



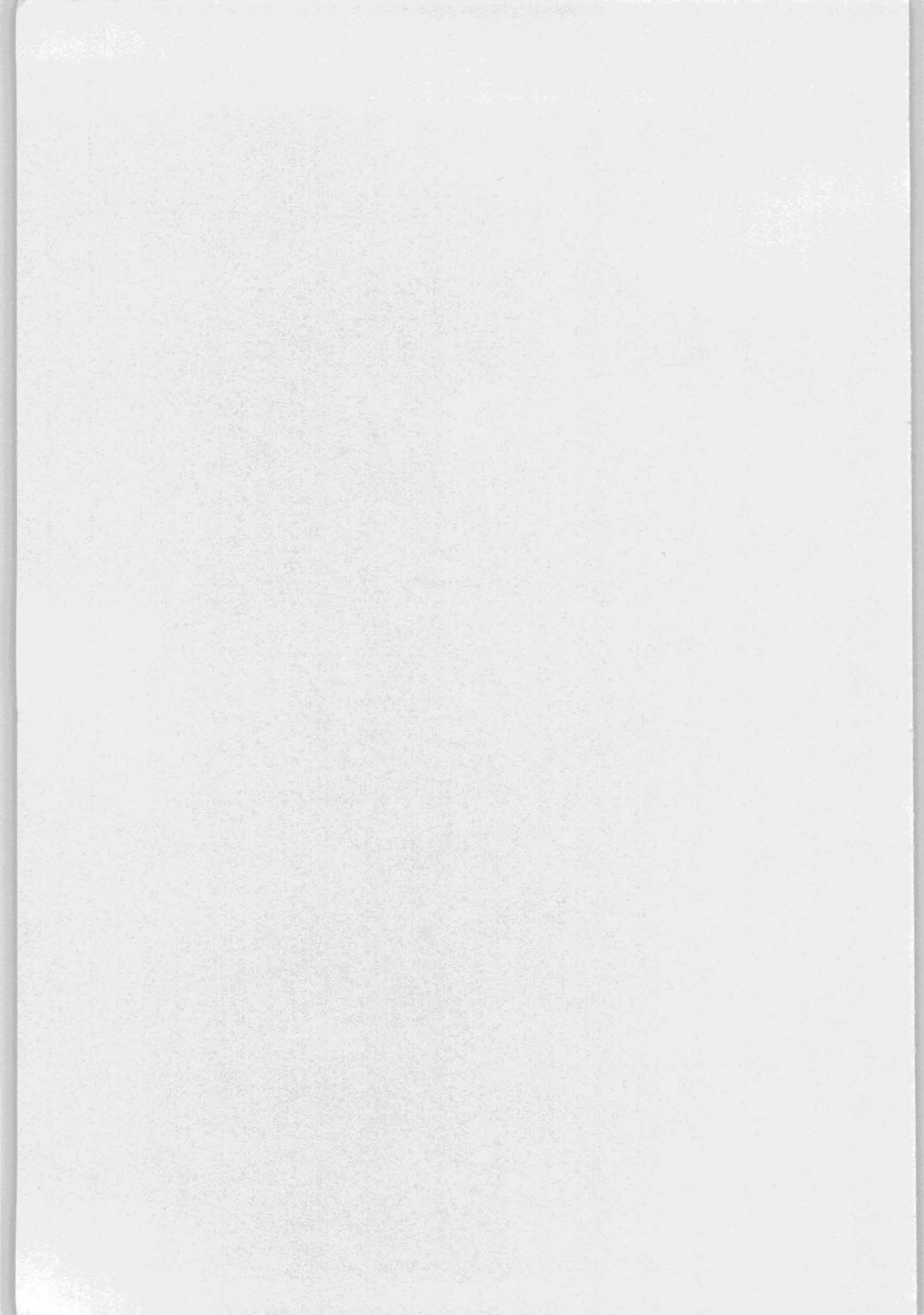
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**HOW IMPORTANT WAS TARIFF PROTECTION
FOR SPANISH FARMING PRIOR TO 1936?**

James Simpson

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Introduction

The importance of protection as a factor in explaining the slow development of Spain's agricultural sector, if not that of the economy, has frequently been stressed in recent literature for the period 1891-1936. In this paper we look at three major areas of agricultural protection: the level of tariffs and their impact on living standards; the role of tariffs in determining the allocation of agricultural land between crops and livestock and, finally, the question of tariffs and the sectorial distribution of labour. We conclude that, although agricultural tariffs contributed to what economists today would consider a "misallocation" of resources, there were other factors which were of greater importance in explaining the low level of productivity in the sector.

1. Were levels of protection important for Spanish consumers?

... the higher the level of GNP per capita in 1913 or 1929, the lower the nominal protection of agriculture. It seems that the lower-income countries of Eastern and Southern Europe gave heavy protection to both agriculture and manufacturing.¹

The Spanish economy saw some major changes in the half century or so prior to the Civil War. In particular, Prados de la Escosura has estimated that GDP per head exactly doubled between 1859/61 and 1933/35.² This increase in GDP was accompanied by structural changes, with a growth in urbanization and a decline in agricultural employment. Yet there can be little doubt that Spain was still a poor country in 1936, both in absolute terms, and in comparison with other western European countries. Thus, real GDP per capita in 1929 in Spain was only 68 per cent of that achieved in Italy, 40 per cent of Great Britain's, 46 per cent of France's and 57 per cent of Germany's.³ In addition, Palafox has identified other indicators - per

¹ Emphasis in the original. Lindert, 1989, p.12.

² This is equivalent to an annual increase of 0.94 per cent. Carreras gives a more modest growth of 59 per cent, or an annual 0.65 per cent. Prados de la Escosura, 1993, Table D.2.

