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Tariff History Lessons from the European Periphery. Protection Intensity and the Infant Industry Argument in Spain and Italy 1870-1930

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Abstract: *»Lehren der Zollgeschichte aus der europäischen Peripherie. Protektionsintensität und das ‚Infant Industry Argument' in Spanien und Italien 1870-1930«*. This paper endeavors to study Spanish protectionism on the Italian mirror. On the assumption that the literature presents both European peripheral countries at a similar stage of development and commercial policy replies to late 19th century economic globalization. Italian tariff policy was much more moderate and influenced by fiscal duties than the Spanish one that enjoined a very high tariffs on the manufacture sector. This paper present by first time a unified data base of effective protection and revealed comparative advantage for both countries and develop a new test based on the infant industry argument. Conclusions emphasize the existence of significant different tariff policies in Spain and Italy between 1870-1930 as a relevant variable in the configuration their respective export manufacture competitiveness and specialization in the long run.

Keywords: European Periphery Protection 1870-1930, Spain and Italy Tariffs, Infant Industry Argument, Revenue and Protective products.

Introduction

The late 19th century is one of the most controversial periods for economic historians to evaluate the consequences of economic policy over the European economic growth. The English free-trade climacteric along with the protectionist strong growth of Germany, USA an others high tariffs New Settlers has often been considered an evidence in support of protectionist arguments. The debate has so far relied mainly on anecdotal evidence on duties or tariff laws, or in best cases in tariffs average crude correlation with growth. Notably Bairoch (1976, 1989, 1996) praise protectionism as instrumental to the development of late XIXth century Continental Europe. Recently positive correlation across countries found between tariffs average and growth during the years of

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return to protection (1870-1913) by O'Rourke (2000), Clemens-Williamson (2001) and Vamvakidis (2002) strengthened the traditional good reputation between protection and growth at the end of XIX century[1].

Theoretical and empirical literature show that in the initial stages of development, and so much so in economies with a small size of their domestic market, protection determines, much more than in developed economies, direction in which resources are allocated, especially in manufactures (Krueger(1998). Commercial strategies, as one of the main institutional intervention on industrial and market structures in the late 19th century, should be a mayor research priority to understand the different growth performance of the European periphery in those years.

Economic theory offers an agreement on the static welfare losses produced by protection on an economy but it does not exist a complete agreement on the size and consequences of the dynamic effects that link protection with efficiency lost in allocation of resources and export competitiveness. One group of economists put the emphasis in the dynamics of economies of scale, learning by doing and technical innovation that sectors protected may develop as a consequence of temporal protection. Improvements in productivity and comparative advantage in the future overcome present protection static welfare losses. Some writers – for example Myrdal (1957) – maintain that this economic conditions apply to most manufacturing industries in less-developed countries, and they believe, therefore, that general protective measures are justified in these economies. This argument is known as the classical "infant industry argument" (see Baldwing (1969)). This interpretation has aroused skeptical reactions on the part of a second group of economist like Jhonson (1970), Krueger(1974)), who remember that the protection policies are more related with the political economy of pressure groups than with the identification of potential export activities by governments. Protection normally encourages more rent seeking than a reduction cost process as an easy way to increase profits. This imply the renounce of competitiveness and as a consequence reduce the possibilities of developing an export sector on the lines of comparative advantage (Balassa (1965) (1977).

This paper endeavors to study Spanish protectionism on the Italian mirror. On the assumption that literature present both European peripheral countries at a similar stage of development and reacted with a similar protectionist reply to late 19th century economic globalization. Italian economy grew faster than its Spanish counterpart at the turn of the century Giolittian period of expansion of the international economy while Spanish economy performed better during the 1920's in a less expansive international context. It seems likely that on the verge of the 1930's both countries still enjoyed a similar per-capita income.

[1] For a critical position on the positive correlation found between tariff average and growth see Irwin (2002a, 2002b) and Tena (2006a).

Nevertheless, competitiveness and specialization of the respective industrial structures were quite different, as the manufacture export performance in the two countries shows since the turn of the century. This paper will emphasize the existence of significant different protection policies in Spain and Italy between 1860-1930 as main influential variable of the different industrial structure and competitiveness performance of both economies.

In the next pages we will study comparatively the Spanish and the Italian structures of protection from the 1877 to 1926 following recent research by Prados-Tena (1994), and Federico and Tena (1998, 1999) and Tena (1999, 2002, 2006b, 2006c) including a new unified data base evidence on Spanish and Italian effective protection and revealed comparative advantage for both countries elaborated for this. The data on prices, quantities and specific duties are taken from Spanish and Italian imports and exports official statistics pooled together in 400 to 500 items following a 4-digit SITC for five bench marks years along this period (1877, 1889, 1897, 1913, 1926). This study is therefore based upon a consistent set of comparable figures for Spain and Italy of nominal protection, effective protection and Revealed Comparative Advantage.

The first section outlines Spanish and Italian trade policy in the context of European tariff history and deals with the controversy about the level and extension of protection in both countries. Section two goes further in the analysis of the quantitative evidence to characterize the Italian and Spanish protectionist as low and fiscal versus high and manufacture respectively. Fiscal products were already important in Italy and manufactures in Spain since the 1870's but this influence seems to be accentuated with the return of protection in both countries in the 1890's. Section three develop a test on the infant industry argument for Spain and Italy which aims at measuring the dynamic effects produced by protection on both economies. It explores the relation between effective protection and comparative advantage developing a simple test based on the correlation ranking position changes on the levels and the growth rates of both variables. The paper concludes that changes in comparative advantage in Spain along the period seems negatively connected in some way with the evolution, characteristic and severity of the commercial policy while evidence found for Italy show a more positive connection. This conclusion, along with other evidence, supports the hypothesis that the Spanish slow industrial growth would be at least as much related with its low capacity to find some lines of comparative advantages inside manufacture sector than with the failure of domestic demand.

1. Tariff histories, tariff averages and structure of protection

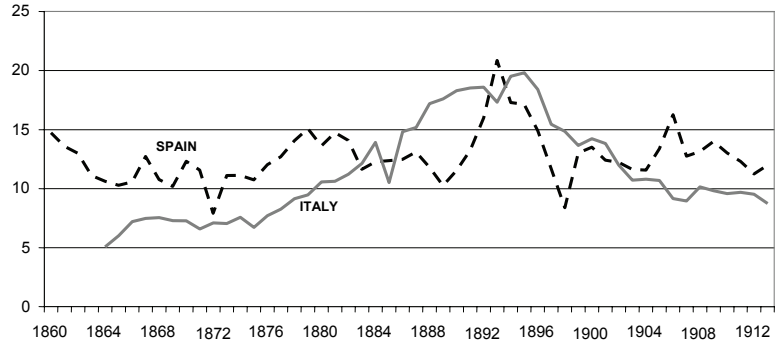
The Spanish and Italian commercial policies histories should be read within the context of the turn-over of protectionism in which most Continental Europe participated in between the second half of the 1870 and the First World War.

