

Chapter 4

What Drove European Mass Emigration?

About 60 million Europeans set sail for the resource abundant and labor scarce New World in the century following 1820. The overwhelming majority of these arrived as immigrants in the Americas. While the United States was the dominant destination, there were significant flows to South America later in the century, led by Argentina and Brazil, and to Canada after the turn of the century. A small but persistent stream also linked the United Kingdom to Australia, New Zealand and South Africa. As we pointed out in Chapter 2, European intercontinental emigration averaged about 300,000 per annum in the middle three decades (after the Irish famine); the figures more than doubled in the last two decades; and they rose to over a million per annum after the turn of the century. The European sources also underwent dramatic change. The dominant emigration stream in the first half of the century was the United Kingdom followed by Germany. A rising tide of Scandinavian and other northwest European emigrants joined these streams by mid century. All of these came to be called the “old” emigrants, but they were joined by the “new” south and east Europeans in the 1880s. These new emigrants accounted for most of the rising emigrant tide in the late 19th century. First they came from Italy, Spain and Portugal, but after the 1890s the tide included Austria-Hungary, Russia and Poland.

As we noted in the previous chapter, many moved to escape religious or political persecution, and others did so in convict chains. But most moved to escape European poverty, and they did it using family resources, without government assistance, restriction or, in more modern terminology, ‘guestworker’ permission.¹ As the technology of

transport and communication improved, the costs and uncertainty of migration fell, and overseas migration came within reach of an increasing share of the European population for whom the move offered the most gain. European famine and revolution may have helped push the first great mass migration in the 1840s, but it was the underlying economic and demographic labor market fundamentals that made each subsequent surge bigger than the next up to World War I.

If the only purpose of this chapter were to explain why so many Europeans left for the New World in an era when state policy was but a modest barrier, it would be very short indeed. To quote a somewhat simplistic overgeneralization by Nobel-laureate Robert Lucas:

The eighteenth and nineteenth century histories of the Americas [and] Australia [show] the ability of even simple neo-classical models to account for important economic events. If we ... treat labor as the mobile factor and land as immobile, we obtain a model that predicts exactly the immigration flows that occurred and for exactly the reason -- factor price differentials -- that motivated these historical flows. Though this simple deterministic model abstracts from considerations of risk and many other elements that surely played a role in actual migration decisions, this abstraction is evidently not a fatal one. (Lucas 1988: 6)

But this chapter deals with many more questions than the critical one raised by Lucas. Why the variety in intensity? Emigration rates ranged from a massive 50 or more per thousand per decade from countries like Ireland and Norway to a mere 2 per thousand from France (Table 4.1). Why the variety in trends? The Austro-Hungarian, Italian, Portuguese, Polish and Russian rates (the latter two not reproduced in Table 4.1) trend

upward after 1871 while the Danish, German, Irish and Swedish rates trend downward. This chapter will suggest that the variety in European emigration experience can be explained by a common economic framework, rather than by idiosyncratic non-economic factors embedded in country-specific history and culture.

The biggest challenge, however, is to explain why emigration rates were often lowest from the poorest countries, populations which had the most to gain from the move. Similarly, why were emigration rates often lowest for the poorest regions and the poorest households within a given country? Why did emigration rates so often *rise* from low levels as successful economic development took place at home? After all, conventional economic theory would suggest that successful development at home would make the move overseas less attractive, not more attractive. It turns out that these apparently counterintuitive historical trends can be easily explained by a framework that distinguishes between what we call supply-constrained and demand-constrained emigration behavior. Poverty traps generated the supply-constraints, and they mattered. But the trick is to understand how poor Europeans found ways to release themselves from those supply-constrained poverty traps.

Determinants of Emigration

In a pioneering paper published more than four decades ago, Richard Easterlin examined the relationship between European emigration and population growth. If emigration was a true vent for surplus population, he argued, then countries with higher rates of natural increase should have exhibited higher emigration rates, *ceteris paribus*.

Easterlin viewed the rate of natural increase 20 years earlier as a proxy for the current rate of additions to the labor force: thus, "relatively high additions to the labor market would be expected ... to result in labor market slack ... and ... to relatively higher emigration" (Easterlin 1961: 332). Easterlin argued that past demographic events had an indirect influence on present emigration through the home labor supply. However, if previous baby booms really boosted current emigration through their delayed impact on labor supply, then they would be better captured by an index of current labor market conditions, such as the real wage, reflecting the net impact of both labor supply and demand.

There is another way to interpret Easterlin's correlation. If differences in natural increase were driven chiefly by variations in births and infant mortality then it could act as a proxy for the share of the population who would have been in the prime emigration age group twenty years later. Since this age cohort had a much higher propensity to emigrate than those older or younger (see Chapter 5), one might observe higher emigration rates associated with faster lagged natural increase even if real wage gaps between home and abroad remained unchanged. This would offer a *direct* demographic impact on emigration, quite distinct from the *indirect* effect felt through labor markets that Easterlin stressed. 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 *direct* influence of these demographic variables was sufficiently powerful.

