

THE HISPANIC AMERICAN MARKET AND IRON PRODUCTION IN THE BASQUE COUNTRY (1700-1825)¹

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In spite of the remarkable achievements in recent years, the analysis and quantification of American colonial trade is still one of the most controversial subjects of contemporary historiography. From the classic studies conducted by Hamilton or by the Chaunus, to more recent contributions, the accumulation of individual and collective data has greatly expanded our knowledge. However, the existence of numerous interrogatives, continues to feed the on-going debate, providing constant renewal and enrichment.²

Although a general rule, the disagreements in the area of historiography are the eventual expressions of differing methodological norms, therefore leading to conclusions which do not always converge, in which case, the establishment of firmer and more unanimously accepted quantitative bases would help clarify fundamental questions. It would emphasize the rigour of our ideas and would place us in a position to address new problems and more ambitious objectives. In this regard, as was emphasised in the meeting recently held in Barcelona,³ for any progress in the study of colonial commerce, there is the need for exigency to a revision of the numerous quantitative problems which still exist.

Taking Basque region as a starting point, and limiting ourselves to one product -namely iron- it is our intention to analyze the fluctuations in iron production and Hispanic American colonial trade between 1700 and 1825. Naturally, the pursuit of the variables mentioned is not without its difficulties.

In order to examine the growth in trade which took place in the mid-eighteenth century, it is necessary to know what had happened in the preceding periods, especially in the latter half of the seventeenth century.

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Although there are still many blanks to be filled in, the fact is that the material gathered to date suggests that Basque iron production went through a long “century of depression” which, according to L. M. Bilbao, can be placed between 1620 and 1720. During this period, a “gradual decline in production took place from levels reached at the end of the previous century”. Faced with a rather pessimistic picture of what happened in the area of production, iron trade with America - as illustrated by L. García Fuentes, shows spectacular growth during the second half of the seventeenth century.⁵

In principle, it must be said that such divergence should not be a reason for doubt. Although the American market was one of the pillars on which the Basque industry leaned on, during the Ancien Regime notable changes took place, both in the geographical location of the market and in the relative participation of Basque iron in different markets. Such fluctuations would have been the result involving intricacies of technical and institutional conditions and would have constantly reflected the position of the sector and its capability of entering and competing in those markets.

As we will have the opportunity to verify later, the relative weight of colonial consumption of Basque iron increases when access to the competitive European market becomes more difficult. Indeed, as was the case in the closing decades of eighteenth century, during the seventeenth century Basque iron manufacturers tried to compensate for their losses in the international market by seeking refuge in the American market, which was institutionally protected by barriers that guaranteed a legal monopoly for Basque products.⁶

However, the relatively limited effectiveness of protectionist measures in containing imports of foreign iron into America should not be forgotten. In fact, the emphasis on such restrictive measures (1621, 1675, 1702, 1776, etc.), reveals the real difficulties in implementing them, even when competitive bases were not guaranteed:

“that in spite of these orders, a great quantity of foreign iron and iron products have been introduced, keeping them in Cádiz and Seville and then sending them to America concealed and mixed with products made in Vizcaya, Guipúzcoa and other parts of these realms or passing them from boat to boat without ever being brought to land”.⁷

Although officially the shipments registered in Seville or Cádiz proceeded from the Basque country, in fact a large volume, as could be expected, came from the leading iron producing centres in Europe during the second half of the seventeenth century, above all Liége and Sweden. In this way, given that the real

TABLE 1

Alterations in weight observed for different Metal Products (*Quintales*)

<i>PLANCHUELA</i> (<i>Qs./cabo</i>)	<i>CLAVAZON</i> (<i>Qs./box</i>)	IRON WORKS (<i>Qs./box</i>)	AND NAILS (<i>Qs./box</i>)	STEEL PLOUGHSARES (<i>Qs./unit</i>)	SLEDGEHAMMERS (<i>Qs./unit</i>)
0.43	7.85	2.08	5	0.11	0.55
0.50	2.85	2	2	0.08	0.48
0.32*	2.50	2.50	1.65		
1.60			1.56		
2.18			4		
			1.66		
			3.75		

* Planchuela sutil

Source: AGI, Contratación, Legs. 1.310, 1.312, 1.313.