The literature on European commercial policies situate the change of direction between free-trade and protection around the second half of the 1870's and the consolidation in this new trend in the 1890's. Through out the twenty years after unification Italy was a free trade country, while Spain entertained a shorter and doubtful free trade period since the second half of the 1860's. Spanish trade barrier at the end of the free trade period was probably between two and three fold higher than the Italian one. The new tariff introduced in Spain for first time in July 1877 was similar to the double tariff that will be adopted by many other European countries in the following years as happened with Italy tariff law of 1878. Italy came from a real free trade protection position, but 1878 tariff law return to protection was even previous to the famous German tariff of 1879, and this contribute to share a similar protectionist reputation. Nevertheless most scholars date the real beginning of protection in Italy with the approval of the new tariff of 1887 and in Spain with the Canovas Law of 1891. Italian 1887 new tariff introduced a new duty on wheat and a new tariff on manufactures that caused an open trade-war with France, then Italy main trading-partner. The 1887 tariff lasted officially more than thirty years with some minor interventions, ad-hoc laws, and by trade treaties. From the second half of the 1890's the level of protection was decreasing as price increase reduced the level of ad-valorem equivalent of the (specific) duties. The Spanish protectionist tariff of 1892 also provoked a tariff war with France and Germany. Besides, the loss of her remaining colonies (Cuba, Philippines and Puerto Rico) in 1898 reduced exports and induced a strong pessimism that led to pressures for increased protectionism which resulted in the new tariff law of 1906. Some minor modifications were introduced in 1912 before the new tariff law of 1922 that spread the number of duties items and increased manufacture protectionism before the general contraction and desintegration of the international economy in the 1930's.

A look at the yearly tariff average (NT measured as a fraction of total tariff revenues on import value) of Figure 1 only partially confirms this conventional wisdom. Protection increased in Italy since the late 1870's but it is not until the late 1880's that it reaches a similar level to Spain with a steady and linear increment until the turn of the century, when the trend inverse initiating a constant reduction of protection until First War World. In the 1920's the index just recuperates the pre-war levels. On the contrary, Spanish level of departure in the 1860s is superior to the Italian one and the return to protection is earlier. Spanish protection seems to be maintained on steady levels from the early 1880's to First War World, with the exception of the clear sharp pick in the early 1890's. In the 1920's protection went through a new sudden increase and clearly exceeded pre-war levels in the second half of the decade. The Spanish index is much more cycle and presents sharp picks and contractions along the series in contrast with the more linear and continuous upward and downward trend of the Italian index. In short: the Italian index represents better the con-

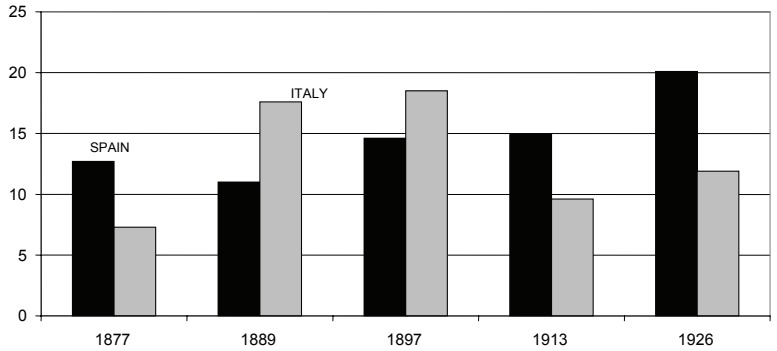
ventional European commercial history of a free trade period followed by a temporal protectionist one, even if it presents a similar level to Spain at least at the turn of the century. On the contrary, the Spanish protectionism index does not fit with the idea of a temporary return to protection and it appears more as a structural cyclical feature of the Spanish economic development from the second half of the 1870. Nevertheless from the second half of the 1880's decade to the first years of the turn of the century Italy would show superior average tariff levels than Spain.

Figure 1
Average Tariff Rates in Spain and Italy 1860-1913



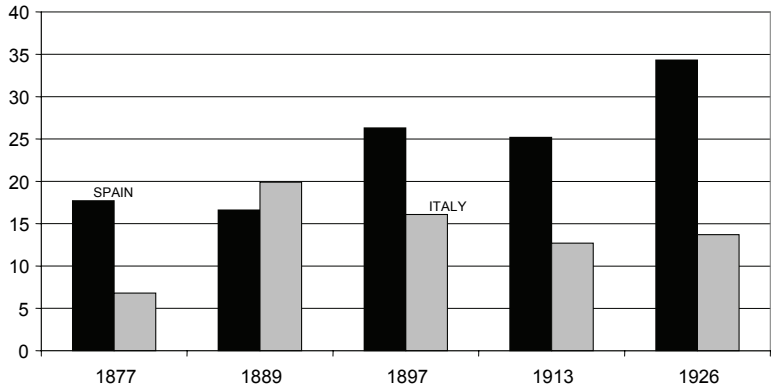
Sources: Tena (1999, 2006a)

Figure 2
Weighted Average Tariff in Spain and Italy, 1877-1926



Sources: Tena (1999, 2006a).

Figure 3
Unweighted Tariff Average in Spain and Italy, 1877-1926



Sources: Tena (1999, 2006a).

Figures 2 and 3 show the different evolution of the weighted (NT) and unweighted (UNT) tariff average respectively for both countries. Italian weighted average has a similar level and evolution than the unweighted average (UNT). On the contrary Spanish conventional NT weighted tariff average has a clear downward bias especially in the last years of the period. The first would show a temporal but severe return to protection and the second a steady high level from the 1870's. The alternative simple average invert this perception and Spain years of return to protection in 1897 and 1913 would shows significant higher levels than Italy, and further more the Spanish steady protectionist evolution would revert in a clearer cyclical upward trend[2].

Table 2 allows for a first approximation on the different extension and structure of protection in Spain and Italy. Tariffs were more concentrated in Spain than in Italy s showed by the differences in the Italian and Spanish coefficients of variations in 1877, 1889 and 1897. Some In general the Italian coefficients double the Spanish ones but causes of this bigger concentration of the Italian tariff in few products may be produced by different causes along the period. In 1877 the Spanish protection level was rather higher than the Italian one, mainly because only a 20 per cent of the Italian imports was significantly protected (>10%) when the Spanish imports with the same protection represented almost

[2] The Board of Trade (1905) offer a result of 76 percent for Spain and 27 percent for Italy as f manufacture tariff average in 1902. This interesting comparative study for the manufacture protection use the composition of British manufacture exports for every country in 1902 as an uniform standard weigh. For other international studies comparing tariff average in this period see Federico Tena (1998) Table A.4 and Table A.5 p.96-97.

a 50%. Furthermore, Italian high-protected imports (>30%) were only 2 percent of total imports (against a 16 per cent in Spain) and concentrated in only 4 products with protection over 50 percent. Furthermore Italian dispersion coefficients are high because the codes distribution free trade and high taxed fiscal products are bigger than in Spain.