³ Prados de la Escosura, 1992, p.36.

capita consumption of cotton and energy, numbers of letter or telegrams sent, and literacy, where Spain once more performs noticeably worse than the continent's leading economies.⁴

Table 1 provides another indicator, this time for a wider selection of countries, and concentrating on an area which most interests us here, namely the relative cost of food in Spain. An hour's work in Spanish cities purchased significantly less than it did in other western Europe countries, with the exception of Italy. Of the other leading European nations, only in France did the low purchasing power of its citizens appear to have approached the level of that in Spain and Italy, although basic foods were considerably cheaper.⁵

What the Table cannot inform us of course is to what extent the low purchasing power of Spanish urban workers was a reflection of expensive food, and to what extent low wages. What is not debatable, however, is that the low wages led to poor diets. The low calorie intake, and shortage of animal protein in Mediterranean diets in general, and the Spanish in particular, is shown in Table 2.

The question of why diets in Spain were so poor in the 1930s cannot be simply a question of the level of economic development. The Irish for example, consumed 23 per cent more calories per individual, 95 per cent more meat, and 228 per cent more sugar, even though real per capita in the two countries was not very different. In the rest of this section we shall discuss the possibility of whether tariff protection was sufficiently high in Spain to explain the differences noted in Tables 1 and 2.

⁴ Palafox, 1991, p.25. For literacy see also Núñez, 1992, ch.2.

⁵ In comparison with Spain, French hourly building wages could purchase 31 per cent more for white bread or 54 per cent for potatoes. For an international study of living standards using this source, see Williamson, 1992.

Table 1. RELATIVE PURCHASING POWER OF BUILDING WORKERS IN EUROPE, 1930

quantity that wages from one hour's labour could buy in major cities, in kilos and litres

	bread	potatoes	meat	milk	sugar
Spain (4)	1.79	3.93	0.27	1.79	0.73
Italy (7)	1.48	3.73	0.25	2.19	0.43
France (4)	2.34	6.04	0.29	2.53	1.07
Germany (6)	3.10	11.82	0.50	4.48	2.10
Britain (7)	3.40	8.68	0.71	2.85	2.71
Austria (3)	2.05	6.58	0.36	2.55	1.23
Ireland (3)	2.79	13.11	0.64	3.28	2.43
Low Countries (4)	2.93	13.67	0.53	4.56	1.74
Denmark (1)	2.41	12.50	1.14	6.06	4.00
Sweden (3)	2.37	15.83	0.89	8.64	4.52
Estonia (2)	1.94	6.60	0.36	2.20	0.94
Poland (4)	3.00	12.27	0.39	2.81	0.83
Czechoslovakia (3)	3.25	12.21	0.55	3.77	1.30

Building workers' wages have been taken as an average between skilled (albañiles) and unskilled (peones) in the leading urban centres, the number of which are given after each country. Bread is from wheat flour, except in the case of Austria, Estonia, Germany and Poland, when rye bread has been used; meat refers to an average of beef, lamb, pork and veal, except when information is lacking, namely Denmark (lamb), Britain (veal), Ireland (pork and veal) and Sweden (pork).

Source: *Dirección General de Trabajo*, 1931, cuadros lxiii y lxiv, which in turn is based on International Labour Office publications. Information refers to January 1930.

Table 2. MAJOR CHARACTERISTICS OF EUROPEAN DIETS PRIOR TO THE SECOND WORLD WAR.

a. annual per capita consumption, kilos.

	Austria	Belgium	Denmark	France	Germany	Greece	Ireland	Italy	Netherlands	Norway	Portugal	Spain	Switzerland	UK
cereals (as flour)	131.6	114.4	93.9	123.7	113.0	163.0	131.4	160.4	106.9	119.0	104.6	146.4	109.5	95.3
potatoes	96.3	156.1	120.0	143.2	187.0	13.6	195.4	36.6	116.0	130.0	76.2	109.4	90.5	82.5
vegetables	57.8	49.3	58.0	143.2	51.9	27.0	53.2	55.8	67.0	19.3	109.7	114.6	61.9	54.5
fresh fruit	41.6	28.0	30.1	29.4	42.0	49.0	19.5	33.7	38.3	31.0	40.5	57.0	84.0	41.7
sugar	24.7	26.4	50.5	24.3	26.3	10.9	38.1	7.9	32.0	36.9	10.2	11.6	38.6	44.5
fats (ex. butter)	14.3	11.8	19.6	11.2	14.3	13.8	2.9	10.6	15.4	18.6	13.9	14.4	10.2	12.1
butter	3.0	7.3	7.0	4.4	6.7	0.9	10.6	1.1	5.2	6.3	0.4	0.3	5.3	9.2
total fats	17.3	19.1	26.6	15.6	21.0	14.7	13.5	11.7	20.6	24.9	14.3	14.7	15.5	21.3
cheese	3.7	5.7	5.4	6.4	4.4	8.5	0.3	5.3	6.3	6.7	0.9	1.5	8.1	4.0
milk	185.8	79.8	166.7	85.5	138.6	42.0	146.6	37.3	145.9	175.9	8.9	60.6	244.3	107.3
meat	48.7	47.2	74.6	55.2	52.8	19.5	54.9	20.1	37.5	37.9	15.0	28.1	53.2	62.6
fish	3.5	14.1	32.4	14.7	14.1	12.4	6.5	11.8	15.3	40.6	38.3	25.0	2.9	20.6
eggs	6.7	11.8	7.5	9.0	7.4	4.2	15.8	7.3	9.1	6.9	3.2	4.9	8.8	12.8

b. daily per capita consumption.

calories	2940	2820	3450	2880	3040	2600	3400	2520	2840	3200	2100	2760	3140	3110
protein -grams	88	83	93	96	85	84	99	77	81	90	58	88	96	80
total calories % from cereals & potatoes	49	50	33	51	47	61	50	65	44	44	56	59	39	35
total protein % from animal products	51	42	61	43	51	27	48	29	51	54	34	28	56	55

butter and fats refer to fat content; meat to carcase weight.

