and Portugal, seem to be inconsistent with elastic emigration responses.

Third, was Latin emigration constrained by destination? Why did so few Latins go North? Did this reflect language affinity and cultural preference, or did it reflect either discrimination in labor markets or the view that Latin emigrants (especially southern Italians, Spaniards and Portuguese) were ill-equipped to meet the demands of European and North American industrial immigrant-absorbing labor markets, or of the coffee plantations in Sao Paulo and Santos (Merrick and Graham, 1979, pp. 92-5), or of the estates in the Argentine pampas, or of urban service activities in Buenos Aires and Rio de Janeiro?

Fourth, given their poverty, why the Latin emigration delay? Since the poorest had the most to gain by a move to higher living standards, why didn't

the Latins leave earlier and at higher rates than, say, the Germans or the British? Did poverty breed immobility? Did wage increases at home make it easier to save for the move? Did pioneer migrants begin to play a role by lowering job search costs, by the purchase of pre-paid tickets, and by income-augmenting remittances? Perhaps such influences might help explain why the Italian migrations, compared with the Spanish and Portuguese, were so impressive in the late 19th century, especially after the 1890s (Figure 2). Was it that the Latin agrarian economies were too poor to accumulate the resources for an expensive long distance move? Was it that Latin migration networks were too poorly formed early on, so that job search costs were higher and remittances back home, to help finance a potential move, were more modest?

Fifth, did early industrialization and rapid development breed emigration? If so, how did this influence work? Did urbanization raise labor mobility as the land lost its grip on the peasant? Was it that peasants were tied to the land, while urban workers were more mobile, so that the Latin agrarian economies recorded lower emigration rates early on?

These five questions deal with behavior. But perhaps Latin migration behavior wasn't very different. Perhaps instead it was the economic and demographic attributes of their environment that were different, and perhaps the different attributes were due to the fact that they were late-comers (Molinas and Prados, 1985; Federico and Toniolo, 1991). What were the forces which drove up Latin emigration after the 1890s? Were they any different than the forces that drove up northern European emigration between the 1870s and the 1890s? Were these forces mostly absent from the Latin economies in the 1870s?

This paper seeks to answer these questions. We start in Section II with a

discussion of the attributes of the emigrants: we conclude that Latin emigrants were pretty much like other European emigrants. Section III then offers a model of mass emigration. In Section IV we apply the model to panel data which pools the long run decadal emigration experience of twelve European emigrating countries in the late 19th century, including Italy, Portugal and Spain. The econometric results allow us to answer many of the questions raised above in this section. We then use these results to identify the sources of Latin emigration, and compare it with that of other European countries. Section V explores the short run determinants of emigration from Italy, Portugal and Spain, a time series analysis which augments our assessment of the extent to which the Latin late-comers were different. The last section offers a research agenda, including two important questions that this paper does not confront: Were Latin emigrations influenced by special conditions in their preferred receiving areas? Why was return migration so much greater for some of the Latin countries?

## II. WHO WERE THE LATIN EMIGRANTS?

Like emigrants from other European countries (see Hatton and Williamson, 1992c, pp. 2-6), Latin emigrants were predominately young adults. Only ten percent of the Italian emigrants were under age 15, and the bulk of the remainder were under age 35. They largely traveled as individuals rather than as family groups. For the late 19th century as a whole, about three quarters of Italian emigrants were single, but this share rose from less than two-thirds in 1889-91 to nearly four-fifths by 1911-13 (Ratti, 1931). One important contrast with northern Europe was the high proportion of males in

the emigrant stream: between the 1870s and 1913, they accounted for 80 percent of the Italian emigrants, 76 percent of the Portuguese emigrants, and a similar proportion from Spain. As with the early emigration from northern Europe, however, the portion male tended to decline over time.

Most of the emigrants were unskilled. According to Italian statistics on male emigrants, about 40 percent of those reporting occupations were farm laborers and another 15 percent were unskilled in the building trades. Only about ten percent were skilled laborers, and less than five percent were from commerce or the professions. We do not have comparable occupational data for Spain and Portugal, but US immigration data suggest that about half of the Latin immigrants were unskilled laborers. A further indication of the low levels of human capital embodied in the Latin emigrants was their low literacy rates. Among immigrants to Brazil, about 80 percent of the Portuguese and between 70 and 75 percent of the Italians and Spanish were illiterate (Naylor, 1931, p. 163).

Like their counterparts in northwestern Europe, the Latin emigrants were those who had most to gain from the move. By emigrating when young and single, they could maximize the benefits of higher incomes over a long period while minimizing the cost of the move. Those who had acquired skills could not necessarily expect to put them to good use in the destination country, while unskilled emigrants had little human capital invested in industry-specific or country-specific skills. Of professionals, Foerster observed that "either they must settle in some "little Italy" somewhere or they must sink into unskilled work" (Foerster, 1919, p. 330).

Many Latin emigrants did not acquire skills or property abroad, and worked as urban laborers in the United States, in the coffee plantations of



Sao Paulo, or in small scale trade and commerce in Rio de Janeiro or Buenos Aires. The failure of many Latin emigrants to accumulate significant amounts of human capital may partly (though not entirely) explain one of the sharpest differences between them and the northern European migrations: the large proportion of temporary migration, particularly from Italy, and to a lesser extent from Spain and Portugal. Italian statistics which (at least in principle) distinguish between temporary and permanent moves confirm that the former dominated at least after 1890. But temporary intercontinental migration rose sharply from the 1890s onwards, and Dudley Baines (1991, p. 39) has suggested that part of this surge can be explained by the fall in the ratio of intercontinental passage costs to wages.

The rise in temporary emigration is reflected in the rise of return migrants as a share of current outflows. The intercontinental inward movement of Italian citizens between 1902 and 1911 amounted to 49 percent of the outward movement. The statistics for passenger movements to and from Spain suggest comparable magnitudes. It is difficult in practice to distinguish between temporary and permanent migrants but those who returned to Italy had stayed abroad, on average, about five years. Furthermore, many migrants made repeated visits to the New World. Of those entering the United States between 1899 and 1910, 14 percent of the Italians, 29 percent of the Spanish and 12.3 percent of the Portuguese had been in the United States previously. This compares with a figure of 12 percent for all US immigrants over the same period.<sup>1</sup> Moreover, temporary migration to South America was even more prevalent and in some years the return flow exceeded the outflow. This was

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<sup>1</sup>The relatively high mean for all US immigrants largely reflects the importance of southern and eastern European immigrants in the total.

enhanced by seasonal migrations with the "birds of passage" leaving in the autumn months arriving for the South American harvest and then returning to Europe in the northern spring.

Emigration rates varied greatly across regions in a given country, but as the national rates increased, regional differences diminished. In his influential article, John Gould (1980) explained the convergence of emigration rates as a process of diffusion. This feature was prominent in the Latin countries. When the Italian emigration rate was only 0.5 per thousand in 1881-88, Venetia recorded a rate of 1.4 while Puglia, Marche, Scicily and Sardinia had rates of 0.1 or less. By 1901-5, when the Italian rate had reached 2.1 per thousand, Ventia was 3.9, Puglia was 1.0 and Marche and Scicily both had rates in excess of 2.0. At the turn of the century, the convergence of emigration rates had hardly begun in Spain and Portugal, and the highest rates were from the islands and from the northwest of the Iberian peninsula.<sup>2</sup> The Portuguese rates in 1911-13 ranged from less than one per thousand in Evora and Lisbon, while they exceeded 20 per thousand in Braganca and Vila Real.

Local emigration was influenced by the demographic regime, by urban industrial employment opportunities, and by rural poverty. For example, the disentanglement of small farmers in southern Spain triggered outmigration in the 1880s, but the modest growth of urban industry was unable to absorb the exodus (Tortella, 1987, p. 58), thus pushing emigrants abroad. Differing regional labor demand conditions were reflected in regional wage gaps, and MacDonald (1963, p. 66) reported a correlation coefficient of -0.79 between emigration rates and income levels across rural Italy in 1911-13. It is not clear,

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<sup>2</sup>Although the coefficient of variation of regional emigration rates fell in Portugal from 1.56 in 1866-71 to 1.07 in 1880-82, it was still 0.98 in 1911-13. (Calculated from Brettell, 1986, p. 86.)

however, whether such correlations would also hold during earlier stages of the mass migration or whether the greater mobility gave rise to convergence among regional wage rates (as in the United States: Barro and Sala-i-Martin, 1992).

