

Working Paper No. 71/03

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North American triangular trade in the
early modern period**

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Abstract:

This paper analyses the transformation of two of the staple trades of the pre-modern international economy –those in wool and dried codfish– during the transition from the late medieval to the early-modern period. The development of early modern long-distance trade was subject to three major constraints: transport, balance of payments problems leading to bilateralism and the lack of credit markets. Economic history has concentrated in particular on the first of these. By contrast this paper provides new data for the wool and fish trades that create the basis for an in depth analysis of how balance of payments problems and credit restrictions could be minimised. We show that the integration of these two very different commodity trades was a clear strategy to overcome these constraints. Their integration in turn led to a de-monopolisation of pre-existing commercial networks and transformed both the supply and distribution networks of both goods. Finally, the paper analyses resulting alterations of the economic geography of these trades.

¹ The author would like to thank participants of session 64 at the XIII IEHA Congress in Buenos Aires 2002 as well as Richard Unger and John Richards for comments. Research for this paper was financed through a European Union TMR Marie-Curie Fellowship.

This paper analyses the transformation of two of the staple trades of the pre-modern international economy – those in wool and dried codfish – during the transition from the late medieval to the early-modern economy. The first section summarises the structure and importance of the wool and dried codfish trades at the beginning of the 16th century. In the second part the paper presents new evidence showing a substantial change in the workings of the both trades following their integration into a single triangular trade system that connected Northern Spain, England and the North American mainland after the 1630s. This section also discusses changing supply and demand conditions for these products. An interpretation of the resulting structural changes in these trades is offered in the third section. This includes alterations in a) the market structure and b) the commercialisation of the two goods and its interaction with the wider regional economies in the participating regions. This is followed by some provisional conclusions.

Two types of goods, staple foodstuffs and textiles in a broad sense dominate the history of the early stages of economic integration first within Europe and then between Europe and the wider world. Among the foodstuffs ‘colonial’, often addictive goods such as tea and coffee were the most prominent, but a few staple grains such as rice also played a large role. The second group is comprised by inputs or outputs of textile manufacturing of which raw cotton and cotton cloth are the most discussed ones. The size of many of these trades from the 18th century onwards is such that they are often analysed as if they existed independently of other commercial relations. Yet none of the major commodity trades in earlier periods can be understood without looking at one of their major limitations, namely the crucial question of return cargoes. As long as transport costs were high and monetary transfers restricted, the availability of return cargo was a serious constraint to the expansion of commodity trades. This paper focuses on how the integration of a trade in the major input into textiles in the 17th century, wool, with one of a less conspicuous staple foodstuff, cod fish, resulted in one of the earliest successful trans-Atlantic commodity trades.

I

Given the importance of textiles as the largest pre-modern manufacturing sector it is only natural that wool had long been one of the most-important raw materials traded on an interregional European level. The basic features of late medieval and early modern wool trade are well known and it will suffice to sum up a few characteristics here. During the Middle Ages England was the single most important wool exporter in Europe supplying the cloth producing areas of the Southern Netherlands and Northern Italy.² However, towards the 15th century exports of raw wool from England declined and shipments from Spain became more important.³ In Spain Castile produced some of the finest quality wool in Europe. By the mid 16th century Spanish wool exports were 8 to 14 times larger than English exports and in 1619 exports from England were finally forbidden because of a serious shortage of wool supplies for the expanding English woollen industries.⁴ Apparently the expansion of raw wool production in England could not keep pace with the expansion of cloth making. The export of woollen broadcloth from England expanded till the second half of the 16th century.⁵ In addition to supply problems in England technical change in textile manufacturing favoured the use of higher quality Spanish merino wool.⁶

² E. Power, *The Wool Trade in English Medieval History being the Ford Lectures by Eileen Power* (London, 1941), T.H. Lloyd, *The English Wool Trade in the Middle Ages* (London, 1977).

³ Ibid.