Source: Yates, 1960, Table 2.4.

If from the late nineteenth century Spain was not alone in protecting its wheat growers, levels were considered exceptionally high, and helped produce some of Europe's highest bread prices. To compare the real level of protection between countries is notoriously difficult, given the variety of methods that protection might take, problems in converting currencies, and the significant dietary variations between countries. Comparing tariff levels alone is not enough.⁶ The real level of protection that Spanish farmers enjoyed is perhaps best reflected in Table 3, which shows the country to have been virtually self-sufficient in wheat in comparison to other countries, which had theoretically higher levels of protection according to Liepmann.⁷ Domestic self-sufficiency in wheat was achieved at a cost to the consumer, as domestic prices remained above international ones. Graph 1 compares the internal wheat price in Spain with the English price, which is taken as the "world price", and has been converted into pesetas at the current exchange rate.⁸ Whereas between 1870-77 Spanish wheat prices were cheaper than "world" prices, this would not be the case for the rest of the period. Only during the First World War, when British prices rose on account of shipping difficulties, would the price difference fall much below 20 per cent.

⁶ For example, Spain supplemented its import tariffs from November 1921 by strict import quotas for wheat and maize and, therefore, in the words of Liepmann, "Spain's corn duties ... had only limited practical value for judging her corn-import policy, and the large decreases of her corn imports in post-War periods". Liepmann, 1938, p.101. For Spanish tariff policy see EPAPM 1928, pp.257-60 and Montojo Sureda, 1945, pp.15-47.

⁷ The I.I.A. does not allow a figure for 1909/13 to be calculated as the figures for production refer to post World War I boundaries, whilst imports to those before the War.

⁸ As much of wheat consumed in Britain was imported, there is not need to include freight in the calculation. Unlike GEHR (1980), who showed the costs (and profits) of shipping from England to Barcelona, our interest here is simply to illustrate the price "gap" between the two countries. A moving three year price average is used. For a wider comparison of international wheat prices between 1880 and 1905, see Palafox, 1991, cuadro 1.3.

Table 3. INDICES OF WHEAT PROTECTION IN FIVE EUROPEAN IMPORTING NATIONS, 1925/9			
	(1)	(2)	(3)
Spain	96.9%	19.6%	19.2%
France	86.2%	23.0%	7.8%
Germany*	83.9%	29.0%	8.0%
Italy	74.0%	27.0%	5.6%
Great Britain	21.2%	--	9.2%
(1) Level of self-sufficiency in wheat. *Includes both wheat and rye. The level of wheat self-sufficiency was 61.3% and rye 99.7%. Source: <i>I.I.A.</i> various years			
(2) Liepmann, (1938) figures for 1927			
(3) Income from customs receipts as a % of total imports. Refers to period 1922-30. Tena, 1992, p. 333			

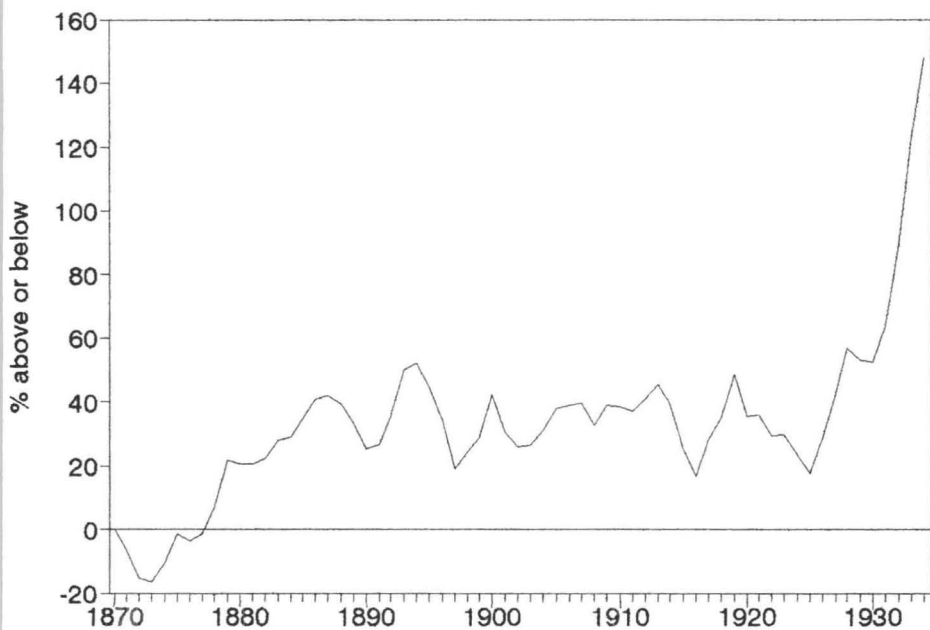
Spain was obviously not alone in protecting its wheat farmers. Other countries, such as France or Germany, also protected their farmers but they also enjoyed relatively high agricultural productivity. In the case of France, Lindert has shown that the silver price of wheat grew from being 5 per cent higher than in England during the 1870s, to around 26 or 27 per cent by the 1890s and 1900s. In other words, not so very different from the Spanish experience.⁹ Finally, Lindert also reminds us that the English Corn Laws kept the domestic price of wheat from around 1710 to 1846 significantly above that of other European countries. Indeed, the gap between Britain and other countries in this earlier period appears remarkably similar to that identified in our Graph 1, between Spain and the "world price".¹⁰ It hardly needs mentioning that the period 1710-1846 is not normally considered one of agricultural failure in England. It seems unlikely that higher bread prices caused by tariff protection could

⁹ Lindert, 1991, Table 2.4.