Could thought the process of diffusion was determined by remittances and the spread of information generated by the enlarged pool of previous emigrants. Did this so-called "friends and relatives" effect cause a persistence in emigration streams from particular areas or a gradual diffusion to other areas? There are certainly good economic reasons why this chain migration should have taken place. Information about opportunities abroad reduced uncertainty and search costs, but, more importantly, emigrant remittances in the form of cash or pre-paid tickets also provided the means by which poor laborers could finance their move. Among all immigrants from Europe arriving in the United States in 1908-09, 94.7 percent said they were joining friends or relatives (U.S. Immigration Commission, 1910, p. 59). This percentage was 98.7 for southern Italians and 92.6 for northern Italians, but 86.2 for Portuguese and only 66.7 for Spaniards. Hence, the Spaniards, and to a lesser extent the Portuguese, had much weaker friends and relative effects pulling them to the United States than was true of the Italians.

The existence of migrant communities in particular countries, sectors and localities was clearly an important factor determining the direction and magnitude of emigrant flows. Thus, studies of the determinants of the ultimate destinations of immigrants arriving in New York find that they were heavily influenced by the geographical concentration of previous immigrants from the same country (Dunleavy and Gemery, 1977, 1978). The same appears to have been true of Brazil, where Italians clustered in the coffee-producing states of Sao

Paulo, Espirito Santo and Minas Gerais, while the Portuguese went to Rio de Janeiro and the states to the north and northeast (Merrick and Graham, 1979). These connections were often localized within the sending countries as well. The fact that southern Italians went primarily to the United States while northern Italians went to South America and northern Europe is well known. But similar differences characterized Spanish emigration, where emigrants from the Canaries went chiefly to Cuba and South America while those from the mainland went more often to the United States. Similarly in Portugal, where those from the Islands went chiefly to the United States while those from the mainland went to Brazil and the Portuguese colonies (Gould, 1980, p. 310).

At first sight, it might appear that these migration streams were at least partially segmented, driven by local labor demand conditions, imperfect information, and "networking" (a substitute for imperfect capital markets). The latter two forces served to perpetuate the direction of past flows. But there were also strong integrative forces -- the search for highest wages -- which served to alter the direction of those flows. So it is that the factors which drove southern Italians to North America and northern Italians to South America, and the forces that gradually broke down this segmentation, have been widely discussed (e.g. Baily, 1983; Klein, 1983). Such questions are, however, beyond the scope of this paper. It is enough for our purposes to note that the persistence in the direction of emigration suggests that economic conditions abroad can be represented by a small number of destinations to which the bulk of the emigrants traveled.

### III. EXPLAINING EUROPEAN MASS EMIGRATION

In order to gain a comparative perspective on the Latin migrations, we start by examining the emigration experience of twelve countries (including nine non-Latins) over the period 1850 to 1913. These are presented as average decadal emigration rates per thousand of the sending country population in Table 2. The decade averages are used to smooth out the sharp year to year fluctuations evident in many of the country time series (e.g., Figure 2 for the Latin countries). We do so since our interest in this and Section IV is in the long run determinants of emigration, postponing an analysis of the short run timing of these permanent moves to Section V. The data include both European intracontinental and New World intercontinental migrations, and where estimates for return migration are available both gross and net emigration rates are presented.

There are several points to be made at the outset about these mass migrations. First, the variance is impressive, ranging from the low French to the high Irish emigration rates. From the 1880s onwards, the three Latin countries fall somewhere in the middle. Second, although there is only limited information documenting Latin experience prior to the 1880s, it is clear that Latin emigration was on an upward trend in the late 19th century, in sharp contrast with most of the countries in northwestern Europe. With the possible exception of the Netherlands and Britain, the non-Latin countries show little sign of any upward trend after the 1870s. It appears therefore that the Latin countries were converging to levels of emigration which were comparable with, or even greater than, many of the countries of northern Europe. Third, the contrast between gross and net emigration rates which has been so widely noted

for the Latin countries was also a characteristic of a number of the northern European countries, particularly in the later decades and particularly where migration to other European destinations was important.

What explains late 19th century emigration rates? The literature is large, but perhaps the best-known studies are those of Easterlin (1961), Tomaske (1971), Williamson (1974), Gould (1979, 1980), Massey (1988) and Baines (1991). In a recent study of our own (Hatton and Williamson, 1992a), a number of hypotheses stemming from this literature were evaluated by applying regression analysis to the emigration rates in Table 2. In this and the next section we draw on that study to shed light on the Latin experience.

The real wage gap between home and foreign destination plays a key role in all migration models, but such evidence was unavailable to these earlier studies. Thus, for example, Easterlin had to make do with Mulhall's crude estimates of per capita income. Crippled by lack of adequate data, this important debate has lain dormant for about two decades. The appearance of a recently developed real wage data base for internationally comparable urban unskilled male occupations (Williamson, 1992) makes it possible to breath new life into the debate. These data have three principal advantages over what was available to Easterlin and Tomaske. First, they offer an income measure far more relevant to the decision facing potential migrants. The wage rates were taken from urban occupations (such as the building trades) which were ubiquitous in all countries, and they were deflated by cost of living estimates that were developed from purchasing-power-parity constructs. Second, since these real wage indices are comparable across time and between countries, we are able to pool the country time series in the emigration analysis, something earlier studies were unable to do. Third, since we have

comparable real wage estimates for major immigrant New World countries, we are able to develop a measure of the wage gap between sending and receiving countries which is also comparable across countries and over time. The real wage data can be found in other sources (Williamson, 1992; Hatton and Williamson, 1992a), but that part of it most relevant to the Latin countries are reproduced in Table 1.

To repeat, the most appropriate measure of the migration incentive is the real wage gap between home and potential destination. True, real wages were rising strongly everywhere, but some, like Denmark, Ireland, Italy, Norway and Sweden, were doing especially well, while others, like Belgium, France, Portugal and Spain, were not. On net, real wages converged in the late 19th century (Williamson, 1992), and most of that convergence was driven by the gradual erosion in the real wage gap favoring the New World although a weaker convergence was also taking place in Europe. For example, between the 1870s and the early 20th century, Danish real wages rose from about 35 percent to about 57 percent of the New World, a significant catch-up over about three decades. Swedish experience was similar, her real wage rising from about 23 percent of the New World in the 1850s to about 56 percent at the end of the period. Ireland and Italy recorded much the same catch-up on the New World. In fact, the only European countries which fail to show some catch up are France, Germany, Portugal and Spain.

In certain cases like Ireland and Norway, an inverse correlation between trends in the emigration rate and the wage ratio (domestic to foreign) is clearly revealed in the raw data. Indeed, we argued in a recent paper (Hatton and Williamson, 1992b) that the rise in the Irish wage relative to that of destination countries explains much of the secular fall in the Irish

emigration rate after the famine. Other countries also offer support for the inverse correlation between the relative wage and emigration (Wilkinson, 1970). However, the Latin countries do not appear to fit this pattern. To note Table 1 again, Italian real wages were rising relative to destination areas and those for Spain were roughly constant. Yet, in both countries the emigration rate rose, and it rose most in Italy where the home wage rose the most. Clearly, we need a richer model to explain these events. In addition, if real wage gaps had been the sole determinant of European emigration then the mass migrations would have been led by the poor Latin and East European countries. Instead, they follow, only joining the others later in the century, offering further support for the view that we need a richer model to explain these mass emigrations.

This one central stylized fact makes it clear, therefore, that real wage gaps will not suffice to explain emigration by themselves: during the course of modern economic growth, emigration rates rise steeply at first from very low levels, the rise then begins to slow down, emigration rates reach a peak, and subsequently they fall off. This stylized fact has emerged from studies of both the time series of aggregate emigration for a number of countries (Akerman, 1976) and of the local emigration rates within individual countries (Gould, 1979), and it has been used to make predictions about the future of Mexican immigration into America (Massey, 1988). Several explanations have been offered for this stylized fact, but each of them can be characterized by the time path captured by Figure 1 where we isolate movements along some downward-sloping home country emigration function (EM) and shifts in that function. In pre-industrial episodes, we observe low emigration rates ( $e_0$ ) and low wages ( $w_0$ ). Industrialization and other events then serve both to raise



the emigration function to EM' and real wages to  $w_1$ . The former dominates in this example since emigration rates have risen to  $e_1$ ; in the absence of the shift in EM, emigration rates would have fallen to  $e_1'$ . In later stages of development, EM' is taken to be stable so that further improvements in real wages at home, to  $w_2$ , cut back emigration rates to  $e_2$ . Thus, the stylized emigration facts are reproduced in Figure 1. If late 19th century Latin emigration is to be successfully explained then we need to identify factors that might explain the outward shift in the emigration function as well as the elasticity describing emigrants' response to wage gaps along that function. To the extent that these forces were operating in the same way in Latin and non-Latin countries, the late-comer surge in Latin emigration may be simply a repeat performance of what occurred in northern Europe 30 or 40 years earlier. What, then, accounts for the rightward shifts in EM during early industrialization and its stability thereafter?