⁴ G.D. Ramsay, 'The Merchants of the Staple and the Downfall of the English Wool Export Traffic', in *Istituto Internazionale di Storia Economica "F. Datini", Prato. Atti della 'Prima settimana de studio' (18-24 aprile 1969). La lana come materia prima. I fenomeni della sua produzione e circolazione nei secoli XIII-XVII* (Firenze, 1969), p.51 and C.R. Phillips and W.D. Phillips, Jr., *Spain's Golden Fleece. Wool Production and the Wool Trade from the Middle Ages to the Nineteenth Century* (Baltimore and London, 1997), Appendix 3 for estimates of total exports. In fact, Castile's main competitor was now another Spanish territory, Naples, see J.A. Marino, *Pastoral Economics in the Kingdom of Naples* (Baltimore and London, 1988).

⁵ F.J. Fisher, 'Commercial Trends and Policy in Sixteenth Century England', *Economic History Review* 10 (1940) 2, p.154ff.

⁶ Though England also imported coarser Irish wool G.D. Ramsay, *The English Woollen Industry, 1600-1700* (London and Basingstoke, 1982).

The decline of English wool exports not only affected the availability of raw materials for cloth production. The pre-eminence of the wool trade had also impacted substantially on the organisation of England's foreign trade since the later Middle Ages. This points to another issue: The loss of importance and subsequently influence of the English staple merchants had undoubted repercussions for the opening up of English trade though the broadcloth business remained in the hands of a regulated company. At the same time, the rise of Spain as the major European wool exporting country strengthened the role of Spanish commercialisation networks in northern Europe. Spanish shipments to first Bruges and then Antwerp on the one hand and the Italian markets on the other were organised by the merchant guild of the town of Burgos. This merchant corporation functioned very much like the English regulated companies and retained its monopoly power until the late 16th century.⁷ Thus the largest European wool markets continued to be organised on the basis of monopoly companies despite of the decline of English chartered trade.⁸

Few pre-modern staple foodstuffs were suitable for long-distance transport and longer-term storage. Dried salted fish was one of the few exceptions and as such early on it acquired a prime importance for victualling ships and as a preserved foodstuff on land. From the late 15th century onwards one variety dominated the supply of dried and salted fish: cod known in Southern Europe as *baccala* or *bacalao*. Haddock played an ongoing minor role. In the catholic countries of southern Europe dried fish fulfilled an important function as a protein rich food for people who were not allowed to eat meat on as many as 120 days a year.⁹ Initially, fishermen from northern Spain and the French Basque country had developed the cod fisheries alongside their whaling activities. These

⁷ This argument is developed in R. Grafe, 'Los Consulados de Comercio del norte de España y el mundo atlántico en los siglos XVI y XVII: estrategias gremiales ante la expansión comercial', in *Mercantilismo y comercio en el mundo ibérico* (UADE Buenos Aires, 2001).

⁸ There is an extensive literature on this subject for an overview see Phillips and Phillips, *Spain's Golden Fleece*, section III.

⁹ P. Fernández Albadalejo, *La crisis del Antiguo Régimen en Guipúzcoa 1766-1833. Cambio económico e historia* (Madrid, 1975), p.68.

took them further out into the Atlantic as over-hunting of whales reduced local supplies.¹⁰ They presumably reached Newfoundland waters in the late 15th century. But it seems clear that regular trans-Atlantic routes were only established in the course of the 16th century and not before the 1560s the Newfoundland cod fisheries made an important contribution to the Southern European diet.¹¹ Dried salt cod became one of the most important staple foods from the late 16th century onwards and was still the main alternative to meat in the 19th century.¹²

The existence of a group of fishermen crossing the Atlantic at this early stage year after year was an amazing sign of a little noticed process of economic expansion. But the scope for the growth of these fisheries was checked by a number of factors. To begin with trips were long and hazardous and the risks involved were substantial. Yet, as several historians have shown organisational arrangements such as shared ownership, payment of seamen in shares of return and the rise of the maritime insurance drove down peacetime risk dramatically.¹³ Limitations imposed by nature were more difficult to overcome. The fishing season around Newfoundland was restricted to a short summer by both weather conditions and migratory patterns of the cod. The fish moved to the Grand Banks and Newfoundland waters only during the (relatively) warmer summer months from May to September. The severe climate and lack of alternative sources of

¹⁰ M.M. Barkham, 'Shipowning, shipbuilding and trans-Atlantic fishing in Spanish Basque ports 1560-1630: Motrico and Zumaya' (unpubl. Ph.D., Cambridge University, 1991), discusses the relative importance of whaling and fishing in detail.

