

THE SPANISH TRADE IN AMERICAN COTTON: ATLANTIC SYNERGIES IN THE AGE OF ENLIGHTENMENT *

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RESUMEN

Este artículo documenta e interpreta el comercio español en algodón americano que se desarrolló entre los años 1740 y 1790. Siguiendo un análisis historiográfico concerniente a este comercio, aporta datos sobre la cantidad importada, el Estado, con o sin pepita, en que se introducía, sus orígenes en el imperio americano, las medidas para su transporte marítimo, sus costes de flete y los precios pagados en España. Muestra que el crecimiento de este comercio está relacionado con un incremento en la demanda para el algodón en rama durante los primeras etapas de la industrialización catalana cuya satisfacción fue facilitada por las reformas introducidas en el sistema colonial hispánico.

Palabras clave: algodón, América, comercio, Cádiz, Barcelona, Europa

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ABSTRACT

This article documents and interprets the Spanish trade in American cotton which developed between the 1740s and 1790s. Following an analysis of the historiography concerning the trade, it provides data on the quantities imported, the state, ginned or unginned, in which it was imported, its origins in the American empire, the shipping arrangements made for its transport, the charges for its freight and the prices which were paid for it in Spain. It shows the growth of the trade to be related to growing demand for raw cotton during the early stages of Catalan industrialization, the meeting of which was facilitated by the reforms introduced in the Hispanic colonial system.

Keywords: cotton, America, trade, Cádiz, Barcelona, Europe

JEL Classification: N63, N73, N76, N94, N96

«El algodón brota del suelo por su propia voluntad» (Intendant of Caracas, 4 April 1777)¹

«sintiendo el desperdicio del algodón de que abunda la América, que en opinión de muchos es inútil, he experimentado el desvelo con el que ha hecho venir el que es de la más excelente calidad y aptitud para hilarse y tejerse con la delicadeza de la mas fina Holanda y Mosulina» (Jaime Campins, founder of the Royal Manufacture of Mataró, 1747)²

«si ... se facilita, y logra el que venga abundancia de algodón en rama de las Américas, con la conveniencia de fletes necesarias para que estas Fabricas puedan tenerlo a moderados precios, aunque vengan muchos millares de quintales, no faltarán con el tiempo manos que la hilen» (Informe de la Junta Particular de Comercio of Barcelona, 26 September 1775)³

«la història del cotó colonial com a matèria prima per l'indústria de les indianes està plena de dificultats i la fibra procedent d'America va tardar molt de temps a tenir expedit el seu camí fins a la indústria metropolitana», J. M. Oliva Melgar (1986, p. 167).

¹ Hussey (1972, p. 284).

² Archivo de la Corona de Aragón (henceforth ACA), Registro de la Superintendencia, 1/26, ff. 161-70.

³ Biblioteca de Cataluña (henceforth BC), Junta de Comercio (henceforth JC), leg 33, n.º 7, ff. 2-5.

1. INTRODUCTION

The growth of a Spanish trade in American cotton in the late 18th century played an important part in the early industrialization of the Catalan cotton industry. It also supplies a significant example of the adaptation of Spain's American empire from serving, principally, as a source for precious metals to supplying tropical commodities in a context of greater economic integration with the metropolitan economy. It has not, however, attracted much attention from historians. It is barely touched upon in a penetrating study which Antonio García Baquero González (2003, pp. 59-102) published on the changing make up of the American import trade and is not mentioned in an article by Josep Maria Delgado (1992, pp. 38-61) on the Barcelona market for tropical agricultural products at the end of the 18th century. It has been considered, true, in the context of studies of the Catalan calico-printing industry, but the predominating line in interpretations here has been that of a failure of the American product in the face of competition from the Mediterranean, primarily Maltese, cotton yarn which had supplied this industry since its inception. While an acceleration in the growth of the trade in the closing decades of the century has been noted, there has been no consensus concerning its exact timing nor its causes.

The purpose of this article is to contribute to redressing this gap in our knowledge. It takes the following form. I start by summarizing the existing literature and some contemporary views on the trade and then present data on the following aspects of its development: the value of cotton imports [here I shall be making use of data collected by John Fisher (1985, pp. 114, 116)], the weights imported and the state—unginned or ginned—in which it was delivered, the relative importance of Barcelona and Cádiz as points of import, the sources of the commodity in the empire, the shipping arrangements adopted for it, freight costs and selling price in Spain. In a conclusion, a short review of salient features in the trade's development is presented.

It will not be possible to resolve all the issues which have been raised in the historiography. Some—like the causes for the rise in the demand for American cotton in Catalonia, the links between its availability and the Catalan «take-off» in cotton or the developments in cotton growing in areas of the Spanish empire—require articles in their own right. However it is intended that the presentation of data on this range of issues will serve to outline the main contours of the trade's progress up to the hiatus occasioned by the outbreak of war with Britain in 1797 and contribute thereby to making the case for the success of the trade as an important event in itself—a sign of significant market development and economic potential within the Hispanic world—as well as representing an evident contribution to the Catalan precocity in cotton.

2. HISTORIOGRAPHY

The literature relating to the trade in American cotton has related principally to the following areas: the success of the Maltese in holding onto their early domination of the Barcelona cotton market (a barrier to the early development of the American trade, it is believed), the initial difficulties experienced in achieving the ginning of cotton and the barrier which this represented to growth in the trade, problems encountered in shipping the cotton (added to by the difficulty just mentioned), the relative failure of Royal Trading Companies (those of Caracas and Barcelona) in promoting cotton plantations in the Caribbean in the 1760s and 1770s, the appropriateness of the colonial reforms to stimulating the trade and the timing, and causes, of the trade's expansion in the period after the American war.

The preference for Maltese yarn has been accounted for in terms of its price and the generous credit conditions on which it was supplied. So favourable were these, it is argued, that sporadic attempts made by Catalan calico-printers to spin American cotton should be interpreted as purely «conjunctural» gestures, intended either to check Malta's abuse of its monopoly position or as *quid pro quos*—signals of an interest in promoting the use of the imperial product—for the fiscal concessions granted by the crown on the import of the Maltese yarn. The interpretation was first formulated by Ramon Grau and Pilar López (1974, pp. 25, 32): «el pacte amb els comerciants maltesos importadors del cotó filat de Llevant», they claimed, «no solament ha resolt el problema [of cotton supply], sinó que ha representat ... la possibilitat d'expandir-se minimitzant les inversions ... Per aquesta raó, la gran majoria dels fabricants barcelonins consideraran fins al final de segle l'empresa de filar cotó a Catalunya com a contrària als propis interessos» and they accounted for the establishment of the Royal Barcelona Spinning Company in 1772—the best known of the initiatives to spin with American cotton (Thomson, 1992, pp. 239-44)—as, «una iniciativa de gran volada contemplada des de l'exterior però ... concebuda pels fabricants barcelonins com a empresa ruïnosa ... posada en marxa únicament per tal de garantir al rei una quota mínima de consum del cotó americà i aconseguir d'aquesta manera la suspensió de les noves càrregues sobre el cotó maltès». The judgements have found general acceptance, Alejandro Sánchez (1989, pp. 76-81), for example, describing the Royal Spinning Company as «una empresa limitada, muy gravosa y poco rentable».

The erratic demand for raw cotton occasioned by the calico-printers' initiatives during the early years of growth in their industry was responded to principally from Vera Cruz. The problem with this source of supply was the difficulty in attaining the cleaning of the cotton at source and resultant difficulties in its shipping. The issue is noted by Carlos Martínez Shaw (1972, p. 266): «El algodón en rama debía ser despepitado *in situ*», he wri-

tes, «pues de cada arroba catalana de 26 libras, solamente 10 resultaban aprovechables para el hilado después de esta operación, siendo por tanto inútil y gravoso el transporte a España». Its gravity is shown by the records of cotton importing undertaken by the calico-printer Bernardo Gloria, who pioneered cotton spinning in Catalonia during the 1750s. Of 76 *tercios* of cotton imported on his behalf into Cádiz between 1751 and 1756, only 4 were delivered «sin pepita» having been cleaned «a mano». A ginning machine dispatched to Vera Cruz, it was noted, had not yet been put into service⁴. The root cause of the difficulty is revealed by details of the cotton supplying arrangements within the cotton industry of New Spain. Vera Cruz, with Oaxaca, were the main cotton suppliers for the Puebla-centred industry. The port was thus an appropriate place for the Catalan purchases of cotton but the form in which the cotton was offered reflected the structures of the Mexican trade. Cotton cleaning was not carried out on the coastal plain but in the mountainous interior, in and around Puebla, where the density of population caused labour costs to be lower and the milder climate made working conditions bearable⁵. Catalan exporters' attempts to have cotton ginned in situ were repeatedly frustrated in the face of these circumstances.

An emphasis on the problem of shipping the cotton is to be found regularly in early documentation on the trade. The third epigraph to the article reflected a generally held belief that it was shipping difficulties which were holding the trade back and that, were adequate supplies ensured by administrative measures, its use would soon spread in the peninsula. Such views continued to be subscribed to until the very eve of the trade's take-off: «El estado actual de la navegación, la diversidad y abundancia de frutos que presenta la América a quien trafica en ella», it was claimed by a spokesman of Barcelona's Chamber of Commerce in March 1783, «no... permitan esperar que en los primeros años de paz pueda destinarse suficiente buque a tan gran transporte, mayormente tratándose de un genero cuio flete no es susceptible de economía... imposibilitándole su mucho volumen y poco peso de estar destinado al lastre»⁶.

During the 1760s, with the foundation of the Royal Barcelona Trading Company in 1755 and the diversification of the Basque Caracas company into promoting cotton plantations, expectations for the development of the trade shifted from the Vera Cruz area to the Caribbean. The so-called «Comercio libre de Barlovento», of 16 October 1765, opening the islands of the Caribbean to direct trade with nine peninsular ports, represented a further stimulus to the switch. The new spirit is shown by a marked rise in Catalan shipping ventures to the Caribbean with an annual average of at

⁴ Carrera Pujal (1997, vol. IV, p. 141).

⁵ G. P. C. Thomson (1986, pp. 178-80, and 1989, pp. 38-40).

⁶ BC, JC, leg 51, 12, ff 7-14, Report of de Guardia and de Duran, 13th March 1783.

least 18-20 sailings for the period 1766-73, some 2/3 of which were free trading vessels⁷. However, only minor returns in cotton were generated by these, other tropical products, such as sugar, providing far better commercial prospects⁸.