The first hypothesis features demography. In his pioneering paper published over 30 years ago, Richard Easterlin (1961) argued that European emigration was driven largely by population growth. If emigration was a true vent for "surplus" population, then countries with relatively high rates of natural increase should have exhibited higher emigration rates than those with low rates of natural increase. Comparing average country emigration rates 1861-1910 with rates of natural increase lagged 20 years, Easterlin found a strong positive correlation. However, the comparison of trends in emigration rates across countries offered only a weak correlation with natural increase changes over time. Easterlin viewed the rate of natural increase 20 years earlier as a proxy for the current rate of additions to the labor force which would, in turn, lower the real wage and raise emigration (1961, p. 332). If

so, then this would be better captured by an index of current labor market conditions, such as the real wage, which would reflect the net impact of both labor supply and demand.

However, there are two alternative interpretations of Easterlin's correlation. First, if differences in natural increase were driven chiefly by variations in births and infant mortality then it could act as a proxy for the proportion of the population who, 20 or 30 years later, were in the prime emigration age group. Since this age cohort had a far higher propensity to emigrate, one might observe higher emigration rates associated with faster lagged natural increase even if real wage gaps between home and abroad stayed constant. And since rising fertility rates and falling infant mortality rates are associated with early industrialization, rising emigration rates might possibly be correlated with rising real wages at home if the influence of these demographic transition variables was sufficiently powerful. A second possibility is that with rising population growth, a genuine labor surplus developed in rural areas. Land access was also often a critical determinant: those who were unable to inherit or marry into a tenancy or small holding had little option but to leave. Such effects have been suggested for a number of countries, such as Germany and Ireland, and they may apply to the Latin economies as well.<sup>3</sup>

A second hypothesis suggests that industrialization and urbanization foster emigration. In many qualitative accounts of European emigration, the key factor is economic development at home, not just rising wages but the

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<sup>3</sup>Kamphoefner (1976), p. 182 and Walker (1964), p. 164. Our own cross-country findings for Ireland indicate that the greater the proportion of smallholdings in total land holdings, the lower was the emigration rate (Hatton and Williamson, 1992b).

whole range of transformations which accompany industrialization and change attitudes towards emigration. The importance of industrialization in raising labor mobility has recently been stressed by Massey (1988). European industrialization involved, above all, reduced attachment to the land and a rise in wage labor. The combination of more commercialized agriculture, more consolidated land holdings, diminished smallholdings, the erosion of common rights, and relatively high and rising wages in the booming cities all served to produce a rural exodus (Williamson, 1990). Thus, rising urban population shares and falling agricultural employment at home might have fostered greater emigration, given the wage gap between home and abroad.<sup>4</sup>

A third hypothesis appeals to the costs of migration. Although there is a strong incentive to flee pre-industrial poverty, the costs may be prohibitive for most workers. After all, the potential migrant cannot get loans for the move, and his income is too close to subsistence to make it possible to accumulate the necessary savings. Thus, enormous wage gaps in the 1870s between a labor-scarce, resource-rich United States and a labor-abundant, resource-poor Spain can be quite consistent with low emigration rates. As industrialization takes place in the home country, real wages rise and the supply constraint on emigration is gradually released: more and more potential emigrants can now finance the move, and, in contrast with conventional theory, the home wage and emigration would be positively correlated. As industrialization continues, the backlog of potential migrants is slowly

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<sup>4</sup>If we rely on urban wage rates to measure wage gaps between countries then the declining agricultural employment share may have an offsetting effect. Agricultural wages are typically lower than those in the cities, so a fall in the agricultural employment share should raise the average wage by more than the urban wage would suggest. Controlling only for the urban wage, a fall in the agricultural employment share might therefore reduce emigration.

exhausted as more and more workers find it possible to finance the move. When the migration cost constraint is no longer binding, further increases in the real wage cause the emigration rate to decline from the peak, and, consistent with conventional theory, the home wage and emigration would be inversely correlated.

According to this view, emigration histories should pass through two regimes, the first emigrant-supply constrained, and the second emigrant-demand constrained. The emigrant-supply-constrained regime is consistent with rising emigration and rising home wages. The second regime is consistent with falling emigration and rising home wages, that is with the downward-sloping EM function in Figure 1. Above some level of home income, the impact of rising home wages on eroding the incentive to move outweighs their impact on releasing the poverty constraint.

One factor which might serve to relax the poverty constraint earlier than otherwise would be the existence of a stock of earlier migrants already living abroad who could help finance the subsequent emigration of friends and relatives. Historians call such effects "chain migration". The idea is that rightward shifts in the EM function is driven by the remittances of previous (now rich) emigrants who finance the moves of impecunious late-comers. As the stock of emigrants abroad increases, so too do their remittances home, and thus the current emigration rate rises even though the home wage is increasing. This rising influence continues as long as potential emigrants find their move financially-constrained, but the latter diminishes as the real wage increases at home. At some point, that constraint is no longer binding and further increases in the home wage reduce the emigration rate as the economy moves up the more stable EM' function: emigration experience enters

regime two. While this tale of regime switch is plausible, we should remember that it takes no account of changing employment conditions overseas. The poor home wage has to catch up with the rich wage abroad if the emigration rate is to decline from its peak after the regime switch.

A variation on this theme is what some observers have called a process of diffusion. Gould (1980) illustrated the process by reference to the experience of late-comers to mass migration, such as Italy, where the within-country regional variance in emigration rates diminished over time. Regions with low initial emigration rates converged on the earlier emigrating regions, causing the aggregate emigration rate to increase. It is not clear from these facts alone, however, what mechanism was driving the diffusion process although it has often been linked with access to information about opportunities abroad or to "migration traditions" (Kero, 1991).

All of these arguments imply persistence and path dependence in emigration rates. The influence of friends and relatives abroad sending letters containing information about prospects overseas is well documented, and such information is likely to have reinforced the decision to emigrate. Furthermore, there is abundant evidence that current emigrants' cost of passage was financed by previous emigrants. This evidence takes the form of large emigrant remittances and frequent use of pre-paid tickets: those travelling on pre-paid tickets accounted for 30 percent of Finnish emigrants 1891-1914, for 50 percent of Swedish emigrants in the 1880s, for 40 percent of Norwegian emigrants in the 1870s, and for about 25 percent of Danish emigrants 1881-1895 (Kero, 1991, p. 191; Hvidt, 1975, p. 129). Such evidence clearly argues for the case that past emigration encourages present emigration. We call this effect "persistence", but the historical literature calls the same

effect "chain migration" or, alternatively, the "friends and relatives effect" (see Baines, 1991, p. 33-38; Gould, 1980, p. 293).

Persistence is often represented by the lagged dependent variable in time series analysis. As Gould (1979, p. 658) notes, this is often the most significant variable in the regressions and many analysts have interpreted the result as support for chain migration. However, it might also be interpreted as the adaptive formation of expectations. In any case, one would expect the effect to operate through the stock of all previous migrants, not just the previous year's flow, even though it was the more recent emigrants who sent letters and remittances home compared with those who emigrated much earlier.

The important point is that persistence is likely to matter in accounting for the variety in European emigration experience in the late 19th century. Historical events in the past -- like famines and revolutions -- are likely to have a potent influence on country emigration experience in the present even after those events have disappeared from the memory of current generations. Low French emigration in the 1890s may have its source in the revolution-induced land reforms a century before, and high Irish emigration in the 1890s may have its source in the potato famine a half century before.

These, then, are the main arguments that appear in the qualitative accounts describing European emigration in the late 19th century. How effective are they when confronted systematically with the quantitative evidence? And where do the Latin late-comers fit in the analysis?

#### IV. WERE THE LATINs DIFFERENT? EMIGRATION PANEL DATA

Here we apply an econometric model to the decade average emigration

rates presented in Table 2, incorporating where possible the hypotheses discussed in Section III. The model relies on our earlier paper (Hatton and Williamson, 1992a), but here we add Portugal to the previous sample and explore whether the Latin economies were different. We confess that the dependent variable is the gross emigration rate, while it has often been suggested that the appropriate variable for analysis should be the net emigration rate, especially for Italy where return migration was so great. Unfortunately, it is not possible to obtain net emigration for all country/decades included in the gross emigration sample (including, as far as we know, Portugal). While we shall have more to say about this issue below, our earlier paper found that net and gross emigration can be explained by the same set of variables, with roughly the same magnitudes on the estimated coefficients.