¹⁰ *Ibid.* Table 2.4.

GRAPH 1

Spanish wheat price as percentage of "world" price.



Figures given as 3 year averages.

Sources: prices, Mitchell, 1962, GEHR, 1980 and Paris Eguilaz, 1943. Exchange rates, Carreras (ed), pp.390-1.

make a really significant difference to household budgets in Spain in the period 1891-1936.¹¹ However, even if cereal protection in Spain was not significantly above that of its neighbours, the low incomes of the country implied that its relative impact on aggregate demand would be greater than, in say Germany or France. Bread inevitably had a greater weight in the family budget of the lower income countries of the Mediterranean.

2. Tariffs and the allocation of resources within agriculture

It follows that the best policy for European countries during the Great Depression was to carry out a shift from crop production to livestock. Countries which were able and far-sighted enough to do this stood a much better chance of overcoming the crisis than those which, in the face of the new trends, persevered with former habits.¹²

The discussion in this section is centred on three main areas.¹³ First, we examine the nature of tariffs, and argue that they only formed part of a wider strategy for maintaining favourable domestic terms of trade for cereal farmers. Second, we consider who benefited from tariffs within agriculture. Finally, we discuss to what extent it would have been possible to reallocate resources more efficiently within Spanish agriculture in the pre Civil War period.

As Sánchez Albornoz has shown, from 1820 government policy successfully reserved the internal and colonial markets for domestic cereal producers.¹⁴ However, by the 1880s the impact of falling production costs in the new temperate countries and the decline in rail and sea freight, threatened to dislodge the Spanish Interior from its

¹¹ Fraile, 1993.

¹² Tracy, 1989, p.19.

¹³ As we concern ourselves essentially with wheat, comments are limited to areas of dry farming.

¹⁴ Sánchez Albornoz, 1966. See also Nadal, 1985, pp.93-4.

traditional markets of the periphery (Barcelona, Valencia etc.). If Spanish prices remained relatively stable, world prices fell and the tariff would now effectively provide farmers with a minimum price, ending the higher prices farmers had traditionally enjoyed after a harvest failure.¹⁵ In Spain, as elsewhere, this had serious implications as greater stability in prices produced greater instability in farm incomes, on account of harvest fluctuations. The First World War saw an extension in government intervention, with attempts to fix maximum and minimum prices.¹⁶ By the end of the War, Spain had become virtually self sufficient in wheat and the tariff was supplemented from November 1921 by strict import quotas, and maximum and minimum prices were set within the country. In only three years between 1922 and 1935 did imports rise above 5 per cent of the national harvest (1928, 1929 and 1932), being negligible in the rest.¹⁷ Despite the dubious success in becoming self-sufficient in wheat and stabilizing consumer prices, the clamour for still greater protection and reports of distress amongst thousands of wheat farmers during the 1920s, questions this as a suitable policy measure, a point examined elsewhere.¹⁸

High bread prices brought complaints from industrialists but, as the farming lobby believed, and especially after the First World War, the protection that farmers received was often less than that received by industry. The result was, according to Torres, that relative prices moved against farmers, benefiting industry (as well as flour

¹⁵ The tariff of 4.54 ptas/100 kilos was increased in December 1891 to 8 ptas and again to 10.5 ptas. in February 1895. It then tended to fall, but with higher levels becoming operation if the domestic wheat price fell below certain levels. See EPAPM abril 1928, no.1529, pp.257-60.

¹⁶ The Real decree of August 1914 allowed, briefly, imported wheat to enter duty free if prices remained above 29 ptas./100 kilos. This was reintroduced between March and June, and November of 1915. Finally, the Real Orden of January 1916 established duty free imports until April 1921. Maximum and minimum prices for wheat were introduced in November 1915.

¹⁷ Montojo Sureda, 1945. See also Pinilla Navarro, 1992, pp.418-20.

¹⁸ See Simpson, forthcoming.

millers).¹⁹ In the absence of a comprehensive list of consumer and industrial prices, it is difficult to show whether Torres was correct or not. Table 4 suggests that whereas wheat farmers were less successful than industry to increase prices during the War time inflation, the relatively high wheat prices of 1927/9 allowed them to recover against most other producers, with the notable exceptions of cotton textiles and cement. It would seem that this was only temporary as by 1933/5 wheat was slipping back against most other commodities. However, if relative prices did move against the farmer between 1913-1935, the movement was slight and limited by government price intervention.

Table 4. MOVEMENTS IN COMMODITY PRICES IN SPAIN, 1913-1935				
	1913/5	1920/22	1927/9	1933/35
wheat	100	172	156	152
flour	100	168	155	153
woollen textiles	100	177	157+	
cotton textiles	100	250	225+	
cement	100	186	190	192
steel	100	385	143	196
iron	100	360	141	165
sulphuric acid	100	193	173	110
Asturian coal	100	419	154	175
petrol	100	155	74	98
superphosphates	100	276	122	145
sugar	100	241	171	177
coffee	100	151	195	217

+ 1927 and 1928. Source: Carreras, 1989 and Paris Eguilaz, 1943.

¹⁹ See, for example, Torres, 1934, p.231.