Table 2: The structure of protection in Spain and Italy
(Percentage of imports into different segments of nominal tariffs)

	1877	**1889**	**1897**	**1913**	**1926**
Coefficient. Variation SPAIN	1,01	0,87	0,81	0,97	0,81
Coeff. Variation ITALY	2,5	2,1	1,9	1,3	1,2
Tariffs > 10% SPAIN	46%	38%	48%	42%	46%
ITALY	21%	44%	31%	30%	47%
Tariffs > 20% SPAIN	27%	27%	24%	24%	29%
ITALY	12%	30%	20%	20%	26%
Tariffs > 30% SPAIN	16%	5%	15%	17%	16%
ITALY	2%	7%	14%	3%	7%
Tariffs > 50% SPAIN	4%	1%	2%	5%	4%
ITALY	2%	6%	5%	2%	5%
Number of goods >50% SPAIN	6	7	42	22	51
Number of goods >50% ITALY	4	12	11	13	20

Sources: Data base Spain and Italy (see text).

Another interesting exercise is to compare differences and similarities in tariff structures after the respective 1887 and 1891 tariff laws of return to protection. In both cases more than the half of imports got a protection higher than 10 per cent, even if Italy maintains a higher percentage of low protected products. Most of imports in both cases are situated in a tariff interval between 10-50 percent but the Italians are closer to the 20-30-segment percentage and the Spanish to the 30-50-percentage interval. A few products in Italy had protection over 50 percent but they concentrated a high share over total imports. On the contrary, Spain in 1897 had a higher number of products with protection over 50 per cent but with a share in total imports three times lower than in Italy. Generally speaking, the interpretation of this figures (as we shall prove forwards) is that Italian 1889 new tariff was moderate in most of the products imported. Only a reduced number of goods with an important share in import value and low price import elasticity increased protection in 1889 which ex-

plain both high tariff average and high coefficient of dispersion. On the contrary, the 1897 Spanish return of protection was more extensive, tariffs increase affected a higher number of products with lower coefficient of dispersion, which means that tariffs spread on the most significant sectors of the economy.

After the turn of the century the aggregate level of protection in Italy goes down steadily until 1913 while Spain keep the aggregate average at a similar degree than in 1897. As Table 2 shows Italian moderation is possible because of the extension of imports with duties below 10 percent in combination with the additional reduction of the share of imports with duties over 30% and the reduction share of the few fiscal products taxed over 50 per cent. The Spanish general structure of protection in 1913 appears similar to that of 1897, but tariff dispersion increases because of the light increment of both tails in the protection distribution. Products with very low duties and with very high duties increase their share in the total imports following the Italian path. The Spanish average of protection in 1926 is much higher than the Italian one, but both distributions shapes became closer because of a proportional reduction shares of the lowest and highest taxed products in total imports. That means that the central body structure of both distributions appear much similar than in previous periods, even if Italy maintain its imports closer to the (20%-30%) and Spain to the (30%-50%) tariffs intervals.

Next section will try to prove that manufactures lead tariff increases in Spain during the 1890 decade of return to protection. Inside manufactures, consumer goods and its main component the cotton textiles, got the best protective position, even if steel industry was protected too (see Tena (1999, 2006a). On the contrary, Fiscal products headed the protection reaction in Italy, with a moderate industrial reaction leaded by steel heavy industry and some chemicals products (see Federico-Tena (1998)).

2. Two Paths: Moderate and Fiscal versus High and Industrial tariffs

Custom revenues accounted for a sizeable share of total fiscal revenues in Europe and this share increased quite fast after the return to protection from 1880 to 1913 (see Bairoch (1989)). Spanish custom revenue share increase faster than in Italy or France (Germany differences in Central State definitions make this share no comparable) but custom revenues in real terms growth was definitively slower than in the other three mayor Western European Continental Countries. In Italy and Spain until the late 1870's custom revenues accounted around 7 percent of total government revenue. In the next decade, this share would double in Italy while in Spain it only increased one third. The Spanish ratio increased faster in the 1890's than the Italian one but mainly because of a slower growth of the Spanish total government revenues during these years. As prove the costume revenue growth in real absolute terms between the 1870-

1880 and the 1890-1900's decades that in Italy threefold while in Spain only doubled. Actually, around the half of total costume revenue in this three decades in Italy were yield by three products only: sugar, coffee and oil, and in Spain three main revenue products (cod, coffee and oil) yield around 1/5 of total (the share of total "colonials" did not arrive to 1/4).

Table 3: Concentration of Tariff Revenues in Spain and Italy 1877-1926

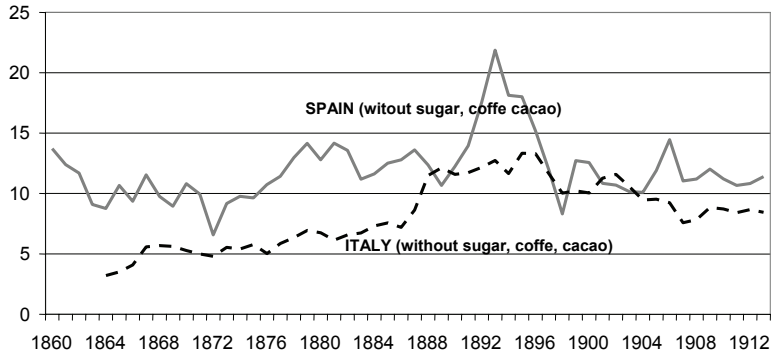
		Three imports goods with higher tariff revenue (Percentage over total tariff revenue) SITC (1) + SITC (2) + SITC (3) = TOTAL	Number of products Summing more than 80% total of total tariff revenue
Spain	1877	0610(11,7%) + 0350(9,0%) + 6543(7,6%) = (28,3%)	47
Italy	1877	0610(25,7%) + 3330(16,3%) + 0711(10,3%) = (52,3%)	9
Spain	1889	3330(8,6%) + 0410(7,5%) + 1124 (7,0 %) = (23,1%)	57
Italy	1889	0610(34,7%) + 0410(25,2%) + 3330(19,4%) = (79,3%)	4
Spain	1897	0411(14,6%) + 3330(10,5%) + 0459(7,7%) = (32,8%)	58
Italy	1897	0610(32,8%) + 3330(16,3%) + 0410(15,3%) = (64,4%)	8
Spain	1913	0711(13,3%) + 0411(8,4%) + 0350(7,8%) = (29,5%)	61
Italy	1913	0410(33,0%) + 0711(10,6%) + 3330(5,2%) = (48,8%)	38
Spain	1926	0711(12,0%) + 3330(8,2%) + 0350(6,6%) = (26,8%)	89
Italy	1926	0410(25,7%) + 0711 (9,3%) + 3341 (8,6%) = (43,6%)	37

Codes number SITC (Standard International Trade Classification): 0350 code; 0410 wheat; 0459 other cereals; 0610 sugar; 0711 Coffee (no roasted); 1124 liquors-alcohol's; 3330 petroleum and oils; 3341 gasoline and refined oils; 6543 wool textiles. Sources: the same than table 2.