Table 3 presents the results. Not only are they very good in terms of expected signs and conventional significance tests, but they are consistent with our earlier paper on mass migrations (Hatton and Williamson, 1992a). The core model appears in equation (2) of the table where the gross migration rate (GMIGR) is regressed on: the lagged dependent variable (LGMIGR) -- to help guide our distinctions between short and long run emigration behavior; the share of the male labor force in agriculture (AGSM) -- one minus which is our measure of industrialization; the Easterlin direct demographic influence (RNI) -- the rate of natural population increase two decades previously; the log of the real wage gap (LRRW) -- the log ratio of home to foreign wages, a measure of the gains to emigration where the foreign real wage is, where appropriate, taken as a migration-weighted average of real wages in destination labor markets; the stock of migrants from the country in question which are

currently resident abroad (MST) -- our measure of "networks"; a dummy for Belgium (BEL) -- since we found this to be the only non-Latin country which was "different"; and a Latin dummy (LAT) to test whether the three countries combined were different, at least in their intercept.

Equation (2) reports the following: AGSM has only a weak influence on emigration rates, although the sign is, as predicted, negative. That is, urbanization and industrialization tend to raise the rate of emigration after controlling for other factors. The rate of natural population increase two decades earlier has a powerful and significant positive impact on emigration, just as Easterlin predicted. To repeat, this measures the direct effect of population growth, which serves to glut the most mobile cohort two decades after rising fertility rates and declining infant mortality rates have their influence. Indirect labor supply effects of RNI through any downward pressure on the home real wage is already captured by our wage gap variable. The ratio of home to destination real wages also tends to have a powerful and significant negative impact on emigration. So, too does the stock of migrants abroad, offering support for the "network" thesis, larger stocks of migrants abroad serving to raise the current rate of emigration. This finding can also be viewed as strong support for persistence in emigration behavior and for the view that history matters. The lagged dependent variable has a powerful and significant positive impact, a finding common to all migration studies.

Finally, and perhaps most important to this paper, the Latin dummy is powerful and significantly positive. Holding everything else constant, the Latins tended to emigrate at greater rates than was true for the rest of Europe. We should remind the reader, however, that the dependent variable in this analysis is the gross emigration rate. It may well be that a similar



analysis of the net emigration rate might weaken the significance of the Latin dummy, just as our earlier paper suggested (Hatton and Williamson, 1992a). Subject to this qualification, Table 3 suggests that the Latins did emigrate at greater rates, ceteris paribus. Equation (1) explores this issue further by introducing dummies for all three Latin countries. However, a Chi-squared test implies that these three countries can indeed be pooled together as "Latin". Thus, for the remainder of this section we focus on the core model in equation (2).

In an effort to uncover the sources of the difference in Latin emigration behavior, we next ask whether Latin emigration was constrained by poverty. Equation (3) introduces the home wage in non-linear form, interacted with the Latin dummy (LAT\*LRRW and LAT\*LRRW2). The idea has most recently been suggested by Faini (1991) and Faini and Venturini (1993), who introduced the variables in a successful effort to account for immigration into Europe from poor countries in the 1980s. The thesis was posed in Section III: potential emigrants in poor European countries were so income-constrained by their poverty that they could not afford the move; as real wages rose at home, the constraint was slowly released, but at some point further increases in home wage lost their influence. Equation (3) rejects this hypothesis as it applied to the Latin countries. It is simply not true that late 19th century Latin emigration was suppressed by poverty. Although Table 3 does not report the results, we were also able to reject the hypotheses that Latin emigration responded differently to AGSM, RNI and MST.

Finally, is it true that Latin migration supplies were more elastic? Equation (4) tests this important hypothesis by adding an interaction term to equation (2), the Latin dummy times the wage gap variable (LAT\*LRRW). The

hypothesis is soundly rejected: it is simply not true that the Latin economies in the late 19th century were characterized by more elastic emigrant labor supplies than the rest of Europe. This finding is consistent with what Alan Taylor (1992) found when comparing immigration elasticities for Australia and Argentina.

To summarize, the Latins were different, emigrating at more rapid rates even when controlling for other variables. We have been unsuccessful so far, however, in uncovering the potential source of that difference in behavior since it is certainly not explained by their poverty and thus by changes in their poverty. It also seems clear that the Latins did not exhibit a more elastic response to wage gaps between home and abroad, although Section VI will have more to say about this when we take up the issue of destination areas.

If the Latin emigrants seem to behave pretty much like the rest of Europe, perhaps the economic and demographic environment that they left behind was different. Table 4 explores this proposition by multiplying the estimated coefficients in Table 3 (column 2, converted to long run impact) times the change in the right-hand side variable of interest. The multiplication yields a figure which tells us just how much of the predicted rise in decadal emigration rates between, say, 1890-1899 and 1900-1913 (the sum of columns 2-5) can be explained by changes in RNI, AGSM, LRRW and MST. The typical northern European patterns (which were analyzed at length in our earlier paper: Hatton and Williamson, 1992a) are illustrated by two Scandinavian countries, Denmark and Sweden. Both countries were on the downside of their emigration cycles after the 1890s, having reached peak emigration rates earlier (Table 2). Thus, the decline in the predicted GMIR in Sweden,  $-.0845$

(relative to a mean GMIR in the sample of .4965), is explained entirely by two forces: the decline in the rate of natural increase two decades previously (-.0140) and the spectacular catching up of real wages (-.1579), the other two forces tending to have weaker effects serving to increase GMIGR.

Table 4 shows that very different economic and demographic forces were at work in the late-comer Latin countries.

First, a boom in the natural rate of population increase two decades earlier was a very powerful force serving to push up emigration rates in Italy and Portugal, experience on the upswing of the demographic transition that was replicated in the rest of Europe earlier in the century. These are by far the most powerful forces accounting for the surge in Italian and Portuguese emigration rates after the 1890s. Spain, however, is an exception: two decades earlier rates of natural increase were falling, not rising, a fact well appreciated by demographic historians (Moreda, 1987). While demographic forces made a very strong contribution to the rising emigration rates from Italy and Portugal, they had just the opposite effect for Spain.

If emigrant-inducing demographic forces were absent in Spain after the 1890s, why the sharp rise in Spanish emigration rates seen in Table 2 and Figure 2? The answer seems to lie largely with economic failure at home. The wage gap between Spain and destination countries widens at the end of the 19th century (Table 1), and this event explains almost all of the surge in Spanish emigration. The same was true of Portugal, although the failure at home was not nearly as great. In contrast, Italian wages catch up with those in destination countries -- the USA, Argentina and Germany, and that wage success at home muted the surge in Italian emigration since it served as an offset to those powerful emigrant-inducing demographic forces.

For all three Latin countries, there were additional underlying fundamentals that they shared and which served to contribute to the surge in emigration: modest rates of industrialization (the fall in AGSM) and rising migrant populations abroad (the rise in MST). Nonetheless, what really made the Latin countries "different" after the 1890s was the delayed demographic transition (compared to northwest Europe) and the economic failure in Portugal and Spain.

A final word about the importance of Latin economic failure in helping account for the surge of emigration after the 1890s. There is, of course, a very long literature on British "failure" in the late Victorian and early Edwardian periods. We also know that British emigration rates rose to a peak in the 1880s, falling thereafter, thus obeying an emigration life-cycle that was repeated for so many countries in 19th century Europe (Hatton and Williamson, 1992a). Like Italy and Portugal somewhat later in the century, we also know that this "life-cycle" was being driven systematically by those economic and demographic forces discussed at length earlier in this section. However, British emigration departed from the long run pattern after the 1890s, that is, the emigration rate rose rather than continuing its fall. What made Britain different after the 1890s? Exactly the same forces that made Spain and Portugal different: economic failure at home.

#### V. WERE THE LATINS DIFFERENT? EMIGRATION AS TIME SERIES

There has been much discussion of the wide annual fluctuations in emigration rates which characterized most European countries. The discussion has often been posed in terms of the forces which 'pushed' and 'pulled' the

migrants. The earlier literature was summarized and subjected to a searching critique by Gould (1979) more than a decade ago, who noted that the Latin countries had largely been neglected. More recently, Baganha (1990) and Sanchez-Alonso (1990) have examined the quantitative aspects of emigration from Portugal and Spain in greater depth. However, we still lack econometric studies comparable to those which have been widely applied to countries in the north and west of Europe.