No adequate measure of internationally comparable real wage rates was available to Easterlin when he was writing, and he had to make do with crude pre-Angus Maddison

estimates of per capita income. Crippled by lack of adequate data, this important debate lay dormant for about two decades. The appearance of a real wage data base for internationally comparable urban unskilled male occupations made it possible to breathe new life into the debate. These data have three principal advantages over what was available to Easterlin, or, for that matter, even to analysts of modern mass migrations. First, they offer an income measure far more relevant to the decision facing potential migrants. The wage rates were taken from unskilled urban occupations (such as those in the building trades) which were (and are) ubiquitous in all countries, and they were deflated by purchasing-power-parity-adjusted cost of living estimates. Second, since these real wage indices are comparable across time and between countries, the country time series could be pooled to form a panel, something earlier emigration studies were unable to do. Third, since comparable real wage estimates for major destination countries also became available, wage gaps between sending and receiving countries could be constructed to measure the gains from migration.

The rows labeled A in Table 4.2 report the absolute real wage indexed on Britain 1905=100. The rows labeled B report the home real wage as a percent of that in the relevant destination countries. In most cases the destination real wage is a weighted average of the most important receiving countries, including, where relevant, other European countries. The weights are based on the distribution of emigrant flows in the 1890s. The main exception is Spain where the destination wage is represented by Argentina alone.

Row A indicates that real wages were rising strongly everywhere in Europe and the European overseas settlements. Some, like Denmark, Ireland, Norway and Sweden,

were doing especially well, while others, like Belgium, France and Spain, were not. If we compared real wages with emigration rates, the negative relationship would be weak since, with the exception of Ireland, there is no comprehensive evidence of a downward trend in emigration rates. There is at best only a very weak negative correlation between home wages and emigration. Rising real wages at home did not appear to diminish emigration in the late 19th century.

A far better measure of the emigration incentive, however, is the real wage gap between home and potential destination. Except for Belgium, home wages were substantially below destination wages (row B, Table 4.2). Chapter 6 will show that real wages among the current OECD countries converged in the late 19th century and most of that convergence was driven by the gradual erosion in the real wage gap favoring the resource-abundant New World. For some, the convergence was dramatic, a finding confirmed in row B of Table 4.2. Between the 1870s and the early 20th century, Danish real wages rose from about 35 percent to about 57 percent of the United States (the principal destination), a very impressive catch-up over only about three decades. Sweden's real wage catch-up on the United States was even more dramatic, from about 33 to about 56 percent.² But the catch-up was most spectacular in Norway, from 25 to about 51 percent over the same three decades. Ireland sent her emigrants to North America, Australia and Britain, and Irish real wages also enjoyed rapid convergence on real wages in those destinations, from 45 to 56 percent. Dutch convergence on her major destination, the United States, was a little less impressive -- and there was some backsliding from 1900 to 1913 -- but her relative real wages rose from 53 in the 1870s to 60 percent in the 1890s. Similarly, Italian real wages relative to France, Germany, the

United States and Argentina rose from 38 to 46 percent. There were exceptions to the convergence rule. The European industrial leaders -- Britain, France and Germany -- did not join the convergence; Spain underwent a dramatic collapse in home relative to destination wage, from 56 percent in the 1860s to 32 percent in 1900-13; Portuguese relative wages also collapsed, from 36 percent in the 1860s to 24 percent in 1900-13. Despite these (important) exceptions, real wage convergence between emigrant and immigrant countries characterized the period, a trend that was driven chiefly by the convergence of Europe on New World wages.

An inverse correlation between emigration and the wage ratio (home to foreign) is clearly revealed in the raw data for cases like Ireland and Norway. However, over the full intertemporal cross section, the inverse correlation between the wage ratio and the emigration rate is weak, implying that a more comprehensive explanation is needed.

As the introduction to this chapter pointed out, one central stylized fact makes it clear that real wage gaps will not suffice by themselves to explain emigration: during the course of modern economic growth in Europe, country emigration rates rose steeply at first from very low levels, the rise then began to slow down, emigration rates reached a peak, and subsequently they fell off. This stylized fact – an emigration life-cycle if you will -- has emerged from studies of both the time series of aggregate emigration for a number of countries and of regional emigration rates within countries (Gould 1979). It was also used to make predictions about the future of Mexican immigration into America (Massey 1988). Several explanations have been offered for this stylized fact, but we have previously found Figure 4.1 useful to capture it, where movements along some downward-sloping home country emigration function (EM) are isolated from shifts in

that function (Hatton and Williamson 1994b; 1998: Chapter 2). In pre-industrial episodes, we observe low emigration rates (e_0) and low wages (w_0). Industrialization and other events then serve to raise the emigration function to EM' and real wages to w_1 . The shift in EM 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 emigration life-cycle is reproduced in Figure 4.1.