Peter Lindert has stressed that governments in recent decades frequently distort their economies by anti-trade policies, as governments "tend to tax exportable-good agriculture and protect import-competing agriculture".²⁰ In this respect Spain does not appear to have been very different from most other countries. Spanish producers of oranges, olive oil, olives, wine, grapes, raisins, soft fruits, nuts, early vegetables all suffered to some degree as they had to pay higher prices for wheat, meat, rice, sugar, machinery and consumer goods because of import duties. Whilst it is true that most export crops were protected themselves from imports in the domestic market, it seems unlikely that they would have faced any serious competition without this protection.²¹

Finally we have to consider whether tariffs delayed the switch out of cereals and into other crops. This is especially important, as it has been argued that the high concentration of resources in cereals was a major cause of Spanish agriculture's low productivity. We shall consider this from two angles, first the question of lost export opportunities and second, the delay in transferring resources to livestock farming, as suggested was needed by Tracy, quoted above. We shall argue that, rather than a misguided tariff policy, it was lack of alternative crops to cereals, in contrast to elsewhere in western Europe, that was the principal obstacle to change.

In the absence of irrigation, the major alternative crops to cereals in Spain were vines and olives. By the first third of the twentieth century increased demand in the domestic market was dependent mainly on population growth, with per capita consumption growing by just 8.3 per cent in the case of olive oil, and falling by 1.4 per cent for wine, between 1897/01 and 1929/33.²² Both crops had important export

²⁰ Lindert, 1991, p.29.

²¹ One important exception is the question of substitutes. In this respect wine producers benefited from taxes on imported cheap alcohols, which could have been used as a base for the production of other drinks, and olive oil producers from taxes on imports of edible vegetable oils.

²² Simpson, 1989, cuadro 5.

markets, and it is in this area that we shall look for lost opportunities because of the protected cereal market.

The vine was Spain's major export crop throughout the period.²³ The intensive nature of viticulture made it well suited to the small family farms of the Mediterranean area, and the lack of capital often associated with peasant farming was alleviated in the pre-phylloxera period by the fact that off-farm inputs were minimal. Low entry costs and extensive areas of suitable land for its cultivation were offset only by the bulky nature of the product, and its perishability, as most wines in their natural state frequently became undrinkable within a few months of production. The railways helped lift the geographic restrictions on production, and the addition of alcohol to the wine greatly increased the product's life.

Spanish exports grew rapidly from the early 1870s on account of the severely diminished harvests in France, caused by phylloxera (Table 5). Yet the boom was short lived. By the turn of the twentieth century, replanting with disease resistant varieties had allowed French domestic output to virtually recover.²⁴ Without the benefit of an abnormal short-fall in a major producing country, Spanish growers needed either to increase market share, or to extend the size of the market. They failed to do either, and the country's share of the world trade in wine slipped from approximately half in the 1880s to less than a quarter by 1925-9.

²³ At its peak in 1880-4, 45 per cent of all exports were products of the vine (Prados de la Escosura 1982, p.41).

²⁴ For Spanish viticulture in the late nineteenth century, see especially Carnero i Arbat, 1980.

TABLE 5. EXPORTS OF SPANISH BULK WINES

	Total Exports	Exports to France	Exports to other countries	% to France	Spanish wine price	Index exports by value
1861-65	88.7	9.9	78.8	11	23.2	100
1866-70	111.5	13.0	98.5	12	19.4	105
1871-75	160.6	30.8	129.8	19	20.2	158
1876-80	302.4	180.1	122.2	60	26.0	382
1881-85	682.7	547.9	134.8	80	35.5	1178
1886-90	825.6	698.0	127.6	85	26.0	1043
1891-95	636.4	444.5	191.9	70	16.5	510
1896-00	534.6	372.0	162.6	70	19.3	501
1901-05	208.4	143.3	65.1	69	20.7	210
1906-10	140.1	42.7	97.4	30	15.8	108
1911-15	269.9	141.8	128.1	53	27.4	359
1916-20	445.5	275.7	169.8	62	30.4	658
1921-25	278.6	166.2	112.4	60	23.2	314
exports in millions of litres. Wine price refers to San Pere de Ribes (Barcelona). Index of exports obtained by multiplying total exports by wine price; 1861-65 = 100.						

Source: *Estadística (s) de Comercio Exterior* and Balcells 1980, pp.375-9.

A major problem facing Spanish producers was that the world market for cheap table wines outside France would remain limited. In part this was because producer countries restricted imports to protect domestic growers, and in part because non-producers frequently placed very high tariffs on wines to protect other domestically produced alcoholic drinks. Even if Spanish growers had managed to improve product

quality and establish brand names, which a few producers did, it is unlikely that they would have widened the market significantly.²⁵

On the supply side, if producers appear to have responded quickly to an outward movement of the demand curve, they found it less easy to reduce output in periods of depressed demand, as taking vines out of production implied the destruction of costly assets. However, there appears to have been other factors which strictly limited long term profits in viticulture, as wine producers in the pre-phylloxera period experienced conditions not dissimilar to those faced by tropical agricultural producers at this time, namely low entry costs and elastic supplies of land and labour.²⁶ Phylloxera raised entry costs by demanding greater inputs of skilled labour and capital, but much of the world's overproduction of wine during the first third of the twentieth century stemmed from the extension of vines in regions such as central Spain and Algeria, where the crops opportunity costs were low, and phylloxera's presence minimal.²⁷ Finally, as alcohol produced from grapes was more expensive than that produced from other sources, product adulteration remained a major problem, especially when wine prices showed a tendency to rise.

In conclusion, short term price rises encouraged low cost producers to extend the area of cultivation in regions such as La Mancha in Spain, which tended to quickly reduce

²⁵ In France, for example, the exports of quality wines declined from roughly 60 per cent of production of vins de cru in 1869-77, to 30 per cent in 1913, and 10 per cent in 1939. Warner 1960, p.85.

²⁶ For tropical producers, see Lewis 1978, especially Chapter 7.