TABLE 2

Exports of Iron through the Port of Bilbao destined for the Authorized Ports, 1765-1805 (*Metric Tons*)

YEAR	SANTANDER	LA CORUÑA	CADIZ	REST	TOTAL
1765	-	-	1648	-	1648
1766	37	40	2548	26	2651
1767	-	353	2633	114	3100
1768	2	180	2692	123	2997
1769	17	581	2178	234	3010
1770	12	111	1616	12	1751
1771	28	39	1960	434	2461
1772	32	252	1752	369	2405
1773	44	206	2390	20	2660
1774	-	75	1956	111	2142
1775	18	111	1370	474	1973
1776	33	118	949	548	1648
1777	14	101	1799	556	2470
1778	36	182	1431	668	2307
1779	41	224	2058	221	2544
1780	-	69	513	28	610
1781	7	22	388	198	615
1782	11	28	1021	74	1134
1783	12	50	1668	395	2125
1784	57	28	1574	194	1853
1785	101	110	2002	368	2581
1786	228	217	1648	523	2616
1787	147	-	1471	1122	2740
1788	289	93	1394	768	2544
1789	457	85	2820	796	4158
1790	928	28	1692	1088	3736

TABLE 2

(Continuation)

Exports of Iron through the Port of Bilbao destined for the Authorized Ports, 1765-1805 (*Metric Tons*)

YEAR	SANTANDER	LA CORUÑA	CADIZ	REST	TOTAL
1791	1417	162	1495	1633	4707
1792	1215	111	1636	817	3779
1793	881	131	367	519	1898
1794	1236	116	1675	937	3964
1795	907	176	614	741	2438
1796	144	65	408	1125	1742
1797	128	287	-	178	593
1798	87	96	-	139	322
1799	181	252	-	310	743
1800	174	115	-	173	462
1801	575	41	556	306	1478
1802	1071	271	740	806	2888
1803	1248	188	490	1199	3125
1804	1075	68	747	682	2572
1805	109	34	-	179	322

Source: Archivo del Consulado de Bilbao. Libros de Avería.

* The shipments marked as destined for "Galicia" are not listed although in some cases they may have included shipments for La Coruña.

magnitude of smuggling is unknown, the registers of the “Casa de Contratación” may well reflect the evolution of colonial consumption, but can hardly be taken as true indicators of the evolution of Basque iron production.⁸ Moreover, until the customs reform of 1720, the use of these same registers to measure the shipments of iron to the American market, irrespective of origin, gives rise to problems which in my opinion, must oblige us to treat the results with caution.

Before the customs reform, the weight of outgoing iron was rarely indicated. The wide range of crude iron which was always predominant in American trade (especially *platina*, *vergajón*, *planchuela*, *carretil*, *cuadrado*, *cuadradillo*, *tocho*, *hijuela*, *tiradillo*, *cabilla*, and *cellar*), was registered by recording the number of *cabos* loaded. These sometimes appear more clearly defined as double or single *cabos*, folded or unfolded.

There are also frequent entries in which only the number of folded *cabos* are indicated.⁹ Even if on certain occasions it is possible to translate *cabos* into *quintales*, as set out in table 1, the extent of diversity which exists does not permit us to standardize the data. The same difficulty exists with nails, iron fittings and steel, registered as number of boxes whose weight did not remain constant either. Even those products registered as individual pieces (ploughshares, hoes, spades and sledgehammers) are not at all uniform in weight, which is the logical result of the notable differences existing in dimensions and shapes within the same variety of iron.¹⁰

To summarize, until the tariff of 1720 the information contained in the register of the “Casa de Contratación” has basic unknown factors which seriously limit its utility.

Unfortunately, the study made by L. Garcia Fuentes, which is the only one to quantify colonial traffic during the second half of the seventeenth century, adds new elements of confusion regarding shipments of iron, owing to a lack of other sources of information. The mistakes made in the classification of certain register entries impede their correct interpretation.¹¹ Nevertheless, given the notable growth indicated by the data, the long term tendencies should not be altered. This shows us a growing colonial consumption probably attributable to the demand for equipment from the mining sector and from the agricultural plantations emerging from the second half of the seventeenth century onwards.¹²

In spite of this, as mentioned above we cannot be sure that this optimism was reflected in the Basque industry, the official supplier to the American market, and hypothetically speaking, responsible for the shipments registered in Seville. In this area, of course, it is necessary to obtain more clear quantitative