What, then, might account for the rightward shifts in EM during early industrialization and its stability thereafter? The first explanation appeals to the costs of migration. Although there is a strong incentive to flee pre-industrial poverty and rural subsistence, the costs may be prohibitive for most poor laborers. After all, the potential migrant cannot get loans for the move (a classic case of capital market failure), and his current income is too close to subsistence to make it possible to accumulate the necessary savings to invest in some future move. Thus, enormous wage gaps between an industrializing, resource-rich, high-wage country and an agrarian, resource-poor, low-wage country 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 are positively correlated. As industrialization continues, the backlog of potential migrants is slowly 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. This argument has been used to explain the surge in Italian emigration in the late 19th century (Faini and Venturini 1994a).

According to this view, emigration histories should pass through two regimes, the first emigrant supply constrained, and the second emigrant demand constrained, as in Figure 4.2. The emigrant-supply-constrained regime is consistent with the rising emigration and rising home wages, and it can also be made consistent with the downward-sloping EM function in Figure 4.1 by appealing to rightward shifts in that function induced by wage increases. At some point, home wages get high enough so that financial constraints are no longer binding: further increases in the home wage now reduce the emigration rate as the economy moves up a more stable EM function, and emigration experience enters the demand-constrained regime. While this tale of regime switch is plausible, we should remember that it takes no account of changing conditions overseas. If the emigration rate is ever to decline from its peak after the regime switch, the sending region has to begin catching up with the receiving region at some stage on the emigration upswing.

Releasing Supply Constraints on Potential Emigrants

The issue is not whether potential emigrants from subsistence economies were too poor to move, and thus were income constrained: surely that has always been true. The issue instead is whether the constraint was released by rising income at home or by other forces like rising remittances from abroad.

Some scholars have argued that poverty traps prevented the poorest in Ireland from emigrating during the famine of the late 1840s (ÓGráda and O'Rourke 1997). Those poverty traps would be overcome after the famine, even though Ireland did not industrialize: 'chain migration' provided the key that unlocked the supply constraint in Ireland, and it was important in other emigrant countries as well. The idea is that rightward shifts in the EM function in Figure 4.1, or movements up the supply-constrained function in Figure 4.2, can also be driven by the remittances of previous (now prosperous) emigrants who finance the moves of impecunious siblings, kin and friends left behind. As the stock of emigrants abroad increases (and as their earnings catch up with the native born there: see Chapter 5), so too do their remittances, and thus the current emigration rate rises even though the home wage is increasing and the wage gap is falling. The same previous migrants can also, of course, supply room and board for new immigrants as they start their job search. This influence continues as long as potential emigrants find their move financially-constrained. In short, the more important are remittances from emigrants abroad, the less important are income improvements at home. Similarly, the less important are remittances from emigrants abroad, the more important are income improvements at home. If some previous exogenous event, like famine in Ireland, has sent pioneers abroad, it can serve to release the supply-constraint. Income improvements in Ireland wouldn't matter as much. If not, like Italy, then the supply-constraint would be binding and income improvements at home would help release it.

There is certainly a lot of evidence relating to chain migration and to the impact of friends and relatives abroad. The influence of letters containing information about

prospects in destination countries 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 traveling 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: 191; Hvidt 1975: 129). Such evidence clearly argues for the case that past emigration encourages present emigration -- what economists call persistence or path dependence, and what historians and sociologists call the friends and relatives effect.

The important historical point is that persistence is likely to matter in accounting for the variety in late 19th century European emigration experience. Events in the past -- like famines, pogroms and revolutions -- are likely to have a potent influence on emigration in the present, even after those events have disappeared from the memory of current generations. Low French emigration in the 1890s may have had its source in the revolution-induced economic reforms a century before, just as high Irish emigration in the 1890s may have had its source in the potato famine a half century before. Persistence and path dependence also imply that labor markets in the Atlantic economy were getting better integrated through time, an evolution towards true global labor markets that must have been reinforced by the decline in transport costs.

Finally, what about the influence of industrialization and structural transformation? In many qualitative accounts of European emigration, the whole set of changes that accompany industrialization are said to influence attitudes towards

emigration. The importance of industrialization in raising labor mobility has been stressed by Massey (1988) to account for late 20th century south-north migrations where industrialization reduces attachment to the land and raises the frequency of wage labor. The combination of more commercialized agriculture, more consolidated land holdings, diminished small holdings, the erosion of common rights, and relatively high and rising wages in the booming cities all served to produce a 19th century rural exodus (Williamson 1990). The rise of overseas emigration was correlated with the growth of internal migration and can be seen as part of the same phenomenon (Thomas 1954; Baines 1985). To the extent that migrants from rural areas in Europe became urban workers overseas (or in other European countries), it was simply a rural-urban movement across international boundaries (Thomas 1972).