²⁷ Opportunity costs are difficult to measure, although for La Mancha (taken as Albacete, Ciudad Real, Cuenca and Toledo) wheat yields averaged only 0.6 tones per hectare in 1909/1914 (Torres 1944, pp.247-272), against a national average of 0.9 in all Spain, 0.7 in Algeria, 1.1 in Italy, 1.3 in France and 2.2 in the British Isles (calculated from Malenbaum 1953, pp.236-239). Lewis notes a figure of 700lb per acre (0.8 tones per hectare) for tropical countries in 1900 (1978, p.188). In some regions of Algeria and central Spain, phylloxera was still absent in the 1920s. See Simpson, forthcoming.

price levels. In general, world viticulture experienced considerable difficulties in the period 1900-1950, caused by the ease of planting vines in the large areas of the Mediterranean, areas where land was plentiful and wage labour was cheap.²⁸ Finally, as wines were exported strengthened in alcohol, product quality was low, and the value added tended to be minimum.

The olive was another crop of major importance both for the domestic and external market, with about a fifth of total output exported in the decade prior to the Civil War. Between 1901-12 and 1926-35, the area under olives grew by a third, agricultural yields increased by 28 per cent, but industrial yields in the manufacture of olive oil saw virtually no change. These movements in productivity are deceptive however, for whilst an important part of the increase in agricultural yields appears to have been achieved by simply having a greater proportion of the nation's trees in full production, and by farmers increasing annual variable costs (extra ploughings, hoeings, greater care in harvesting, etc.) to take advantage of favourable prices, the most significant change in this sector during the period was without doubt the modernization of the olive mills and presses.

In the nineteenth century, most Spanish olive oil exported was of poor quality, and used for industrial purposes, namely lighting, as a raw material in the manufacture of soap, and as a lubricant for machinery. The growth of other cheaper vegetable substitutes implied that, to retain markets, producers had to improve product quality, switching from the industrial to edible oil market, which in turn required considerable investment in new plant. From a low of 16.7 thousand tons of olive oil exported in the decade 1886-95, exports grew to 74.4 thousand in 1926-35. However, the six major markets for Spanish olive oil between 1865 and 1935, namely Italy, France, Cuba, Argentina, United States and Great Britain, illustrate once again the limitations of the export market for Spanish producers, as five of the six countries were either

²⁸ For growth in world output see Pujol Andreu, 1984.

Mediterranean countries (and therefore producers themselves), or had large Mediterranean immigrant populations. Market size was therefore limited by taste and cultural experiences.²⁹ In addition, from the late nineteenth century producers faced increasing competition from other, cheaper vegetable oils.³⁰

Olive oil processing required a cash investment which could not be easily substituted by labour and which, by allowing economies of scale, gave the larger producer an advantage over the smaller one. This led to a greater concentration of production as small producers sold their fruit to the larger manufacturer.³¹ However, although the technical change in manufacturing increased product quality and opened up new markets, the greater part of the value added was obtained in the growing and harvesting of the crop. Government estimates in 1921 suggest that only 10 per cent of the price of olive oil could be attributed to the manufacturing process.³² Therefore 90 per cent of the cost of olive oil was based on the use of extensive areas of relatively unfertile soil, and some of Europe's cheapest casual agricultural labour.

As with the vine, long term growth prospects of the olive were limited as supply could easily be increased, in the long term by extending the area of cultivation, and in the short term through adulterating the product. These facts, linked to the high levels of substitution in the non-Mediterranean countries implied that the olive, as with the vine, had a growth potential which depended significantly on the domestic market. In other words, it is questionable to what extent a reduction in the area of cereals/legumes would have encouraged a movement of resources into these two other crops.

²⁹ The sixth country, Britain, was of declining importance from the late nineteenth century as cheaper vegetable oils were used for industrial purposes.

³⁰ Zambrana, 1987, ch.7.

³¹ For the example of the company Carbonell in Córdoba, Zambrana, 1987, ch.4.

³² Dirección General de Agricultura y Montes, 1923.

From the late nineteenth century, a major factor in productivity growth in northern European agriculture was the movement of resources away from the production of bread cereals, where demand tended to be stagnant and producers faced growing international competition, and into other commodities where value added was greater. The result was a sizeable increase in the output of meat and dairy products, as suggested by Tracy. Thus in Great Britain the area devoted to wheat fell by a half and the number of cattle increased by 30 per cent between 1870 and 1910. In France, whilst the value of cereals stagnated, the output of meat and dairy produce increased by 48 per cent between 1865/74 and 1905/14. In Italy, the number of cattle increased by 40 per cent between 1880 and 1910, and there were significant increases in the numbers of pigs, sheep and goats.³³ If in Germany there was no fall in the area of wheat and rye, the number of cattle rose by third between 1873 and 1913.³⁴ In Spain, the situation is harder to establish on account of the lack of reliable censuses at the turn of the twentieth century, and the problem of calculating suitable production coefficients. In general, however, livestock numbers do not appear so very different in 1929 as they were in 1917 or 1865.³⁵ By contrast, the area of wheat grew throughout most of the nineteenth century, and increased by 24 per cent and production by 34 per cent between 1905/9 and 1930/4.

³³ The number of pigs increased by 28 per cent, sheep by 40 per cent and goats by 36 per cent, Mitchell, 1992, pp.347-8.

³⁴ Statistical Abstract for the United Kingdom, Toutain, 1961, *Statistisches Jahrbuch für das Deutsche Reich*, all cited in Tracy, 1989 pp. 51, 76 and 100-1.