On the other hand, the commercial companies mentioned had greater resources than private traders for promoting new commodities such as cotton and their royal charters had been granted in the expectation of their playing a «developmental» role in the region. A fiscal incentive had also been ceded in the form of customs exemptions on the import of cotton and other tropical commodities into Spain. Successes were achieved. The Barcelona Company imported almost 6,000 lbs of cotton in the course of 1764, supplying the requirements of the calico-printer Joan Canaleta who was re-introducing cotton spinning at this point⁹. The Caracas Company also supplied cotton: over 20,000 lbs between 1767 and 1770¹⁰ and had developed a link with Canaleta, agreeing to purchase all the calicoes which he manufactured with American cotton¹¹. Canaleta's lead was followed by other printers in the late 1760s. A virtuous circle appeared to be in process of creation. The Barcelona and Caracas companies collaborated in 1768 in delivering ginning equipment to the province of Caracas and the island of Cumaná to facilitate the cleaning of cotton¹². Overall results, however, were paltry. Over thirty years of trading, the Barcelona Company (1756-1785) only imported 64,000 lbs of cotton, a mere 0.33 per cent of the value of its total trade. Its priorities, overwhelmingly, were towards cacao, accounting for 59.8 per cent of the value of its imports. Nor had much progress been made with ginning, only 576 arrobas of cotton, 20 per cent of the total, being definitely dispatched ginned¹³. Efforts to promote the new trade had been made during the 1760s but they had not been sustained. The Caracas Company's record was similar. Its 1760s cotton exports to Spain were the highest in its history and at that stage it collaborated in the establishing of cotton plantations in Venezuela, securing technical assistance from a French planter from Martinique. This level of exports, however, was not sustained and the plantations established were small scale, planters limiting them to a few hundred plants directed at supplying their household needs for cotton¹⁴.

The apparent inability of either of these two companies, or private traders, to supply Barcelona's cotton requirements provoked the drawing up of

⁷ Fisher (1985, p. 9), and McFarlane (1993, p. 124).

⁸ Oliva Melgar (1987, pp. 76-7).

⁹ Oliva Melgar (1986, pp. 168-9).

¹⁰ Hussey (1972, p. 463).

¹¹ Albareda & Sancho (1988, p. 293).

¹² BC, JC, leg 53, n.º 4, letter of 6 July 1768.

¹³ Oliva Melgar (1986, pp. 165-72).

¹⁴ Hussey (1972, pp. 253-4).

a report by the city's Junta de Comercio in 1771 and extensive correspondence between this body, the Junta General de Comercio, the governor of Cumanà and the directors of the Barcelona Spinning Company between 1774 and 1775. The exchanges reveal the difficulties perceived as preventing the successful launching of the trade. Principal blame was attributed to the cost of the Caribbean product, higher at source than that of Levant raw cotton sold in Barcelona. Uncompetitiveness was accounted for by the cotton supplied being wild, rather than cultivated, and consequently costly to gather and deficient in quality. The link between lack of ginning resources and high freightage costs was again emphasized. «La base fundamental» for remedying the situation, it was agreed, lay in the establishment of plantations. The Governor of Cumanà's response to a series of queries directed to him was to confirm both the suitability of his island for «haciendas de algodón» and the quality of the range of cottons which was being cultivated on them, but to point out that that progress in the trade «consistirá en tener suficiente provisión de Negros para la seguridad de trabajadores». From Barcelona came the suggestion that cotton planters be provided with «algún caudal» to buy slaves to remedy this deficiency¹⁵.

Josep-Maria Delgado (1990, pp. 161-79) criticizes the appropriateness of the colonial reforms adopted for the promotion of the trade. «El comercio libre de Barlavento», he claims, provided only limited geographical scope for provisioning in cotton, a particular handicap being its exclusion of Venezuela which remained within the monopoly of the Caracas company. With respect to the areas of the Caribbean to which Catalans did gain entry, their poverty, he argues, and the low demand within them for Spanish products, meant that profits could only be attained on the return cargoes, leading to the prioritization of the export of luxury commodities over cotton. These circumstances lead him to confirm the contemporary verdict that cotton plantations were the only solution but he notes that the initiatives taken here by Catalans in Cumaná were not persisted with as the island was ceded to the Caracas Company in 1776. Nor were circumstances much improved, he argues, by the various amplifications in the free trading area. He judges the permission granted in 1776 and 1777 to admit the New Granada ports of Cartagena and La Hacha, and the Regulation of Free Trade of 1778, which extended the zone to include Chile, Peru, Rio de la Plata and all New Granada, to have been of little service in view of the commercial prospects in New Granada being insufficiently favourable to attract direct Catalan voyages there and the fact that the 1778 measure left the Venezuelan monopoly intact. He concedes that there was some response during the 1780s to the curtailment of Cumaná supplies, New Granada cotton taking its place, but claims that «l'arribada regular del cotó» was dela-

¹⁵ BC, JC, leg. 51, n.º 1, ff. 1-8, informe of 19 Dec. 1771, leg 33, n.º 11, ff. 3-5, letter of 27 April 1774 and ff. 6-8, informe of 23 March 1775.

yed until «l'autorització del comerç lliure amb Veneçuela [1789], oferint un producte de superior qualitat».

Turning to this last question of the causes and timing of the final, successful launching of the trade, Grau's and López's (1974, pp. 33-4) interpretation had been different from that of Delgado. From 1775, they had claimed, the supply situation for cotton in America had improved on account of the diffusion of cotton ginning equipment and the Regulation of Free Trade of 1778 which facilitated trading in the commodity. They also attributed importance to the level of demand for the commodity within Catalonia. From 1779, they noted, private spinning with Levantine raw cotton had been progressing (war interfering with provisioning from America) and this trend, they argued, was accentuated by the victory in the American war which «obre una conjuntura...favorable per la indústria i el comerç Catalans» and incipient awareness of «els efectes multiplicadors de la nova maquinària anglesa». Between them, they maintained, the influences transformed calico printers' attitudes towards spinning: «La filatura en si mateixa comença, amb la gran expansion de les activates, a presentar-se com a empresa atractiva a nivell de cada empresari».

Estimates of Barcelona's cotton imports for the 1780s produced by Joan Carles Maixé Altés (1988, pp. 365-84) are consistent with such an interpretation. They show over 400,000 lbs of raw cotton being imported in 1784, of which 36 per cent came from America and the rest from the Levant and that American imports on their own were approaching a million lbs by 1789 and had franchised this frontier by 1790. He cites a customs official's note on this trend:

«Desde el ... año de 1785», the note reads, «se han aumentado algunas Fábricas de Indianas y Pintados en varios Pueblos de esta Provincia como son Olot, Vique, Manresa, Villanueva y Mataró y ... prosperan como igualmente otras Fábricas de menor entidad situadas en Lugares pequeños que son muy útiles porque en ellas regularmente se hilan y texen los algodones de América, con poca o ninguna mezcla de los de Malta, o Levante».

However, although his figures and the comment suggest a «take-off» in the trade, Maixé Altés is reticent about judging the developments as amounting to a «success» in view of a continued competitiveness shown by the Maltese product and the fact that much of the cotton still arrived unginned. The favourable trends show «el débil enraizamiento del sector algodonero catalán en el mercado americano», he writes, but were «aun muy lejos de responder a la integración entre industria metropolitana y mercado colonial ... de la economía catalana ya entrado el siglo XIX».

The most recent tendency in the literature has been to attribute the catalytic role in the trade's development to an expansion in the export of

printed linens to America. It is reflected in publications by Alejandro Sánchez (1996, pp. 158-9) and Francesc Valls (2003, pp. 372-4) which argue that the export of printed linens to America acted as the trigger for the growth in American cotton imports. Sánchez was the first to suggest the connection, claiming that «La exportación de lienzo a las colonias potenció, como contrapartida, la llegada a la metrópoli, en mayores cantidades y en mejores condiciones de calidad y precio, del algodón en rama americano». Francesc Valls, who in his thesis, had documented the trading relationship between Catalan producers of aguardiente and linen manufacturers and traders in northern France which had facilitated the import of the linens in question, developed the theory further. The aguardiente exporters from south-east Catalonia who exchanged their product for northern linens, he shows, diversified in the course of the 1780s into calico and linen printing in order to develop a stake in the booming export trades with America. As a consequence of this involvement «es degueren adonar que important cotó en floca com a retorn de les exportacions de pintats que feien cap a les colònies podien tancar el cercle: seria la manera de trencar la dependència tradicional que l'activitat estrictament cotonera de les seves fàbriques tenia de la importació de cotó filat maltès».

2. QUANTITIES

General studies on Spain's 18th century commercial links with America provide only limited information on raw cotton imports. In table I below details included in Antonio García Baquero's *Cádiz y el Atlántico (1717-1778)* (1976, I, pp. 340-1) are reproduced which serve at least to give an idea of the broad contours of the trade's growth.

TABLE 1
AVERAGE ANNUAL AMERICAN COTTON IMPORTS (1746-96) *
(In lbs)

1746-65	14245
1766-78	190785
1779-96	767209

Note: * García Baquero gives the values of the imports. These were fixed at constant ratio of 3.2 pesos the arroba permitting a conversion to weights.

The granting of customs exemptions to all users of American cotton in 1766 gave rise, for some years, to more detailed records. Administering this concession generated two types of document: «obligaciones», entered into by the generally Cádiz merchants responsible for importing the cotton, by

which a commitment was made to commercialize the customs-exempted cotton within a year, and «tornaguías», drawn up at the point of sale, certifying the fulfilment of the earlier contracts. The source is far from complete but provides some idea of the fluctuations in cotton flows until the administration of the Regulation of Free Trade of 1778 gave rise to more regular documentation. In extracting information from the source, I shall be making use of the study on it undertaken by Antonio Miguel Bernal (1986, pp 207-15).

The quantities of cotton imported recorded in these two types of document are detailed in table 2 (Cádiz «obligaciones»: columns 1-3; Barcelona «tornaguías»: columns 4-6). I have also included in the table the cotton imports for a slightly longer time span of the Barcelona and Caracas Companies (columns 7 & 8). The imports of the former were already customs exempt and thus would not have found their way into the other documentation¹⁶. Finally, on the right of the table (column 9), are listed, for com-

TABLE 2
COTTON EXPORTS TO CÁDIZ/ BARCELONA
(In lbs)

	1 IMPORTS	2 TO	3 CÁDIZ	4 TRANSFERS	5 TO	6 BARCA*	7 CARACAS cia	8 BARCA cia	9 NIFO**
	Ginned	Unginned	Unspecified	Ginned	Unginned	Unspec.	Unspec.	Unspec.	Unspec.
1760									18000
1761								312	
1764								5915	
1765									21750
1767	0	0	25365	0	0	4732	5477		33250
1768	0	52250	1092	2525	468	8250	9349		249925
1769	57300	0	0	5285	1700	24692	3383		
1770	1338	0	350	600	0	0	2363	16370	54000
1771	0	0	0	36825	0	0		26700	9590
1772	0	0	0	325	0	0	92	775	
1773	0	0	0	69400	0	7837			
1774	15864	0	0	15100	0	0			176000
1775	0	0	0	16800	0	0		7225	
1776	0	0	0		0	0			
1777	0	0	0		48400	0		6250	98875
1778									86175
1779							4351		187100
Totals	74502	52250	26807	145860	50568	45511	25015	63547	934665

Source: Bernal (1986, pp. 212-14).