These, then, are the contending economic and demographic explanations for the European mass emigration.

The Facts

Theory is one thing; fact is another. In previous work, we have explored the theory by incorporating the contending hypotheses in an econometric model that we applied to 19th century European emigration experience (Hatton and Williamson 1994b; 1998: Chapter 3). We explored seven key explanatory variables: the real wage gap between the home country and foreign destinations; the home real wage itself; lagged natural increase to proxy demographic effects; the level of industrialization (measured by the labor force share in agriculture); the stock of previous migrants living abroad (from

the same country); a proxy for declining migration costs (time); and the dependent variable lagged one decade.

To repeat, the wage gap is the real urban unskilled wage rate in the home country relative to a weighted average of those real wages at the relevant destination (Table 4.2). The destination wage varied across emigrant countries to extent that destinations differed, and different destinations reflected linguistic and cultural preferences as well as overt discrimination. In any case, there was segmentation between different migration streams.³ The real wage gap measures the expected income gain from emigration. As we argued above, it is possible that the home wage by itself might also matter if potential migrants were constrained by low incomes. It is an empirical issue as to whether this constraint was released most by real income improvements at home, by a decline in migration costs, or by remittances and in-kind support (room and board during job search abroad) from those who had already made the move.

The rate of natural increase lagged two decades captures the demographic effect. However, since we have already controlled for the *indirect* influence of demographic gluts on home labor markets by including the home wage and the wage gap, the lagged natural increase should now be interpreted as reflecting a glut in the size of the prime emigration age group two decades later, a *direct* demographic influence. Since emigration was more worthwhile in present value terms to young adults, this composition effect should have served to raise the emigration rate for any given wage gap.

The migrant stock variable is intended to capture the friends and relatives effect associated with the assistance given by previous emigrants in the form of better information, pre-paid tickets and lower costs of job search. But it may also reflect the

broader impact of the attractiveness of migrating to an immigrant community with the same language, culture and ethnic background. The lagged dependent variable is also included to test whether chain migration was driven mainly by *recent* emigrants to the host country rather than by all previous emigrants.

Finally, a time trend and a set of country-specific dummy variables are also included.⁴ The time trend is introduced to capture the influence of declining migration costs, whether due to faster passage or falling passenger fares, or both. To capture the possibility that non-economic and non-demographic forces were also significant, country dummies are added.

The only significant country dummies are those for Italy and Spain -- combined into one Latin dummy -- and Belgium. Migration *within* Europe made Latin and Belgian emigration rates higher than international wage gaps suggest should have been the case. None of the other country dummies are significant. Thus, the observed low emigration rates from France and the high emigration rates from Ireland were not due to some deviant cultural behavior, but rather to differences in the economic and demographic fundamentals dictating their emigration experience.

Although the time trend took a positive coefficient as expected, it was not significant. Thus, while the greater part of the variation across countries and through time can be explained by underlying market and demographic fundamentals, declining immigrant transport costs does not appear to be one of them, at least in the late 19th century.⁵ While we do not have the data to test the hypothesis that the (big) decline in transport costs *before* the 1850s made much of the subsequent mass migration possible, Chapter 3 argued that what evidence we do have certainly supports that view.

The real wage gap between source and destination countries had a powerful influence on emigration rates, and in the direction that conventional theory predicts: the higher the real wage at home, the lower the emigration rate. This result confirms the downward sloping emigration function in Figure 4.2.

The paradox of rising emigration coinciding with the convergence between Old World and New World wage rates is largely explained by those demographic and industrialization forces which induced rightward shifts in the emigration function. Demographic forces were a very important part of the shift, but the lagged rate of natural increase *directly* impacted emigration, not simply *indirectly* through an induced glut in home labor supply and thus on home wage rates. The indirect effect that Easterlin stressed is already present in the wage variable, but direct demographic effects were powerful by themselves. It appears that these demographic forces accounted for much of the inter-country variation in emigration rates, as well as movements in emigration rates through time.

What about the hypothesis that the emigration life-cycle might arise from the following: the home wage first rises, the financial constraint is released and the emigration rate rises, but later, as the home wage continues to rise, and the wage gap closes, emigration begins to fall. Stated this boldly, the hypothesis can be rejected: it was relative not absolute home wages that drove emigration from Europe in the late 19th century. But this result does not imply that poverty traps were unimportant in constraining emigration. They were, but for the typical 'old' emigrant country rising wages at home did not play an important role in relaxing those constraints; rather, remittances from increasing numbers of pioneer emigrants abroad played the key role in

relaxing the constraint. However, rising incomes at home *did* play an important role for the ‘new’ emigrant countries for which there were far fewer pioneer emigrants abroad. To see this more clearly, note the stripped-down version of the emigration model reported in Table 4.3. We have already discussed all of the results here except one, the interaction of the migrant stock with the home wage. As predicted, the coefficient is negative and significant. For countries with large emigrant stocks abroad, income growth at home made a weaker contribution to releasing the emigration supply-constraint. For countries with small emigrant stocks abroad, income growth at home mattered far more.