Table 3 offers some relevant information about the different protection structure contrasting the tariff revenue concentration of both countries along the analyzed period. Return to protection in both countries coincides with the higher level of tariff revenue concentration in the three main products in the respective years of 1889 and 1897 in both countries, even if differences in concentration are remarkable. Three main tariff revenue products in 1889 Italy concentrated around 80 per cent of total revenue, while in 1897 Spain they would constitute less than 30 per cent. This difference was already present in 1877, but fiscal products leads was determinant to explain return to protection in Italy in 1889. Revenue tariffs were very present also in 1897 but with a

concentration similar to 1877. In the next years before First War World still around thirty products were responsibly of most of tariff revenue. In the Italian case is remarkable the correlation between the ups and downs in revenue concentration and the ups and downs in the level of average tariff. Three main revenue products appear as an important explicative variable of the general trend in total protection average. On the contrary, main revenue products concentration in Spain is much less important and regular along the period and in consequence with no significant influence on the level and trend of average tariff index.

Figure 4
Average Tariffs Rates Without Main Fiscal Produsts in Spain and Italy, 1860-1913



Sources: Spanish and Italian Official Foreign Trade Statistics yearly. Spain total custom and imports with out: code, coffee and oil. Italy total custom and imports without sugar, coffee and oil.

Figure 4 shows quite clearly the relevance of fiscal products in Italy. Without its three main revenue products, the perception of Italian levels and changes in protection are quite different from that showed in Figure 1. Italian free-trade period can be clearly extended from the early 1860's to the implementation of the 1887 tariff law (with no years above 6 per-cent). Italian fiscal duties relevance is noticeable from the end of the 1870's and it influences the significant custom revenues growth of the following years without affecting imports substantially. Protection backlash is clear but much less impressive than in Figure 1, with the highest picks around a 10 per-cent in the second half of the 1890's. Fiscal protection accounted for about three quarters of the rise in total protection from 1877 to 1897 (Federico and Tena 1998, Table1). The contrast between Figures 1 and 4 offers a radical change in the perception of the Italian protection. That's support the proposition that one can not understand the Ital-

ian commercial policy history without taking into account the fiscal side of the issue. In Spain main fiscal duties were imposed after the 1898 Cuba's war, following the fiscal reform of Fernandez Villaverde in 1899, when duties of the so-called "Colonials" increase notably. Nevertheless, as figure 4 show, main tariff revenues would not alter significantly the trend and the level of the Spanish Average tariff level, because of its lower share in total imports showed in Table 3.

Table 4: Mayor components of the "Return to Protection" Spain (1891) and Italy (1887)*

	Primary Products	Wheat	Sugar	Sugar Petrol Coffee	**Semi-manu-factures**	Iron Steel	**Manufac-tures**	Textiles
1877-1897 SPAIN	**34%**	23%	-14%	7%	**11%**	16%	**55%**	45%
1877-1889 ITALY	**62%**	9%	23%	53%	**17%**	7%	**21%**	13%

*Sectoral protection as NT, UNT and RNT simple average (see Tena (1999, 2006a).
Sources: data base Spain (seer text), Italy: Federico Tena (1998). Italy 1877-1889 simple average of NT and UNT because technical absence of RNT in the 1877 year.

Table 4 measures the contribution of a significant group of products and sectors from the 1870's to the total increment of protection after the respective "return to protection" in Spain and Italy. The contribution of 34% of the Spanish primary product sector to the total increment of protection between 1877 to 1897 is computed as the difference between the real increment between both years of total average and the contrafactual of keeping tariffs and value of imports of the sector in 1897 at the same level than in 1877. The mayor components of the "return of protection" in Italy came from the Primary Products tariff increments and especially from the small group of products with clear fiscal intentions. Italian sugar, petroleum and coffee are responsible for more than half of the total protection increment between these two years. On the other side, the Spanish manufacture tariffs would be the main responsible of the Spanish backlash to globalization between 1877 and 1897. Textile goods contribution to protection between these two years was outstanding, representing alone around half of the total tariff increment, followed with less than a quarter by Wheat.

Spain and Italy, as many others countries in Continental Europe had their return to protection at the end of 1880s but evidence showed that the extension, the level and the responsibility of the different sectors appear quite diverse. First, because from the free trade period the Spanish level of protection at least doubles the Italian and manufactures for the first and and primary products were the main components of the tariff structures in the respective countries.

Second, manufacture tariff increase was the main responsible of the Spanish return of protection in 1891, meanwhile, Italian return to protection in 1887 was strongly influenced by a few numbers of products (sugar, coffee and petroleum). These primary products had an especial low import price elasticity that means that when tariff increase imports do not suffer a relevant contraction and in consequence are normally used for fiscal reasons. In the absence of those products tariff average level is reduced to half in practice. Third, after the respective main tariffs laws of 1891 and 1887 Spain shows a cyclical protectionist upward trend meanwhile Italy a cyclical downward until the interwar years (see figure 3). In other words, fiscal products were already important in Italy and manufactures in Spain from the 1870's but this influence seems to be accentuated by the respective main tariff laws of 1887 and 1891 in both countries. In short evidence analyzed above suggest that Italy and Spain followed two different paths of protection from 1870 to 1930[3].

3. Protection and competitiveness: a test to the Infant Industry Argument

This section will explore the relation between effective protection and comparative advantage in Spain and Italy taking into account the evidence and discussion of previous sections. The aim is to offer some evidence on the economic dynamic consequences of the different industrial tariff policy followed by both countries during the years of return to protection. The test, will follow the classical work of Krueger and Tuncer (1982) and the Harrison (1994) comment. It consists in passing the condition of having been protected on infant industry grounds. The necessary (but not sufficient) condition is that cost in (temporarily) protected industries should have decrease over time more quickly than cost in non-protected or less-protected industries. In this work that means that Revealed Comparative Advantage (RCA) in protected sectors should have increased over time more quickly than Revealed Comparative Advantage (RCA) in less protected sectors. A positive answer to the test in which sectors with an increment in the ranking of growth protected sectors experiment also an improvement in the ranking of growth revealed comparative advantage (as a proxy of higher productivity growth), is only a necessary but not sufficient condition of the economic nature of protection. Productivity growth should overcome the accumulated protection welfare losses. On the contrary a negative answer is a sufficient condition for the uneconomic nature of protection and allows us to reject the hypothesis that protection was based on the grounds of the infant industry argument. Effective Protection (EFP) and

[3] On the importance of different elasticity of demand between fiscal and manufacture products and their impact on welfare see O'Rourke (1997).

Revealed Comparative Advantage(RCA) coefficients were estimated by three digits SITC of the industrial sector for our usual benchmark years 1877, 1889, 1897, 1913 and 1926 in Italy and Spain using similar methods (see Federico-Tena (1999) and Tena (2006c). The disaggregated results and the estimated method of the two main variables are shown in Appendix A. Should be noticed here only that the RCA coefficient used in this work RCA= [(Xi-Mi)/(Xi+Mi)]-[Σ(Xi-Mi)/Σ(Xi+Mi)] is a differential coefficient between the relative individual sector net export with the total net export of that year. This coefficient allow in case of competitive devaluation (leaving out the fact that different sector elasticity of demand imply different sector export reply) to reduce the influence of exchange rate distortions on net export sector relative position that were important in Spain during the turn of the century. Also in the Appendix is discussed the influence of lost Cuba, Filipinas y Puerto Rico, on relative net export along the time.