There are several questions which are important from a comparative perspective and which have not yet been answered for the three Latin countries. First, these studies have typically found that the most powerful short run determinant of emigration is employment opportunities abroad while domestic employment opportunities play a much weaker role. Was the same true of the Latin countries? Second, and to repeat Section III, it has been argued that the Latin countries provided elastic labor supplies to destination economies in the New World, and perhaps even to parts of the Old World. Based on long run panel data, Section IV rejected that hypothesis, but was the same true of short run time series? Do we observe relative wage elasticities for the Latin emigrating countries which are larger than the comparable elasticities for countries to the north and west? Third, we have already seen that there were forces associated with the demographic transition, structural change and growing overseas emigrant stocks which had an important influence on trend rates of emigration. These forces were on the rise in southern Europe at the same time they were weakening in the northwest. Do we find the same underlying trends in the time series once the influence of short run macro-instabilty is taken into account?

The time series emigration rates for the three countries (per thousand

of population) are plotted in Figure 2. Both in terms of levels and year to year fluctuations the patterns are similar until the early 1890s. After the mid-1890s, however, Italian emigration rates keep rising while those for Spain and Portugal remain at the earlier levels until the early 1900s after which they join Italy with a steep ascent to 1913. From the early 1890s onwards, the year to year pattern remains similar for Spain and Portugal, but they diverge sharply from Italy during that critical decade of Iberian "failure". What light can time series analysis shed on both the similarities prior to the 1890s and the subsequent divergence?

The standard framework for analyzing emigration is essentially that pioneered by Todaro (1969) and Harris and Todaro (1970). Here the migration flow depends on expected wages and the probability of obtaining employment at home and destination. A simple version looks like the following:

$$M/P = b[\log(W_f * E_f) - \log(W_h * E_h)] \quad (5)$$

where  $M/P$  is the emigration rate,  $W$  is the (real) wage rate,  $E$  is the employment probability and  $f$  and  $h$  represent the foreign destination and home countries.

Our development of this framework follows Hatton (1992), who modified the expected income approach in three ways. First, if migrants are risk averse and if access to jobs differs at home and abroad, the expected employment terms should be allowed to take on different coefficients from each other and from the relative wage. Second, migrants consider the whole profile of future earnings at home and abroad, and they use past history to form expectations about the future. Thus, we expect lags to be relevant. Finally, the timing of

migration may be influenced by short run changes in the variables since it may pay to time the move to take advantage of propitious conditions abroad relative to those at home: short run changes in conditions at home and abroad might be expected to trigger sharp changes in emigration. The general model can be written as follows:

$$\begin{aligned}
 M/P(t) = & b_0 + b_1 \Delta \log E_f(t) + b_2 \Delta \log E_h(t) + b_3 \Delta \log [W_f/W_h](t) \\
 & + b_4 \log E_f(t-1) + b_5 \log E_h(t-1) + b_6 \log [W_f/W_h](t-1) \\
 & + b_7 M/P(t-1)
 \end{aligned} \tag{6}$$

For the three Latin countries, we use the gross emigration rates depicted in Figure 2. These are taken from Ferenczi and Willcox (1929) for Italy, but for Portugal we use the series provided by Baganha (1990), who accounts for clandestine emigration, and for Spain we use the series provided by Sanchez-Alonso (1990), who revised the official emigration statistics. The relative wage variables are taken as before from Williamson (1992) and we use migrant-weights to construct average destination wages. Since we have no direct estimates of unemployment rates or employment rates for sending and receiving countries, we use the deviations from trend of the log of industrial production in the sending and receiving regions. These are labelled "domestic activity" and "foreign activity" in Table 5. (All sources for these data are given in Appendix 2.) In initial experiments, we found the terms for changes in relative wage rates and for changes in domestic activity were never significant so they are excluded from the reported regressions. We also experimented with a variety of time trends to capture the timing of upward shifts in emigration rates associated with the economic and demographic

transition, the underlying "fundamentals", discussed at length in Section IV.

Turning first to Portugal in the first column of Table 5, we find that the signs of all the variables are exactly as predicted by the model. Both the change in foreign activity and its level yield positive signs, with the latter significant, while the domestic activity variable yields a negative and significant sign (typical findings for studies of this sort). The wage in receiving countries relative to the home wage has a strong positive coefficient as does the lagged dependent variable. The long run or steady state coefficients are derived by taking into account the lagged dependent variable (see the notes to Table 4). The long run effect of a sustained rise of ten percent in foreign activity raised the annual emigration rate by 1.2 emigrants per thousand population. This foreign activity impact is strong, and since fluctuations in Brazilian GDP take on the overwhelming weight in the activity index, these findings offer powerful support for those who have stressed economic conditions in Brazil as a key determinant of Portuguese emigration. The long run relative wage coefficient is smaller than that on foreign activity, as the model predicts, suggesting that a sustained fall of ten percent in the domestic relative to foreign wage raised the annual emigration rate by 0.49 per thousand in the long run.

We experimented with a variety of different trend terms to capture the upward shifts in the Portuguese emigration rate, underlying fundamentals which were not associated with fluctuations in economic activity or with wage rates. The best result was obtained with time and time from 1895 as regressors. The time term indicates a strong upward trend but this is mitigated later in the period by the negative coefficient on the time-from-1895 term. The long run impact of these time trends can be derived as before by taking into account



the lagged dependent variable. The result suggests that there was a strong surge in underlying fundamentals that raised the Portuguese steady state annual emigration rate by as much as 5.0 per thousand between 1871 and 1891. Between 1891 and 1913, these fundamentals stopped raising trend emigration rates.<sup>5</sup> In addition, economic failure at home mattered: the falling ratio of domestic to foreign wages accounted for an upward shift in the steady state annual emigration rate of 0.95 per thousand.

Spain offers a somewhat shorter emigration time series, 1883 to 1913, and, in contrast with Portugal, it seems essential to treat the emigration streams to the Americas and other destinations separately. Unfortunately, we are less able to capture conditions in the wider range of destination countries in Latin America to which the Spanish emigrants went, compared with the Portuguese, and in the case of "other" destinations matters are even worse since we know nothing about economic conditions in North Africa, an important destination for Spanish emigrants. We must be content with a Brazilian economic activity index as our sole proxy for employment conditions in the Americas facing Spanish emigrants, and with the Argentine wage as our sole indicator for wage conditions in the Americas facing Spanish emigrants. In the case of "other" destinations, France is our sole indicator for foreign wage conditions. Given these severe data constraints, it is not surprising that the results for the Spanish emigration to "other" in column 3 of Table 5 are so poor, but they are very good in column 2 for the Americas. What follows deals with column 2 alone. The signs are as expected, and the coefficients suggest that, as with Portugal, fluctuations in economic activity at home and abroad

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<sup>5</sup>This contrasts with our cross-section finding that Portuguese fundamentals surged from 1890 to the 1900s.

had opposing influences on Spanish emigration. The coefficient on the relative wage is similar to that for Portugal: a ten percent fall in the domestic to foreign wage ratio raised Spain's long run annual emigration rate to the Americas by about 0.53 per thousand. We also found that time trends were never significant for Spain, a finding which is consistent with weak Spanish demographic and industrial transition effects noted in Section IV.

Our initial estimates for total Italian emigration produced poor results, a finding which we guessed (like Spain) was due to the aggregation over two distinct emigrant streams, one to northern Europe and one to the New World. Columns 4 and 5 of Table 5 therefore present estimates for emigration to Europe and to the Americas separately. For Europe, the destination activity and wage variables are a weighted average of France and Germany. Like Spain, the results are far better for Italian emigration to the Americas. What follows, therefore, dwells on column 4. The impact of foreign activity and the relative wage on emigration to the Americas are relatively large and significant. The coefficient for the relative wage implies that a 10 percent fall in the foreign domestic to the foreign wage raised Italy's long run annual emigration rate to the Americas by 0.90 per thousand, a result similar but somewhat bigger than that for total Portuguese emigration and Spanish emigration to the Americas. When we experimented with alternative time trends, we found that the best specification for Italy was obtained with a time-from-1895 trend. This suggests a surge in the underlying fundamentals raising Italian emigration rates after the 1890s, a sharp contrast with both Spain and Portugal, neither of which show any evidence of rising fundamentals after 1890. Its impact was to raise annual emigration rates to the Americas by 5.3 per thousand between 1890 and 1913. The impact of this surge in fundamentals

on emigration was muted by the catching up of Italian wages with those destination countries from 1890 to 1913 (Table 1). However, the fundamentals dominated, serving to raise emigration rates by 5.3 per thousand, since the surge in Italian wages cut back emigration only by 1.3 per thousand.