Notes: * Barcelona. ** Nifo (1788).

¹⁶ Hussey (1972), appendix 2; Oliva Melgar (1988 and 1986, p. 169).

parative purposes, cotton shipments included in the only, detailed, published record of colonial deliveries for these years, that of Deogracias Nifo (1788) which was based on information drawn from gazettes and other such publications.

Figures generated by the «obligaciones» (imports into Cádiz) and «tornaguías» (transfers to Barcelona) do not match, as can be seen. This was to have been expected as the drawing up of the «tornaguías» took place some time after that of the «obligaciones». There are other reasons for discrepancies: not all the imported cotton was destined for Catalonia and Cádiz merchants maintained stocks of cotton which might have been run down over years. Apart from this, it is clear that fewer of the «obligaciones» than the «tornaguías» have survived, making the latter the better source. What do they show? Four peaks in imports, 1767-9, 1771, 1773 and 1777, are revealed. Regarding the first of these, it is helpful to refer to the Cádiz imports (obligaciones): far more cotton was being imported there at this stage than was being dispatched to Barcelona, including large amounts of unginned cotton. The Barcelona Company was making no contribution at this stage however the table shows that the Caracas Company was importing regularly. The situation regarding the second peak is different. As can be seen, it is at this point that the Barcelona Trading Company's cotton imports attained their highest levels, providing the bulk of the cotton reaching Barcelona between 1770-1. The contribution reflects that period of exceptional collaboration of the Company, in conjunction with the Compañía Guipuzcoana, in supplying Catalan cotton needs which was referred to in the previous section. The Barcelona Company's imports, Oliva Melgar shows, were being drawn from Santo Domingo and Puerto Rico. The islands formed a part of the territorial zone within which trading rights had been attributed to it¹⁷. Cotton dispatched directly to Bilbao, as the Caracas Company's privilege allowed, was unlikely, of course, to be re-exported to Barcelona, though a small consignment of 350 lbs was dispatched to Barcelona via Cádiz in 1770¹⁸. The 1773 peak in the figures (tornaguías) corresponds to the expansion period in the Barcelona's Royal Spinning Company's activities. Nifo's figures are re-assuring regarding the representativeness of Bernal's data. As can be seen they show nearly identical peaks —1768, 1771, 1774 and 1777-1779— and their greater chronological spread reveals the last peak stretching to the outbreak of the American war, consistent with the claims of Grau and Lopez for greater elasticity in the supply of cotton from the mid 1770s.

To provide a first impression of the quantities of cotton imported following the Regulation of Free Trade, I shall make use of the data included in

¹⁷ BC, JC, leg 53, n.º 4, letter of Llança and Clota of 6th July 1768; Oliva Melgar (1986, p. 170). For the entire period during which the Barcelona Company traded, cotton accounted for just 0.35 of the total value of its imports. Cacao accounted for 59.8 per cent, Oliva (1988, p. 297).

¹⁸ Bernal (1986, p. 213).

John Fisher's broad survey of Spain's American trade for these years referred to in my introduction. Fisher records the value of cotton imports into Cádiz and Barcelona between 1782 and 1796. As the bulk of cotton importing was into these two ports—only Malaga, apart from them, receiving significant quantities—his results represent a useful starting point.

A preliminary remark has to be made about the values on which Fisher's figures are based. While official values were generally used in the records, registers for Cádiz from 1786-1789 recorded both official and current values and, from 1790, were restricted to the latter. Fisher responded to this situation by using official values for Cádiz imports up to 1789, to ensure their consistency with the basis of valuation for other ports, however, he used current values for Cádiz imports from 1790 as these, averaged over the whole range of imported commodities with which he was concerned, were only slightly higher than official ones. However, current prices for cotton were significantly higher than official ones—482 against 256 reales per quintal for ginned and 152 against 51 for unginned—and thus his use of them in this case distorts his results from 1790, exaggerating the size of imports to Cádiz and distorting the record for the total growth of the trade. This problem will need to be borne in mind. Note should also be taken that Fisher's figures do not distinguish ginned from unginned cotton. He presents conglomerate figures which group the imports of cotton in its two states. Fisher's results are summarized in table 3 below. They require one fur-

TABLE 3
FISHER'S FIGURES FOR THE VALUE OF COTTON IMPORT
(GINNED + UNGINNED) FROM AMERICA
(In reales)

	CÁDIZ	BARCA	TOTALS
1782	470090	169472	639562
1783	406543		406543
1784	625124	234221	859345
1785	669650	785443	1455093
1786	795296	1339742	2135038
1787	267821	162716	430537
1788	1100214	508738	1608952
1789	1236784	677761	1914545
1790	2073248	1949264	4022512
1791	3148246	3458109	6606355
1792	1115636	1261271	2376907
1793	1849879	2557006	4406885
1794	5854808	1263612	7118420
1795	2228888	561008	2789896
1796	9142489		9142489

Source: Fisher (1985, pp. 114-16).

ther clarification. The lack of imports recorded for Barcelona for 1796 reflect Fisher's failure to locate import registers for this port for that year¹⁹.

As can be seen, Fisher's calculations show four short cycles in the trade's progression. The first, a post American war one, peaks in 1786. A second follows a sharp decline in imports in 1787 and peaks in 1791. There are then two short cycles: 1792-4, which sees a yet higher peak in imports being attained, and 1795-6 which witnesses a last, brilliant year for the trade experienced just before the outbreak of war with Britain in 1797 brought things to a standstill.

In view of the immensity of the source —Fisher's study is based on the analysis of over 4,000 cargo registers— and the limited time which I have had at my disposal, my analysis of cotton imports is limited to a selection of key years in the trade's development: 1784, 1786, 1788, 1790, 1793 and 1796²⁰. To the data collected for these years, I have added data for 1792 which was published in the *Balanza del Comercio* for that year²¹. The principal distinction between my figures and those of Fisher is that I have recorded weights rather than the value of the cotton imported and the state —ginned or unginning— in which it was imported. There were some problems in attaining complete data in terms of weight in so far that, for a minority of cases, this is not registered, the quantities imported being recorded in terms of the containers within which they were packed. These ranged from «pacas» (bales), «sacos» (sacks), «fardos» (loads), «tercios» (mule loads) to «zurrone» or «serones» (large baskets or paniers) but, on the other hand, were of relatively standardized capacities and thus it is possible to attribute weights to the cotton carried in them. My results therefore, summarized in table 4 below, represent a reasonably accurate record of the weight of the cotton whose import is recorded in the ships' registers which I have been able to locate for my sample years. It should be noted, however, that I was unable to trace 18 registers used by Fisher for calculating Barcelona's 1786 imports and that my total for this year is thus too low. On the other hand, I was able to locate the Barcelona registers for 1796 and can provide an import total for this port for this year. My conversion rates (to lbs) for the different packages, and the grounds for my adopting them, are included in the note under the table.

Turning to what my table reveals, a preliminary is to explain the «other» column. This consists of details which I have found of imports of cotton into ports other than Cádiz and Barcelona for certain years. The majority of these imports were into Malaga. At this point, to facilitate the comparison

¹⁹ Fisher (1985, pp. 28-32).

²⁰ The sources of the registers used are as follows: Archivo General de Indias (AGI), Sección Indiferente General (Indif), 2180 (1785-7), 2183 (1787-8), 2209A (1784), 2209B (1781-2, 1784), 2210 (1784-5), 2211 (1784-5), 2212 (1785-6), 2443 (1787-8), 2444 (1788), 2445 (1784, 1788), 2447 (1789-90), 2448 (1790), 2449 (1790-1, 1796), 2450 (1791), 2451 (1791-2), 2453-4 (1793), 2455 (1793-4), 2459 (1795-6), 2460 (1796).

²¹ Matilla Tascón (1965, pp. 209-10).

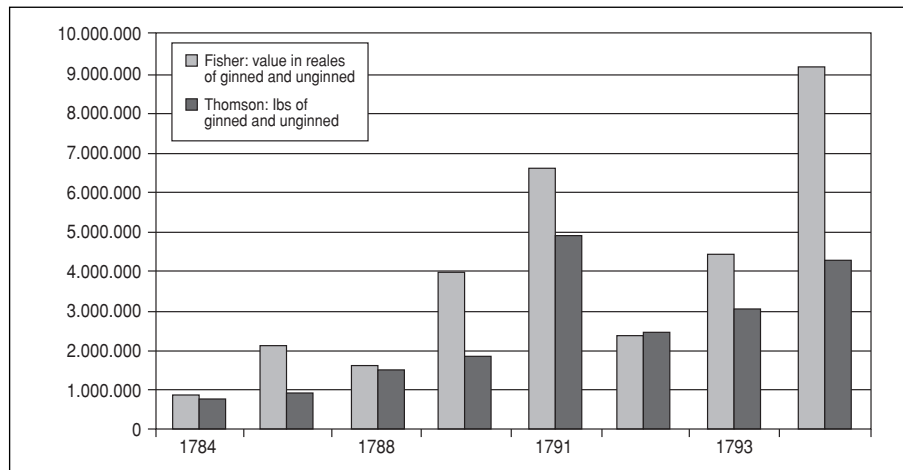
TABLE 4
RAW COTTON IMPORTS TO SPAIN FOR SAMPLE IN THE 1780S
AND 1790S YEARS*
 (Ginned and unginned in lbs)

	Cádiz	Barca	Other	Total
1784	418650	370699	102	789451
1786	735462	172275	200	907937
1788	1103057	357500	65608	1526165
1790	613470	931678	315082	1860230
1791	1759309	1990296	1150594	4900199
1792				2480050
1793	843305	2186650		3029955
1796	2924163	1092689	244801	4261653

Sources: AGI, Indiferente General, 2180, 2183, 2209A-B, 2210-12, 2443-5, 2447-51, 2453-5, 2459-60.
 Notes: * The conversion rates for different containers which I have used are: «pacas» @ 278 lbs (calculated on the basis of 12 purchases in this unit made by Barcelona's Royal Spinning Company in 1784 and 1785 where weight is also recorded (BC, Fons Gonima-Janer, libro 1)); «sacos» and «fardos»: these are less uniform, their weight in the same source varying from 30 to 150 lbs for the former and 80-156 lbs for the latter. I have used a conversion rate of 100 lbs for both. The contents of «tercios» also varied between 140 and 180 lbs. I have adopted a conversion rate of 150 lbs for them. Weights for «serones» (baskets) appear to have been constant at about 100 lbs. This is the weight which I have adopted.

of my figures with Fisher's, I also present conglomerate (ginned and unginned) figures. The two sets of figures are expressed graphically in figure 1 which follows this paragraph. Identical results were not to have been expected.