Table 5: Spearman Correlation Coefficients between Industrial Effective Protection Levels and Revealed Comparative Advantage Growth in the Spanish Industry 1877-1926

	RCA77-89	**RCA89-97**	**RCA97-13**	**RCA13-26**
EFP.77	- 0.15 (74)	+0.003 (74)	- 0.172* (75)	- 0.178 * (76)
EFP.89	- 0.061 (73)	- 0.040 (77)	- 0.199* (76)	- 0.164 (76)
EFP.97		- 0.084 (80)	- 0.157 (83)	- 0.315 & (81)
EFP.13			- 0.257 # (94)	- 0.238 # (114)
EFP.26				- 0.007 (117)

Notes: The number of observations is given in parentheses below each correlation coefficient. Effective Protection and Revealed Comparative Advantage for the j sector EFPj= (tj-Σ (aij*ti)/(1-Σaij^)), RCAj= [(Xj-Mj)/(Xj+Mj)]-[Σ(Xj-Mj)/Σ(Xj+Mj)], respectively. The RCA Growth measure is (RCAn –RCAn-1)/RCAn-1. Industrial Sectors are defined at SITC three digit level (only four digit for the textile sector). * Significant at 5%. # Significant at 1%. & Significant at 0.5%.

Table 5 shows the Spearman matrix correlation coefficients between the level in industrial effective protection by sector (EFP) in one year and their respective growth in Revealed Comparative Advantage (RCA) in following years. We use correlative benchmark years in which we have data on both variables (that go between the 117 to 73 sectors in the case of Spain and 41 to 81 for Italy). For instance, the coefficient -0.15 that cross EFP.77 and RCA77-89 shows the ranking correlation coefficient between the industrial sector level of effective protection for 74 sectors ordered in three digits SITC for the year 1877 and the ranking in the growth of revealed comparative advantage of the same sectors between 1877 and 1889. Protection ranking level correlates the ranking of improvement in performance.

If protection induces improvements in productivity the more protected sectors revealed comparative advantage should growth more quickly than the

others, so the Spearman ranking correlation coefficient should be positive. If the correlation coefficient is negative would be because the RCA, of the more protected sectors, increase slower than the others. Because of the expected temporal dynamic effect of infant protection, we will pay a special attention to correlation from one ranking of comparative advantage growth to previous period increment in the ranking of effective protection growth. A positive correlation coefficient will allow us to set up a necessary condition to judge if there were some dynamic factors in the future that may have warranted intervention in the past. For Spain, Table 5 shows every correlation with a negative sign (with the exception of a very low positive coefficient between EFP1877 and RCA89-97). The periods with clearer negative sign are first, the coefficient that correlate the level of protection in 1897 with growth in RCA between 1913 and 1926 (-0.238 and significant at 0.5%) and second the respective for the years EFP1913-RCA1897-1913 and EFP1913-RCA1913-26 (both significant at 1%). On these grounds it is reasonable to argue that in the Spanish case there is a clearer evidence of perverse consequences of protection for competitiveness in the long run than in the other way around. Following Krueger-Tuncer model, Spanish trade regime provided not only welfare losses for the economy in the period implemented but also long run competitiveness losses in main sectors protected. Protection did not allow at all the sort of growth in comparative advantage on which infant industry proponents base their claims for protection[4].

Table 6: Spearman Correlation Coefficients between Industrial Effective Protection Growth and Revealed Comparative Advantage Growth in Spain 1877-1926 (Industry)

	RCA77-89	**RCA89-97**	**RCA97-13**	**RCA13-26**
EFP.77-89	- 0.027 (72)	+0.082 (72)	- 0.037 (73)	+0.028 (74)
EFP.89-97		- 0.108 (77)	- 0.276 &(76)	- 0.425 &(76)
EFP.97-13			+0.064 (83)	+0.130 (81)
EFP.13-26				+0.203 * (114)

Notes: The number of observations is given in parentheses below each correlation coefficient. Variables:EFP (tn-1 – tn) and RCA (tn-1 – tn) growth measure as (EFPn –EFPn-1)/EFPn-1 and (RCAn –RCAn-1)/RCAn-1 respectively. Sectors defined at SITC three digits level. For estimation and disaggregated tables of the Effective protection and Revealed Comparative Advantage sectors see Appendix. RCA= [(Xi-Mi)/(Xi+Mi)]-[Σ(Xi-Mi)/Σ(Xi+Mi)]. * Significant at 5%; # Significant at 1%; & Significant at 0.5%.

[4] A similar result is obtained in a Pardos (1998) recent work that use a General equilibrium model on the incidence of protection during the period 1870-1913 in Spain. This work show that the Spanish export sector absorbed the 80% of the total cost of protection and that this cost was growing along the time (p.92).

Table 6 shows correlation between effective protection and the RCA sectors growth in Spain. This extension of table 5 model pretend to capture the connection between increments in protection and faster improvement in competitiveness in the future. In this case the most relevant result is the significant negative, high and growing correlation coefficients between the years of establishment of the Spanish main tariff protection law 1891 (EFP.89-97) and the consecutive periods of growth of comparative advantage RCA97-13 and RCA13-26 with significant growing correlation coefficients of (-0.28) and (-0.42) respectively. This result suggest that in the period with higher industrial duties increase, the manufacture activities with higher protection increase were those that experienced the lesser growth in comparative advantage in the future, and that this negative correlation was reinforced along the time. On the contrary, positive but not significant signs are founded between the period EFP1897-1913 (when manufactures duties average were declining swiftly, see table1) an RCA13-26 and positive and significant between EFP13-26 and RCA13-26 that would suggest a change in the design of manufacture protection of the 1922 tariff law.

Table 7: Spearman Correlation Coefficients between Industrial Effective Protection and Industrial Revealed Comparative Advantage Growth in Italy 1877-1926

	RCA77-89	**RCA89-97**	**RCA97-13**
EFP.77	+0.050 (40)	+0.121 (44)	+0.327 &(53)
EFP.89	- 0.0482 (47)	+0.055 (58)	+0.333 &(67)
EFP.97		+0.1154(61)	+0.210 * (86)
EFP.13			+0.227 * (91)

Notes: The number of observations is given in parentheses below each correlation coefficient. Variables:EFP (tn-1 – tn) and RCA (tn-1 – tn) growth measure as (EFPn –EFPn-1)/EFPn-1 and (RCAn –RCAn-1)/RCAn-1 respectively. Sectors defined at SITC three digit level. & Significant at 0.5%. * Significant at 5%.