¹¹ Most recently Mark Kurlansky's romanticised version of the Basque fisheries has revived claims that these fishermen 'discovered' the American continent long before 1492, see M. Kurlansky, *Cod. A Biography of the Fish that changed the World* (London, 1998). But there is no reason not to believe Innis' assumption that the fisheries came into their own in the 1560s H.A. Innis, 'The Rise and Fall of the Spanish Fishery at Newfoundland', *Transactions of the Royal Society of Canada XXV*, section II (1931), pp.51-52.

¹² D.R. Ringrose, *Madrid and the Spanish Economy, 1560-1850* (Berkeley and Los Angeles, 1983), p.130ff and 241ff.

¹³ See for Spain and England respectively M.H. Barkham, 'Mercaderes, comercio, y finanzas en el norte de España: Seguro marítimo en Burgos y su desarrollo en San Sebastián y Madrid (1500-1630)', in *Actas del V Centenario del Consulado de Burgos (1494-1994)* (Burgos, 1994) and G.T. Cell, 'The English in Newfoundland 1577-1660' (unpubl. PhD, University of Liverpool, 1964).

income and food made year round settlement highly unattractive.¹⁴ What emerged as a consequence was a pattern where fishing boats made one trip a year leaving in April and returned home with one load of dried salted fish between August and October.¹⁵ Invariably the southern European market for fish was glutted between September and November while prices rose strongly during the rest of the year.

Throughout the 16th century northern Spanish fishermen were competing for access to the best fishing grounds with the Portuguese, French and towards the end of the century with English West Country men.¹⁶ The latter extended their operation radius increasingly westward beyond Irish and Icelandic waters as preservation techniques and shipping improved.¹⁷ English and French claims to the better natural harbours in Newfoundland – needed for the drying and salting on shore - helped to first reduce the once overwhelming dominance of the northern Spanish and finally drive them out almost entirely. By the early 17th century the Newfoundland fisheries were firmly in English and French hands. English West Country entrepreneurs reduced the natural limitations of the fisheries through the use of so-called ‘sack ships’. ‘Sacks’ were carrying vessels that were used to take victuals and stores to the fishing grounds and pick up parts of the catch from the fishing vessels during the fishing season, hence increasing the number of fish that could be taken to Europe within the short summer.¹⁸ But while they enlarged supply the sack ships did little to expand the trading season

¹⁴ The long and interrupted attempts at colonisation are discussed in detail in G.T. Cell, *Newfoundland Discovered. English Attempts at Colonization* (London, 1982).

¹⁵ For a long time historians argued that the Basques were mainly after ‘green fish’ a variety that did not require drying on shore but a larger amount of salt. In this they followed Harold Innis description H.A. Innis, *The Cod Fisheries. The History of an International Economy* (Toronto, Buffalo and London, revised ed., 1954). However, from the beginnings of the fisheries the Basques always preferred dried and salted fish. Barkham, ‘Shipowning’.

¹⁶ It was shown recently that the role of the Portuguese in this fishing sector has been overstated. See D. Abreu-Ferreira, ‘The Portuguese in Newfoundland: Documentary Evidence Examined’, *Portuguese Studies Review* 4 (1995-96) 2.