FIGURE 1
COMPARISON OF FISHER'S AND THOMSON'S FIGURES
FOR COTTON IMPORTS FOR 1784-1796



ted. Weights are being compared with values. In addition the data differences for 1786 and 1796 previously noted and the issue of Fisher's reliance on current prices for Cádiz imports from 1790 have their effects. The impact of some of these discrepancies is evident. There is no upturn in my 1786 figures to compare with that recorded by Fisher and, as can be seen, from 1790, with current values being used by Fisher for Cádiz, the gap between the two sets of figures increases. But, despite these predictable differences, the trajectory formed by my sample years is reassuringly similar to that which Fisher's figures record, with shared upturns in 1788, 1791 and 1793. There is an inconsistency for 1792 with Fisher's curve experiencing a far sharper decline than mine but here, it will be recalled, we are using different sources. The upturns in 1796 are also common, however it is surprising that Fisher's, even though it is swollen by his use of current values, is so much steeper than mine if it purely represents imports into Cádiz.

3. GINNED AND UNGINNED

Table 2 provides some information on the state, ginned or unginned, in which the cotton was being imported. As can be seen, ginned cotton represented the majority, however the figures for «obligaciones» and «tornaguías» show that quantities arriving unginned were still substantial —41 per cent in the case of the former source and 26 per cent in the case of the latter—. If, as is likely, the majority of the cotton whose state is unspecified in the documentation was unginned, then it is probable that about half of the cotton reaching Barcelona was unginned. A later report by Barcelona's Junta de Comercio reveals that the arrival of such large quantities of unginned cotton in Barcelona caused considerable problems to the infant spinning sector there. A recourse adopted in Cádiz to the excess of cotton in this state was to re-export it. Bernal's article records that 56,590 lbs of cotton were reexported in 1768, 40,125 lbs of which were unginned and the rest of unspecified quality (1986, pp. 211-12). However, the report reveals that the Catalan response had been more proactive. Initially it had taken the form of resorting to machinery to deseed the cotton, versions of ginning machines being used in Malta and the Levant being imported and improved upon. The machinery, however, was not found satisfactory as it tended to break the cotton seeds, impregnating the cotton with them and also leaving a residue of black skin «lo que hacía un mal tercio al Algodon despepitado». Because of this, a switch had been made to a system of «demote con las manos» which, it is noted in the report, «fue facil conseguir ... por la miseria de muchos mayor^{me} en un Pahis donde la necesidad les obliga â vivir de industria». This alternative strategy was so successful that «se logró en breve tiempo el desmote de todas las partidas de Algodón que havia en esta, y aun las que se hallaban en Cádiz detenidas y sin venta alguna detenidas

por este defecto»²². Thus a solution was found for what had been conceived as the major obstacle to establishing the trade. The pattern prevailing in New Spain—the carrying out of the deseeding and cleaning of cotton at the point of manufacture—had effectively been introduced into Spain. The success was one of the grounds for the crown's deciding to continue to back the development of the Catalan industry. Miguel de Múzquiz, Secretary of Finance, in a decree dated December 22nd 1769, extended prohibitions on the import of «cotonadas, blabets y biones en blanco o en azul», at the same time as winding down customs concessions for spun cotton import from the Levant, «satisfecho el Rey», edict reads, «del que han dado las de Cataluña al proyecto de despepitar, e hilar en aquel Principado el Algodon de nuestras Americas, de modo, que dentro de poco tiempo se espera, no necesitar usar del de Levante»²³.

The division between ginned and unginned cotton imported for my sample years not disclosed in the previous section is recorded in table 5. There were some difficulties in making the distinction as the state in which the cotton was imported was not always noted. This problem is generally surmountable, however, as the figures recorded under the Regulation of Free Trade generally include the value of the imports: the sum at which this is set makes it possible to distinguish the ginned from the unginned as it

TABLE 5
GINNED AND UNGINNED COTTON IMPORTED, CONVERSION OF UNGINNED TO GINNED* TO ATTAIN ALL GINNED TOTALS**

	Cádiz		Barca		Other		Totals		%	Total
	Ginned	Unginned	G	U	G	U	G	U	U	If all G
1784	136125	282525	127517	243182		102	263642	525801	63	438655
1786	536463	198999	172275			200	708738	199199	22	775137
1788	422004	681053	156775	200725	408	65200	579187	946978	62	894846
1790	498042	115428	549328	382350	258199	56883	1305569	554661	30	1490456
1791	1258753	500556	769882	1220414	257425	893169	2286060	2614139	53	3157440
1792							1684475	795575	32	1949666
1793	740605	102700	1173100	1013550			1913705	1116250	37	2285788
1796	2373338	550825	696059	396630	134588	110213	3203985	1057668	25	3556541

Sources: as table 4.

Notes: * By reduction of 2/3. ** Where the state in which the cotton (ginned or unginned) is neither recorded, nor revealed by the valuations, I have attributed it as follows: La Guaira: that unspecified for 1784, 1792, 1796 as ginned, that unspecified for 1791 (when mixed batches were being supplied) as 2/3 ginned, 1/3 unginned; Cartagena: unspecified has been attributed as ginned throughout bar 1791 for which the same 2/3 ginned, 1/3 unginned break down adopted as for La Guaira; Vera Cruz and Havana 100% unginned when state not specified; Lima: 1790 as unginned, 1796 as ginned.

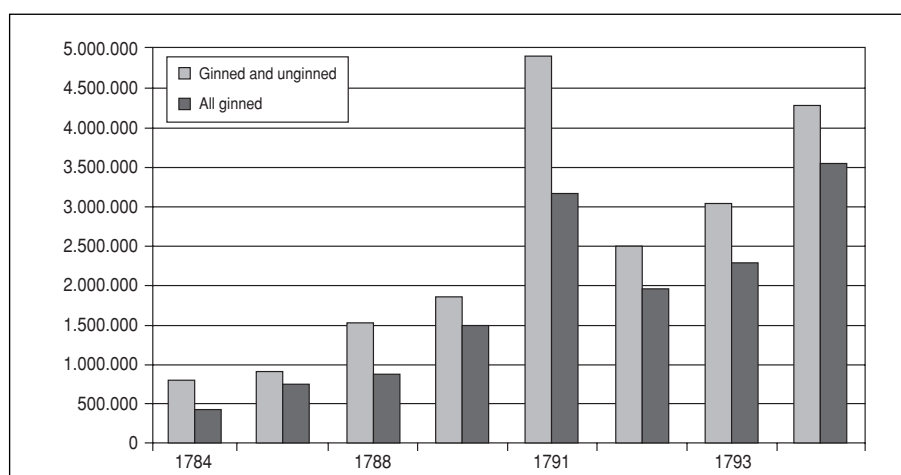
²² BC, JC, leg 33, n.º 10, 3, letter of Sept. 12th 1774. My emphasis.

²³ AHN, Hacienda, DO, 8026, 2322, 22nd Dec. 1769.

was calculated at a higher rate. In cases in which neither quality nor value is detailed, I have attributed the cotton's state on the basis of *the predominant form in which the American port from which it proceeded was exporting cotton at the time*. This is a reasonably reliable basis for making the distinction as different ports, as we shall see, tended to specialize in exporting their cotton in one form or the other. In the table's right hand column I have provided nominal totals for cotton imports *had all cotton been ginned*. This is to provide net figures for the real quantities of clean cotton which the combined ginned and unginned imports would have yielded. This was calculated by reducing my unginned totals by 2/3 —the weight loss which they would have experienced in ginning— and adding them to the ginned imports.

Figure 2 relates these «all ginned» figures to my composite ones from table 5. It shows that the calculations have had the predictable consequence of reducing the totals of «all ginned» with respect to the composite figures in a ratio proportional to the percentage of cotton imported unginned in any year (this ratio is detailed in the second column from the right of table 5). Such ratios were highest in 1788 and 1791 and their impact on the «ginned only» import total causes the former year to lose its place as a peak in the trade's development within my data and the latter to lose its position as the highest point of imports to 1796. The third column from the right with the total, unginned imports is of interest. It shows that the Vera Cruz/Puebla model for cotton supplying/cleaning was being followed on an enormous

FIGURE 2
COMPARISON OF THOMSON'S GINNED AND UNGINNED
FIGURES WITH ALL-GINNED ONES



scale at this take-off stage in the American cotton trade with (already) in 1788 nearly a million lbs of unginning cotton being shipped across the Atlantic for cleaning in Catalonia and more than 2? million lbs in 1791 — probably the peak year for this particular trade— and over a million lbs still in 1796.

4. CÁDIZ AND BARCELONA AS POINTS OF ENTRY, RE-EXPORT

Regarding the shipping of the cotton, the documentation concerning the administration of the import duty concessions for cotton granted in 1766 shows that in the 1760s and early 1770s the transatlantic route was being assured primarily by Cádiz merchants and shipping. None of the importers listed in the documentation, nor the names of the ships being made use of, is recognizably Catalan with the exception, in the case of the former, of one Josep Padrés who had also served as Glòria's agent in Vera Cruz in the 1750s. On the other hand, the trade between Cádiz and Barcelona is shown to be firmly in Catalan hands: «s'ha de destacar», Bernal (1986, pp. 208, 210) notes, «el control català del circuit [between Cádiz and Barcelona], puix que els remitents de Cadis, així com els vaixells i llurs patrons són majoritàriament, si no exclusivament, catalans». That the dependent position of Catalan shipping at this stage was a disadvantage is suggested by a request made by Josep Canaleta, heir of Joan Canaleta, to the Secretary of Hacienda in April 1768 for permission to send one or two ships «de porte de ocho, diez o doze mil quintales» (200 to 300 tons) to Vera Cruz «para facilitar que vengan Algodones de America para el usso de las fabricas del Reyno»²⁴.

Tables 3, 4 and 6 all contain data which contribute to charting a process of emancipation from this dependency. Table 3 will only be used with respect to Fisher's pre-1790 results in view of the distortion which his use of current values for Cádiz from that year has occasioned. For the prior period his results are particularly useful as they are more complete than mine. They show Cádiz's imports leading the expansion in the trade which followed the American war, with Barcelona then becoming the more powerful agency for the trade's growth in 1785 and 1786. Regarding the second cycle in the trade's growth referred to earlier, this, too, it can be seen, is initiated from Cádiz (higher import figures for 1788 and 1789), however from 1790 Barcelona takes the lead. Switching to table 6, which includes my results for ginned and unginning imports to Barcelona and Cádiz, which have the virtue over «all ginned» figures of showing the physical volume of imports and revealing, thus, the shipping effort involved for them, this shows Barcelona continuing to be dominant in 1791 and 1793 but losing its lead in 1796.

²⁴ BC, JC, Llibre 84, letter of 1 March 1769.

Finally, table 6 below makes it possible to compare these ginned and unginned figures with «all-ginned». As can be seen, with cotton imports calculated in these terms, Barcelona loses its predominance over Cádiz for 1791 and has its leadership pruned for 1790 and 1793: it was importing far more unginned cotton than Cádiz.

