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20 The figures for Portugal are not strictly comparable with those of the two other countries. These latter cover all trade, and are classified according to the GATT classification. The Portuguese data cover only 75 per cent of trade, and use a somewhat different classification (for instance, oil is included among manufactures instead of among primary products). Last but not least, in Portugal since 1892 wheat-growing was protected by a system of regulated markets, while duties were levied mainly for fiscal reasons (Reis 1992).

# 11 What slowed down the mass emigration from Spain before World War II?

A comparison with Italy

Blanca Sánchez-Alonso

## Mass migration from Spain?

This chapter compares Italy and Spain during the years 1880-1914 in order to examine a potential and major obstacle to a greater international integration of the Spanish economy. In particular it enquires why emigration from Spain was so low at the end of the nineteenth century compared to other European countries such as Italy, the largest supplier of emigrants in southern Europe. Spanish historiography suggests that one of the major impediments to the mobility of Spanish labour was the tariff imposed on agriculture. In contrast, this chapter takes the view that the tariff on wheat exercised positive effects on external emigration, which is not a surprising result if the Spanish economy of the late nineteenth century operated as predicted by the Heckscher-Ohlin model and the Stolper-Samuelson theorem. However, when the effect of a currency depreciation is added to the already high cost of movement for potential emigrants from Spain, the low outmigration rate at the end of the nineteenth century is virtually explained. Currency depreciation at the end of the nineteenth century and early twentieth century, actively discouraged Spanish external emigration, something that did not happen in the Italian case. The calculations presented here show that in the absence of depreciation, Spanish emigration could have been almost 60 per cent higher during the period 1892–1905. The difference is significant and, because of "chains" that these potential emigrants might have developed, it accounts in great part for the differences between Spain and Italy in labour emigration. Such effects operated because Spanish emigration at the end of the nineteenth century was income-constrained. Many potential emigrants could not afford the costs of external migration. Hence, the importance of pioneer migrants to help finance the move and start-up costs overseas for subsequent emigrants.

It is notable that Italian historiography has hardly debated the effects of the agrarian tariffs on emigration, but Italy imposed tariffs as Spain did in the late nineteenth century and a comparison between the countries might, therefore, be illuminating. Italy took advantage of an evolving global economy which was entirely friendly to labour emigration, while Spain lost the

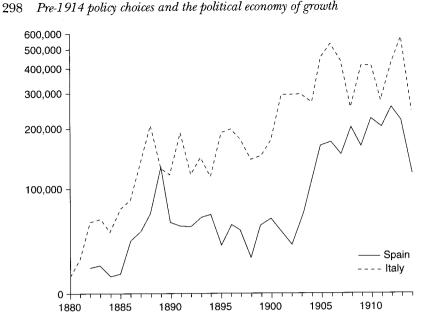


Figure 11.1 Gross emigration from Spain and Italy, 1880–1914.

potential economic benefits derivable from a higher rate of external emigration. In the absence of the depreciation of the peseta, the Spanish and Italian emigration rates would have been very similar over the last decade of the nineteenth century.

The next two sections discuss the effects of the late-nineteenth-century agricultural depression on labour mobility and briefly review the literature, both historical and theoretical, on the effects of tariffs on labour mobility. The third section discusses the effects of currency depreciation on emigration. In the fourth section the hypotheses of this chapter are tested econometrically for both countries. Conclusions are included in a short final section.

# Emigration and protection for agriculture

As the integration of the international economy occurred from the 1870s onwards, movement of capital and labour between the Old and the New World increased. Competition from the New World primary producers (especially in cereals) had a strong impact on European agriculture (Bairoch 1976b: 48–56). Unable to compete with the New World, European agriculture entered a period of depression and structural crisis in the late nineteenth century. One of its effects was massive emigration. When we compare the emigration trends of Spain and Italy during the period 1880–1914 interesting similarities and differences can be observed between these two classical cases of emigration.

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Table 11.1 Rates of gross emigration: Spain and Italy, 1882–1914 (per thousand population)

	1882–1891	1892–1905	1906–1914	
Spain	3.4	3.9	9.5	
Italy	3.8	6.6	11.2	

Sources:

For Spain, Sánchez-Alonso (1995: Appendix A.3).

For Italy, Rosoli (1978).

For example, there are two similar periods in both series (Figure 11.1): the late 1880s which exhibit a rising trend, and the years 1904–13, which witnessed a more sharply rising trend and was the period when emigration from Spain and Italy peaked. But Spain was different from Italy in the 1890s and the early 1900s: the Spanish series fell while Italian emigration started to boom (Table 11.1). Spanish emigration rates remained low and stable between 1892 and 1905, while Italian emigration almost doubled in relation to the previous period (Table 11.1). It has been argued that Spanish emigration levels were low during the 1890s because the Baring crisis had a strong negative impact on Argentina, the main country of destination, and Spain's colonial war against Cuba also discouraged emigration. But Argentina was a common destination for both Italians and Spaniards, and Italian emigration recovered much faster after the Baring crisis (Ford 1962). Furthermore, Spanish emigration to Cuba had been relatively low before the revolution and only became significant after independence and during the sugar boom of the first decade of the twentieth century (Sánchez-Alonso 1995: Ch. 4).

In comparative and historical perspective the central problem is to explain the stagnation of Spanish emigration in the 1890s and its strong acceleration in the early twentieth century. After all, the 1880s and 1890s included years in which the agrarian depression was felt intensely across European agriculture and when competition from New World grain imports exercised a serious influence on emigration from Europe. Unfortunately, there are very few studies which examine the effects of the depression on agricultural employment in any detail. Agricultural historians tend to agree that the fall in agricultural prices (especially cereals) affected rural employment adversely and the rise in emigration rates in several European countries during the decade of 1881–90 seems to confirm their perception. 4 Nevertheless, the direct impact of the agricultural depression on European emigration is more difficult to establish, because studies of whether the emigrants in the 1880s and 1890s belonged to groups most directly affected by the depression (namely small landowners, tenant farmers or smallholders) are scarce. In the Spanish case, R. Garrabou (1985: 535) refers to "the brutal impact of the crisis in rural society" and points out that, "dispossessed of their

lands and facing a weak demand for their labour, smallholders and tenant farmers had as their only alternative emigration". J. Fontana (1975: 190) also states that "the consequence of the agricultural crisis was the huge rural emigration flow at the beginning of the twentieth century". Spanish emigration grew at an annual rate of 2.1 per cent during the period 1880–1900 and at an extraordinary rate of 11.7 per cent over the years 1900–13. For Italy the figures are 6.6 per cent and 4.7 per cent respectively. Why then was Spanish mass emigration only a twentieth-century phenomenon? Why were the outflows relatively low during the agrarian depression of the late nineteenth century while Italy maintained high rates of emigration during the 1880s and the 1890s?