In table 7, on the contrary, Italian industrial effective protection ranking levels shows positive coefficients with RCA growth for every period correlated except one. The first significant coefficient(at 0.5%) is found between EFP1877 and 1897-1913 RCA growth, what means that levels of protection by sector in the free trade period of 1877 has an increasing correlation with the consecutive periods in the same sectors Revealed Comparative Advantage growth. A significant coefficient is offered too between the year of return of protection 1889 and the Revealed Comparative Advantage growth during 1897-1913 years. This suggest that the accumulated effect of protection on industrial activities was not very different from 1877 than from 1889 and both had a significant impact on the respective sector export competitiveness before

First War World. The lower level of manufacture nominal and effective protection in Spain and Italy has been discussed below and in previous studies[5].

For the period 1926, we do not have RCA data for Italy, so we do not have evidence of positive and significant coefficients between protection levels and Revealed Comparative Advantage for the interwar years. It should be remembered that Krueger and Tuncer (1982) and the Harrison (1994) comment model imply that a high positive correlation is only a necessary, but not sufficient condition, to support the thesis that protection was based on Infant Industry grounds. We need that more protected sectors growth in competitiveness much swifter and more persistent than less protected sectors to repay the years of welfare losses in the past([6]). Anyway, the sufficient but not necessary condition to be protected on infant industrial grounds seems to fit better in the Italian moderate commercial industrial policy than in the higher tariff industrial policy country. The increment of the correlation coefficient in the consecutive periods between protection and RCA growth would offer some additional evidence in favor of robustness in the persistence of competitiveness growth in those sectors in the long run.

Table 8: Spearman Correlation Coefficients between Industrial Effective Protection and Industrial Revealed Comparative Advantage Growth in Italy 1877-1926

	RCA77-89	**RCA89-97**	**RCA97-13**
EFP.77-89	-0.104 (41)	+0.101 (45)	+0.186 *(53)
EFP.89-97		+0.071 (52)	+0.187 *(67)
EFP.97-13			+0.028 (83)

Notes: The number of observations is given in parentheses below each correlation coefficient. Variables:EFP (tn-1 – tn) and RCA (tn-1 – tn) growth measure as (EFPn –EFPn-1)/EFPn-1 and (RCAn –RCAn-1)/RCAn-1 respectively. Sectors defined at SITC three digit level. For estimation and disagregated tables of the Effective protection and Revealed Comparative Advantage sectors see Apendix. Significant at 10%. * Significant at 5%.

Table 8 supports previous conclusions for Italy. Effective protection Growth in EFP1877-89 or EFP1889-97 have positive but no significant sign with Revealed Comparative Growth in the period RCA1897-13. In the period 1889-1897 manufactures tariff duties were declining already (see Table 1). So the most interesting period is related with the consequences of the industrial growth tariffs during the years of the return of protection, that in the case of Italy is related with the period PEF77-89. Nevertheless the correlation differences with Spanish table is remarkable: the sign is positive, lower and less significant.

[5] See Tena (2002) and Federico&Tena (1999).
[6] See Krueger-Tuncer (1994), p.1096.

4. Independence Colonies, Gold Standard and Export Relative Competitiveness

The Independence of the last Spanish colonies Cuba, Puerto Rico and Philippines in 1898 and the separation of the Spanish coin from the Gold Standard from 1883 may affect our results on the Spanish export performance during the years of the turn of the century. The peseta external value remained stable between 1883 and 1895, despite of the suspended convertibility of paper money into gold and/or silver from 1883. From 1895 (the beginning of the Cuban War and the Baring Crisis) and until 1905, a combination of fiscal disorder and monetary expansion to finance the colonial war produced round a 30 per cent of depreciation in the Spanish peseta value[7]. The peseta depreciation influence an increasing differential of inflation between Spain and its main trading partners that did not compensate the devaluation of the Spanish peseta[8]. This depreciation of the peseta fits with a positive real exports growth in Spain between 1890-94 and 1908-12 even if it was slower than the international market demand[9]. In the same way that the in 1920's the peseta appreciation fits with a negative Spanish real export growth. This do not seem to affect seriously relative competitive sector position that would imply that the industrial sectors more affected by protection in 1897 had a lower price export elasticity in 1913 and a bigger one in 1926 than the less protected industrial sectors in the same year.

The lost of Cuba did not have an important direct effect on the Spanish economy but produced a non negligible effect on the Spanish macroeconomic instability (Inflation and public deficit) and in consequence in exchange rate instability and isolation from foreign flows inwards in the Spanish economy[10]. A recent study on real export searching for unusual years (outliers) or abnormal periods (structural breaks) using time series methods, show how the largest impact of the year 1898 and after, occurred in the cyclical component, but does not imply any structural change in the parameters of this component[11].

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[7] Recent provisional estimation for The Spanish Foreign Sector Current Account by Prados de la Escosura (2000), support the idea that the peseta depreciation in this years was caused more for macroeconomic inestability than for a negative Current Account Balance. This idea can be found also in Martin Aceña (1993) p. 140-141.

[8] See Prados-Tena (1994) and Martin Aceña (1993) support this argument. On the contrary, Sabate (1993, 1996) Agustín Llona (2001) suggest that the inflation differential was canceled by the depreciation effect.

[9] See Tena (1992) Constant market share analysis of Spain and Italy exports in Table 11.5, Table 11.6, pp 344and 347.

[10] See Martin Aceña (1993) y Cubel (2001).

[11] The Fraile-Escribano (1998) time series econometric analysis from 1850 to 1914 on seven main economic agregate variable (including, real exports, real gross domestic product per capita, reserve variation, manufacturing of food, manufacturing index of textile products, bank deposits and current account balances) only bank deposit and current account balance

In 1898 the independence war produced a drastic short-run reduction of exports to Cuba protected market, but total Spanish exports were not structural altered. Cuba absorbed almost the ninety percent of all Spanish sales to the colonies but colonial share in total exports was only over 23 percent of total Spanish exports during the 1890 decade. In the two decades preceding independence, exports of flour and cotton textiles accounted for almost a third of the total volume of export to Cuba[12].

The colonies war produced a cotton textile export boom between the years 1893-1897 (corresponding to Cuba a 45%, Philippines a 33% and Puerto Rico 17%), but after 1898, textiles exports turned to levels similar to the pre-export boom because Europe and other Latin American markets attract, in part, the exports lost of the captive colonies market[13]. In this sense Pedro Fraile's argument that main "Colonial independence adverse effects, were not due to the loss of colonial market, but rather to the institutional changes the colonial market independence brought about in Spain" (p.278). Colonial independence did not leave Spanish industry and trade unaffected but mayor impact was on reinforcing, the already present, nationalist inward looking strategic, in manufacture industry[14].

Last reflections connecting protection and competitiveness

International literature acknowledges Italy and Spain as two Mediterranean European Continental countries with similar factor endowments, which began and ended this period as Peripheral Countries with similar living standards. The last relative GDP per head series would confirm this living standards stylized facts (Prados (2003)). But growth cycles between the beginning and the end of the period were different. Italy performance better during the 1860¨s and Spain during the 1870's, the eighties growth was probably more parallel, and again Italian economy grew faster during the turn of the century. Spanish economy would performed slightly better only during the 1920's in a less expansive international context. Probably before the 1930's both countries still enjoyed a similar per-capita income but competitiveness and specialization of the respec-

seem affected, statistically talking, during the years 1898 and 1899 (See Table 2, pp.273-74).