Figure 1

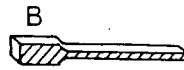


Figure 2

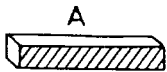


Figure 3

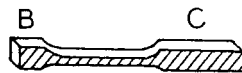


Figure 4

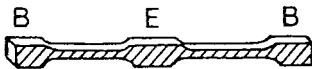


Figure 5

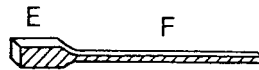


Figure 6



Figure 7

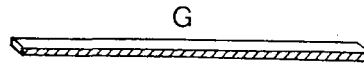


Figure 8

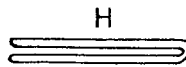


Figure 9

(Landrin, *Nouveau manuel complet du maître de forges ou Traité théorique de l'art de travailler le fer, la fonte et l'acier*, Paris, 1859, Vol. II, p. 199, taken from L.M. Díez de Salazar, *Ferrerías de Guipúscoa, siglos XIV-XVI*, Vol. i, p. 296).

facts than those currently available. However, the importance of smuggling and the possible diversion of exports away from the more competitive European markets towards the colonial market, help us to fit together the apparently conflicting images.

Most of the measurement and quantification problems mentioned diminish once the weight of the embarked iron (in Castillian *quintales*, pounds and *arrobas*) is entered in the registers of the “Casa de Contratación” which became general practice around 1720. So, based on the figures supplied by A. García Baquero, we have an estimate of the iron legally shipped to the colonies between 1720 and 1751.¹³

On the other hand, from 1733 onwards, we can compare the above data with the information contained in the “Libros de Averías” of Consulate of Bilbao - a reflection of events on the Bilbao-Cádiz axis - the principal commercial route to America for Basque iron throughout the eighteenth century.¹⁴

Although the tendencies cannot be clearly perceived separated from the logical interannual oscillations (graph 1), in the case of iron, colonial traffic does not appear to have prospered in the first half of the eighteenth century. On the contrary, during the period evaluated in A. García-Baquero's work, iron exports appear static or declining, the same being true for the majority of goods subject to *palmeo*.¹⁵

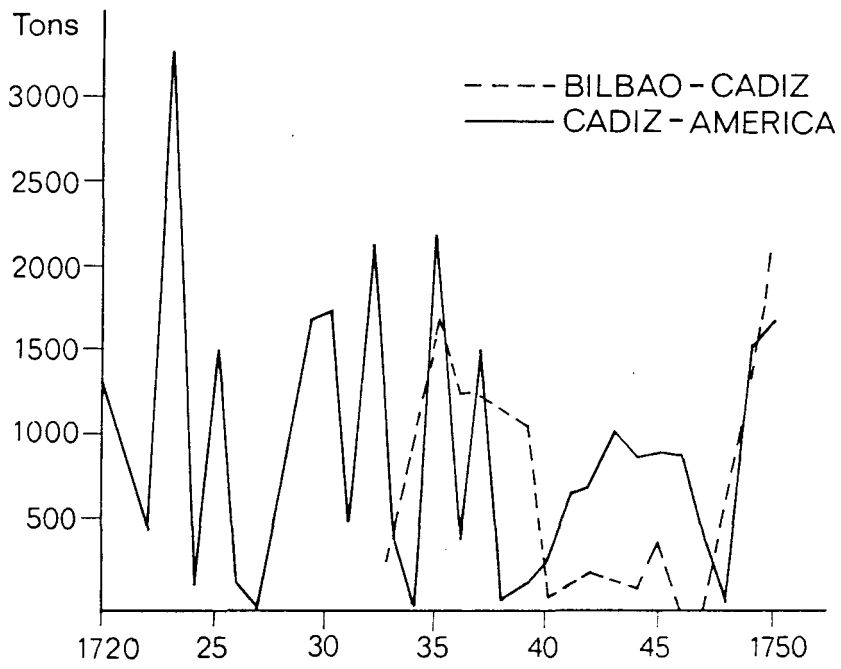
With reference to the period in which trade figures for Cádiz can be compared with those of Bilbao, the effect of the Anglo-Spanish war of 1739 is clearly reflected, as is its prolongation in the Succession War. As can be seen, the difficulties associated with the progress of the conflict are more clearly manifested in Cádiz. This could be a consequence of the growth of smuggling during the war years.¹⁶

Nevertheless, the decreased level of trade from Cádiz during the five years prior to the conflict, contrasting with the level of shipments from Bilbao, facilitated a greater degree of trade with America in 1740's based on shipments from Bilbao. In any case, the Basque industry was affected by a decade of international hostilities that deprived it access to British and colonial markets.¹⁷ The fall in iron and fuel prices, the contraction in iron-ore production and the decline in surplus rents are clear indicators of this effect.¹⁸

The situation alters in the latter half of the eighteenth century. Until that time, Basque iron was basically utilised for domestic consumption. But from the 1760s onwards, the geography of the market changed due to the growth in the relative importance of the colonial and internal markets.