³⁵ Taking the herd size (live weight) to have been 100 in 1865, it was 98 in 1750, 87 in 1917 and 105 in 1929. Garrabou and Sanz (1985) cuadro 20 and GEHR (1978) apéndice. One possible source of error is the month when the census was carried out, with 1865 (November) being exaggerated in comparison with 1929 and 1933 (March), and perhaps the former including the annual new borns, but the latter not (The date for the 1917 census is not known GEHR 1991, pp.81-2). However, as the 1865 census includes the number of animals under six months (ie added to the national herd since March), and if this category is excluded, then the size of national herd in 1865 was not overcome until 1913 in the case of cattle, 1917 swine, 1921 goats, and sheep 1939. In terms of live weight per person, there still remains a significant fall.

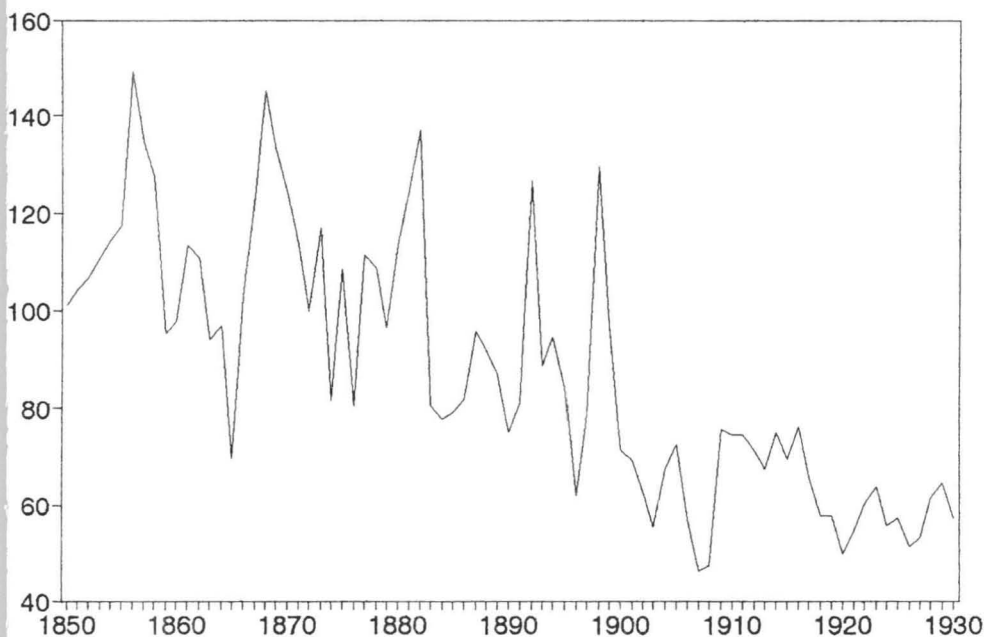
There can be few doubts that this failure to switch resources out of bread grains and towards meat and dairy produce was a major cause of the low productivity in the agricultural sector in Spain. That said, it is much more difficult to establish to what extent the failure was the result of tariffs, and to what extent other factors should be blamed.

The question however, is not one of free trade or protection for cereals, as Spanish livestock producers also enjoyed strict controls on imports. Population growth, improvements in per capita incomes, real wages and growing urbanization over the period 1865-1936 might be expected to have produced an increase in demand for livestock produce. The virtual stagnation in herd size as shown in the censuses of 1865, 1917 and 1933 suggests, however, that per capita supply fell. If demand for meat was indeed rising faster than supply, then prices would be expected to have risen against those of bread. Graph 2 shows that this indeed was the case from mid 1880s, with growth being especially strong after the First World War. This also fits with what we know about wheat consumption. After growing from an annual 159.4 kilos/person in 1908/12 to 168.8 in 1918/22, wheat consumption then fell to 150.8 over the following decade. As early as 1926, Flores de Lemus had noted the growing importance of feed grains compared to bread, and suggested that this was the only feasible alternative to cereal farmers, given the impossibility of exporting wheat.³⁶ The government reacted to rising meat prices by allowing annual imports of 282.8 thousand tons of maize between 1920-33, the equivalent of 44 per cent of the domestic harvest. Nationally farmers were slowly diverting resources into livestock production. However, during the first third of the twentieth century urban wages in Madrid increased about twice as fast as meat prices, and therefore the stagnation in per capita consumption in this city suggests that any improvements in living standards led to the

³⁶ Flores de Lemus, 1926. See also Jiménez Blanco, 1986 and GEHR, 1988, p.61.

GRAPH 2

WHEAT-MEAT PRICE RATIO IN MADRID 1848-52 = 100



1848-52 = 100. 5 year averages have been used.

Source: Calculated from Reher and Ballesteros, 1993, pp.139-42.

purchase of other superior foods or consumer goods, rather than meat.³⁷ In other words, even though diets were poor in meat, consumers were not willing to increase consumption at any price. The evidence, albeit slight, suggests that low meat consumption was primarily a supply problem.

In conclusion, theoretically lower internal bread prices achieved through a more liberal tariff policy might have released more land for feed grains, which could have been diverted towards livestock produce. In reality, such a policy is likely to have had limited results. And for two reasons. First, whereas the arrival of cheap grain allowed a re-orientation of western European agriculture, the possibility in Mediterranean, and Spain in particular, were much less. On the *secano*, which covered about four fifths of Spain, natural conditions were inappropriate for *intensive* livestock farming as practised in Europe prior to the Second World War. Second, natural pastures were notoriously poor, and artificial pastures virtually absent.³⁸ Until the development of intensive, stall feeding technologies, which could be adapted to Mediterranean type climates, Spain's meat consumption would remain low.

An alternative policy would have permitted free trade in both grains and livestock produce, thereby hastening considerably the rural exodus. If this alternative would have been regarded as far fetched by most in the pre Civil War period, evidence presented below suggests that the size of the expected rural exodus would have been smaller than is often thought today.