¹⁷ M. Kowaleski, ‘The expansion of the south-western fisheries in late medieval England’, *Economic History Review* LIII (2000) 3, p.442ff.

and probably only led to keeping prices down in the face of rising demand. Although the importance of cod in overall consumption increased, prices for codfish remained quite stable until the 1620s and rose slowly in the 1630s.¹⁹

Another way in which the early English investors tried to improve the profitability of sack ships and fishing vessels was related to the issue of return cargo. The arrival of the cod ships from Newfoundland in southern Europe coincided reasonably well with the wine trade season and there is evidence that wine was often the return cargo.²⁰ Still this added just an additional constraint of matching the fishing season with the wine season and made the trip more dangerous and costly. Fish could be easily sold in northern Spain but wine had to be picked up on the Mediterranean coast. Nor did combining fish and wine trade solve another fundamental problem: ships went empty to Newfoundland (except for salt and victuals for the fishing fleet). Thus the fish cargo and a possible wine cargo from southern Europe had to finance the third leg of the trade: the outbound trip to Newfoundland. Despite some evolution in the cod fisheries and trade the way in which Europe acquired its favourite fish remained unchanged no matter whether it was caught by Spaniards, Englishmen, Frenchmen or Portuguese. Up to the first decades of the 17th century the supply of bacalao remained largely in the hands of fishermen who provided the investment, fitting out, fishing, transport and sale back in their European home regions be it the Spanish Cantabrian Coast, Southern France or the West Country.

¹⁸ Cell, 'English in Newfoundland' and P. Pope, 'Adventures in the Sack Trade: London Merchants in the Canada and Newfoundland Trades, 1627-1648', *The Northern Mariner/Le Marin du nord* VI (1996) 1.

¹⁹ G. Feliu, *Precios y salarios en la Cataluña moderna. Vol.I: Alimentos* (1991), table VII.5 and E.J. Hamilton, 'American Treasure and Andalusian Prices', *Journal of Economic and Business History* 1 (1928) 1, p.20ff.

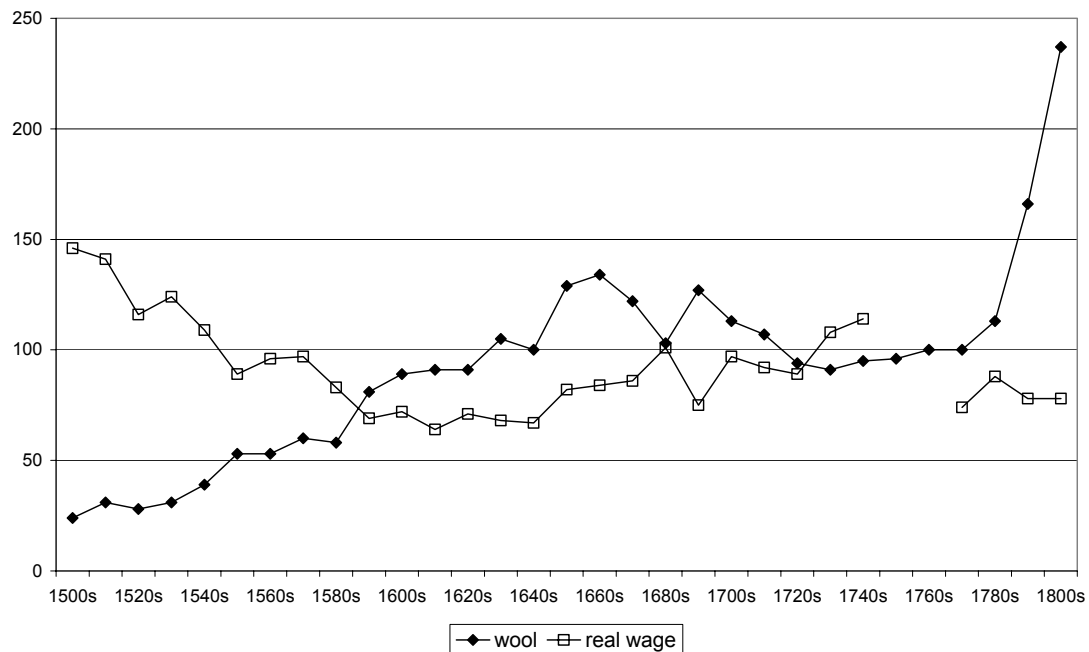
²⁰ See W. Stephens, 'English Wine Imports c.1603-40, with Special Reference to the Devon Ports', in Gray, Rowe, et al. (eds.), *Tudor and Stuart Devon. The Common Estate and Government. Essays presented to Joyce Youings* (Exeter, 1992), J. Scantlebury, 'John Rashleigh of Fowey and the Newfoundland Cod Fishery, 1608-20', *Journal of the Royal Institution of Cornwall* VII (1978-81) and Pope, 'Adventures in the Sack Trade: London Merchants in the Canada and Newfoundland Trades, 1627-1648', for examples.