Faced with a sharp fall in agricultural prices at the end of the nineteenth century, most European governments opted for protection and imposed tariffs on imported agricultural goods, particularly on wheat. The exceptions, Great Britain, Holland, Denmark and Switzerland, continued importing wheat at low prices and shifted their agricultural production into livestock farming and dairy production (O'Rourke 1997b). Spain also opted for protection and the effects of this policy on Spanish agriculture, especially on cereals, has been much debated among Spanish economic historians. Following increases in tariffs (first in 1891, then in 1906 and finally in 1922), the price of Spanish wheat far exceeded world levels. In a period of falling international prices, cultivated area and output for wheat increased in almost all of Spain's agricultural regions (Simpson 1995; GEHR 1980). Around 1910 cereals were 33 per cent of Spanish agricultural final output.<sup>8</sup> According to the historiography, tariffs helped to maintain traditional agriculture, which was inefficient, kept Spanish wheat prices at artificially high levels and retarded structural change within the agricultural sector. The consequences over the long-run growth of Spanish economy were considerable (Prados de la Escosura 1988; Tortella 1994b). Spanish historians have also wondered how Spanish agriculture would have performed without the tariff. According to Tortella,

if the protection on wheat had not been so high, the growing imports of cereals would have caused a decrease in the number of wheat farmers, weeding out the less efficient,

and he continues,

the absence of tariffs would undoubtedly have forced peasants and landowners to switch to crops other than cereals .... and a massive exodus of farmers to the urban centres and to foreign countries would have followed.<sup>9</sup>

Prados de la Escosura has also pointed out that policies for the protection of cereals resulted in an inefficient allocation of resources and help to explain the persistently high share of the labour force in Spanish agriculture over time. <sup>10</sup>

Recently, James Simpson (1997) has developed a different view and argued that tariffs were not sufficient in themselves to explain the poor performance of Spanish agriculture. Farmers were slow to switch resources out of cereals, not so much because of tariffs, but rather because of the limited opportunities for the export of alternative crops, especially for olive oil and wine. Although, in his view, the rural exodus was determined by factors other than the tariffs, Simpson does not deny that without protection rural emigration could have been higher, but suggests that the impact of policy on Spain's agricultural performance has been exaggerated. However, neither the consensus view that tariffs slowed down the rural exodus nor critics of that view (such as Simpson) have formulated an explicit model of their critique of agrarian protectionism in Spain or tested it econometrically.

Protectionist policies as a response to falling agricultural prices in the international market were not limited to Spain. Italy is another example of the many countries in Europe adopting new tariffs at the end of the nineteenth century. Although there are many similarities between the two countries, differences concerning the level of protection in the Italian economy and its effects on economic development are also quite remarkable (Estevadeodal 1997). Italian historiography has also paid less attention to the protectionists' policies on agriculture and the potential effects on labour mobility. Debates and controversies (if any), concentrate mainly on the effects of protection in the industrial sector, especially in the steel and cotton industries. Gerschenkron (1962: 81) remarked that Italian industrialization could have been more dynamic if a more rational tariff policy in the industrial sector had been carried out. He deemed the duty on wheat harmful to industrialization as it unnecessarily increased the price of a basic wage good, and regarded tariffs as "one of the obstacles in the road of the Italian industrialization", a view shared by Fenoaltea (1978). Italian historiography has basically criticized not so much a protectionist policy in order to promote industrial development, but the kind of protection Italy had and the way tariffs were applied. Toniolo (1988: 231) states that the economic history of Italy, namely its industrial development, would not have been essentially different with a more liberal tariff policy; Italian tariff policy has also its supporters such as Zamagni (1990). Federico and Tena (1998) have recently shown that Italy had low levels of aggregate protection which, in any case, had more impact on primary products than on industrial ones. The protection on wheat and steel products was higher than average, but duties on other manufactures were low. Trade policy seems to have been inspired by the pressing need for fiscal revenue as much as by the desire to protect the income of landowners, or by the aim of fostering industrialization. The tariff imposed on wheat in Italy was raised following the 1887 tariff and, according to Federico's (1984) estimates, ensuring a protection of 33–38 per cent of the

average import price in Italy. The price to pay was probably high but difficult to quantify (Federico 1994).

The effects of protection on agriculture, especially the consequences for rural exodus, have hardly been studied in the Italian case. Regarding the 1887 tariff and its effects on agriculture, Galassi and Cohen (1992: 145) remarked, in agreement with some of the opinions expressed for the Spanish case, that "the tariff provoked a misallocation of resources; these were allocated more to wheat production than it would have been without the tariff and wheat prices were higher than would have been otherwise". As their data show, the amount of land dedicated to cereals increased after the tariff, although to a lesser extent than in the case of Spain. Federico considers that the optimal policy would have been a combination of a free cereals import policy and some form of compensation for wheat producers (maybe a tax reduction). A temporary tariff would have been a second best. 11 In any case, Italian agriculture showed greater dynamism than Spain's. Farmers switched more quickly to crops other than cereals and there was an increase of fruit and citrus production (51 per cent increase between 1884 and 1909-13). Vegetable and industrial products also grew 145 per cent in the same period. <sup>12</sup> In relation to the effects of tariffs on labour mobility, Zamagni suggests that, without tariffs, rural exodus, which had already involved large numbers of the population, would have imposed unbearable social costs for Italian society (Zamagni 1990: Ch. 2).