GRAPH 1

Exports of Iron : Bilbao-Cádiz and Cádiz-América (1720-1750)



Source: R. Uriarte Ayo, *Op. cit.*, p. 199, table 30 for Bilbao-Cádiz; A. García Baquero, *Op. cit.*, vol. II, table, 35, pp. 200-209, for Cádiz-América

In this way, although it seems clear that in the most dynamic part of the eighteenth century, Basque iron production was orientated particularly towards Western European economies (above all, to France, Portugal, England, and the Netherlands). Exports tended to increase, at least from the 1750s onwards, due to the expansion in colonial markets and to a lesser extent the internal market, while in general, international markets remained stable (Graph 4).

To be more precise, according to the figures given in an earlier study,¹⁹ between 1733 and 1759 Cádiz received only 20.52 per cent of the iron exported from Bilbao and 10.98 per cent from other minor Spanish ports. During the same period the international market received 61.66 per cent, while the destination of 6.82 per cent remains unknown.

Later, between 1760 and 1789, the shipments to Cádiz and other ports authorized for direct trade with America made up 38.09 per cent of exports, and 12.61 per cent was shipped to unauthorized ports. On the other hand, the international market represented 45.60 per cent of the total imports. Finally between 1790 and 1825, Spanish ports, authorized or otherwise, received 81.87 per cent of exports, while their participation in the external market was reduced to a mere 17.57 per cent.

In terms of production, the highest levels of the century were reached around the 1760s and 1770s, probably equalling those levels which must have been achieved in the peak years of the sixteenth century.²⁰ From then onwards, until the 1790s, both production and export levels gradually declined. As we know, this change in the situation was brought about by the difficulties which had arisen internationally. The emergence of Russian iron production and the advent of the industrial revolution in England broke the traditional privileged position of Swedish iron in northern Europe, mainly in the British market.

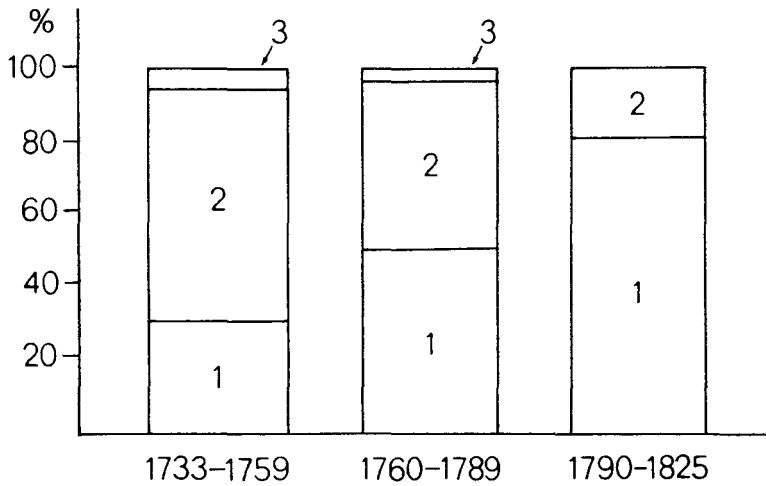
This situation rediverted Swedish exports towards Southern Europe²¹ while Basque iron, with its competitive position undermined by technological backwardness and rising costs of production, was progressively pushed out of the European market and reduced to marginal levels.

The limited access to the competitive European markets made it necessary to reinforce the position in the American colonies and in the Spanish market. Thus, as in previous periods of recession, the Basque iron manufacturers lobbied the Monarch to enforce restrictive legislation guaranteeing the American market for their products.

As a result of their lobbying, a Royal decree dated 28 May 1776, and later the Rules and Tariffs of 12 October 1776 ratified the prohibitive measures previously adopted. Further, the Rules and Tariffs of 12 October 1778 once again reaffirmed these measures.