TABLE 6
«ALL GINNED» IMPORTS INTO CÁDIZ
AND BARCELONA (1784-1796)
(In lbs)

	Cádiz	Barca
1784	230300	208577
1786	602796	172275
1788	649021	223683
1790	536518	676778
1791	1425605	1176686
1793	774838	1510950
1796	2556946	2556946

The existence of a second set of import figures for Barcelona, drawn largely from customs sources, makes it possible to amplify our data base for Barcelona. It also serves as a check for the reliability of the Cádiz registers on which I am principally relying. The details are included in table 7.

TABLE 7
CUSTOMS FIGURES FOR IMPORTS OF COTTON TO BARCELONA (1a, b, c)
AND SHIP REGISTER FIGURES FOR «ALL GINNED» FROM TABLE 5 (2), 1784-96

	1 a Unginned	1 b Ginned	1 c If all ginned	2 all ginned
1783		223900	223900	
1784	33000	120000	131000	208577
1786				172275
1787	36950	41750	54066	
1788	267650	137075	226291	223683
1789	813825	103225	374500	
1790	501350	602375	769491	676778
1791				1176686
1792	644050	741887	956570	
1793	758200	845700	1098433	1510950
1795	143662	985475	1033362	
1796				828269

Source: Maixé Altés (1991), p. 180.

The two sources, it should be noted, record slightly different cotton flows. The import details for Barcelona in table 6 are for cotton imported directly from America. The customs records for Barcelona, on the other hand, would have captured both this cotton and also that being re-exported from Cádiz and other ports. Despite this, with respect to the four years —1784, 1788, 1790 and 1793— recorded by both sources, the distinct sets of figures for two of the years, 1788 and 1790, are very similar. Those resulting from the Cádiz registers are considerably higher than the customs ones for 1784 and 1793 on the other hand, despite the fact that they do not include re-exported cotton. This suggests that the Cádiz registers represent the better source.

Taking the two sources together, we can elaborate slightly on our interpretation of the trajectory of the cotton import trade into Barcelona. 1787, not included in my sample, was a year of near total commercial and industrial paralysis as Catalonia experienced its first, modern «business crisis»²⁵. Its impact on cotton imports is shown. «The private spinners appear to be withdrawing and the Company is almost alone at present in continuing this industry» the directors of Barcelona's Royal Spinning Company noted as early as June 1786²⁶. By 1788 it was the Royal Company itself which had abandoned its spinning efforts and, thus, private spinners returning to the trade were responsible for the recovery of imports in this year. It is interesting to note the coincidence of this with the boom in the import of unginning cotton. Theirs was a proto-industry of a simple, labour-intensive kind: it was expanding into ginning as well as into carding and spinning²⁷. 1793 was Barcelona's record year, with 27 ships importing American cotton: the curtailment of Marseilles' cotton deliveries with the French war had forced more intensive use of American supplies²⁸. High import figures were then sustained through to 1795, we see, despite navigational difficulties occasioned by the conflict. By 1796, however, the international tensions —despite the truce with France negotiated at Bâle in July 1795— were beginning to have an impact on the Barcelona trade: this is suggested by the significant decline in imports for 1796.

Returning to the Cádiz/Barcelona distinction, although this is clearly of great significance with respect to the issue of direct participation of Catalan shipping in the provision of American cotton, it can be less crucial with respect to tracing the ultimate destination of imported cotton, for much of the cotton delivered in Cádiz, and almost all of that delivered to Malaga, was for re-export to Barcelona. Results of research by Joan Carles Maixé Altés on the Customs Records of Barcelona capture some of this re-exporting and

²⁵ Delgado Ribas (1982, pp. 99-119); Vilar (1962, vol. 3, p. 65).

²⁶ BC, Fons Gonima Janer, libro 18, copiadore de cartas, 17 June 1786.

²⁷ Okuno (1999, pp. 47-66) and García Balaña (2004, pp. 57-146).

²⁸ Maixé Altés (1991, p. 181).

provide us with more information about the dynamics of the trade. They are summarized in table 8. The year 1784 is a significant case. Table 3 showed Barcelona and Cádiz's cotton imports standing at similar levels during this year. The evidence included here suggests that a significant proportion of these Cádiz imports was being re-exported to Barcelona and that Catalan imports were thus driving the trade at this stage too. The details for 1796 also repay reflection: for the opposite reasons. In this year there was no growth in the re-export trade in cotton to Barcelona from other ports which might have accounted for the weakening of Barcelona's position as an importing centre noted for this year. Something had clearly changed in the trade. This will be investigated shortly.

The right hand column of the table records the number of Catalan ships involved in importing American cotton. As can be seen, for the years in which Maixé Altés has provided this information, Catalan shipping enjoyed a near monopoly of the trade. Only from 1795 do we find a few mentions of ships from other ports. The details thus provide an illustration of the degree

TABLE 8
SHIPS ENTERING BARCELONA CARRYING AMERICAN COTTON, 1781-1799

YEAR	Via Cadiz or another Spanish port	Direct from America (sometimes with visit to other Spanish port)	TOTAL	Ships described as Catalan
1781	1	2	3	3
1782		1	1	1
1783	4	2	6	6
1784	14	6	20	13
1785	6	8	14	13
1786	6	6	12	11
1787	7	6	13	13
1788	9	4	13	7
1789	8	9	17	
1790	14	5	19	
1791	6	16	22	
1792	8	3	11	
1793	11	16	27	
1794	9	10	19	17
1795	2	11	13	10
1796	5	17	22	18
1797	5	1	6	1
1798	6		6	3
1799	2		2	0
Totals	123	123	246	

Source: Maixé Altés (1991, pp. 198-217).

to which Catalan shippers had established an autonomous stake in Spain's colonial trade with its American empire. A major change had taken place since the 1760s and early 1770s. Clearly this was a critical component in the supplying of the Catalan cotton market and the general expansion of the trade.

What had changed by 1796 was the development in, or extension of, international trading in Spain's colonial cotton. The dimensions of this in 1792 and 1795 were captured in the Spanish balances of trade published for these years. The details are included in table 9. As can be seen, most of the cotton was going to Britain, but France too was taking a significant share before the outbreak of the war with Spain in 1793 and Italy was a major buyer in both years, especially 1796.

TABLE 9
RAW COTTON EXPORTS FROM SPAIN
(In lbs)

Destination	1792 unginned	1792 ginned	1795 unginned	1795 ginned
England	98300	847275*	32710	1000313
France	21400	287150		4192
Italy	128400	92300		2600
It: Tuscany			28600	2600
It: Genoa, Milan			3630	308359
Germany		9500	2477	206836
Hamburg				15825
Holland	20500	1200		
United States	200			8250
Denmark				52
Total	268800	1237425	67417	1546427

Sources: *Balanza del Comercio de España con las potencias extranjeras año de 1792*, (Madrid, 1803), section Q; Matilla Tascón (1995, pp. 35, 48, 52, 64, 76, 89, 151).

Notes: * including 70200 lbs imported from the Philippines.

5. ORIGINS

The sources of the cotton imported are recorded in all the «obligaciones» signed between 1766 and 1777. The port of Cartagena handled an overwhelming majority of the trade, supplying 70,826 lbs of the ginned, 52,250 lbs of the unginning and 28,702 lbs of the cotton of unspecified quality against only 1,430 lbs proceeding from Vera Cruz and 350 lbs being supplied by the Caracas company. Second in importance to Cartagena in supplying the Barcelona market during these years were the Caribbean islands.

It is Cartagena, however, and the kingdom which it served, New Granada, which the data show to be the only part of the Spanish empire which was in a position to supply large quantities of cotton at this stage. It was delivered in substantial consignments: 25,000 lbs were carried by the Frigate *Constanza* in 1767, 52,250 lbs by the *Nuevo Loreto* in 1768 and 36,800 lbs by the *San Francisco de Asis* in 1769. A vast delivery of 27,000 arrobas, or 675,000 lbs, from Cartagena is recorded by the *Sociedad Economica de Madrid* for the mid 1770s. It is probable here that arrobas have been mistaken for lbs but even in terms of the smaller denomination this was a substantial cargo compared to those proceeding from Vera Cruz, Caracas or provided by the *Barcelona Company*²⁹. Anthony McFarlane (1993, p. 142, n. 51), in his study on Colombia before Independence, comments on the «very small» quantities of cotton exported thence to Spain during the 1770s, however the figures on which he bases this conclusion —deliveries of 64,325 lbs in 1770 and 45,025 lbs in 1775— appear to represent the maximum which the empire was capable of supplying at this stage.

In table 10 the details of the ports of origin of the cotton delivered after the passing of the Regulation of Free Trade are listed. The near global range of the areas supplying cotton shown by the table is striking. The extent of the Spanish empire provided scope for drawing on the resources of two different civilizations in which cotton was the dominant fibre. Recourse to the raw cotton of the east, on the other hand, it can be seen, was very limited and far less extensive than contemporary importing of muslins and other cotton cloths, by the *Royal Philippines Company*³⁰. Within the American supplying zone there were some variations over time in the importance of suppliers. Havana enjoyed a brief hegemony through to the mid 1780s. It should be noted, however, that Havana rather than exporting Cuban cotton (little evidence exists of cotton growing on the island) was serving mainly as an entrepôt for the trade, a rôle which was strengthened in view of the convoy systems resorted to at the time of the American war. At this early stage some cotton was also imported from the Viceroyalty of la Plata —recently admitted to the free trading zone—. This area, however, was never to become an important supplier. In contrast, Vera Cruz and Cartagena were important suppliers throughout and, from 1790, the ports of Callao and Guayaquil in the Viceroyalty of Peru became regular providers. The 1796 evidence shows an eastward shift in the provisioning area with substantial new points of supply emerging —Maracaibo, Cumaná, New Guiana and Trinidad—.

On the other hand, if the quantities shipped from different ports are counted, it is concentration, rather than dispersion, which appears as the

²⁹ Carrera Pujal (1947, vol. 3, pp. 23-4).

³⁰ Diaz-Trehuelo Spinola (1965, pp. 343-51), lists imports of Royal Philippine Company ships for 1787-90.