Fenoaltea (1993) has focused on the effects of the agrarian protectionism for Italian economic development from a new perspective. 13 According to Fenoaltea, it is surprising how little attention Italian historiography has paid to the dazio sul grano, because, he thinks, if one has to blame a protectionist policy for the slow industrial and economic growth in Italy, it should be the agrarian tariff and not the peculiarities of the industrial tariffs. Taking the Ricardian model as a starting point, Fenoaltea develops an alternative model based on the assumption that capital and labour are mobile both in the domestic and in the international market. If factors of production are just mobile in the national market, an agrarian tariff would displace them from industry to agriculture, cutting down their real income. If, on the contrary, capital and labour are mobile both in the domestic and the international market, as was the case of Italy at the turn of the century, they would be less prone to bear a decrease in their real income and would fly overseas; the result is lower employment in agriculture, a higher exodus from industry and a net loss of resources towards the international market. Protection of cereals altered the structure of relative prices in Italy in favour of agriculture and increased the cost of labour for industry so, in the end, a decrease in marginal productivity reduced the demand for labour both in industry and in agriculture. Thus Fenoaltea maintains the hypothesis, but without any empirical testing, that one of the main reasons for the high level of Italian emigration in the early twentieth century was the tariff on grain. In Fenoaltea's words: "The tariff on cereals could have prevented not the,

inevitable, rural exodus but the development of alternative activities; instead of blocking peasant migratory movement, it could have redirected them abroad."14

In any case, Italian historiography has paid little attention to the effects of agrarian protection on labour mobility. Fenoaltea's article is the exception and there are various reasons for that. First, industrial development in Italy from 1890 to World War I was remarkable and greater than Spain's, in spite of regional differences between the north and the south. Second, given the high rates of Italian emigration between 1880 and 1913, one of the highest in Europe, it seems rather pointless to wonder about the effects of more potential emigrants from Italy under free trade. Moreover, emigration in Italy was never considered, either by contemporaries or by historians, a negative fact for Italian economic development, as was frequently the case in Spain. 15 In Italy historians, politicians and contemporaries realized very early that emigration had several positive effects for such a densely populated country. Underemployment and overpopulation have been frequently mentioned as characteristics of Italian agriculture. O'Brien and Toniolo estimated that agricultural production during 1908-11 could have been obtained with only half of the labour force, fully employed, because of the existence of a large group of workers whose marginal productivity was close to zero (O'Brien and Toniolo 1986). Emigrants' remittances also had a positive impact on the Italian balance of payments. In such a context it is hardly surprising that external Italian emigration can be considered as a relief. In Toniolo's view, massive emigration accelerated the rural exodus from agriculture, which would otherwise have been delayed due to weak demand from the urban and industrial centres (Toniolo 1988: 179).

However, most Spanish and Italian historians have an implicit "sectorspecific model" in mind. 16 The basic assumptions of the model are that there are two sectors: agriculture and industry, producing two commodities: food and manufactures. Agriculture produces food using land and labour; industry produces manufactures using capital and labour. Land and capital are factors specific to a particular sector and labour is mobile across sectors. If food is the imported good and its price falls either because of cheaper transportation or production costs (both of which happened in the late nineteenth century), the demand for labour in agriculture decreases and the level of employment in agriculture falls. Labour would then migrate to the industrial sector which would benefit from low wages due to an increase in labour supply. Industry is better off and capitalists gain because their wage costs fall and their profits rise. Thus, through migration Spanish economic growth could have proceeded more rapidly.<sup>17</sup> On the contrary, tariffs would reduce migration from agriculture to urban centres or abroad. In this model free trade means a loss for landowners because their rents fall. For this reason, the majority of European landowners, especially cereal producers, lobbied for an agrarian tariff and were against free trade. The "sector-specific model" clearly predicts a conflict between land and capital because free

trade has an uneven impact on returns to different factors of production. Capitalists should have become free traders. Though that happened in Britain it did not in the cases of Italy or Spain where, according to historiography, protectionist alliances of industrialists and landowners dominated the making of commercial policy in the late nineteenth century. It has been argued that the shape of commercial policy in different countries depends upon political alignments. Nevertheless, from the perspective of the sector-specific model, there is a paradox in land and capital being protectionist to which I shall return later.

What happens, in turn, to wages and employment in the sector-specific model? The consequence for labour as a result of free trade is not so clear. Labour is mobile across sectors and given free trade will move from agriculture to industry. Wages decline (which is good for industry) but food prices also decline due to cheaper imports (which is good for labour). We have then two different effects: the labour-demand effect and the cost-of-living effect. O'Rourke demonstrated that in Britain the positive cost-of-living effect of cheap grain outweighed the negative labour-demand effect. However, in two protectionist countries, Sweden and France, his model suggests that tariffs offset the impact of cheap cereals on agricultural incomes. Protection turned out to be good for landowners and bad for capital in both countries but had different effects on labour (O'Rourke 1997b: Tables 8 and 9).

It is hard to believe that Spanish and Italian governments tried deliberately to hurt capital and benefit landowners, when they introduced the 1891 and 1887 tariffs respectively, although the landowners were a powerful pressure group at the time in both countries (Varela Ortega 1978; Cardini 1981). Some historians have argued, however, that the Spanish government had no clear view of commercial policy and that the shape of the protectionist regime in Spain was the outcome of pressure groups' activity in an Olsonian way (Fraile 1991). Federico and Tena (1998) suggest that Italian trade policy was shaped more by the need for revenue than by a deliberate policy to foster industrialization, by sectoral interest, or by international relations.

But how can we explain the paradox that Spanish and Italian capitalists demanded protection for industry and conceded protection for agriculture? If instead of thinking about free trade and protection within the framework of the specific-factor or classical Ricardian models, a simple Heckscher–Ohlin model might be a more useful and illuminating approach to the case of protection during 1890–1914.

In the Heckscher–Ohlin model both capital and labour are mobile. In the sector-specific model only labour is mobile, and changes in commodity prices produce effects on rents and wages. <sup>19</sup> The crucial assumption here is the *intensity* of factors used to produce food or manufactures. The Heckscher–Ohlin model can be briefly summarized. First, patterns of trade reflect the relative endowment of productive factors. Thus, relatively labour-abundant countries tend to export labour-intensive commodities, and relatively capital-scarce countries tend to import capital-intensive commodities.

Second, free trade tends to equalize commodity prices among countries and also tends to equalize wages and rents in the home country with those abroad. This is the so called "factor-price-equalization theorem". What matters for Spanish and Italian economic history is the Heckscher–Ohlin model insight that commodity trade can serve as a substitute for factor mobility. In other words, international trade and international labour migrations are partial substitutes.

Although the Heckscher–Ohlin model has been criticized on empirical grounds, from Leontief onwards, economic historians have shown recently that for the late nineteenth century and early twentieth century the model is useful for the explanation of world trade patterns. The model also accounts for trends in relative factor prices over the decades before World War I (O'Rourke and Williamson 1994; O'Rourke, Taylor and Williamson 1996). By opening up new regions of the international economy to trade and settlement, new technologies (especially steamships and railways) altered relative factor endowments around the world. For example, Europe was transformed, relative to the rest of the world, from having a relative abundance to having a relative scarcity of land.