GRAPH 2

Exports of Iron from Bilbao, Market Distribution

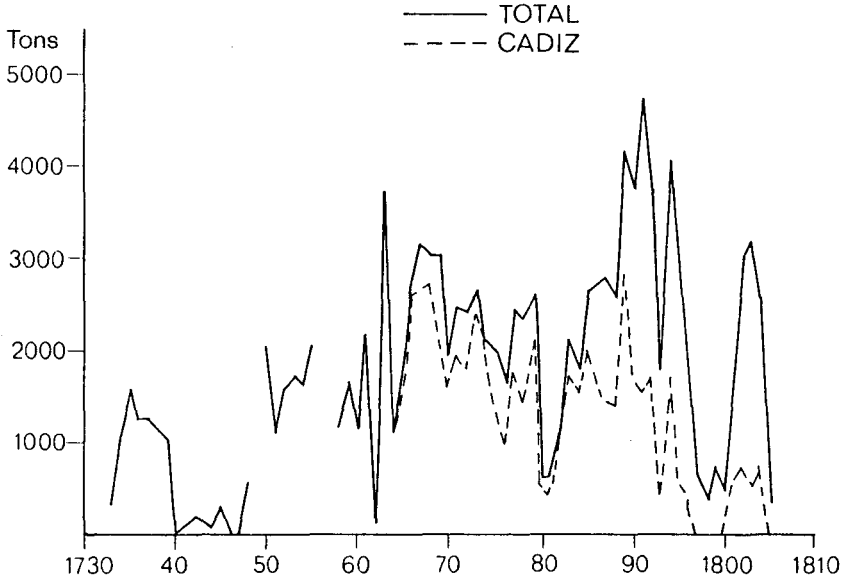


- 1- Colonial and Spanish market
- 2- International market
- 3- Unidentified.

Source: R. Uriarte Ayo, *op.cit.*, table 31, p. 204

GRAPH 3

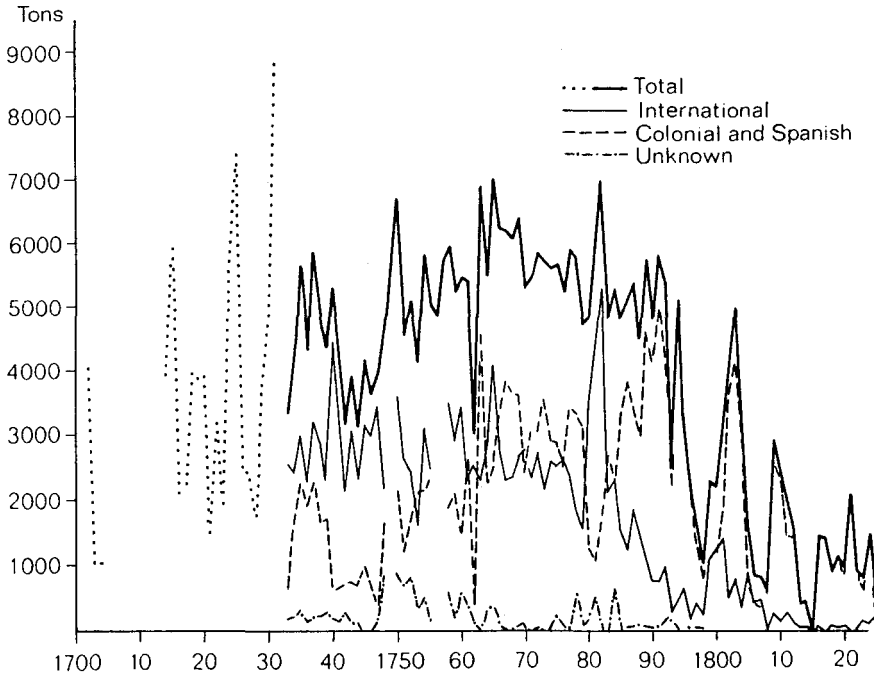
Exports of Iron from Bilbao to Authorized Ports



Source: table 2

GRAPH 4

Exports of Iron through the Port of Bilbao



Source: R. Uriarte Ayo, Ob.cit., p.202

Likewise, as proposed by the Basque provinces, in 1777 a customs inspection post (*veedor*) was set up in Cádiz to ensure tighter control of shipments and reduce smuggling that was denounced by the Basque country.