TABLE 10
ORIGINS OF COTTON IMPORTED INTO SPAIN (1781-1796)
 (In lbs)

ORIGINS	1781 GINNED	1782 G	1784 G	1784 UNGINNED	1786 G	1786 U	1788 G	1788 U	1790 G	1790 U	1791 G	1791 U	1793 G	1793 U	1796 G	1796 U
Havana	79750		43750	243407	136144		11783	27475	14650	26711	111735	350634		4550	68380	26250
Veracruz				11450	2250		13200	557375	5200	272962	525	2161591	7775	1097200	28650	601556
Campeche								11150	50	9450	2510	9999				
VC/Camp/ Havana			10350	10850	42650					175						162425
Cartagena/ Sta Marta	42400	66200	112600	35000	325819	198999	531225	213432	1059832	196374	1779924	115	1718837		1717262	266600
Ditto/Havana			7350	178600	119750		36800									
La Guaiara			22100		5075		3950	98329	143156	1139	263704		151068	2500	804018	750
P. Rico, Guaiara/VC							29	2417	18936		53225	64725	35200		219669	
Maracaibo									975		32625		650		27600	
Cumaná			63267								437				26146	
Cum/Trini Trinidad															92081	
Trini/La Guia New Guaiara						200			62400		23275				20507	
Guaiara/VC															157597	
Guai/Hav Monte/BA			4225	28950	77050		1200			175						87
Callao/ Guayaquil							17800		370	47350	18100	27075	175	12000	42075	
Philippines Unspec																
TOTAL	121970	66200	263642	525809	708738	199199	579187	946978	1305569	554661	2286060	2614139	1913705	11116250	3203985	1057668

Sources: As table 4.

salient characteristic of the trade. Cartagena and Santa Marta were by far the most regular suppliers, responsible between them for at least 65 per cent of the ginned cotton supplied for our sample years³¹. There is no year in the table in which large supplies of cotton were not dispatched from Cartagena de Indias to Spain: exports from this port stood at over 1/2 million lbs a year by 1786, reached a level of over a million lbs in 1790 and stood at nearly 2 million lbs by 1796. Vera Cruz was the principal supplier of unginning cotton, providing 69 per cent of the total delivered in this form. It dispatched over 1/2 million lbs in 1788, over 2 million in 1791, but from then its exports declined: around 1 million lbs in 1791, 1/2 million in 1796. There is continuity, thus, respecting the trade's initial suppliers: New Granada, as during the 1760s, was by far the principal source for ginned cotton, Vera Cruz, as in the very first years of the trade, was the main source for unginning. It should be emphasized, on the other hand, that the unginning trade of which Vera Cruz provided such an important percentile share, was a far smaller trade than that in ginned. And further, as we have seen, its size is reduced yet further in the conversion to «all ginned» figures. If we calculate Vera Cruz's share of the «all ginned» trade it is reduced to 12 per cent. In Cartagena's case, however, if a similar calculation is made with respect to its smaller share of the unginning trade to produce «all ginned» figures, its share of the total trade in «all ginned» remains clearly dominant: 56 per cent of the total. It is followed by that of La Guaiara and other ports to the east of Maracaibo which supplied 17.5 per cent of the overall total trade over these years.

On the other hand, the eastward shift in the trade had become marked by 1796. It was a significant development, related to an extraordinary expansion of the Venezuelan economy during these years, one contributed to by the liberalizing reforms which facilitated far intenser interaction with neighbouring French, British and Dutch colonies. The plantation system was now coming of age. The revolt of Toussaint in Haiti in 1791 was a further catalyst, disrupting French supplies of cotton and disseminating French capital, enterprise and technology to Spanish colonies³². The expansion was at the expense of some second ranking cotton suppliers, such as Vera Cruz and Havana: specialization in commodity production was developing. Cartagena, however, was holding its own: it provided 54 per cent of the cotton supplied to Spain in 1796 against 42 per cent provided by this bloke of eastern suppliers. La Guaiara was the leading exporter among them. It had graduated to the position of second, Hispanic «mass» cotton producer.

³¹ At least, as I am not including in this figure cotton recorded as proceeding from Cartagena via Havana which was most probably grown in New Granada nor the significant quantities of ginned cotton proceeding directly from Havana between 1781 and 1784 which also, probably, had this source.

³² Izard (1972, pp. 81-145).

6. SHIPPING

The frigate, the largest ship, bar the occasional «navío», used in the Spanish Atlantic trade, averaging some 320 tons, was the principal vessel in which cotton was imported into Cádiz³³. In Barcelona's case it was primarily the saetia (av. 155 tons), along with the polacra (av. 170 tons) and the bergantin (av. 125 tons) which were used between 1784 and 1791³⁴, although in 1796 it was the slightly larger polacra which became the most frequently used vessel³⁵. The tense political circumstances prevailing were probably leading to a concentration of cargoes in fewer, larger vessels.

For the period up to the approval of the Regulation of Free Trade, such ships very rarely carried cotton. Deogracias Nifo's data serve too to demonstrate the marginality of the commodity in trading activities at this stage. There were several years with no deliveries at all recorded (for example a sole delivery between 1772 and 1776) and for the years in which deliveries were recorded, only a small minority of returning vessels carried cotton. For example Nifo records the arrival of 30 vessels in 1765 and probably just one of the eleven of these which reached Cádiz in July was responsible for the delivery in that month of a relatively small cargo of 21,750 lbs of cotton. For 1778, he records 33 arrivals of vessels of which only six took place in the months for which cotton deliveries were recorded³⁶.

Even after the end of the American war, with a growing trade, cotton was far from a universal cargo. Shipping practices varied between the ports of origin in accordance with the range of commodities requiring transport, the pecking order in the values of these, the destination in Spain of the vessel (it was a disadvantage, evidently, taking cotton to a port from which it was going to have to be reshipped), the demands of the partners involved in financing of the voyage, the market situation in Spain for cotton and technical considerations relating to the achievement of a balance in cargoes between light, bulky products such as cotton and heavy items serving as ballast. An understanding of such criteria assists in clarifying the range of determinants on the cargo space offered for cotton.

In most cases the carriage of cotton was not the principal function of voyages. Although the fibre was a relatively valuable commodity, its export, even with the trade expanding, still only accounted for just 1 per cent of the total value of commodity exports—less than the value of cacao, cochineal, sugar, indigo, hides, tobacco, cascarilla (a herbal bark), dyewood, and only ahead of wool³⁷—. The usual situation was thus for cotton to occupy a

³³ 33 ships from a sample of 76 entering Cádiz with cotton on board between 1784 and 1791.

³⁴ 56 of a sample of 73 against 9 frigates between 1784 and 1791.

³⁵ 20 polacras returned from America to Barcelona against just 7 bergantins, 1 saetia, 1 paquebot and 5 frigates.

³⁶ This would mean a maximum of 6 ships with cotton cargoes but it is more likely that there were 3.

³⁷ Pecking-order of Spanish American commodities from García Baquero (1993, pp. 91, 93).

minority place within ships' cargoes. On the other hand, there were variations in the priority given to cotton in different ports. Some of these can be observed from comparing the cotton shipping record of the three principal points of export, Vera Cruz, La Guiara and Cartagena.

Vera Cruz was the busiest Spanish American port, serving the vast market and production area of New Spain. Cotton, in its case, was a regular, but minor export involving, even in the years of maximal exports, not much more than 1/2 the vessels sailing to Spain³⁸. The average quantities of cotton included in the cargoes of such ships sailing to Cádiz and Barcelona in the years 1788, 1790, 1791, 1793 and 1796 are detailed in table 11. As can be seen, there is a sharp contrast in the average size of the cotton cargoes destined for the two ports. Loading of ships did not depend purely on an impersonal process of maximizing freight revenue but was rather determined principally by the joint participators in the shipping venture on whose behalf the captain or master made purchases for the return voyage. Participators in many of the voyages from Barcelona to Vera Cruz were the very cotton manufacturers who would make use of the cotton. For shipments there, consequently, cotton was not purely a «top-up» commodity. On the other hand, the small size of the average loads of cotton loaded for Cádiz in most years suggests that they were purely being carried as top-up items. Their value represented a tiny percentage of that of total cargoes. Even in the case of the largest cargoes of cotton being carried to Barcelona in the course of 1791, cotton's value represented a small percentage of the total. Those on the ships Jesus Nazareño and Nuestra Señora de la Concepción (134,100 lbs and 109,000 lbs respectively) represented 3 and 2 per cent of the total value of the cargoes being carried³⁹. Cochineal was the most valuable product being exported from Vera Cruz followed by sugar, tobacco, tabasco, pepper and hides. The sort of ratio which existed betwe-

TABLE 11
COTTON SHIPMENTS FROM VERA CRUZ TO CÁDIZ AND BARCELONA
(In lbs)

YEAR	To CÁDIZ		To BARCELONA	
	ships	av. cargo	ships	av. cargo
1788	12	28000	2	89000
1790	3	2000	6	43000
1791	9	36000	11	110000
1793	10	16670	19	54000
1796	12	24000	12	35000

³⁸ Fisher (1985, pp. 121-2). In 1793, the year of maximal sailings from Vera Cruz, 29 of 50 vessels carried cotton.

³⁹ The registers for these ships are held in AGI, Indif, 2451.

en the value of such products and that of the cotton being carried is illustrated by the cargo of the ship *La Diligencia* which carried the largest cotton consignment from Vera Cruz to Cádiz in the course of 1796. The value of this cotton, 183,562 reales, was less than 10 per cent of the sugar alone which, among other additional commodities, was being carried⁴⁰. The flourishing state of trade between Vera Cruz and Cádiz and Barcelona meant that cargo space for cotton was frequently available, but cotton's inferiority in value to the other commodities being exported made it impossible for the city to become a «staple» port for the commodity.

Shipping arrangements for cotton from La Guiara, summarized in table 12, bore some similarities to those from Vera Cruz. Frequent, but even smaller, cargoes of cotton were carried on a large numbers of ships—around 2/3 of the sailings in 1793 and 1796⁴¹— whose arrival, the registers show, were spaced regularly through the year. In La Guiara's case, however, it was primarily ginned cotton which was being exported. The port was unusual in terms of the suppliers of ginned cotton in dispatching its product in such small batches, the introduction of ginning generally being combined with specialization in, and mass production of, the commodity. In 1796, however, it can be seen that this situation was altering with the dispatch of considerably larger batches of cotton. La Guiara was distinct too insofar that nearly all its cotton was sent to Cádiz. The detailing of items other than cotton included in La Guiara cargoes illuminates the grounds for this preference. In 1796 two vessels named *Nuestra Señora de la Carmen* carried batches of cotton to Cádiz valued at 37,440 reales in one case and 285,600 in the other. The first vessel was also carrying a cargo of cacao valued at 2,131,600 reales and in the second an even more valuable load of cacao was being carried as well as indigo worth 2,287,476 reales⁴². The primacy of a range of far more valuable commodities than cotton among Venezuelan exports enforced a focus of its shipping on Cádiz, Spain's principal whole-

TABLE 12
COTTON SHIPMENTS FROM LA GUIARA, 1790S
(In lbs)

YEAR	CÁDIZ		BARCELONA	
	ships	av. cargo	ships	av. cargo
1790	8	11000	1	11300
1791	19	16000	1	950
1793	23	5500	4	6000
1796	29	29000	3	26000

⁴⁰ AGI, Indif, 2459.

⁴¹ Fisher (1985, p. 141), records 37 ships sailing from La Guiara in 1793 and 40 in 1796.