What can be learned from time series estimation of emigration models for the Latin countries? There is evidence that fluctuations in economic activity abroad influenced the timing of emigration while industrial fluctuations at home had relatively weak effects. We also find that the wage gap between home and abroad influenced emigration in the expected manner but that the elasticities are relatively small. In each case, a ten percent increase in the wage ratio raised emigration by less than one per thousand in the long run. This is consistent with the findings in Section IV which suggest that for the European countries as a group, a rise of 10 percent in the wage ratio reduced the long run emigration rate by about 1.1 per thousand, and that the response of the Latin countries was, if anything, smaller than for northern European countries. This latter inference is also consistent with the results of time series studies for Britain (Hatton, 1992) and Ireland (Hatton and Williamson, 1992b) which report long run responses of 2.2 and 2.3 per thousand respectively. This provides further support for the view that the supply of Latin labor to the New World was not relatively elastic as is so often assumed.

Finally, we have tried to capture with time trends some of the fundamentals associated with demographic growth, industrialization and the rising emigrant stock abroad which were also identified in the panel data in Section IV. The results suggest that these fundamentals were strongest in Portugal before the 1890s and weakened subsequently. For Spain, they appear to

have been absent altogether, a finding which fits well into the pattern of slow demographic growth identified earlier. For Italy, the surge in fundamentals appears to have begun in the 1890s.

## VI. TWO ADDITIONAL QUESTIONS AND A RESEARCH AGENDA

Was Latin mass emigration in the late 19th century different from that of northwestern Europe two or three decades earlier? Apparently not. Contrary to conventional wisdom, the Latin emigrants did not exhibit a more elastic labor supply response to wages home and abroad. Nor did the Latin emigrations respond any differently to the demographic transition and industrial revolutionary events at home. Nor did Latin forces of "chain migration" operate any differently.

What distinguished the late 19th century Latin countries from the rest of Europe to the northwest was their latecomer status and, with the exception of Italy, their weak economic and demographic performance when industrialization arrived late. With the exception of the Irish driven abroad by the famine, mass emigration in Europe had to await the forces of industrialization at home and a glut in the mobile age cohort driven by a demographic transition which industrialization produced. Furthermore, real wages in the early industrializers in the northwest of Europe were catching up with real wages in destination areas, and these forces served to hold the mass emigrations in check. As industrialization and the demographic boom slowed down in northwest Europe, the real wage catch up began to dominate, thus cutting back mass emigration. Italy seems to exhibit the same pattern, but with a lag. Once again, Italian mass emigration was no different than the rest of Europe. The

differences lie with the Iberian peninsula. Spain never underwent a powerful demographic transition in the late 19th century; its mass emigration was driven instead by economic failure at home, especially after the 1890s. Portugal did undergo a powerful demographic transition in the late 19th century, but its mass emigration was also driven, at least in part, by economic failure at home.

We did find some evidence that Latin emigration rates were higher than in northwest Europe after controlling for these demographic and economic variables. We speculated, however, that this result might have been more apparent than real. Data constraints were such that gross emigration had to be used as the dependent variable throughout, and we have independent evidence that return migration was far higher among the Latin countries than had been true earlier for other European mass emigrations. If this speculation can be confirmed, then even this "different" aspect of Latin mass emigration would disappear. The question remains, however: Why the higher incidence of Latin return migration? Was it simply that the cost of the return passage was so much lower after the 1890s when so many Latin emigrants decided to return than it was prior to the 1890s when so few other European emigrants decided to return? Were there other forces at work?

Many have argued that Latin labor markets were segmented from those in northwest Europe. This view has it that, in the late 19th century at least, Latin labor did not head north in large numbers. Had they done so, wages would have risen at home more due to greater labor scarcity, and wages would have risen in northern Europe less due to greater labor glut. They did not do so, and thus the Latins missed an opportunity -- more rapid real wage growth at home even in the absence of dramatic industrialization at home (much like

Ireland). By not doing so, Latin labor markets remained segmented from the more dynamic parts of Europe. Furthermore, so the argument goes, with the exception of southern Italians, Latin emigrants went overseas to South America, where real wages were lower, rather than to North America, where real wages were higher. Why? This too served to segment the Latin labor market from the more dynamic parts of the New World. If southern and northern Italian labor markets were themselves poorly integrated, then the story of segmentation is complete.

This segmentation argument sounds plausible, and certainly our inability to estimate a successful time series model of Spanish and Italian emigration to Europe is consistent with it. The segmentation thesis needs far more attention, however, and we hope to pursue it in the near future with Italian data. The thesis cannot be explored further, however, until we are able to improve our data base on the Latin destinations. Consider the New World: this paper was unable to offer any real wage time series for Brazil or Cuba (Argentina was used as a proxy), nor was it able to offer any satisfactory "foreign activity index" for Argentina (Brazil was used as a proxy). Consider the Old World: this paper was unable to offer labor market indicators for North Africa, the South of France, and the east of Germany, important destinations for so many Italians and Spaniards.

The Latin mass migrations weren't so different after all. Iberian economic failure was different, but it had a predictable impact. The most important item remaining on the research agenda, therefore, is this: Why did so few Latins head for the most dynamic high-wage destinations, thereby doing so little to break down international labor market segmentation in the late 19th century?

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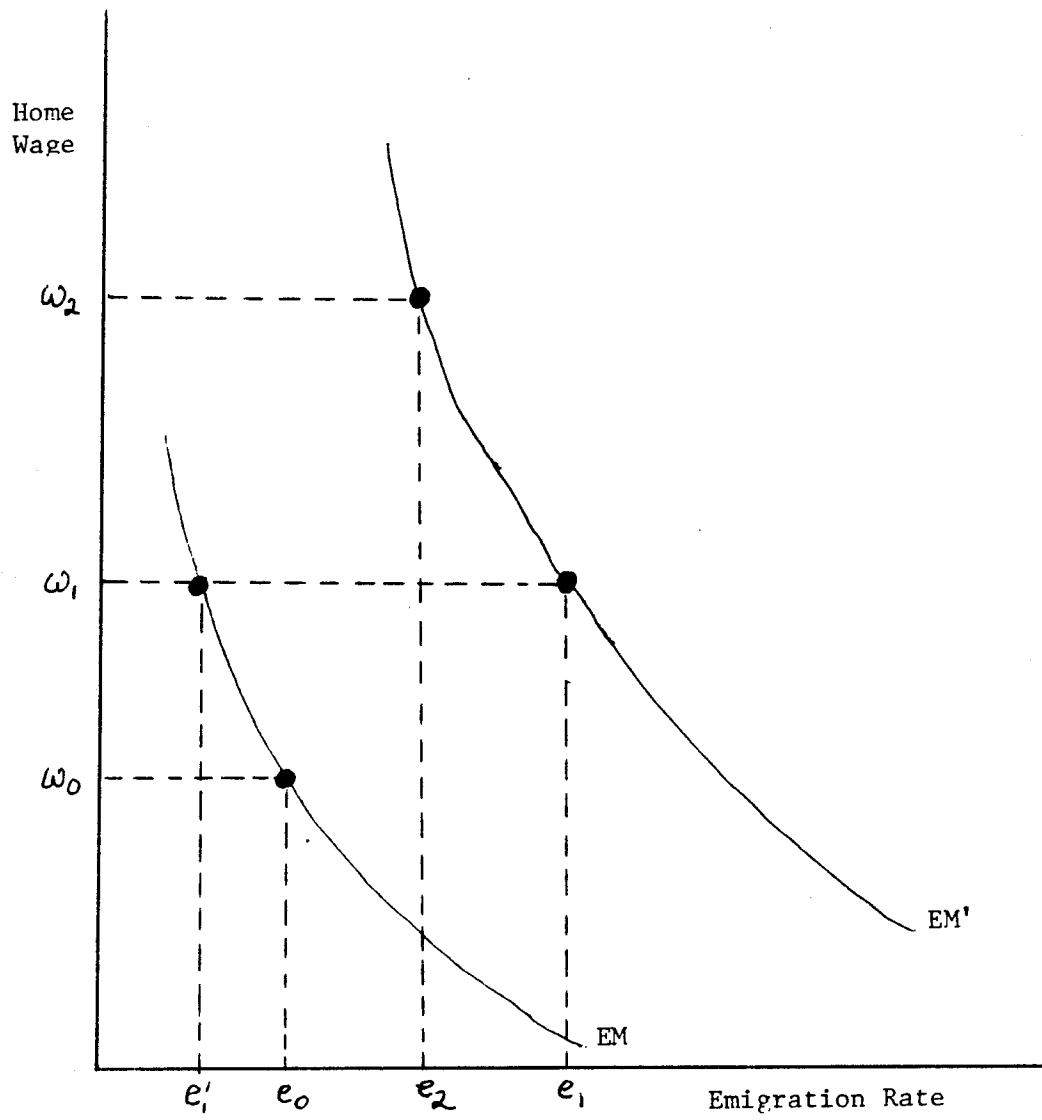