In spite of the fact that during this period the Spanish Crown still guaranteed important institutionalized protection for Basque iron, the port of Bilbao was excluded from the decrees that liberalized commerce with America. The lack of custom's check-points along the coast and the consequent benefits for smugglers were incompatible with a strategy whose aim was to guarantee a larger income for the Royal Treasury.²²

In any case, the usual practices of Basque commerce were altered by the authorization of nearby Cantabrian and Galician ports.²³ Bilbao reinforced its connections with Santander and La Coruña, and its commercial products (local iron and various European manufactured goods) were able to go through the formalities of registration in the above mentioned ports, thereby freeing itself from having to go through the port of Cádiz.

However, at least in the case of iron, the traditional routes inherited from the age of monopoly were not greatly altered until the end of the eighteenth century. As can be seen in our list (table 2), although it had lost its legal monopoly, Cádiz retained its commercial supremacy until the 1790s.²⁴

Even during its privileged period of "Correos Marítimos", La Coruña never managed to attract Basque iron exports.²⁵ Only Santander, although at a later stage, seemed to confirm itself as an alternative from the mid-1780s onward.²⁶

The expansion of home consumption and colonial demand, at least until the 1790s, compensated for the inevitable gradual loss in the international market, thereby avoiding a premature crisis in the sector. Under these circumstances, it was possible to maintain acceptable levels of production without renewing equipment or adopting the innovations being introduced in more advanced European countries.

Thus, at the end of the eighteenth century the Basque iron industry had acquired a technological backwardness which weakened its competitive position in Europe, and ultimately endangered its access to the traditionally protected markets. On the other hand, in the 1780s, the tariff treatment given to iron from the Basque country took a decisive turn. When the tariff of 1782 came into force, the prohibitionist policy in force up to then was definitively abandoned and a protectionism was established.

This eventually opened up both the domestic and colonial markets to foreign iron. Later, the Royal Command of 26 June 1783 and the "overland" tariff of 26 January 1789, imposed new levies on Basque iron on its entry into

the American and home markets.²⁷ Given all these circumstances, after the gradual decline of the three previous decades, from 1790 onwards exports of iron from the port of Bilbao declined rapidly.

On the international level, this decline became definitive and generalized in the last decade of the eighteenth century, although the timing of the decline was different in the case of each European market.

The colonial market closed off more gradually but progressively during the first quarter of the nineteenth century.²⁸ Finally, although the relevance of the internal market grew with the crisis, according to trade figures for the turn of the century, the level of sales remained static. Consequently, it was unable to compensate for the losses suffered on an international and colonial level.²⁹

Thus, the traditional Basque iron industry, increasingly confined itself to the home market, and confronted with growing difficulties, managed to prolong its existence until it was superseded by new technology and the inception of the sector's modernization.

NOTES

- 1 A version of this article was presented at the "TV Congreso de Historia Económica de España. Sesión tercera: Relaciones económicas entre España y America", Alicante, 1989. This new version was completed at the Fernand Braudel Center (SUNY-Binghamton), whose members, especially the director Immanuel Wallerstein, I would like to express my gratitude for their kind hospitality during the academic year 1991-1992.
- 2 A study of the outstanding contributions up to the turn of this decade can be found in J. Fontana "Comercio colonial y crecimiento económico. Revisiones e hipótesis" in J. Fontana (ed) *La Economía Española al final del Antiguo Régimen III. Comercio y Colonias*. Alianza Editorial/Banco de España, Madrid, 1982, pp. XI-XXXIV. The regional studies concentrating on the period of free trade are summarized in C. Martínez Shaw "Los comportamientos regionales ante el libre comercio". *Manuscripts*, December 1987, pp. 75-89.
- 3 "XIII Simposio de Análisis Económico. Sesión III: El comercio entre España y América - Siglos XVIII y XIX -, Problemas de cuantificación," Barcelona, 1988.
- 4 L. M. Bilbao "La industria siderometalúrgica tradicional en el País Vasco (1450-1720)", in *Hacienda Pública Española*, 108/109, 1987, p. 58.
- 5 L. Garcia Fuentes, *El comercio español con América 1650-1700* Sevilla, 1980, pp. 266-291. Based on the information given in L. Garcia Fuentes study, J. Fontana has built up the following indexes for iron:
- | | |
|-----------|-----|
| 1650-1659 | 100 |
| 1660-1669 | 384 |
| 1670-1679 | 570 |
| 1680-1689 | 579 |
| 1690-1699 | 995 |
- (Source: J. Fontana "Comercio colonial y crecimiento económico," p. XXII).
- 6 R. Uriarte Ayo, *Estructura, desarrollo y crisis de la siderurgia tradicional vizcaína (1700-1840)*, Bilbao, 1988, pp.211-212.
- 7 Archivo General de Indias. Contratación Leg. 5088.
- 8 In fact, as P. Vilar warns "the movement in Seville, of world-wide importance, gives incorrect information about Spain and may even be inversely related" ("Crecimiento económico y análisis histórico", in *Crecimiento y desarrollo*, Ariel,