⁴² AGI, Indif., 2459, 2460.

sale port⁴³. Such priorities played against La Guiara's development as a staple supplier of cotton to Barcelona whither, as can be seen, few direct voyages were undertaken. It favoured, however, La Guiara's participation in the international cotton market which was developing in the 1790s.

The Cartagena details are included in table 13. This shows that the port was as exceptional in the manner it shipped its cotton—consistently large batches, for both Cádiz and Barcelona—as it was in the scale of its production. The two phenomena in fact, of course, went together: «mass growing» of cotton required «mass» shipping.

TABLE 13
COTTON SHIPMENTS FROM CARTAGENA, 1790S
(In lbs)

YEAR	To CÁDIZ		To BARCELONA	
	ships	av. cargo	ships	av. cargo
1790	5	76000	7	99000
1791	10	83500	9	65000
1793	6	95000	12	96000
1796	9	127000	11	49000

As it was principally ginned cotton which was being shipped, these batches did represent significant shares of total cargo values. Some impression of the sums and ratios involved is provided by the breakdown in the cargo composition of three ships which entered Cádiz from Cartagena in the course of 1796 (table 14). As can be seen, cotton was the most valuable commodity carried—by far the most valuable in the case of the vessel *San Antonio y Josep*—.

Cartagena and the Viceroyalty of New Granada where the Cartagena cotton was grown, were thus distinct from the other areas supplying Spain with cotton during the period which concerns us. The grounds for this are several. Firstly, the Viceroyalty possessed its own, substantial cotton industry and had possessed regions which specialized in cotton growing to supply this. In its case, therefore, native, Spanish American cotton traditions in cotton growing were being drawn upon. Cotton was cultivated principally in three zones of the eastern Cordillera region, the area of «tierra templada» (warm soil) north of Bogota round the towns of San Gil and Socorro, that of «tierra caliente» (hot soil, tropical), further north, around San Gil and Socorro and in a wild area to the east of the Cordillera the «Llanos» and in the hot soil hinterland of Cartagena and Santa Marta. The

⁴³ On Cádiz's continued dominance in this sphere after 1778 see Fisher (1985, pp. 64-6).

TABLE 14
CARGOES OF 3 VESSELS ENTERING CÁDIZ FROM CARTAGENA IN 1796
(In reales)

	San José	San Josef	San Antonio y Josep
Cotton	487440	649440	1464480
Cacao	326700	559050	
Indigo	220518	99016	123120
Sugar			210376
Coffee			6250
Bullion	725310	919700	328165
total value	1826234	2369014	2437760
cotton % of total cargo value	27	27	60
cotton % of non bullion commodities	47	50	80

river Magdalena, which flowed to the west of the eastern Cordillera, with its outlet between Cartagena and Santa Marta, facilitated the export of the cotton grown inland⁴⁴. Secondly, in contrast to some other cotton suppliers, New Granada, and particularly these areas specializing in cotton growing (and in weaving in the interior) were densely populated and experiencing further rapid population growth in the second half of the eighteenth century: there was, thus, abundant, free labour for transfer into cotton cultivation, picking and ginning as the New Granada cotton staple developed. These circumstances had enabled Cartagena to be the only, successful supplier of ginned cotton on any scale since quite far back in the eighteenth century as we have seen. The ginning problem was reported to have been fully resolved by 1783, ginning equipment having probably been introduced to Cartagena and Santa Marta from Barcelona⁴⁵. In addition, Cartagena, unlike Vera Cruz and La Guiara, following the Regulation of Free Trade of 1778, came to rely more intensely on its cotton trade. As a former entrepôt in the old, monopolistic, trading system, it was having to adjust commercially to the new commercial circumstances. In addition its cacao and other commodity trades —such as coffee, sugar and tobacco— were threatened by the prosperity of those of Venezuela and by transport disadvantages: the mountainous interior made the achievement of a unified market difficult and the sea voyage from Cartagena was considerably longer than that from La Guiara or Maracaibo. Only in cotton, for the reasons given above, did it enjoy a comparative advantage⁴⁶.

⁴⁴ McFarlane (1993, pp. 50-2, 142-3).

⁴⁵ BC, Junta de Comercio, leg. 51, n.º 12, ff. 7-14., report of Melchor de Guardia and Joseph Francisco Duran to Junta General del Comercio, 13th March 1783.

⁴⁶ McFarlane (1993, pp. 126-63).

Thus, Cartagena developed a major, staple trade in cotton and became the essential partner in the Catalan industry's vertical integration into cotton spinning. Mass production required regular and mass supply. As we have seen, Cartagena succeeded in providing such quantities, as demonstrated graphically by table 15 which records cotton deliveries from Cartagena in the course of 1796. As can be seen, cotton was being delivered in most months, in some cases in several shipments.

TABLE 15
COTTON DELIVERIES FROM CARTAGENA 1796
(In lbs)

Ship	Sailed	Port	Arrived	cotton (lbs)
San José	13.11.96	Cádiz	8.2.96	101550
NS del Rosario	24.11.96	Barcelona	21.3.96	3600
San Josef	16.1.96	Cádiz	28.3.96	135300
NS del Carmen	10.1.96	Cádiz	30.3.96	63300
Sn Antonio	23.11.96	Barcelona	3.4.96	25542
Sn Geronimo	20.11.96	Barcelona	5.4.96	57048
Sn Antonio	4.2.96	Cádiz	10.4.96	305125
Sn Luis Gonzaga	3.2.96	Cádiz	12.4.96	81950
V. Montserrat	21.11.96	Barcelona	15.4.96	6225
Sn Bartholomé	13.11.96	Barcelona	19.4./96	11850
NS Angustias	12.2.96	Barcelona	25.6.6	63937
Sn Miquel	23.6.06	Cádiz	22.8.96	29695
Sra del Pilar	4.6.96	Cádiz	22.8.96	98700
Sn A de Padua	6.5.96	Barcelona	3.9.96	109775
Stma Trinidad	21.6.96	Cádiz	16.9.96	152900
La Fina	1.4.96	Barcelona	21.9.96	99100
La Concepción	20.5.96	Barcelona	22.9.96	2351
San Josef	8.7.96	Barcelona	24.9.96	58136
Catalina	24.7.96	Cádiz	27.10.96	170875
Total				1576659

7. FREIGHT COSTS

The freighting rates charged on San Domingo cotton exported between 1769 and 1770 were 10 reales the quintal. An «informe» of Barcelona's Junta de Comercio, submitted in 1775, shows that this was a higher than usual rate and that changes in shipping practices were in process which were contributing to lowering freighting rates. These had been set by the Real Proyecto for the American trade of 1720, but the rates in force in the areas of the empire opened to free trade in 1765 were already far lower. For example, while the Proyecto set a rate of 50 pesos fuertes for a «pipa» (tuns) of

wine loaded in Cádiz for Caribbean ports, free trading vessels sailing for Havana from Barcelona were carrying this item at rates fluctuating between 13 and 15 pesos sencillos, about a 1/4 of the official rate. The charges for tuns were significant as they set the rates for other commodities⁴⁷. Similar, lower freight rates applied to homebound voyages. Sugar, for example, charged at over 10 pesos the «caixa» according to the Proyecto, was being charged at just 5 on Catalan ships with the consequence «que ... ha cesado enteram^{te} la entrada en este Puerto de las Azucares de Francia ... por via de marcella». Rates for cotton had not been set in the 1720 proyecto, but later royal instructions had fixed them at 9 reales the arroba, 10 per cent less than the San Domingo charge. Reductions in freighting prices had not yet set in at the time the informe was produced. Its author, however, expressed his view that it would be «convenient» that the rate should be set at 5 reales the quintal. Such a charge he judged to be a reasonable one for four reasons: the existing charge related to cargoes on ships plying the fleet-using Cádiz route, subject to «formalidades â que no estan sugetos las embarcaciones del libre comercio», the intention was that each returning ship would carry only a limited quantity of cotton only⁴⁸, the original cost of the cotton was low and cotton was not prone to deterioration and consequent damage penalties. The lower rate hoped for was consequently not judged to be likely to be prejudicial to ship-owners («si se atiende â que es una nimiedad el gravamen, y mucho el beneficio que resultara â la causa publica»). The informe, as can be seen, still reflects the prevailing belief that cotton could only reach Spain in adequate quantities by a combination of charity and coercion but it shows too how changing shipping practices, dictated by the economics of freighting, were beginning to arrive at solutions from which cotton could potentially benefit⁴⁹.

Details of freight rates charged on cotton between 1789 and 1796 are included in table 16 below. They serve to show the degree to which freighting charges for cotton had evolved by this point in the direction anticipated by the informe. Only a small sample of freight rates are available but, as can be seen, those charged at Cartagena had fallen steadily whereas those for Caracas, La Guiara and Vera Cruz had remained at higher levels. The difference must reflect degrees of competition for cargo space but supply changes must also have been partly responsible for the change. The enormous cargoes being carried from Cartagena suggest that state of the art packing techniques had been introduced there⁵⁰.

⁴⁷ «Los Patronos de este Principado todo lo calculan â razon de Piperia».

⁴⁸ Intention of the «comisionados de esta dependencia»: he would seem to be referring to the Junta de Comercio of Barcelona which was recommending requiring that all ships returning from America carry a limited quantity of cotton.

⁴⁹ BC, JC, leg 51, n.º 8, ff. 17-18, informe of Pablo Puiguirguer of July 10th 1775.

⁵⁰ On these see Mazzaoui (1981, pp. 50-1).

TABLE 16
FREIGHT RATES FOR COTTON, 1787-91
 (Reales per arroba)

	Cartagena	La Guiara	Caracas	Vera Cruz
1787	8 to 10			
1789	6			
1790	3 to 3 2/3	10	10 to 12	11
1791	2	8 3/4 to 10		

Sources: AGI, Indif., 2443, 2447, 2449.

8. PRICES IN BARCELONA

In table 17 below I have added details of cotton prices paid by Barcelona's Royal Spinning Company between 1783 and 1795 to some prices recorded for the 1760s and 1770s. It is clear from the table that, contrary to the impression given by discussions during the 1770s, cotton prices were lower then than during, and after, the American war. The evidence would be consistent with the argument that rising demand for American cotton in Spain was the principal cause for the trade's expansion. High prices were sustained through the 1780s, we can see, despite the rapidly increasing supply. There was then a significant decline in cotton prices between 1790 and 1793 as growth in the trade accelerated. The rapidly increasing cotton supply and the commercial and freighting economies which have been referred to would account for this. Average prices recovered slightly between 1793 and 1795, but there are no speculative increases such as those which were to occur during the war with Britain. (Levant cotton, resort to which became necessary, was selling at between 23s 6d and 28s 4d the lb in 1799). It can be seen that during the crucial stage of the take-off in its cotton

TABLE 17
GINNED COTTON PRICES, BARCELONA
 (In sous & diners)

1769	5.10	1787	11.6 - 14.3
1774	5.6 - 6.2	1788	9.4 - 11.1
1775	6.2 - 7.10	1789	8.6 - 11
1779	8.6 - 9	1790	7.6 - 9
1782	10.8	1791	6.6 - 9.10
1783	10.8 - 13.3	1792	7.1 - 8.6
1784	9.2 - 11.6	1793	8.6 - 8.9
1785	9.8 - 11	1794	8.2 - 12.8
1786	9.4 - 10.1	1795	7.11 - 10.4

industry —it was during the early 1790s that the new technologies diffused— Catalonia was exceptionally favoured in having at its disposition an elastic, competitively priced supply of high quality American cotton⁵¹.