II

The structure and size of both the wool and the codfish trade changed substantially in the first half of the seventeenth century. The reason for these alterations lay in their integration into one wider north Atlantic trading network. Data derived from Spanish port books, tax data and contractual sources allow an analysis of the timing, direction and consequences of these alterations. Change in the wool trade began with a severe crisis in the later 16th century. Due to a crisis in the Italian cloth sector demand for Spanish wool fell off significantly. In addition, a similarly sharp decline of demand for wool from the Southern Netherlandish and Northern French cloth manufacturers resulted from the outbreak of war in the Netherlands, which hit production and trade. However, at the same time the rise of the ‘new draperies’ industry in the West Country of England created an alternative demand for Iberian wool. In the 1620s the production of so-called ‘Spanish cloth’, presumably produced with some proportion of Spanish wool, expanded while that of traditional broadcloth declined²¹. The rise in English demand is clearly discernible in the development of prices. English wool prices as reported by Overton had risen considerably since the early 16th century (Graph 1). The prohibition of exports of English wool in 1619 did not reverse the price trends simply because the quantities sold abroad even before prohibition were negligible.

²¹ B.E. Supple, *Commercial Crisis and Change, 1600-1642: A Study in the Instability of a Commercial Economy* (Cambridge, 1959).

**Graph 1 English wool prices and real agricultural wages, 1500-1800
(Index 1700-1749 = 100)**



Source: M. Overton, 'Agricultural Revolution in England. The transformation of the agrarian economy 1500-1850', (Cambridge, 1996), p.64, Table 3.1 Wheat, barley, oat, beef, mutton and wool prices, and agricultural wages, 1500-1849 (10 year averages 1700-49 = 100)

Thus the rationale for an increased drive towards Spanish wool exports to England is obvious. Although English import statistics for the first half of the 17th century are too patchy to analyse the emergence of this trade, let alone its volume, the data from northern Spain clearly illustrate its rapid expansion.²² Graph 2 shows the volume of wool exported from Bilbao in the period of change in the 1630s and 1640s, both to all destinations and to England.

²² J.L. Mann, *The Cloth Industry in the West of England from 1640 to 1880* (Oxford, 1971) English port books are a problematic source at the best of times, but for the first half of the 17th century there simply are not enough port books for the important harbours to make any sense of the data, see e.g. for London A.M. Millard, 'The Import Trade of London 1600-1640' (unpubl. Ph.D., London School of Economics, University of London, 1956).

Graph 2 Wool exports from Bilbao: totals and exports to England 1632-1644



Source: Archivo Histórico Provincial de Vizcaya (AHPV), Leg.3117s.f., Leg.3119s.f., Leg.3120s.f., Leg.3121s.f., Leg.4726s.f., Leg.4727s.f., Leg.4728s.f., Leg.4729s.f., Leg.4730s.f., Leg.4731s.f., Leg.5017s.f., Leg.5018s.f., Leg.5019s.f., and Archivo Foral de Bizkaia (AFB), Corregimiento (Corr.), Leg.1119, f.1-122.