Barcelona, 1974, p. 58, n. 122) 9 In this way, entries which we could find were similar to the following examples found:

“three hundred bars of *planchuela* iron”

“thirty six double bars of *carretil* iron”

“nineteen single bars of *hijuela*”

“*planchuela* iron which consists of seven hundred bars, some folded and others to be folded”

“six hundred folded bars of *planchuela* iron”

(Source: AGI Contratación, Legs, 1203, 1248 and 1265)

The *cabo*, a term used in the documentation of the sixteenth, seventeenth and the early eighteenth century would be the equivalent of the bar which became widespread by about 1730 for entries of crude iron. At a certain period of time we find mixed entries like the following:

“1586 *quintales* and 41 pounds of iron in 4111 half bars or *cabos*”

“1822 *quintales* and 66 Castillian pounds of *platina* iron and *cuadrado* iron in 3644 half double bars”

“63 *quintales* and 81 pounds of iron in 375 pieces or *cabos* of *cabilla*”

“44 *quintales* of *planchuela* iron in 315 folded bars”

(Source: AGI, Contratación, leg. 5003)

As can be seen in the diagram, the larger bars were often folded in order to facilitate their handling, storage and transport, thus giving rise to the term folded *cabos* which normally figures in the registers. Occassionally, in the eighteenth century we can also witness a different usage of the term *cabo* referring to hardware and other kinds of merchandise in the “Libros de Avería” of Bilbao Consulate registers.

10 If we examine a shipment of *planchuela* and *cavilla* destined for the Puerto Rican artillery we find the following details:

634 *quintales* of *planchuela*, 4 inches wide and 8 lines thick.

122 *quintales* of *planchuela*, 3 1/2 inches wide and 6 lines thick.

113 *quintales* of *planchuela*, 3 1/3 inches wide lines thick.

738 *quintales* of *cavilla* of 1 inch and 8 lines diameter.

179 *quintales* of *cavilla* of 1 inch and 4 lines diameter.

11 The *cabo*, the unit used in registers of crude iron in all its classes (see note 8) is considered by the author mentioned as one more variety, equivalent to *doblado* and *cavilla*. Therefore, he establishes a column for the non-existent “*cabo* and folded iron” (L. García Fuentes op. cit., pp. 269-270), where *cavilla* iron (bars with a circular cross-cut and varying dimensions) is supposedly included. The column given to the so-called *sotil* or *sutil* iron is equally erroneous. This term, although sometimes used to describe a specific variety of iron, was used to designate the thinner materials within each of the different commercial varieties. So, given that there were *sotiles-vergajones*, *sotiles-planchuelas*, *sotiles-cuadrados*, *sotiles-platinas*, etc, it is still not clear how we can interpret shipments like the following

“fifty six folded *cabos* of *platina sutil*”

“one hundred and eight folded *cabos* and half *vergajon sutil*”

“one hundred folds of *cuadrillo sutil* iron”

“six hundred and eight *cabos* of *planchuela sutil* iron from Vizcaya”

(Source: AGI, Contratación, Legs. 1178, 1184, 1263)