An important extension to the Heckscher-Ohlin model was the Stolper-Samuelson theorem which predicts that "any interference that drives up the local import price must unambiguously benefit the productive factor used intensively in producing the import competing good" (Stolper and Samuelson 1941: 68). Thus, protection will benefit owners of factors of production in which (relative to the rest of the world) a given society is poorly endowed, as well as producers who use that scarce factor intensively. Conversely, protection depresses the income of relatively abundant factors of production.<sup>20</sup> European workers, as the abundant factor, should, according to Stolper and Samuelson, have favoured free trade and resisted tariffs. In fact, a majority of Socialist parties in Europe opposed agricultural protection. Furthermore, impediments to trade (for example, a tariff) operate to stimulate factor movements (for example, labour). This is most clearly stated in Mundell's work: "The effect of any trade impediment is to increase the scarcity of the scarce factor and, hence, make more profitable an international redistribution of factors" and therefore, he concludes, "tariffs will stimulate factor movements." (Mundell 1957: 330). Economists generally assume that capital is more mobile than labour, but over the period 1870–1914, we can fairly say that labour was also highly mobile.

If we consider the Spanish and the Italian case in the light of a Heckscher–Ohlin model, land as the relatively scarce factor should have benefited from the introduction of a tariff, and at the same time, we would expect increased levels of protection to be *positively* related to labour outflow.<sup>22</sup> Thus, it could be the case that the agrarian tariffs stimulated the international migration of labour, the abundant factor in the Spanish and Italian economy. By the end of the nineteenth century Italy and, particularly, Spain were not only economies in which land was relatively scarce but also

economies short of capital. The Heckscher-Ohlin model and the Stolper-Samuelson theorem predict that protection benefits land and capital (the scarce factors) and harms labour (the abundant factor of production). Thus, the paradox of a protectionist alliance between land and capital is resolved. Rogowski's work shows that in countries where both land and capital were the scarce factor and labour the relatively abundant factor, coalitions of capitalists and landowners were likely to arise.<sup>23</sup>

Prados de la Escosura and Tena (1994) have also noticed that, at the turn of the century, Spain's scarce factor (land) benefited from an increased demand flowing from protection as it was the factor used intensively in the import competing sector. Spain and Italy can be represented as labourabundant and land- and capital-scarce countries, relative to the New World. Furthermore, since in theory international trade is a substitute for international factor mobility, it might well be the case that tariffs stimulated the export of the abundant factor: labour. This is an unexpected and counterintuitive implication of widely accepted theories.

To sum up: relations between protection and emigration are not so clear cut as historians suggested. Only by thinking in terms of a specific-factor model and assuming that the negative effect on demand for labour dominated, can an inverse relationship between tariffs and emigration be expected. O'Rourke and Williamson (1997) suggest, however, that in peripheral countries with large agricultural sectors the labour-demand effects might have dominated when cheap imported grain lowered real wages. Yet, even in that case, relations with external emigration are still not clear because lower wages make it difficult to finance the costs of moving abroad. Cheap grain could have stimulated internal migration by lowering real wages, but at the same time, that would have reduced external migration by increasing the cost of long-distance moves. In a Heckscher-Ohlin model, tariffs, as impediments to trade, stimulated international factor mobility. In the context of the late-nineteenth-century international economy, we should expect a direct relation between tariffs and emigration.

# Currency depreciation and emigration: the peculiarities of the Spanish case

Tariffs were not the only phenomenon that contributed to the Spanish economy's isolation from international markets. The Grupo de Estudios de Historia Rural (hereafter, GEHR) have called attention to the role that the depreciation of currency value had on reinforcing the impact of the 1891 tariff, and Cortés Conde also pointed out that between 1890 and 1904, the protection derived from the depreciation of the peseta turned out to be more significant than the impact of the tariff delaying emigration from agriculture (GEHR 1980; Cortés Conde 1988). Thus, it was a combination of the 1891 tariff and currency depreciation, from 1895 till 1905, that reduced external emigration (Sánchez-Alonso 1995: Ch.5).

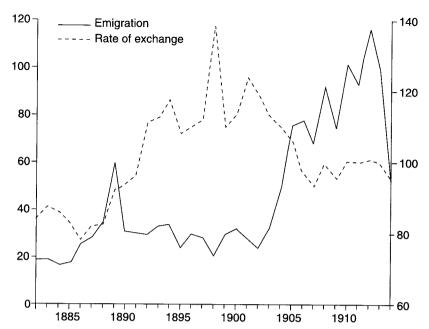


Figure 11.2 Spanish emigration and PTA: real rate of exchange, 1880-1914.

Sources: For emigration, Sánchez-Alonso, Causas de la emigración, Appendix, A-3; For the real rate of exchange, Prados de la Escosura and Tena, Protectionism in Spain.

The external value of the peseta remained stable between 1883 and 1895, in spite of the abandoning of gold convertibility in 1883. 24 While Spain had a de facto fiduciary standard during those years, the government tried hard to maintain a fiscal and monetary discipline similar to what it might have been under the Gold Standard (Tortella 1994b: Ch. 7). Furthermore, and until 1891, the stability of the peseta was also linked to net inflow of foreign capital.<sup>25</sup> Unfortunately, from 1895 (the beginning of the Cuban War) until 1905, the peseta depreciated by approximately 30 per cent, due to a combination of fiscal disorder, monetary expansion and a flexible exchange rate (Martín Aceña 1994). Martín Aceña (1994) suggests that to be off the Gold Standard detached Spain from the world economy, especially from the inflows of international capital investment in the 1880s and 1890s. They resumed after 1904-5 when the peseta's value recovered rapidly following a conversion of the external debt and a fiscal reform.

The combined impact of devaluation and tariffs made imports more expensive from the mid-1890s through the mid-1900s. According to GEHR, before 1890 and after 1906, tariffs played the leading role in protecting Spanish farmers from cheap grain but between 1892 and 1905, devaluation of the peseta was more important. Those years became "a period of absolute protectionism" (GEHR 1980: 98) The effects of depreciation were not

alleviated by differential rates of inflation between Spain and the rest of the world (Prados de la Escosura and Tena 1994). When the peseta recovered after 1904, foreign wheat once again became a serious threat to Spanish farmers and the government raised tariffs in 1906. Figure 11.2 correlates fluctuations of emigration and the rate of exchange. In spite of the new 1906 tariff, emigration reached its peak when the peseta began to recover its value after 1904. This view implies that Spain enjoyed "exchange rate protection" during those years.<sup>26</sup>

Italy experienced a net outflow of foreign capital after 1887 that also provoked a depreciation of the exchange rate of the lira, together with a crisis in the banking sector and a decline in investment and industrial output. This depreciation of the currency was, however, very brief. From 1896, the Italian economy entered a period of significant growth, the so-called "Giolitian boom", which lasted until World War I.<sup>27</sup>