What about persistence? The lagged dependent variable is purged from Table 4.3, but it had an estimated coefficient of 0.4, suggesting that the effects of a once-and-for-all shock such as a famine should have died out almost completely after three decades. The influence of past migrations, manifested by the size of the current emigrant stock, had a much longer-lasting effect, as Table 4.3 shows. Furthermore, the emigrant stock effect was very powerful; for every 1000 previous emigrants still living, 20 more were pulled abroad each year. Irish post-famine experience offers a good illustration of how important this stock effect was in practice: the coefficient on the emigrant stock was twice as big for Ireland than it was for Europe as a whole (Hatton and Williamson 1993). A coefficient of this size implies that the famine-induced emigration of one million could have boosted the Irish post-famine emigration rate by as much as 6 per thousand per annum, and this is in fact exactly the amount by which average post-famine emigration rates exceeded pre-famine rates (13 versus 7: see O’Rourke 1995). The famine made a crucial contribution to high Irish emigration rates long after the late 1840s and early 1850s. In the words of Roy Geary (1935-36: 25, 31)

the great exodus of 1847-1854, in placing vast Irish population across the Atlantic and the Irish Sea which created a powerful magnetic field in which millions of Irish were irresistibly drawn from their native country in subsequent decades, was the fount and origin of Irish emigration and depopulation [The Famine made] migration part of the ordinary life of nearly every family in Ireland ... thus making Irish labour the most mobile in the world and the most free to pursue its best market.

History matters.

We need to add a final word to this summary of the econometric facts dealing with the determinants of the mass migrations before World War I. So far, we have said nothing about migration policy. There are, of course, unexplained residuals in the regressions we have summarized above, and policy may well help account for some of it. The problem, however, is getting good measures of the subsidies and restrictions that played a role, sometimes a powerful role, even in this age of 'free' migration. We save this issue for Chapter 9 where we explore migration policy in detail.

The Stylized Facts of European Emigration

What role did each variable play in contributing to the observed European mass migration life-cycle patterns? Elsewhere we have offered an answer by exploring the product of the estimated coefficients and the changes in the variables themselves. The changing contribution of each variable is shown in Figure 4.3, where each is normalized to zero in the first decade of the emigration cycle.

The long run contribution of direct demographic events to emigration rises up to decade six when it contributes about two per thousand compared to decade one. This was clearly an important source of the upswing in emigration, but it gradually weakened as these countries passed through their demographic transitions. It was assisted by the weaker effects of rising incomes at home which helped release the supply constraint on emigration. This gradually raised emigration rates throughout the emigration cycle, to an extent amounting to one and a half per thousand by decade six. These two forces were enhanced by the cumulative effect of the stock of migrants abroad: the emigrant-stock-abroad effect rose strongly through the first six decades of emigration time, contributing over one and a half per thousand to the annual emigration rate by decade six. Of course, this emigrant-stock-abroad effect was itself the product of economic and demographic fundamentals acting on emigration and reaching far back in time.

These three variables together jointly implied a trend rising strongly at first, but then flattening out and reaching a peak in the eighth decade of emigration time. At the peak, the total contribution of these variables to emigration compared with the starting decade was 4.2 per thousand. Had there been no other forces at work, the predicted emigration profile would have been very different than the actual emigration trends like those demonstrated by Figure 4.1. The difference lies in the strong negative influence of the real wage gap between labor markets. As Figure 4.3 shows, the impact of changes in the home to destination wage ratio was to reduce emigration by over two per thousand by decade eight of emigration time.

It might be helpful to summarize our argument thus far. First, the increasing ratio of home to destination wages reduced emigration rates, confirming conventional theory.

Second, rising incomes at home *increased* the emigration rate by releasing the supply constraint. Third, the rate of natural increase lagged twenty years had a powerful effect on emigration rates. This demographic effect stimulated emigration *directly* by raising the share of the population in the prime emigration age group, rather than only *indirectly* by lowering the domestic wage, raising unemployment, or both. Fourth, there is strong evidence of persistence in these mass migrations. The emigration rate in the previous decade and the stock of previous emigrants living abroad both served to pull many more migrants abroad, and the impact was powerful. Finally, emigration did increase as the proportion of the labor force in agriculture fell (not shown in Figure 4.3), but this effect was never very strong. Thus, it offers only weak support for the argument that industrialization induces increased labor mobility.