Over the 1630s exports of wool through the main northern Spanish port Bilbao alone expanded three to fourfold. They stabilised in the 1640s at about 1000 tons per year. Practically all of this wool was sent to English ports mostly in the West Country. It should be noted that 1642 trade was exceptionally sluggish because the West Country became very affected by the Civil War, which together with severe monetary instability in Spain hindered trade temporarily. Trade data that captures the overall value of foreign commerce through this port confirms that it continued to rise in the later 1640s and indeed

over the rest of the century.²³ Wool remained to be the single most important good at Bilbao though no longer series of data for the second half of the 17th century is available at present. Total exports of wool through the Spanish northern coast were estimated at 1553 tons per annum for the period 1654-57, 1311 tons for 1662-70 and 1208 tons for 1716-20.²⁴ It is safe to assume that almost all of this would have been exported through Bilbao although it seems that English share declined later in the 17th century as the Dutch imported more and more Spanish wool and English imports only picked up again in the second half of the 18th century.

The importance of these new wool imports is apparent when looking at estimates for English domestic production of wool. Estimating wool production is difficult but by using the size of the sheep flock and multiplying it by the average production of wool per annum some rough approximation can be reached. There is little disagreement on the number of sheep in England among the sources reviewed, but the multiplier used for the weight of a fleece varies between Bowden's 1.7 lb per fleece and Deane's 3.6 lb. While it is not explicit, it seems that the difference is caused by the fact that some multipliers are based on washed wool others on the unwashed raw material.²⁵ Bowden's estimates of wool production in the order of 10,000 tons are almost certainly based on washed wool.²⁶ Since imported Spanish wool was always washed, this seems to be the appropriate comparison. Hence, the amount of Spanish wool imported into England from the 1640s onwards was the equivalent of 8-10% of the total

²³ R. Grafe, 'Northern Spain Between the Iberian and Atlantic Worlds: Trade and Regional Specialization, 1550-1650' (unpubl. PhD, London School of Economics and Political Science, 2001), Figure 4.1, p.110.

²⁴ Own calculations based on L.M. Bilbao Bilbao, 'Exportación y comercialización de lanas de Castilla durante el siglo XVII, 1610-1720', in *El pasado histórico de Castilla y León*, Vol. 2: Edad Moderna (Burgos, 1983), p.227ff.

²⁵ In Spain it was assumed that wool lost during the washing up to two thirds of its weight. See M. Basas Fernández, *El consulado de Burgos en el siglo XVI* (Madrid, 1963), p.245.

²⁶ Bowden does not specify this but he calculates the multiplier backwards, comparing estimates for production by county in relation to the number of sheep. These production figures most probably referred to washed wool. Bowden, P.J., *The Wool Trade in Tudor and Stuart England* (New York 1962).

English and Welsh domestic wool production at the time. It was also comparable in size to imports of Irish wool later in the century, which was traditionally seen as the main outside supply of wool for the West Country. But Spanish wool was furthermore preferred because almost the entire amount was of the finest qualities.²⁷

How important was the Anglo-northern Spanish wool trade as a share of total English foreign trade? It is impossible to value this trade accurately, but there are some indicators. In the early 1640s, an English pamphleteer wrote of Bilbao, “this Towne dispatcheth to the value of 200.l. to 250000.l. starling”.²⁸ A quarter of a million pounds was substantial. The English Levant import trade, considered the most lucrative, was valued at £305,483 in 1634 and £373,595 in 1663.²⁹ The pamphleteer’s figures do seem plausible, however, since Bilbao’s wool exports to England were, estimated conservatively, worth £190,000 to £420,000.³⁰ The transformation of England into an importer of high-quality Spanish merino wool was a necessary pre-condition of the development of the new-drapery industry in West Country. This in turn is credited with a decisive role in the English ‘commercial revolution’.³¹ Only by tapping into a ready supply of suitable raw material could the English cloth industry shift from producing for declining markets for broadcloth to manufacturing for the expanding markets in new draperies and embark on its spectacular expansion of the later 17th century.³² Ultimately, the lighter cloth allowed England to capture a large share of the expanding cloths shipments to southern Europe and the new

²⁷ Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', Figures 4.2 and 4.3.