[12] See Maluquer (1974), pp.340-341.

[13] See Sudria (1983) Table 1 and 2, pp.383-85. The share of cotton textiles exports on production was 4.5 per cent in the 1880's 16.8 percent in the 1890-97, 8.8 between 1898-1904 and around 10 percent between 1905-1913 (data show in Sudria(1983) Table 3, p.386).

[14] See Fraile-Escribano (1998), "The disaster contributed to enhance the sense of both economic failure and urgency of reform, and this gave way to ideas of a necessary nostrification of the Spanish economy as a remedy for backwardness" p. 281.

tive industrial structure were for sure quite different as manufacture export performance show for both countries from the turn of the century[15].

This work shows how Spanish high tariffs years, measured by the conventional tariff average, appear significantly downward-biased in relation with other alternative index. On the contrary, the same test for the Italian return of protection years does not offer significant downward bias[16]. The high and increasing share of fiscal tariffs in the Italian average during the same years have upward-bias the perception of a stronger return to protection. Both effects are well known but there were no empirical studies that had measured the relevance of this fact in protection comparative studies like it is showed in this study.

Previous sections have reasonably proved that Spanish tariff protection was high and biased to manufactures already in the second half of the 1870's. Protection had and upward cyclical trend leaded by manufactures specially after the 1890's and during the interwar years. This protectionist model seems to have influence negatively the long trend manufacture competitiveness. A new test connecting effective protection and Reveled Comparative Advantage, based on the infant industry argument grounds in Spain and Italy, reasonably proves that the consequence of protection on competitiveness is found negative, more robust and consistent in the economy that experiences a higher manufacture tariff increase during the period of return to protection. Industrial Protection appears relevant for the Spanish economic history. In the case of Italy, the test is not conclusive but it supports more the interpretation that industrial protection have no a clear negative influence on Italian industrial competitiveness at a whole. Divergent signs and robustness between protection and competitiveness in Spain and Italy support the misunderstanding that both countries had two different paths of protection in the years of "return of protection" with long run different impact in their respective industrial sectors[17].

The most common interpretation of the backwardness of the Spanish industrialization is based on the agricultural low productivity and the scarcity of the domestic demand for industrial products Nadal (1975). Nevertheless other Peripheral European Countries as Hungary, Sweden or Italy with similar in-

[15] The Spanish manufacture share on total exports arrived to 15,2 per cent in 1897 but was reduced to 10,3 y 7,3 per cent in 1913 and 1926 respectively, contrary to the positive trend showed by the Italian manufacture export sector See Tena (2005) p. 584.

[16] Tena (1999, 2006a) and Federico and Tena (1998) accounting method that discommend the change in nominal protection in their main components (tariffs, prices and quantities), support the existence of this bias showing how import quantities, in the Spanish case, move out significantly from most elastic groups of products (mainly manufactures) in main high tariff s increase years. The loss of weight of these products in the general index confirm the downward-bias of the conventional nominal protection index average.

[17] For a different point of view on the exogenous variable that determines commercial policies see O'Rourke (1997.b), that explain different agricultural trade policies mainly as an ad-hoc answer to the different impact of cheap grain in some European economies.

come per head demand enjoyed bigger levels of Industrial value added per head than Spain (Prados(1988); Fraile(1991)). Manufacture exports as proportion of national income were much lower in the case of Spain than in other countries with the same level of domestic demand (see Molinas-Prados (1989), Prados (1993), Tena (1992), Tena (2003). The most significant singularity of the Spanish industrial process seems at least so related with it low capacity to export manufactures to the international market than with the failure of domestic demand[18]. This finding do not reject that other variables as differences in geographical, capital and human-capital factor endowment levels of departure (Tortella(1994)) are involved also as explicative variables in this history. What can be stated is that relevant changes in the industrial comparative advantage along the period in Spain and Italy are connected with the different evolution, characteristic and severity of the commercial policy in both countries[19].

References

Anderson, J. (1994): "The theory of protection". In D.Greenaway / L.A. Winters (eds.), *Surveys in International trade*, pp.107-138. Oxford: Basil Blackwell.

Bairoch, p., (1989): "European Trade Policy, 1815-1914", en P. Mathias y S. Pollard, The Industrial Economies: The development of economic and Social policies, *The Cambridge Economic History of Europe*, vol. VIII, Cambridge, Cambridge University Press, pp.1-60.

Balassa, B. (1965): "Tariff protection in Industrial Countries. An Evaluation. *Journal of Political Economy* 73, pp.573-94.

Baldwin, R.E. (1969) *Journal of Political Economy*, May/June, 1969 pp.295-305.

Baldwing, R.E / Murray, T. (1977) "MFN Tariff Reductions and Developing Country Trade Benefits under GSP" *Economic Journal*, vol. 87, March.

Cubel, A. (2001) "Estabilidad e Inestabilidad Macroeconómica en España 1880-1913: El coste del abandono de la convertivilidad" en Carles Sudría Daniel Tirado (eds.) *Peseta y Protección Comercio exterior, Moneda y Crecimiento en la España de la Restauración.* Ediciones Universidad de Barcelona. Barcelona.

Federico, G. (2006) "Protection and Italian economic development: much ado about nothing" *in Classical Trade Protectionism 1815-1914: Fortress Europe* Edited by Jean-Pierre Dormois, Pedro Lains. London, New York. Routledge (Explorations in Economic History); 193-218.

Federico, G. / Tena, A. (1998): "Was Italy a proteccionist country?"*European Review of Economic History*, Vol. 2, n.1, pp.73-97.

[18] New series of the Spanish industrial value added by worker confirm the productivity lost of the Spanish Industrial sector between 1910 and 1930. See Prados de la Escosura (2002).

[19] This paper is a first step and exist a companion paper that will try to prove, more rigorously, for the cotton textile sector, in Italy and Spain that with similar factor endowments departure (from a technological point of view) both sectors had different export performances mainly explained because the perverse incentives created by its protection policy.

Federico, G. / Tena, A.(1999): "Did trade policy foster italian industrialization. Evidences from the efective protection rates 1870-1930". Research in Economic History, Volume 19, pp. 111-138

Fraile, P. (1991): Industrialización y Grupos de Presión. La economía política de la protección en España 1900-1950. Alianza, Madrid.

Fraile, P. / Escribano, A.(1998): "The Spanish 1898 Disaster: The Drift towards National-Protectionism" in O'Brien & Prados de la Escosura (eds), pp.265-290.

Greenaway, D. / Milner, C. (1993) *Trade and Industrial Policy in Developing Countries*, London Macmillan.

Harrison, A.E. (1994) "An Empirical Test of the Infant Industry Argument: Coment" *American Economic Review, 84(4), pp.1090-109.*

Irwin, D. A. (2001a): "Tariffs and Growth in Late Nineteenth Century America" *The World Economy*, January 2001, 24, pp. 15-30.

Irwin, D. A. (2002) "Did Import substitution promote growth in late Nineteenth Century" *NBER working papers W.8751*, January.