The emigration life-cycle identified for so many European countries can be explained by demographic trends, industrialization, real wage convergence, income improvements at home, and chain migration. High rates of natural increase, wage improvements at home and a growing stock of previous emigrants abroad dominated the upswing of the emigration cycle. Thus, early industrialization bred European emigration in the late 19th century, much like that which has been observed for Mexico, Central America, the Middle East and Asia since the 1950s. But European real wages were catching up with New World real wages from mid-century to World War I, and this convergence served to lower emigration rates. When the forces of demographic transition eased off, the forces of convergence began to dominate, aided by the weakening pull of the stock of previous emigrants as their numbers abroad leveled out. When the forces of

the demographic transition reversed, they joined the forces of wage convergence, causing emigration rates to fall sharply, even before World War I and the quotas of the 1920s.

Were the Latins Different?

The Latin countries -- Italy, Portugal and Spain -- were industrial late-comers on the European periphery. They were also late to experience mass emigration.⁶ 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?

Certainly Sir Arthur Lewis thought so. Indeed, he argued that his model of development with immigrant-augmented elastic labor supplies applied well to late 19th century Latin America (Lewis 1954, 1978), and many Latin American scholars agreed. Carlos Diaz-Alejandro wrote that the labor supply in Argentina before 1930 was "perfectly elastic at the going wage (plus some differential) in the industrial centers of Italy and Spain" (1970: 21-2). Nathaniel Leff believed the same was true of Brazil and that elastic labor supplies could account for stable wages in São Paulo and Santos from the 1880s onwards (Leff 1972; 1992: 6). If this version of the elastic labor supply thesis were correct, then Latin emigrants should have been far more responsive to wage gaps between home and abroad compared with the early emigrants from northwest Europe.

If Latin emigrants were more responsive to wage gaps between home and abroad, why were the wage gaps between southern and northern Europe so big? Urban real wages for the unskilled in Italy and Spain were far below those in the United States, Argentina

and Germany in 1870. 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). In the 1870s, Italian wages were only 22 percent of those in the United States, 49 percent of those in Argentina and 42 percent of those in Germany (Table 4.2). In the decade prior to World War I, the Italian figures were 28, 48 and 54 percent, evidence of strong catching up. Spanish wages in the 1870s were only 23 percent of those in the United States and 52 percent of those in Argentina. In the decade prior to World War I, the Spanish figures were 18 and 32 percent, revealing a serious fall back. Portuguese experience was much like that of Spain. These expanding Iberian wage gaps seem to be inconsistent with elastic emigration responses, and contrast with catching up elsewhere.

Why the Latin emigration delay? Since the poorest had the most to gain by a move to higher living standards, one would have expected the Latins to have sought higher wages abroad earlier and faster than the Germans or the British. When they finally did leave *en masse*, why were the Iberian rates so low? These questions implicitly suggest either that Latin migrants behaved differently, or that the Latin economic and demographic environment was different, including the possibility that supply-constraints were more binding.

Recall the argument that potential emigrants in the poorest European countries were so income-constrained by their poverty that they could not afford the move. Poverty was greater in Iberia and Italy, and thus the constraint was more binding. Blanca Sanchez-Alonso (1995: 257, 265) has shown that, when controlling for other influences, Spanish provinces with low agricultural wages did in fact have lower emigration rates in

1888-90 and 1911-13. However, this fact cannot help account for the significant acceleration in Spanish emigration since economic failure in Iberia (Molinas and Prados 1989) did not produce any significant wage increase. In Italy, however, both wage increases at home (Faini and Venturini 1994a, 1994b) *and* remittances from abroad helped release the constraint on emigration, especially the latter. It was environment, not behavior, which made the Latins different. Furthermore, Sanchez-Alonso (1998) has stressed the role that policy played in creating an even poorer emigration environment in Spain. While the rest of the world stuck with the gold standard, Spain depreciated the peseta (and raised tariffs on cereals) so that Spanish agriculture could compete with foreign imports in the domestic market. This policy served to raise the demand for unskilled labor at home and reduced emigration push. In short, trade and emigration were complements. Chapter 8 will see whether this proposition can be generalized to the Atlantic economy as a whole, or whether it was a Spanish eccentricity.

Is it true that Latin labor supply to the New World was more elastic than was true of the rest of Europe? The hypothesis has been soundly rejected (Hatton and Williamson 1994a; 1998: Chp. 3; Taylor 1994): Latin emigrants were no more responsive to wage gaps between home and abroad than was true of other European emigrants. It is simply not true that the Latin economies in the late 19th century had more elastic emigrant labor supplies than the rest of Europe. The history of European mass emigration before World War I seems to seriously damage the argument that Latin American development took place under uniquely elastic labor supplies.