²⁸ BM712.g15/9, ‘A Brief Narration’.

²⁹ R. Brenner, *Merchants and Revolution. Commercial Change, Political Conflict, and London's Overseas Traders, 1550-1653* (Cambridge, 1993), p.29, Table 1.5. A.M. Millard, *Analysis of Port Books recording Merchandises imported into the Port of London by English and Alien and Denizen Merchants for Certain Years between 1588 and 1640* (London, 1950-59) reports the lower figure of £212,186 for 1634, because she excludes goods from Leghorn, which Brenner identifies as re-exports of Levantine goods.

³⁰ Prices of medium to high quality wool for this estimate were taken from Mann, *Cloth Industry*, p.256ff.

³¹ Brenner, *Merchants and Revolution*, R. Davis, *A Commercial Revolution. English Overseas Trade in the Seventeenth and Eighteenth Centuries* (1967).

³² Supple, *Commercial Crisis*.

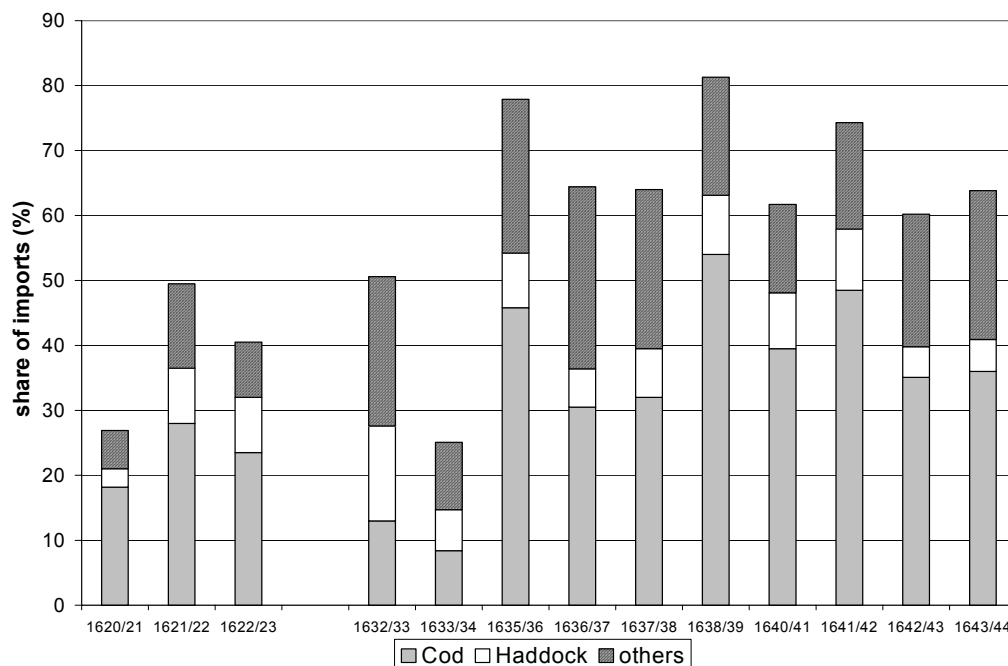
intercontinental trade. Despite fluctuations in the amount of wool exported, the 1630s therefore represented a lasting and substantial shift in the pattern of European wool trade. England, the largest medieval exporter of wool had become an importer and would continue to rely on Spanish wool for its expanding textile industries for centuries to come.

Spanish wool fetched very good prices in England but to set up this trade two basic conditions needed to be met. Firstly, new trading networks had to be established and secondly England had to find a way to pay for the imports. This last constraint was not trivial. In a world of omnipresent mercantilist restrictions on bullion exports large-scale commodity trade was only possible where a return cargo could be found. Yet, the Spanish demand for English goods – mainly textile manufactures - was low during the first half of the 17th century. The only product that found consistently a good market in Spain was dried codfish. Thus, West Country merchants began to concentrate on selling the English catch in Northern Spain to finance wool imports. For the *bacalao* business this offered a crucial advantage over the previous strategy that linked the fish business with the wine trade. The trans-Atlantic trip to northern Spain was considerably cheaper and less risky than a venture into the Mediterranean. However, now an ever-growing supply of fish was needed to finance large-scale wool imports.