From the theoretical point of view depreciation changes the relative prices of traded goods as a whole, exports and imports, relative to non-tradables. Furthermore, devaluations are supposed to have a clearly expansionary effect on output and employment. Devaluation increases tradables' prices and hence lowers real wages, if nominal wages are sticky. Migration theory predicts that the lower the wage, the higher the emigration, but if emigration is income-constrained the relationship between low wages and low emigration will be positive. The inverted-U-model for external emigration, developed by Hatton and Williamson (1994), predicts a direct relation between low real wages and low levels of emigration. Thus, large wage gaps between home and a foreign country can be consistent with low emigration rates. Previous research has shown that Spanish wages in some regions were so low that they hindered external emigration.<sup>28</sup> Spanish emigration was clearly income-constrained. Up to the 1880s Spanish emigration levels had remained very low, so few pioneers sent remittances or pre-paid tickets to finance the moves of relatives and friends. In Italy, higher levels of emigration from the 1870s created early migratory chains and the process of sending remittances. In the Spanish case, chain migration was mainly a twentiethcentury phenomenon as the process of diffusion took place.

In microeconomic terms, the effects of currency depreciation on individual emigrants are complex. On the one hand, the depreciating home currency benefits immigrants already working in the country of destination and already sending remittances home; it does not benefit future emigrants or previous emigrants who do not intend to return home with savings. Indeed, for potential emigrants still at home, currency depreciation can be viewed as adverse and an obstacle. It clearly increased the price of the steerage ticket, bearing in mind that the main shipping companies fixed their prices in currencies attached to gold.<sup>29</sup> It also lowered the value of emigrants' savings while they searched for new jobs in their countries of destination. Spanish emigration had long been low because low wages provided inadequate surpluses to finance emigration. Currency depreciation made the situation

worse for potential emigrants. Since the peseta depreciated on average nearly 30 per cent between 1892 and 1905, we can assume that emigration costs in those years were 30 per cent higher. Ticket fares from Galicia to the River Plate were around £9.8 in 1880/1889. In current pesetas fares increased, due to depreciation, from 250.9 Ptas in the 1880s to 321 Ptas in 1892/1905.30 For an agricultural worker in Galicia and Asturias (regions of high emigration rates) whose daily wage was around 1.65 Ptas in 1896/97, the cost of the trip, measured in number of working days, increased from 153 working days in 1880/89 to 195 working days in 1892/1905 over a working year of around 250 days.31 This is without making any allowances for lost earnings during the trip (around 20 extra days) and installation costs in the receiving country. 32 Furthermore, the Baring crisis in Argentina (a favoured destination for Spaniards in the late 1880s) led to a marked depreciation of the Argentinean peso during the years 1891-9 (Cortés Conde 1979: 95-100). The depreciation of the peso clearly affected the remittances (including pre-paid tickets) from Argentina. Once the peso recovered, Argentina regained its position as an attractive destination for Spanish emigrants, although then the depreciation of the peseta increased the costs of moving.33

Currency depreciation in late-nineteenth-century Spain could be inversely related to external emigration. At the macro level, depreciation could have had the effect of "exchange-rate protection" and maintained levels of employment in agriculture. Depreciation also lowered real wages and as emigration was income-constrained it lowered migration to the New World, an effect compounded by the depreciation of the Argentine peso in the 1890s.

#### **Econometric tests**

The aim of this section is to test the two main hypotheses outlined above: (a) the tariff protection of agriculture had a negative impact on labour mobility and retarded Spanish emigration, and (b) currency depreciation, by increasing the costs of emigration for potential emigrants, also operated to slow down Spanish emigration at the end of the nineteenth century. The same hypotheses will be tested for the Italian case.

Table 11.2 includes the regression equation for the period 1882-1914 for the Spanish case. Other variables which try to capture major determinants of Spanish emigration have also been included: these relate to the main country of destination, Argentina, as well as Spain.<sup>34</sup> Protection is proxied by the nominal tariff on wheat.<sup>35</sup> Wheat was the most important crop produced by Spanish agriculture, and agriculture was the most important sector of the Spanish economy. Trends in agricultural and industrial protection look very similar. Tena's (1998b) recent work confirms that nominal protection was very similar to effective protection. The coefficient for the real depreciation

Table 11.2 Determinants of Spanish external emigration, 1882-1914

С	-13.750 (-4.828)	
Argentinean Construction Output LCONARG	0.744 (9.155)	
Wage differential Spain–Argentina DRWSPARG3	0.563 (2.195)	
Real depreciation of the Pta LDPRL(-1)	-1.593 (-3.905)	
Nominal wheat protection LPROTRI	1.670 (2.247)	
Agricultural Output LAGSP13	-3.186 (-2.937)	
GDP per head LYPC13	5.846 (3.433)	
AR (1)	-0.306 (-1.651)	

#### Sources:

LMIGRATE from Sánchez-Alonso (1995: Appendix A.3);

LCONARG is the Argentinean construction output. Cortés Conde (1997);

DRWSPARG3 is the real wage differential between Spain and Argentina. Williamson (1996b);

LAGSP13 is Spanish output in agriculture, forestry and fishing;

LYPC13 is Spanish GDP per capita: both from Prados de la Escosura (1997b);

LPROTRI is the log of wheat tariff divided by the wheat price in Spain plus one. GEHR (1980);

LDPRL(-1) is the coefficient of the real depreciation of the peseta, i.e. adjusted by the inflation differential and with a lag of one year. Prados de la Escosura and Tena (1994).

### Notes

R² adjust.	0.828
S.E. regress.	0.222
D.W.	2.063
F_ctat	22.321

Dependent variable is the ratio of transatlantic gross emigration to population (LMIGRATE) All the variables are expressed in natural logarithms.

LCONARG, LDPRL(-1), LAGSP13 and LYPC13 are normalised 1913 = 100. t statistic in brackets

of the peseta is lagged one year because it is assumed that the potential emigrants had a delayed response to currency depreciation.<sup>36</sup>

Several conclusions can be drawn from Table 11.2. Emigration displays a negative and significant relation with the depreciation of the peseta. The protection variable shows also a positive sign although less significant.

Nevertheless a positive sign would not be anticipated by most Spanish historians and would not be predicted by the sector-specific model even though it could be suggested that the tariffs of 1891 and 1906 were not high enough to protect Spanish agriculture from the world market forces.<sup>37</sup>

But the result is predictable in terms of the Heckscher-Ohlin and Stolper-Samuelson models. As elaborated above, these models predict a direct relation between tariffs and emigration. The results set out in Table 11.2 confirm the suggestion that tariffs, by preventing trade, promoted emigration particularly for the years after 1900. An increase in protection would lead to a more than proportional increase in external emigration.