Figure 1  
Stylized Emigration Responses

Figure 2  
Gross Emigration 1870-1913  
Italy, Portugal and Spain

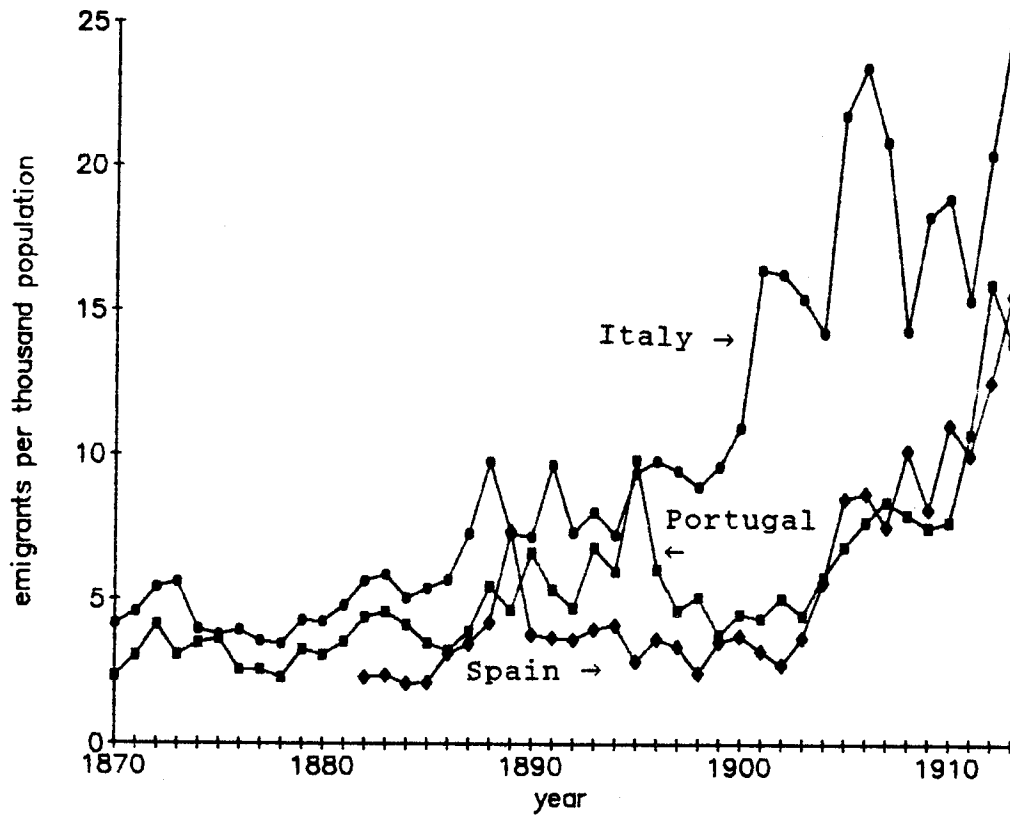


Table 1

**Home Real Wage Relative to Destination Real Wage  
for the Latin Countries 1870-1913  
(percent)**

Home/Destination	1870	1890	1913
<b>Italy relative to:</b>			
USA	22	24	33
Argentina	41	60	60
Germany	43	46	60
<b>Spain relative to:</b>			
USA	30	34	30
Argentina	57	86	54
<b>Portugal relative to:</b>			
USA	27	28	23
Argentina	51	71	42

**Notes.** The figures for Italy, Spain, the USA, Argentina and Germany are from Williamson (1992, Table A2). They refer to purchasing-power-parity deflated urban unskilled wage rates. The figures for Portugal are from Appendix 1.

Table 2

**Gross (G) and Net (N) Emigration from Europe 1850-1913  
(Emigrants per 1000 Population: Decade Averages)**

		1850-9	1860-9	1870-9	1880-9	1890-9	1900-13
Belgium	G	1.90	2.22	2.03	2.18	1.96	2.32
	N	0.66	0.17	-0.93	-1.06	-1.80	-2.88
Denmark	G	-	-	1.97	3.74	2.60	2.80
	N	-	-	1.95	3.68	2.55	2.58
France	G	-	0.12	0.16	0.29	0.18	0.15
	N	-	0.11	0.09	0.19	0.11	0.01
Germany	G	1.80	1.61	1.35	2.91	1.18	0.43
	N	-	1.61	1.35	2.89	1.12	-2.45
Great Britain	G	4.38	2.47	3.87	5.71	3.92	7.08
	N	-	1.29	1.52	3.23	0.93	3.31
Ireland	G	18.99	15.16	11.28	16.04	9.70	7.93
	N	-	-	-	-	-	-
Italy	G	-	-	4.29	6.09	8.65	17.97
	N	-	-	-	-	6.78	13.01
Netherlands	G	0.50	1.67	2.66	4.06	4.62	5.36
	N	-	-	0.10	0.81	1.16	0.31
Norway	G	-	-	4.33	10.16	4.56	7.15
	N	-	-	-	-	-	-
Portugal	G	-	-	2.91	3.79	5.04	5.67
	N	-	-	-	-	-	-
Spain	G	-	-	-	3.91	4.63	6.70
	N	-	-	-	0.98	0.42	2.50
Sweden	G	0.51	2.52	2.96	8.25	5.32	4.49
	N	-	-	-	7.30	3.77	2.93

**Source:** With the exception of Portugal, the data is taken from Hatton and Williamson (1992, Tabel 1). The Portuguese data is taken from Appendix 1 below.

Table 3

## Explaining Late 19th Century European Emigration

Variable	Equation (1)	Equation (2)	Equation (3)	Equation (4)
Constant	-0.39* (1.84)	-0.35* (1.67)	-0.38* (1.73)	-0.39* (1.70)
AGSM	-0.22 (0.62)	-0.48 (1.45)	-0.56* (1.67)	-0.55 (1.47)
RNI	+0.029*** (2.824)	+0.026** (2.497)	+0.026** (2.479)	+0.027** (2.505)
LRRW	-0.47** (2.09)	-0.59*** (2.81)	-0.68*** (2.93)	-0.66** (2.48)
MST	+0.012** (2.377)	+0.010** (2.068)	+0.012** (2.308)	+0.011** (2.081)
LGMIGR	+0.39** (2.28)	+0.47*** (2.82)	+0.43** (2.55)	+0.48*** (2.82)
BEL	+0.25 (1.40)	+0.32* (1.85)	+0.37** (2.01)	+0.36* (1.79)
ITA	+0.66*** (4.41)			
POR	+0.29* (1.81)			
SPA	+0.49** (2.36)			
LAT		0.49*** (3.93)	-6.89 (0.12)	+0.70 (1.45)
LAT*LRRW			+3.20 (0.10)	
LAT*LRRW2			-0.32 (0.08)	
LAT*LRRW				+0.25 (0.43)
$\bar{R}^2$	.73	.71	.72	.71
Mean GMIGR	.50	.50	.50	.50
N	48	48	48	48
Residual Sum of Squares	1.70	1.90	1.79	1.89
RESET	.71	.13	1.13	.30

Notes. \* = significant at 10%  
 \*\* = significant at 5%  
 \*\*\* = significant at 10%



Table 4

## Sources of Changing Emigration Rates, 1890s-1900s

Country	(1) Predicted Change in Emigration Rate	(3) Due To:			
		(2) $\hat{\beta}_x * \Delta RNI$	(3) $\hat{\beta}_x * \Delta AGSM$	(4) $\hat{\beta}_x * \Delta LRRW$	(5) $\hat{\beta}_x * \Delta MST$
Italy	+0.0350	+0.1305	+0.0079	-0.1304	+0.0270
Spain	+0.2802	-0.0340	+0.0711	+0.2102	+0.0330
Portugal	+0.2526	+0.1663	+0.0082	+0.0512	+0.0269
Sweden	-0.0845	-0.0140	+0.0619	-0.1579	+0.0255
Denmark	-0.1517	-0.0500	+0.0181	+0.0633	-0.0204
Great Britain	+0.0110	+0.0369	-0.0098	-0.1879	+0.0091

Notes. The predicted values in col. (1) refer to the change in gross emigration rates between 1890-99 and 1900-13, and they are derived by summing the four entries in cols. (2)-(5). The  $\hat{\beta}_x$  in cols. (2)-(5) refer to the estimated coefficients in Table 3, col. 2., evaluated at their long run values (e.g., each divided by one minus the coefficient on the lagged dependent variable). The  $\Delta X$  refer to changes in each explanatory variable also between 1890-99 and 1900-1913.