- 12 L.M. Bilbao, *art. cit.*, p. 60.
- 13 A. García-Baquero, *Cádiz y el Atlántico (1717-1778)*, Sevilla, 1976, Vol. II, table n. 35, pp. 200-209.
- 14 R. Uriarte Ayo, *op. cit.*, table n. 30, pp. 198-202.
- 15 E. Fernández de Pinedo “Coyuntura y Política Económica,” in *Historia de España*, vol. VII. *Centralismo, Ilustración y Agonía del Antiguo Régimen 1715-1833*, Barcelona 1980, p. 132.
- 16 G.J. Walker *Política Española y Comercio Colonial, 1700-1789*, Barcelona 1979, pp. 259-263.
- 17 It is, however, appropriate to observe the evolution of the Portuguese ports, mainly Lisbon and Oporto, which underwent expansion during the most difficult periods. This confirms the importance of Portugal as an alternative means of access to the American market in circumstances where the war blocked customary routes. (On the importance of Portugal in colonial trade, see C.D. Malamud Rikles, *Cádiz y Saint Malo en el comercio colonial peruano (1698-1725)*, Cádiz 1986 p. 41; also, A.Christelow “Great Britain and the Trades from Cádiz and Lisbon to Spanish America and Brazil 1759-1783”, *Hispanic American Historical Review*, XXVII, 1947).
- 18 For Guipúzcoa see I. M. Carrión, *La siderurgia guipuzcoana en el siglo XVIII*, Bilbao, 1991, pp.281-282; for Vizcaya R. Uriarte Ayo, *op. cit.*, pp. 216-226.
- 19 R. Uriarte Ayo, *op. cit.*, table 31, p. 204. Although the shipments from Bilbao to Cádiz or any other port authorized for direct trade with America cannot be assumed equivalent to shipments to the colonial market (given that we do not know the other possible markets), a strong correlation no doubt exists between them, above all in the case of Cádiz.
- 20 L.M. Bilbao and E. Fdez. de Pinedo, “Auge y crisis de la siderometalurgia tradicional en el País Vasco (1700-1850)”, in P. Tedde (ed.) *La economía española al final del Antiguo Régimen II Manufacturas*, Madrid, 1.982, p.151.
- 21 K.G. Hildebrand, “Exportation du fer et navigation en Baltique. Un probleme de l’histoire de la Russie au XVIII siecle”, in *Le navire et l’économie maritime du nord de l’Europe du moyene âge au XVIIIème siècle*, Paris, 1960, pp. 111-120, and

idem., "Foreign Markets for Swedish Iron in the 18th Century," in *The Scandinavian Economic History Review*, vol. n. 1, 1958, pp. 3-52.

- 22 The fiscal aims of the Monarchy have been highlighted by J.M. Delgado in different studies, see "Fiscalidad y comercio con América: los resguardos de renta de Cataluña (1778-1799)," in *Boletín Americanista*, 1980, n. 30, pp. 69-88; "Política ilustrada, industria española y mercado americano (1720-1820)," *Pedralbes*. n.3, 1893.
- 23 See A. Zabala, "La distribución de la actividad comercial en el Cantábrico en torno a los Decretos de Libre Comercio", in VV.AA., *Mercado y desarrollo económico en la España contemporánea*. Madrid, 1.986, pp. 41- 67.
- 24 For an overview of the geographical distribution of colonial trade after the free trade decrees, see J.Fisher, *Commercial relations between Spain and Spanish America in the era of free trade, 1778-1796*, Manchester, 1985, pp.49-53, 64-66; J.Cuenca Esteban, "Statistics of Spain's Colonial Trade, 1792-1820: Consular Duties, Cargo Inventories, and Balances of Trade," *Hispanic American Historical Review*, 1981, pp.381-428, table III.
- 25 Although Basque iron features among Spanish goods arriving in Galician ports for reexport to America, according to the figures for the free trade periode given in L. Alonso Alvarez, *Comercio colonial y crisis del Antiguo Régimen en Galicia (1778-1818)*, La Coruña, 1986, p. 89, it was of little importance from both the Basque point of view and that of the Galicians.
- 26 It is true that traders from Bilbao decided to move to Santander, some even set up flour factories and tanneries in that area (E. Fernández de Pinedo, "Coyuntura y Política Económicas," p. 156). However, the commercial activity in the Cantabrian capital, under "the influence of the powerful Basque commercial bourgeoisie" (J.M. Delgado, "El modelo catalán dentro del sistema del libre comercio," in VV.AA., *El "comercio libre" entre España y América (1765-1824)*. Madrid, 1.987, p. 60), ended up acquiring its own characteristics, Basque iron not playing a very important role in its trade (see T. Martínez Vara, *Santander de villa a ciudad*. Santander, 1983, pp. 153 and the following.)
- 27 R. Uriarte Ayo, *op. cit.*, pp. 228 and following.
- 28 L.M. Bilbao, E. Fernández de Pinedo, "Auge y crisis de la siderometalurgia," pp. 178-179.
- 29 R. Uriarte Ayo, *op. cit.*, pp. 210-211.