³⁷ Reher and Ballesteros, 1993, Apéndice 1 and Gómez Mendoza and Simpson, 1988, Apéndice 3. As meat prices are Madrid wholesale prices, it is not clear to what extent the increases were reflected in off-farm prices, a point of some importance given livestock producers complaints at this time about the inefficiency of marketing arrangements in Spain.

³⁸ See especially Tortella, 1992, and Galassi, 1986. In 1931 the area of artificial pastures in Spain was 374 thousand hectares, or 2.4 per cent of the total. GEHR 1983a.

3. Tariffs: an obstacle to off farm migration?

The belief that tariff policy in Spain slowed the rural exodus has been frequently discussed in the literature. Elsewhere I have suggested that there seems to have been a widening of the rural-urban wage gap between 1860 and 1896, which then starts closing slowly.³⁹ These trends appear compatible with employment figures. Thus whereas between 1860 and 1910 approximately two thirds of the active male labour force was found in agriculture, the figures fell to just under half by 1930. Furthermore labour productivity in agriculture grew only slowly in the second half of the nineteenth century, stagnated between 1891/5 and 1909/13, and then increased by approximately 60 per cent by 1929/33.⁴⁰ In other words, the relatively high wage gap between 1896 and 1914 occurred at a time when agricultural productivity was stagnant, and the number of workers in the sector grew between 1887 and 1910 by 16 per cent.⁴¹

However, more direct information is available to consider the impact of tariffs and off-farm migration. According to GEHR, between 1886-90 and 1930-5 the area sown with cereals and legumes, crops which benefited directly from protection, grew by 1.47 million hectares, or 18.3 per cent.⁴² If tariffs encouraged an increase in output which under conditions found in Spain implied an extension in the area cultivated, we would expect population to be retained in agriculture in those areas which saw a growth in the area cultivated. Table 6, however, suggests no obvious correlation. Of the 13 regions given, 7 had increases in the area sown greater than the national average and of these, 4 saw a greater decline in the farm population than the national

³⁹ Simpson, 1995.

⁴⁰ Simpson, 1994.

⁴¹ Nicolau, 1989.

⁴² GEHR, 1983.

Table 6. CHANGES IN AREAS SOWN OF CEREALS-LEGUMES AND RURAL POPULATION, 1886-90 AND 1930-5

	% change in area sown	% change in farm population
Cantabrian Coast	+85.3	-26.9
Upper Ebro	+58.2	-16.7
La Mancha	+35.7	+15.9
Extremadura	+35.3	+2.4
Western Andalucia	+34.0	+4.0
Castilla-Leon	+24.8	-24.6
Baleares	+23.8	-20.3
País Valenciano	+15.2	-8.2
Aragón	+8.5	-20.9
Cataluña	+7.9	-8.5
Eastern Andalucía	+4.3	+15.5
Murcia	+0.9	-18.8
Galicia	-12.1	-11.0
SPAIN	+18.3	-8.3

farm population refers to male labour only.

Regions: Cantabrian Coast (Asturias, Cantabria, Guipúzcoa and Vizcaya); Upper Ebro (Alava, Navarra and Rioja), La Mancha (Albacete, Ciudad Real, Cuenca and Toledo), Extremadura (Badajoz and Cáceres); Western Andalucía (Cádiz, Córdoba, Huelva and Sevilla); Castilla-León (Avila, Burgos, Guadalajara, León, Madrid, Palencia, Salamanca, Segovia, Soria, Valladolid and Zamora); País Valenciano (Alicante, Castellón and Valencia), Aragón (Huesca, Teruel and Zaragoza), Cataluña (Barcelona, Girona, Lleida and Tarragona); Eastern Andalucía (Almería, Jaén, Granada and Malaga) and Galicia (Coruña, Lugo, Pontevedra and Orense).

Sources: GEHR 1983 and Censos de población.

average. Of the remaining 6 regions, 4 saw a greater population decline than the country as a whole. In particular, it is worth highlighting the case of Castilla-León which saw a growth of 25 per cent in the area sown, but a fall of the same amount in the size of the farm population.

There was, however, one large region where it does appear that the growth in the area cultivated was accompanied by a growth in population, namely La Mancha, Western Andalucía and Badajoz. Here the area sown increased by a third (or the equivalent to just over half the national increase), whilst population grew by 11 per cent. If the impact of other crops (viticulture in La Mancha, olives in Andalucía) partly explain these changes, cereal tariffs probably also helped retain labour. Yet if this is correct, this poses a paradox, as it implies that in areas of small farms cereal tariffs encouraged both an extension in the area cultivated which was accompanied by a significant fall in farm population; by contrast, it would be in the areas of large estates and day labourers, in the south of the country, where the extension in cultivation would be accompanied by a growth in the labour force.⁴³ Clearly, something other than just the price of wheat was determining the rate of off-farm migration.

Conclusion

The aim of this paper is to question the importance of tariff protection for cereals, especially wheat, in explaining the backward nature of Spanish agriculture. In the first instance we accept that Spain in 1936 was a poor country and, despite obvious changes in the economy, not least in the agricultural sector itself, diets were poor in comparison to other European nations. Second, if tariffs pushed cereal prices higher than those on the international market, the difference between Spain and France or Germany, was small. However, whereas farmers in these two other countries reacted to cheap imports both by protection and by switching resources into other commodities, this was not in general the case in Spain. The area of cereal-legumes

⁴³ See especially Bernal, 1985.

in Spain, far from declining actually grew in the half century prior to the Civil War. Furthermore, within this figure, the area sown with feed grains grew only slowly compared to other countries. This was due not to the inefficiency of Spanish farmers, or the greater levels of cereal protection that they enjoyed, but rather the technical difficulties in introducing high-value crops, or intensive livestock farming systems prior to the 1960s.

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