Irwin, D. A. (2002). Interpreting the Tariff-Growth Correlation in the Late Nineteenth Century. *American Economic Review (Papers & Proceedings) 92* (May 2002), pp.165-169.

Krueger, A. / Tuncer, B. (1982) "An Empirical Test of the Infant Industry Argument" *American Economic Review, n.5, 1982, pp.1142-1152.*

Krueger, A. (1997): "Trade Policy and Economic Development: How We Learn" *American Economic Review, n.1, VOL.87, pp.1-22. LLONA A. (2001)* "Flotar o hundirse: el dilema de la política de cambio en España entre 1850-1913" en Carles Sudría Daniel Tirado (eds.) *Peseta y Protección Comercio exterior, Moneda y Crecimiento en la España de la Restauración.* Ediciones Universidad de Barcelona. Barcelona.

Martin Aceña, P. (1993) "Spain during the classical Gold Standard Years, 1880-1914 in Bordo& Capie (eds.), Monetary Regimes in Transition, (Cambridge, C.U.P) pp135-172.

Mccloskey, D. (1980): "Magnanimous Albion: Free Trade and British National Income, 1841-1881", Exploration in Economic History, vol.17.

Molinas, C. / Prados de la Escosura, L. (1989): "Was Spain Different? Spanish Historical Backwardness Revisited", Explorations in Economic History, vol. 25, no. 4, pp. 385-402.

Naciones Unidas(1985): "Indices de los productos de la Clasificación Uniforme del Comercio Internacional" Informes Estadísticos, serie M, no. 38/ Rev, vol. I, pp. 1-559 y vol. II, pp. 1-495.

Nadal, J. (1975): El fracaso de la Revolución Industrial, Ariel, Barcelona.

O'Brien, P.K / Prados de la Escosura (1998): The cost and Benefits of European Imperialism from the Conquest of Ceuta, 1415 to the Treaaty of Lusaka 1974, *Revista de Historia Económica*, vol. XVI, no. 1.

O'Rourke, K. (1997.a). Measuring protection: a cautionary tale. *Journal of development economics,* **53**, pp. 169-183.

O'Rourke, K. (1997.b). The European Grain Invasion, 1870-1913. *Journal of Economic History*, Vol. 57, no. 4, pp. 775-801.

O'Rourke, K. (2000). "Tariffs and Growth in the Late 19th Century" *Economic Journal* 110, April: 456-483.

Pardos, E. (1998) : *La incidencia de la protección arancelaria en los mercados españoles (1870-1913)*. Banco de España-Servicio de Estudios. Estudios de Historia Económica, no. 37-1998. Pp. 1-159.

Prados de la Escosura, L.(1988): De imperio a Nación. Crecimiento y atraso económico en España (1780-1930), Madrid, Alianza.

Prados de la Escosura, L. / Daban. T, Sanz. O.(1993). "Da te fabula narratur? Growth, structural change and convergence in Europe, 19th-20th centuries". *Working Papers D-93009*, Ministerio de Economía y Hacienda.

Prados de la Escosura, L.(1988*): De imperio a Nación. Crecimiento y atraso económico en España (1780-1930),* Madrid, Alianza.

Prados, L. / Tena, A. (1994) "Proteccionism in Spain 1869-1930". *Eleventh International Economic Congress*, Milan 12-17 septiembre 1994.

Prados de la Escosura, L. (2000): International Comparison of Real Product, 1820-1990: An Alternative Dataset. *Exploration in Economic History*, no.1, vol.1 2000.

Prados de la Escosura, L. (2003): *El progreso económico en España, 1850-2000* (En prensa).

Sanchez-Alonso, B. (2000) "European Migration in the late nineteenth century: the paradoxical case of Spain" *Economic History Review, LIII, 2 (2000),* pp. 309-330.

Saul, S.B (1960): *Studies in British Overseas Trade 1870-1914*, Liverpool University Press.

Simpson, J. (1997) "Did Tariffs stifle Spanish agriculture before 1936" *European Review of Economic History*, vol. 1, part 1, April, pp. 65-87.

Sudria, C. (1983) "La exportación en el desarrollo de la Industria algodonera española" *Revista de Historia Económica Española, Año I, no. 2.* Pp. 369-386.

Tattara, G. (1992) "Tendencias del comercio italiano en el siglo XX: algunas comparaciones con España." en Prados, L. y Zamagni, V. El desarrollo económico en la Europa del Sur: España e Italia en perspectiva histórica. Madrid, Alianza.

Tena, A. (1992): "Protección y competitividad en España e Italia, 1890-1960" en Prados, L. y Zamagni, V. El desarrollo económico en la Europa del Sur: España e Italia en perspectiva histórica. Madrid, Alianza.pp.321-355.

Tena, A. (1995): "The Spanish Foreign Sector 1885-1985" en Martin-Aceña y Simpson (eds*.) The Economic Development of Spain since 1870*. Edward Elgar.

Tena, A. (1999): "Un Nuevo perfil del proteccionismo español durante la Restauración 1875-1930" *Revista de Historia Económica*, Año XVII, no. 3, pp. 579-621.

Tena, A. (2001b) Meassuring Protección over the Time Revenue and Protecctive Products in 19th Century European Tariff-Growth Debate. *UC3M Working Papers Economic History and Institution Series no. 4*. 01-65 pp. 1-37.

Tena, A. (2005): "El sector exterior" en Estadísticas históricas de España siglos XIX y XX. Vol.II. en Albert Carreras y Xavier Tafunell (Coords.). Bilbao, Fundación BBVA, pp. 600-644.

Tena, A. (2006a): "The good reputation of late XIX century protectionism: manufacture versus total protection in the Periphery tariff growth debate" Sessión 42 International Economic History Conference, Helsinki, 25 august.

Tena, A. (2006b): "Spanish protectionism during the Restauración 1875-1930" in *Classical Trade Protectionism 1815-1914: Fortress Europe* Edited by Jean-Pierre Dormois, Pedro Lains. London, New York. Routledge (Explorations in Economic History) pp. 265-297.

Tena, A. (2006c) "Assesing the protectionist intensity of tariffs in nineteenth-century European Trade policy" en *Classical Trade Protectionism 1815-1914: Fortress Europe* Edited by Jean-Pierre Dormois, Pedro Lains. London, New York. Routledge (Explorations in Economic History) pp. 99-120.

Tena, A. (2007) " ¿Por qué España tuvo una alta protección Industrial? Evidencias desde la protección efectiva" en España y México: ¿Historias Económicas Paralelas? Mexico DF. Fondo de Cultura Económica, pp. 333-375.

Tortella; G. (1994): "Patterns of Economic Retardation and Recovery in South-Western Europe in the Nineteenth and Twenties Centuries." *Economic History Review* 47, no.1. pp. 1-21.

Tumlir, J. / Till, L. (1971): "Tariff Averaging in International Comparisons" en Grubel, H.G. / Johnson (eds.), *Efective Tariff Protection*. Ginebra.

Vousden, N. (1990), *The Economics of Trade Protection*, Cambridge, Cambridge University Press.