Since the Latin emigrants responded to their economic and demographic environment pretty much like the rest of Europe, it must have been the environment that

they left behind which was different. The typical northern European patterns are illustrated by Sweden which was on the downside of its emigration cycle after the 1890s, having reached peak emigration rates earlier. The decline in the predicted gross emigration rate for Sweden is explained entirely by two forces: the decline in the rate of natural increase two decades previously and the spectacular catching up of real wages (Hatton and Williamson 1998: Table 3.5). Very different economic and demographic forces were at work in the late-comer Latin countries. True, 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, an 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). If emigrant-inducing demographic forces were absent in Spain after the 1890s, why the rise in Spanish emigration rates? The answer seems to lie largely with economic failure at home. The wage gap between Spain and destination countries widened at the end of the century (Table 4.2), and this event explains almost the entire surge in Spanish emigration. The same was true of Portugal, although the failure at home was not nearly as great. In contrast, Italian wages were catching up with those in destination countries -- Argentina, Germany and the United States -- and that wage success muted the surge in Italian emigration by partially offsetting those powerful emigrant-inducing demographic forces.

For all three Latin countries, there were additional fundamentals that they shared and which served to contribute to the surge in emigration, especially rising migrant

populations abroad. Nonetheless, what really made the Latin countries different after the 1890s was delayed demographic transition and economic failure at home. Oddly enough, economic failure at home also helps explain British experience. British emigration rose to a peak in the 1880s, falling thereafter, thus obeying an emigration life-cycle that was repeated by so many countries in 19th century Europe. However, British emigration departed from this standard life-cycle pattern after the 1890s: 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.

A European Model of Mass Emigration Emerges

The forces underlying the European mass migrations are now much clearer. In the early phases of emigration and modern development, the positive impact of the demographic transition, industrialization and the increasing number of previous emigrants abroad outweighed the negative impact of real wage catch up. Thus, even though European real wages were slowly catching up on real wages in more labor scarce destinations, emigration rates surged. But as demographic transition forces petered out, as the rate of industrialization slowed down, and as the emigrant stock abroad began to level out, real wage convergence between labor markets at home and abroad increasingly dominated events. The continued fall in the wage gap between home and destination areas finally caused emigration rates to drop off. The fall in emigration rates accelerated on the downswing as direct demographic forces now joined these long run labor market effects, that is, as the young adult cohort -- the cohort most responsive to labor market

forces -- declined in relative importance. Our guess is that these forces would have stemmed the European mass migration tide soon after World War I, making the American quotas and the disappearance of immigrant subsidies in Argentina, Australia, Brazil, Canada and elsewhere overseas, at least partially redundant.

This story about the evolution of a true global labor market in the 19th century Atlantic economy is, however, only one quarter told. Chapter 5 adds the second quarter: how did the immigrants do in the destination countries? Chapter 6 adds the third quarter: what impact did the mass migration have on convergence between countries and inequality within countries? Chapter 8 will add the final quarter: was there a policy backlash?

When to Move? Emigration Cycles

So far we have explored European emigration over the long run, abstracting from business cycles, long swings and episodic shocks. In fact, annual emigration rates were highly volatile, often rising or falling by a half or even three quarters in a year or two, only to recover again a few years later. Figure 4.4 displays the annual time series of gross emigration for the UK and the three Scandinavian countries, sending regions that had high absolute emigration rates and correspondingly large annual fluctuations. How do we explain this instability?

Following the pioneering studies of Jerome (1926) and Thomas (1941), a large literature has debated whether push or pull forces were the most important determinants of emigration. The debate reached no consensus when it blossomed in the 1970s: pull

from abroad mattered in some studies while push at home mattered in others (Gould 1979). Furthermore, the debate explored whether variations in real wage rates or job opportunities mattered most: when both variables were included, job opportunities often dominated and especially job opportunities in the destination country. Yet it is hard to believe that migrants made decisions based only on conditions at home, or only on conditions abroad. Emigration decisions must have been based on some comparison, however approximate, between the two. Similarly, while cyclical conditions clearly mattered in the timing of migration, it is hard to believe that wage rates did not matter as well.

The earlier emigration studies often lacked a coherent economic model of the migration decision, thus making their results difficult to interpret. More recent approaches have been based on a model in which potential migrants base their decision on the comparison of future expected income streams at home and abroad (Hatton 1995), where expected income is simply the wage multiplied by the probability of employment (Todaro 1969). Because migrants are risk-averse, and because greater uncertainty attaches to the probability of employment than to the wage rate, the former takes a larger weight in the migration function.