9. CONCLUSION

Although, as noted in Sections 1 and 2, important debates have taken place about the causes for the development of the Hispanic trade in cotton and concerning its links with Catalan industrialization, the primary purpose of this article has been purely to document the growth trajectory of the trade as fully as possible, given the necessarily selective research of the sources. What information has emerged concerning this trajectory?

In the pioneering years of the trade, the exporting of cotton, which was a difficult task in itself —cotton was a bulky product of relatively low value compared to commodities such as cochineal, coffee and sugar— was complicated further by the impossibility of getting the cotton cleaned before embarkation and deficiencies in the shipping resources of the region, Catalonia, where the cotton was most needed. The first of these limitations was effectively resolved in the course of the 1760s. From that point it was clear that the labour supply situation in Catalonia was sufficiently favourable to ensure that even if the cotton arrived unginning, its cleaning could be undertaken locally. On the other hand, although there was an area of the Spanish empire which had the resources to provide a large and regular supply of cotton —New Granada— its cotton was not being delivered with sufficient regularity to ease the transition to cotton spinning in Catalonia. In addition, plans to supplement the empire's cotton supply by the promotion of cotton plantations in the Caribbean were found to be difficult to successfully put into practice because of the costs and technical skills involved and, again, shortage of labour. Towards the end of the 1770s, however, the delivery of American cotton was becoming more regular. American cotton was in demand, and used, during the American war despite its high price. Growing demand for raw cotton during, and after, the war, however, was principally being met by Levantine supplies.

From 1783 the trade took off. The first stage of this effectively took the form of import substitution by the American product for the Levantine imports. The rapid nature of the trade's growth suggests that economies on both sides of the Atlantic were primed for the change. Barcelona now possessed the shipping resources for developing its own trade and its fleet of coasting vessels ensured, too, access to supplies delivered to Cádiz. The cotton growing resources of New Granada were now focused on the provisioning of the peninsula. Vera Cruz's unginning cotton came to be imported in

⁵¹ On these developments see Thomson (2004, pp. 249-82, and 2005, pp. 701-35).

extraordinary quantities, the exceptional elasticity of labour supply in Catalonia at this stage enabling cotton ginning to be taken up as rapidly as the parallel movements into carding, spinning and weaving. Capital was available for financing the trade and cotton packing techniques for the larger cotton cargoes must have been introduced to the empire from the Mediterranean where they had been first developed. The growth of an international trade in cotton represented an extra stimulus, creating an additional basis for the achievement of externalities and proving particularly helpful for Venezuelan cotton, whose export expanded rapidly from this point. The war and disruption occasioned to the French plantations and cotton trade were other catalysts for the latter success.

SOURCES

Archivo de la Corona de Aragón (ACA), Barcelona.
 Archivo General de Indias (AGI), Sevilla.
 Archivo Histórico Nacional (AHN), Madrid.
 Biblioteca de Cataluña (BC), Barcelona.

BIBLIOGRAPHY

- ALBAREDA, J., and Sancho, J. (1988): «Catalunya el 1765: un informe econòmic i polític», *Pedralbes, Revista d'Història Moderna*, 8, ii, pp. 279-97.
- BERNAL, A. M. (1986): «Cotó americà per a Catalunya (1767-1777)», *Commissió Catalana del Cinquè Centenari del Descobriment d'Amèrica, Segones Jornades d'Estudis Catalano-Americans*, Barcelona: Generalitat de Catalunya, pp. 207-15.
- CARRERA PUJAL, J. (1947): *Historia política y económica de Cataluña. Siglos XVI al XVIII*, Barcelona: Bosch, 4.
- DELGADO RIBAS, J. M. (1982): «El impacto de las crisis coloniales en la economía catalana (1787-1807)», in J. Fontana (ed.), *La economía española al final del Antiguo Régimen, Comercio y colonias*, Madrid: Alianza, 3, pp. 97-155.
- (1988): «La industria algodonera catalana (1776-1796) y el mercado americano. Una reconsideración», *Manuscrits, Revista d'Història Moderna*, 7, pp. 103-15.
- (1990): «De la filatura manual a la mecànica. Un capítol del desenvolupament de la indústria cotonera a Catalunya (1749-1814)», *Recerques* 23, pp. 161-79.
- (1992): «Coyuntura internacional y "Comercio Libre". El mercado barcelonés de productos agrícolas tropicales a fines del siglo XVIII», *Estudis d'Història Econòmica*, pp. 38-61.
- DÍAZ-TREHUELO, M. L. (1965): *La Real Compañía de Filipinas*, Seville: EEHAS.
- FERNÁNDEZ, R. (1982): «La burguesía barcelonesa en el siglo XVIII», in P. Tedde (ed.), *La economía española al final del Antiguo Régimen, Manufacturas*, Madrid: Alianza, 2, pp. 1-131.
- FISHER, J. (1985): *Commercial Relations between Spain and Spanish America in the Era of Free Trade, 1778-1796*, Liverpool: University of Liverpool.
- GARCÍA BALAÑA, A. (2004): *La fabricació de la fàbrica. Treball i política a la Catalunya cotonera (1784-1874)*, Barcelona: Publicacions de l'Abadia de Montserrat.

- GARCÍA BAQUERO, A. (1976): *Cádiz y el Atlántico (1717-1778). Estudio del comercio colonial español bajo el monopolio gaditano*, 2 vols., Seville: EEHAS.
- (2003): «De la mina a la plantación?: la nueva estructura del tráfico de importación de la Carrera en la segunda mitad del siglo XVIII», in his *El comercio colonial en la época del absolutismo ilustrado: problemas y debates*, Granada: Universidad de Granada, pp. 59-102
- GRAU, R., and LÓPEZ, P. (1974): «Empresari i capitalista a la manufactura catalana del segle XVIII. Introducció a l'estudi de les fàbriques d'indianes», *Recerques*, 4, pp. 19-57.
- HUSSEY, R. D. (1972): *La Compañía de Caracas, 1728-1784*, Caracas: Banco central de Venezuela.
- IZARD, M. (1972): «La agricultura venezolana en una época de transición, 1777-1830», *Boletín Histórico de la Fundación Boulton*, 28, pp. 81-145.
- MACFARLANE, A. (1993): *Colombia before Independence. Economy, Society and Politics under Bourbon Rule*, Cambridge: CUP.
- MAIXE ALTÉS, J. C. (1988): «El mercado algodonero y la producción industrial en Cataluña (1780-1790)», *Pedralbes. Revista de Història Moderna* 8, i, pp. 365-84.
- (1991): «De la dependencia maltesa al triunfo de la hilatura catalana. El comercio catalana-maltés 1780-1800», in *Actas primer coloquio internacional hispano maltés de historia*, Madrid: Ministro de Asuntos Exteriores, pp. 177-226.
- MARTÍNEZ SHAW, C. (1972): «Los orígenes de la industria algodonera catalana y el comercio colonial», in J. Nadal and G. Tortella (eds.), *Agricultura, comercio colonial y crecimiento económico en la España contemporánea*, Barcelona: Ariel, pp. 243-67.
- (1981): *Cataluña en la carrera de Indias, 1680-1756*, Barcelona: Crítica.
- MATILLA TASCÓN, A. (1965): *Balanza del comercio exterior de España en el año 1795*, Madrid: Fábrica nacional de Moneda y Timbre.
- MAZZAOU, M. F. (1981): *The Italian Cotton Industry in the Later Middle Ages, 1100-1600*, Cambridge: CUP.
- NIFO, D. M. (1788): *Noticia de los caudales, frutos, y efectos que han entrado en España de la América en el feliz reynado de nuestro Católico Monarca Don Carlos III (que dios guarde)*, Madrid: Fundación Histórica Tavera Digibis (2001).
- OKUNO, Y. (1999): «Entre la llana i el cotó. Una nota sobre l'extensió de la indústria del cotó als pobles de Catalunya el darrer quart del segle XVIII», *Recerques*, 38 (1999), pp. 47-66.
- OLIVA MELGAR, J. M. (1986): «El cotó americà en la primera fase de la indústria moderna de Catalunya», in Comissió Catalana del Cinquè Centenari del Descobriment d'Americà, *Segones Jornades d'Estudis Catalano-Americans*, Barcelona: Generalitat de Catalunya, pp. 165-172.
- (1987): «Reflexiones en torno al comercio libre de Barlovento: el caso catalán», in J. Fontana et al. (eds.), *El «Comercio Libre» entre España y America (1765-1824)*, Madrid: Fundación Banco Exterior, pp. 71-94
- (1988): *Cataluña y el comercio privilegiado con América*, Barcelona: Universitat de Barcelona.
- SÁNCHEZ, A. (1989): «La era de la manufactura algodonera», *Estudios d'Historia Social*, 48/9, pp. 65-113.
- (1996): «La empresa algodonera en Cataluña antes de la aplicación del vapor, 1783-1832», in F. Comín and P. Martín Aceña (eds.), *La empresa en la historia de España*, Madrid: Editorial Civitas, pp. 155-70.
- THOMSON, G. P. C. (1986): «The Cotton Industry in Puebla during the Eighteenth and Early Nineteenth Centuries», in N. Jacobsen and H-J. Puhle (eds.), *The Economies*

- of Mexico and Peru During the Late Colonial Period, 1760-1810*, Berlin: Bibliotheca Ibero-Americana, pp. 178-80.
- (1989): *Puebla de los Angeles. Industry and Society in a Mexican City, 1700-1850*, Boulder, Colorado: Westview
- THOMSON, J. K. J. (1992): *A Distinctive Industrialization: Cotton in Barcelona, 1728-1832*, Cambridge: CUP.
- (2004): «Technological transfer to the Catalan cotton industry: from calico printing to the self-acting mule», in D. A. Farnie and D. J. Jeremy (eds.), *The Fibre that Changed the World. The Cotton Industry in International Perspective, 1600-1990s*, Oxford: OUP, pp. 249-82.
- (2005): «Explaining the “Take-Off” of the Catalan Cotton Industry», *Economic History Review* 58, 4, pp. 701-35.
- VALLS JUNYENT, F. (2003): *La Catalunya atlàntica. Aiguardent i teixits a l'arrencada industrial catalana*, Vic: Eumo.
- VILAR, P. (1962): *La Catalogne dans l'Espagne moderne. Recherches sur les fondements économiques des structures nationales*, 3 vols., Paris: SEVPEN.