Table 11.2 also makes clear that tariffs exercised a weaker impact on emigration than currency depreciation. Indeed, the depreciation of the peseta proves to be highly significant in explaining the low emigration rates during the period 1891–1904. It turns out to be the distinctive feature of the Spanish economy at the turn of the century compared to economies like Italy.<sup>38</sup> Currency depreciation increased the price of tickets and reduced emigrants' savings while they searched for new jobs in their countries of destination. Currency depreciation was particularly adverse for the majority of potential emigrants, due to low levels of income. Finally, the emigration variable displays rather high elasticities in relation to fluctuations in the international value of the peseta, as is the case for protection.

Economic conditions in Argentina, which absorbed the majority of Spanish emigrants, were also significant. For example, the influence of a variable such as output construction (a sector prone to short-term fluctuations in its demand for unskilled labour force), is highly significant. The results indicated an elasticity of around 0.7 for the estimated Spanish emigration response to fluctuations in construction output in Argentina. Furthermore, the wage differential between Spain and Argentina is not as significant as the construction output although it presents the expected positive sign. It could be that referring to just one of the many countries of destination for Spanish emigrants, the variable does not fully capture the effects of wage differentials on Spanish out-migration. What seems more plausible, however, is the suggestion that the variable reflects the fact that Spanish emigration was income-constrained.<sup>39</sup>

GDP per capita shows a positive and significant relation with external emigration in the equation presented in Table 11.2.40 Fluctuations in agricultural output are inversely correlated with external emigration. Bad conditions in agriculture tended to stimulate emigration because of lack of employment opportunities, while a better situation delayed or avoided emigration by providing agricultural jobs.

In order to quantify the effects of depreciation on emigration I have carried out a simulation exercise based on the counterfactual that the value of the peseta had remained as in 1883, that is, before the abandonment of gold convertibility and with the level of protection remaining at pre-1891 levels. This static simulation exercise generates lower-bound estimates for the

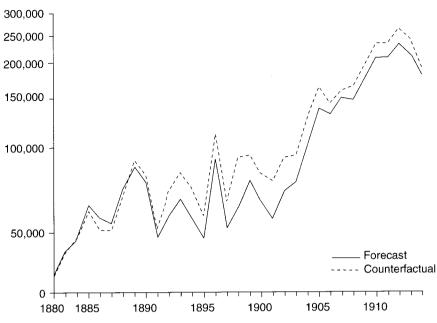


Figure 11.3 Forecast and counterfactual emigration, 1882–1914.

volume of additional emigration that might have taken place in the absence of currency depreciation and with no changes in the tariff.

The peseta fell sharply in 1892–1905, and the values in column 3 of Panel A (Table 11.3) show that, in the absence of depreciation, emigration could have been almost 60 per cent higher. Approximately 600,000 more people might have emigrated, and they represent some 20 per cent of the population between 15–24 years old according to the 1900 population census, the age group most likely to emigrate. Figure 11.3 suggests that far higher emigration rates could have been attained between 1892-1905 in the absence of depreciation. The Spanish gross rate of emigration could have been 5.7 per thousand of population, very similar to the Italian rate over the period 1890–1904 (Table 11.1).

For reasons already elaborated, under the counterfactual scenario of no protection, emigration could have been reduced by about 400,000 during the period 1892–1914. Panel C of Table 11.3 displays emigration under the counterfactual of no depreciation and no increases to levels of protection. Currency depreciation exercised more powerful restraints on emigration than higher tariffs. According to this exercise, Spanish emigration could have been 14.5 per cent higher in the period 1882–1914 and as much as 36.5 per cent higher in the years of rapid depreciation. Nearly half a million more people would have emigrated from 1882–1914 if tariff levels and the external value of the currency had remained stable.

Table 11.3 Counterfactual emigration under no depreciation and no increase in protection after 1882\*

Panel A. Hypothesis of no	depreciation			
	(1) 1882–1914	(2) 1882–1891	(3) 1892—1905	(4) 1906–1914
Per cent change over the forecast value	33.3	1.6	59.3	28.4
Emigration change in absolute terms ('000)	1 093	9	612	472
Panel B. Hypothesis of no	increase in protect	ion		
Per cent change over the forecast value	-13.8	-7.5	-14.2	-15.8
Emigration change in absolute terms ('000)	-453	-45	-146	-261
Panel C. Hypothesis of no	depreciation and	no increase in pr	otection	
Per cent change over the forecast value	14.5	-6.2	36.5	8.3
Emigration change in absolute terms ('000)	478	-37	377	138

#### Note

The counterfactual estimates are, however, a lower-bound conjecture. It is plausible to think that agricultural output per worker and wage rates in Spain would have increased with higher emigration rates. The extra emigrants would also have pulled still more emigrants abroad in their wake due to remittances, pre-paid tickets and chain migration. One of the problems for Spanish economic development in the long run was the slow release of labour from agriculture. Thus, higher external emigration during years of favourable international conditions for international labour mobility could well have had positive effects both on agricultural development and on the overall macroeconomic performance of the Spanish economy. Due to currency depreciation, Spain missed an opportunity to raise its standard of living by emigration. However this is not the sole explanation for low levels of exodus from the countryside. Institutional factors in Spanish agriculture must also be taken into account. Slow urban and industrial development was also and perhaps mainly responsible for the lack of pull from the industrial and urban sectors (Pérez Moreda 1985; Prados 1988).

<sup>\*</sup> Forecast values were computed by applying the equation parameters to the annual values of each independent variable. Counterfactual values were computed by the same procedure, except for the depreciation and protection variables for which the 1883 value was fixed. Spain abandoned gold convertibility in 1883 and adopted a high protectionist tariff in 1891.

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Table 11.4 Determinants of Italian emigration, 1880–1913

	(1)	(2)
С	<b>-7.4</b> 90	-15.181
	(-0.654)	(-8.843)
USA Construction Output	0.629	0.803
LCONUSA1	(1.933)	(4.008)
Wage differential Ital-USA/Argentina	0.829	0.928
DRWUSARG	(2.257)	(2.388)
Nominal depreciation of the Lira	-1.615	
LDPRIT1(-1)	(-0.680)	
Nominal wheat protection	2.048	1.815
LPROTRITA	(3.666)	(4.154)
Italian GDP per head	1.304	1.195
LYPCIT1	(2.419)	(2.344)

#### Sources:

LMIGRATIT from Rosoli (1978, Appendix); LCONUSA1 is the USA construction output Tafunell (1989); DRWUSARG is the real wage differential between Italy and USA and Argentina weighted by the share of Italian emigration to each country. Williamson (1995); LDPRIT1(-1) is the coefficient of the nominal depreciation of the lira with a lag of one year, Fenoaltea (1992); LPROTRITA is the log of wheat tariff divided by the wheat price in Italy plus one. Federico (1984); LYPCIT1 is the Italian GDP per capita from Bardini, Carreras and Lains(1995).