Estimates on annual time series for gross emigration for the UK between 1870 and 1813 strongly support these theoretical priors (Hatton 1995; Hatton and Williamson 1998: Chp.4). Wage rates *and* unemployment rates, both at home *and* abroad, all mattered in the way theory predicts. Thus, a permanent ten percent rise in the foreign to home wage ratio raised the emigration rate by 1.9 to 2.4 per thousand population, a result reassuringly similar to that obtained in the long run analysis. The effect of a 10 percent

rise in the foreign employment rate (e.g. a fall in the unemployment rate from 10 percent to 1 percent) raised the emigration rate in the long run by between 3.7 to 4.4 per thousand, larger than the effect of an equivalent wage increase and reflecting migrant risk aversion. Changes in the home employment rate had an effect similar to that of the home wage -- a 10 percent rise reduced emigration by about 2 per thousand. Finally, the migrant stock, which is also included in the model, had an even more powerful effect than in the cross-country analysis.⁷

Thus, most of the migration volatility is explained by the volatility in employment rates and labor supply dynamics. When these effects are excluded, predicted emigration patterns over time are much smoother. For example, volatility in the Scandinavian countries is reduced by up to half when we abstract from these short run influences. Why do cyclical factors matter so much? Given that long-distance migrations are based on the comparison of future expected lifetime earnings, one might have thought that short run changes, quickly reversed, would have little effect. One reason they had such a profound effect may be because the time horizon for the emigrants intending to return was short and hence cyclical conditions mattered far more. A second reason relates to the option value of waiting. While it might have been worth emigrating today even though unemployment was high at the destination, it would be better still to wait a year or two until labor market conditions improved. Hence emigrants timed their moves in order to maximize the life cycle benefits overall.

Pogroms and Ethnic Cleansing: Were the East European Jews Different?

Throughout this chapter we have asserted that labor market fundamentals dominated the European mass emigrations. What about non-market forces? The traditional literature points to what it thinks is the best historical example of such forces – the flight of Jewish migrants from eastern Europe in the wake of the pogroms. We do not disagree with the position that the *intensity* of Jewish emigration can be explained in large part by persecution. And intense it was. As Leah Platt Boustan (2003: 3) has recently pointed out, net emigration rates of the Jews from Russia reached 18.3 per thousand in 1900 when Italian net emigration rates were 13 per thousand. Furthermore, the Jewish net emigration rate was bigger in 1900-1913 (19.7 per thousand) than it was even for the Irish in 1850-1859 after the Great Famine (19 per thousand). However, by rejecting economics and the role of markets, the traditional literature creates two unnecessary puzzles for itself (Boustan 2003: 4-5). First, why did the Jews wait until 1881 to emigrate in large numbers while discrimination had been prevalent throughout the 19th century, and while the 1871 pogroms in Odessa had been even more violent? Second, if ethnic cleansing was the dominant force, why does the pattern of Jewish emigration correlate so well with that from the rest of the European periphery (“other” in Figure 4.5)? There is a less-developed economic tradition in the literature that starts with Simon Kuznets (1975), and it helps erase the puzzles. This tradition was re-visited with Andrew Godley’s recent study (2001) which argued that the Jewish emigration to New York and London was economically motivated. The economic explanation was brought up to date with new data by Boustan, who shows that the timing of Jewish emigration from 1886 to 1913 can be explained by a market-oriented model (like the one used above in this chapter) just as effectively as can be the Irish and Italian emigrations.

Labor market fundamentals drove the mass migration during the first global century even for times and places where persecution, violence and ethnic cleansing were so malignant.

Endnotes Chapter 4

¹ Australia and Brazil offer good counterexamples. Both went through periods when generous subsidies were used to encourage immigration. To a lesser but still significant extent, the same was true of Argentina and Canada. Chapter 8 will have far more to say about these issues.

² Note that Table 4.2, row B, reports Swedish figures of 36.7 and 59.9 for the 1870s and 1900-13, a bit different than the figures of 33 and 56 reported in the text. The explanation, of course, is that not all Swedes went to the United States, which is the comparison reported in the text. To repeat, Table 4.2, row B, reports the country wage relative to a weighted average of all destination regions for that country.

³ Taylor (1994) offers detailed evidence of this segmentation, and its impact on real wage convergence and divergence in the Atlantic economy was profound. While migration from Europe to the New World certainly closed the gap between the two, it also served to widen the gap between Latin America and North America.

⁴ The share of the male labor force in agriculture was also included to serve as an inverse proxy for the level of industrialization, the expectation being that agrarian societies had lower mobility and emigration rates. It was not significant.

⁵ A recent paper has argued that shipping cartels choked off emigration from northwest European ports, but only after 1909, pretty much at the end of the first global century (Deltas, Sicotte and Tomczak 2004).

⁶ We stress the word “mass” since Iberians had been going to Latin America since 1492. However, and as we noted in Chapter 3, the Spanish emigrant flow was only 2,500 per year in the three centuries before 1800 – a trickle (Sánchez-Albornoz 1994: 36).

⁷ The long run effect of an increase of 1000 in the migrant stock is to draw a further 80-90 migrants abroad each year. This is much larger than the effect obtained from cross country estimation and is probably the result of using annual rather than decade average data.