Table 5

**Time Series Regressions: Portugal, Spain, Italy**  
**Dependent Variable: Emigrants per thousand population**

	(1) Portugal 1871-1913	(2) Spain To Americas	(3) 1883-1913 To Other	(4) Italy 1877-1913 To Americas	(5) To Europe
Constant	-2.68 (1.14)	0.83 (1.14)	0.01 (0.02)	-23.57* (2.02)	1.22 (0.91)
Changes in Foreign Activity	4.73 (1.28)	9.95*** (2.76)	-0.95 (0.20)	16.06** (2.45)	4.38 (1.14)
Foreign Activity (t-1)	7.81*** (4.54)	5.89*** (2.93)	12.38*** (3.08)	8.36* (2.00)	-0.23 (0.07)
Domestic Activity (t-1)	-4.77 (1.70)	-10.37* (1.96)	2.47 (0.54)	-5.17 (1.58)	-1.86** (2.43)
Domestic/Foreign Wage (t-1)	-3.13*** (2.43)	-3.61** (2.39)	-1.40 (0.83)	-5.75** (2.18)	-0.15 (0.07)
Lagged Migration Rate	0.36** (2.24)	0.32* (1.96)	0.92** (2.49)	0.36* (2.05)	0.60*** (3.81)
Time	0.16*** (3.43)	-	-	-	-
Time from 1895	-0.17* (1.88)	-	-	0.19* (1.74)	0.15** (2.28)
R <sup>2</sup>	0.86	0.85	0.42	0.83	0.95
DW	2.17	2.44	1.53	1.95	1.72
RSS	49.51	35.54	25.28	103.66	9.24
LM(1)	1.31	3.75	0.45	0.14	1.74
RESET	3.61	0.62	17.55	2.42	0.26

Notes. See Table 3.

## APPENDIX 1: PORTUGUESE DATA SOURCES FOR TABLE 3

### Gross Emigration

Total annual Portuguese emigration is taken from Baganha (1990, Table IV:III, pp. 213-4), adjusted for clandestine emigrants.

### Population

Population estimates are needed to construct gross emigration rates, and we take them from Baganha (1990, Table IV:III, pp. 213-4). These are based on census dates, and the intercensal annual observations are constructed assuming constant rates of population growth for each intercensal period.

### Nominal Wage Rates

A nominal urban wage rate index was constructed from Justino (n.d., p. 22). Justino's own nominal urban wage index is a simple average across all of his series documenting urban wage rates, where his sample varies from period to period. The series we constructed uses instead his series I, J, M and N, employment activities that seemed more appropriate for the urban unskilled. Furthermore, averages were calculated only across those series covering the same time period. These annual averages within periods were then linked across periods using three year averages.

### Price Deflators

Nunes, Mata and Valerio (1989, pp. 321-2) constructed a "surrogate cost of living index" (SCOL) using underlying data from Justino (1986). There were several possible alternatives to using the SCOL. For example, Nunes, Mata and Valerio (1980, Table 1) also report a GDP deflator estimated from the SCOL assuming a constant elasticity between the two 1833-1981. To take another example, Justino (n.d., p. 24) himself includes a general price index, but this apparently includes both industrial and agricultural intermediate

products. We favor the SCOL index.

#### Real Wage Rates

Real wage rates were calculated by deflating our nominal urban unskilled wage index by SCOL. In order to make comparative statements about similar workers in similar jobs in Portugal and emigrant destinations, we searched unsuccessfully for such data for some benchmark year. Failing this, we instead simply assumed that the 1905 real wage rate for the urban unskilled was the same in Portugal as in Spain (47% of the British wage: Williamson, 1992). The Portuguese real wage series was then re-indexed setting 1905 = 47.

#### Rate of Natural Increase

The rates of natural increase (lagged twenty years) were calculated using the Baganha population and emigration data. First, the change in population over a decade was calculated. Second, the sum of emigration over the decade was then added to the change in population to generate a raw figure for natural increase. The figure was then divided by the mid-decade population to construct the decadal rate of increase.

#### Agricultural Share of the Labor Force

Since there is no data on the agricultural share of the labor force prior to 1890, estimates were derived based on regressions reported in Crafts (1984). First, per capita real GDP from Nunes, Mata and Valerio (1989, Table 1) was converted to 1970 US dollars by utilizing the Kravis et al. estimates of Portuguese per capita GDP of \$1432.21 (Kravis et al., 1978). Estimates of the agricultural share of the labor force were then generated by inserting the log per capita real GDP (1970 \$) and log population into Crafts' fitted equation (Crafts, 1984, Table 3, AGLAB including British, French and Russian dummies). The estimates generated by this method are close to those of Mitchell (1978, Table B1, p. 58) for the years 1890, 1900 and 1910. The annual

estimates generated by this method were then averaged over the decades.

#### Stocks of Portuguese Migrants Abroad

Benchmark Brazil Stocks. The benchmark figures for the Portuguese-born in Brazil were based on the Brazilian census for 1872 and 1920, along with the partial census returns for 1890 and 1906. For the 1872 census, we use the figure for all Portuguese-born in "do Imperio Brazil". An all-Brazil figure for the Portuguese-born is also reported in the 1920 census. While similar figures are not reported in the incomplete 1890 and 1906 censuses, they do report such figures for the Distrito Federal. We therefore assumed that the same proportion of Portuguese-born lived in the Distrito Federal in 1890 as in 1872, and in 1906 as in 1920. This made it possible to construct estimates of the Portuguese-born in Brazil for 1890 and 1906.

Benchmark US Stocks. There are two alternative sources for the benchmark Portuguese-born. The first source is from the Historical Statistics (US Department of Commerce, 1975, Series C264, p. 117), which gives such figures for each census year from 1860 to 1920. The second source is Baganha (1990, p. 307) which appears to include the sizable Portuguese-born in Hawaii. We use Baganha.

Emigrant Stock Time Series. For both Brazil and the US, we first calculated the difference in Portuguese-born stocks between census benchmarks. Then we calculate the sum of annual emigrant flow to each destination. The difference between any two benchmark stocks was then divided by the total flow between the two dates to capture the effects of return migration. This ratio was multiplied by the annual emigrant flow and then added to the preceding year's stock to generate an annual Portuguese-born stock time series. The two countries were then added to generate the "total" stock of Portuguese emigrants abroad.

## APPENDIX 2: LATIN COUNTRY DATA SOURCES FOR TABLE 5

Emigration Rates. For Italy, the series for gross emigration is from Ferenczi and Willcox (1929). The series for Portugal is taken from Appendix 1, and includes an adjustment for clandestine emigration. The series for Spain is taken from Sanchez-Alonso (1990, p. 168-70), which use immigration estimates from destination countries to revise the official emigration data. All three series are converted to emigration rates (per thousand) by dividing through by the population series for the respective countries which are interpolated from census benchmarks reported in Mitchell (1978, pp. 5-7).

Domestic Activity. These are calculated as deviations of the log of industrial production from a linear trend fitted for the years 1870-1913. The sources for the industrial production series are: for Italy, Fenoaltea (1983); for Spain, Carreras (1987); and for Portugal, Reis (1986).

Foreign Activity. These are calculated as deviations of production indices from logarithmic trends and then weighted to reflect the composition of the different emigrant streams. North American activity is represented by the Frickey index of U. S. industrial production (U.S. Department of Commerce, 1976) and South American activity by an index of Brazilian real GDP from Mitchell (1983, p. 898). Activity of receiving countries in Europe is represented by the industrial production indices for France and Germany reported in Mitchell (1978, p. 411). The weights are: for Portugal, 0.9 Brazil and 0.1 USA; for migration from Spain to the Americas, Brazil only; for migration from Spain elsewhere, France only; for migration from Italy to the Americas, 0.55 Brazil and 0.45 USA; and for migration from Italy to other European countries, 0.49 France and 0.51 Germany.

Relative Wages. These series are all for unskilled urban wages adjusted

for purchasing power parity, and, except for Portugal, they are taken from Williamson (1992). The Portuguese real unskilled urban wage is described in Appendix 1. In each case, the relative wage is constructed as a weighted average of logs of the foreign wage series minus the log of the home wage series. The North American wage is represented by the USA, South American by Argentina, and the European receiving countries by France and Germany. The weights for foreign wage rates are as follows: for Portugal, 0.9 Argentina and 0.1 USA; for migration from Spain to the Americas, Argentina only; for migration from Spain elsewhere, France only; for migration from Italy to the Americas, 0.55 Argentina and 0.45 USA; and for migration from Italy to the rest of Europe, 0.49 France and 0.51 Germany. These weights, like those for the activity indices above, are based on the shares of migrants to different regions in the 1890s.

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