Notes		
R² adjust.	0.88	0.88
S.E. regress.	0.22	0.22
D.W.	2.02	2.10
F-stat.	0.00	0.00

Dependent variable is the ratio of transatlantic gross emigration to population (LMIGRATIT) All the variables are expressed in natural logarithms.

LCONUSA1, LDPRIT1(-1) and LYPCIT1 are normalized 1913 = 100.

t statistic in brackets

Table 11.4 presents the equations carried out for the Italian case. <sup>42</sup> I have tried to select a group of variables similar to the ones used for the Spanish equations. However, in the Italian case, the United States (Construction Output) has been included as the main country of destination for Italian emigrants instead of Argentina, although this country also received a large number of immigrants from Italy. The wage differential between Italy and a weighted average for the USA and Argentina has also been included and it shows, as does construction output in the United States, a significant and

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positive relation with Italian transatlantic emigration. This is an expected result also confirmed by recent research on Italian emigration (Hatton and Williamson 1998: Ch. 6). I have also included the nominal depreciation of the lira, lagged one year as in the Spanish case, although the Italian lira depreciated much less than the Spanish peseta and during a shorter period of time. The depreciation variable included in equation (1) is not significant but it shows a negative relation with external emigration as it happened in the Spanish case. Obviously, since the depreciation in Italy was not as high as in Spain, its effects on emigration must have been smaller. Nevertheless, the Italian case seems to confirm that even a small depreciation of the currency was inversely related to external emigration.

In turn, nominal protection on wheat presents a positive and significant relation to emigration, suggesting that Fenoaltea's interpretation of the duty on grain stimulating emigration might be correct. It also confirms for the Italian case that in a Heckscher–Ohlin framework tariffs can be positively related to the labour-force mobility. Finally, the GDP per head variable shows a positive relation to emigration in the Italian case. Brinley Thomas (1954) suggested in his classic work that emigration rates in Italy were higher during the booming years of the Italian economy and not otherwise as conventional theory predicts. Italians were able to leave the country in large numbers only when conditions at home were favourable and the population could afford the cost of emigration. The same happened in the Spanish case (Table 11.2), since in both countries emigration seems to be income-constrained. Both Faini and Venturini (1994) and Hatton and Williamson (1998: Ch. 6) have also tested emipirically this positive association beteeen GDP and emigration in Italy although with different results.

#### Conclusions

By the eve of World War I, Italy was much more integrated in the international economy than Spain. This chapter has compared Italian and Spanish emigration in order to isolate the potential obstacles to Spain's closer integration into the world economy between 1880–1914. It is focused on international labour mobility and has two central hypotheses: first, protection of agriculture restrained labour emigration particularly in the Spanish case; second, currency depreciation increased the cost of moving abroad and slowed down Spanish emigration in the late nineteenth century.

Spanish historiography regards the protectionist policies adopted and followed from 1891 onwards, as a major source of the slow out-migration from agriculture. But Italy also adopted agricultural protection in the late nineteenth century and Italian emigration reached one of its peaks in those years. Furthermore, Spanish historiography is based upon an implicit sector-specific model and assumes that the negative labour-demand effect dominated; it concludes that relations between tariffs and emigration must have been inverse. If, however, we represent the Spanish economy, and the Italian

economy as well, in the late nineteenth century in terms of the Heckscher–Ohlin model and the Stolper–Samuelson theorem, tariffs impeded trade and stimulated labour mobility. Something similar seems to be happening in Europe at the present time when restrictions on trade imposed by the European Union operate to promote labour migration from the other side of the Mediterranean.

Nevertheless, the most important element in the explanation for the slow emigration from Spain between 1892 and 1905 was not so much the tariff, but the depreciation of Spanish currency. This was the crucial factor differentiating the Spanish and Italian emigration rates in the late nineteenth century. Currency depreciation in Spain was strong and increased the cost of moving for income-constrained potential emigrants. This also seems to be the case for Italy although depreciation of the lira was smaller and therefore its effects were weaker. Unfortunately for Spain, favourable international conditions for intercontinental emigration came to an end with World War I. Econometric calculations suggest that if the peseta had not depreciated Spanish emigration rates would have been 30 per cent higher and similar to Italian rates. These "counterfactual Spanish emigrants" could, in turn, have pulled even more workers across the Atlantic through chain migration, prepaid tickets and remittances. Since the large proportion of labour employed in agriculture is one of the enduring features of Spanish backwardness, higher external emigration could only have exercised positive effects on long-term economic development. Spanish emigrants had to wait until the second age of economic convergence after 1950, when they travelled to destinations within Europe.

#### Notes

I gratefully acknowledge the helpful criticisms and comments of James Simpson, James Foreman-Peck, Agustín Llona and, especially, Patrick O'Brien, Kevin O'Rourke and Jeffrey Williamson. Participants in the Economic History Workshop at the LSE also made useful suggestions. Leandro Prados de la Escosura kindly let me use his unpublished data on Spanish GDP and Jeffrey Williamson his new data base on Spanish real wages. I also acknowledge the comments and suggestions from all the participants at the Conference "Long-Run Economic Change in the Mediterranean Basin" (Istanbul, June 1998). Financial support was provided by Ministerio de Educación y Cultura PF9705253090.

- 1 I am using gross emigration data since the main interest is the trends and fluctuation of emigrants' departures.
- 2 Hatton and Williamson's (1994b: 66) explanation that what really made Spain different after the 1890s was the delayed demographic transition and economic failure at home seems insufficient.
- 6 For the Italian case, Sori (1979); for Portugal, Pereira (1984).
- 4 For the Spanish case, Garrabou (1988) where Italy and Portugal are also included.
- 5 Baines (1985: 205–10) suggests that in England and Wales, the high emigration of the 1880s cannot be related to the agricultural depression, because the majority of the emigrants in those years came not from the rural counties, but from the urban ones.

- 6 Sánchez-Alonso (1995: 140–2). In fact, the rate of gross emigration per thousand population in 1910–13 was 11 for Spain and 11.7 for Italy.
- 7 The coming of the conservative party to power, led by Prime Minister Canovas, imposed a protectionist policy which was to last until the second half of the twentieth century. But even with Canovas' rise to power, protection was not new to the Spanish economy (Serrano Sanz 1987: 140 and *passim*).
- 8 Measured in national currencies and compared to 21 per cent in Italy, 19 per cent in Germany and 22 per cent in France. O'Brien and Prados de la Escosura (1992: Table 3).
- 9 Tortella (1994b: 59). (The translations for all the Spanish quotations are mine.) But, still, one can consider that the migration of labour to the towns in response to a negative agricultural shock would depress urban wages, lowering the incentive to move.
- 10 Prados de la Escosura (1988: 102). However, although it is true that protecting a sector does attract resources from other sectors, this does not necessarily mean that overall employment will rise. It depends on what happen to employment in other sectors, for example, the export sector.
- 11 Federico (1994: 104). Those who defend the tariff in Italy use the same arguments as in the Spanish case: there was no alternative because of the severity of the agricultural depression, and its absence would have created a serious deficit in the balance of payments. Federico himself supported the balance of payments argument in an early work. Federico (1984).
- 12 Cereal output increased 37 per cent in those years (Toniolo 1988: 166).
- 13 Fenoaltea (1993).
- 14 Fenoaltea (1993). My translation.
- 15 In Italy, some politicians and writers spoke against emigration but never with the same intensity as in the Spanish case. See Sánchez-Alonso (1995: Ch. 2).
- 16 Caves, Frankel and Jones (1996: Ch. 6). For a good summary of this model applied to historical events, see O'Rourke (1997).
- 17 The idea is clearly stated in Prados de la Escosura (1988). It follows very much the line of Kindleberger (1967:106) who stated that emigration "is the force, which above all others (rising exports, closer association with the rest of the world, capital investment and foreign aid) has been responsible for the rapid growth of all Mediterranean countries" in the postwar period.
- 18 If food is a sufficiently important part of a worker's budget then real wages increase, if not, they decline. O'Rourke (1997).
- 19 Here, I am following Caves, Frankel and Jones (1996).
- 20 It is important to note that whereas the assumption that countries share identical technologies is crucial for the factor-price-equalization theorem, it is not necessary for the Stolper-Samuelson theorem.
- 22 Land/labour ratios were 6.9 in 1890 and 6.7 in 1910 for Spain compared to 39.2 and 44.1 for the United States in the same years. O'Brien and Prados de la Escosura (1992: Table 3). The ratio of wages to land values was 123.2 in 1890 and 67.5 in 1910 for Spain (1901=100) compared to 84.9 and 115.4 for Britain in the same years (free trader in the Old World) and 103.2 and 64.0 in the same two years for the United States. O'Rourke, Taylor and Williamson (1996: Table 2).
- 23 Rogowski (1984: Ch.1). His model is quite convincing for the German, Italian and Spanish case, but less so for France. France, he says, "is a case where you realized that other things also mattered" (p. 69). This model also predicts class conflict: workers will end up being politically radical and, where much of the labour is rural, demanding an agrarian reform. (Rogowski 1984: 38 and passim). For a much more political-science-oriented model applied to French commercial policy, see Verdier (1994).
- 24 Spain never officially adopted the gold standard. Convertibility of paper money into gold and/or silver was maintained until 1883, when eventually it was suspended. Resumption never took place. Martín Aceña (1994).

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- 25 As shown by a recent estimate of the Spanish balance of payments by Prados de la Escosura (1997a).
- 26 Corden (1981). For the purpose of the present argument, the distinction between currency depreciation and devaluation is irrelevant.
- 27 Toniolo (1988). In the case of Spain, a net outflow of foreign capital has also been confirmed for the 1890s by Prados de la Escosura (1997a).
- 28 Even at the turn of the century an increase in agricultural wages between 1896 and 1908 had a strong direct effect on provincial rates of external emigration. Sánchez Alonso (1995: Table 6.1, 257).
- 29 From the 1880s onwards most of Spain's emigrants were transported by British, German and French companies: Royal Mail Steam Packet, Pacific Steam Navigation Company, Nelson Steam Navigation Company, Hamburg Amerika Line, Nordeustcher Lloyd and Chargeurs Réunis. Only two companies flew the Spanish flag. See Vázquez Gonzalez (1988: 92–3).
- 30 Prices refer to the cheapest fares from Galicia to Buenos Aires (Vázquez Gonzalez 1988: 92–3).
- 31 Daily wages in Sánchez-Alonso (1995: Appendix). Average working days in Vandellós (1925: 119).
- 32 The length of the trip hardly changed (23 to 20 days) between the 1880s and the 1890s (Moya 1998: 38).
- 33 Even during the crisis of the 1890s Argentina remained the major destination for Spanish emigrants. After 1894 Cuba became less attractive because of the war of independence and Brazil and Uruguay continued to be secondary destinations (Sánchez-Alonso 1995: Ch. 4).
- 34 I also introduced a demographic variable, the rate of natural increase of the population lagged 20 years, as it is commonly used, but it was not significant. The same result is to be found with the demographic variable in a cross-section analysis of Spanish regional patterns of emigration in 1911/1913 (Sánchez-Alonso 1995: Ch. 6).
- 35 I also tried nominal average protection, that is, customs revenues as a share of imports, which did not give significant results. It is well known that this is a poor index of protection as it can conceal the prohibitive effects of a tariff.
- 36 Unit Root Tests for the variables in the equation were carried out. In all cases the variables considered are integrated of order one. The Johansen Cointegration Test for the combination of the variables in the equation was also computed accepting the hypothesis that the residuals are cointegrated.
- 37 GEHR (1988: 59–62) has pointed out that, in spite of protection, the grain-producing landowners were forced to make some adjustments facing increasing competition from abroad, although the whole process of agrarian change was delayed.
- 38 Although the Italian lira also depreciated at the end of the nineteenth century, it did so less than the Spanish peseta and during a shorter period of time.
- 39 This appears to be a common feature for Spain and Portugal (O'Rourke and Williamson 1997).
- 40 This hypothesis is also confirmed by the higher coefficient obtained for the GDP per capita variable, reported in this equation, as compared to the one yielded if the variable is introduced in absolute terms.
- 41 The figure would be much higher if we considered only male emigrants in that age group. I acknowledge David Reher for the annual data of population according to sex and age.
- 42 As in Table 11.2, Unit Root Tests for the variables included in the equations were carried out on all the variables and were considered integrated of order one. The Johansen Test for the combination of the variables in both equations was also computed accepting the hypothesis that the residuals are cointegrated.

# Part 6

# Interwar policy choices and the political economy of growth