The solution for this problem was finally found in the 1630s. Linking the *bacalao* and the wool trade affected the structure of commerce in surprising ways. The way in which the trade was organised can be understood better when combining information from a number of English and Spanish archives. The increasing imports of *bacalao* to Northern Spain are clearly discernible in the composition of northern Spanish imports. Graph 3 below displays the share of dried salted cod, haddock and other types of fish in the overall imports of Bilbao between 1620 and 1644. The figures reported have to be understood as lower

bound estimates since a number of cargoes were not identified by product and thus inflate the share of imports other than fish.³³

Graph 3. Cod and haddock imports as share of total imports, 1620-1644 (%)



Source: R. Grafe, 'Northern Spain Between the Iberian and Atlantic Worlds: Trade and Regional Specialization, 1550-1650', p.139.

The overall share of cod and haddock imports rose from about 20-35% in the 1620s to 35-63% in the 1630s and 40s. This occurred at a time when the overall volume of trade was increasing. Bilbao port books also reveal that increasingly the ships engaged in this trade were English. In fact, by the 1640s there were hardly any northern Spanish ships involved in the import of *bacalao*.³⁴ However, the English vessels were not originating in Newfoundland. The

³³ Estimates based on the number of ladings recorded in the Bilbao Port Books. For a detailed description of the source and the way the estimates were derived see Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', chapters 4 and 5.

³⁴ Ibid., p.147ff.

evidence shows that from as early as the mid-1630s most of the cod was shipped from the newly established settlements on the North American mainland, in particular from Massachusetts. The sources rarely reveal the origin of imports directly. Nonetheless the shift from Newfoundland to mainland North America can be seen when looking at individual ship journeys and the seasonality of shipments. Table 1 shows how the newly established triangular trade between England, North America and northern Spain functioned by following a West Country ship on its journey through English and Spanish sources. It describes the annual journeys of the *George* between 1632 and 1641. The ship would leave Barnstaple (England) in the late autumn for North America with goods for the colonists. ‘Haberdashery and mercery’ are named as exported goods. It then spent the winter in the colonies, on one of three possible employments: engaging in the coastal trade, participating in the spring fishing, or employed in a trip to the Caribbean. Towards the summer at the latest, it would travel north to the New England shores and take a cargo of fish. Then Master Beaple took his ship direct to Bilbao, where he sold a cargo of dried and salted cod. The fish was often registered as *bacalao de la Birginia* but it must be noted that in the early phase of English colonisation the term Virginia was applied by the Spanish to all English settlements in America.³⁵ The *George* finally took a lading of wool and sometimes iron, returning to the West Country by the early autumn. The nine years during which the sources document the trajectory suggest a clear regularity in the trading patterns.

³⁵ Ibid., p.147ff, English sources do not distinguish clearly between the colonies until the second half of the 17th century either.

Table 1: The journeys of the 'George' of Barnstaple, 1632-1641

Source ³⁶	Ship's name	Master	Port	Arrival date	From	Departure date	Pays wool tax on	Destination	Merchants/Goods
PRO E190 /948/9	The George of Barnstaple	Ethelred Beaple	Barnstaple			06.11.1632		Virginia	George Ferrys (Barnstaple) exports 40 coats and 40 rugs valued at £40
PRO E190 /948/1	The George	Ethelred Beaple	Barnstaple			06.11.1632		Virginia	George Ferrys
AFB/CB211 Num36	El Jorge	Bepel	Bilbao		Virginia	09.07.1633			brought <i>bacalao de Virginia</i>
AHPV Leg.3117	El Jorge	Bepel	Bilbao				07.09.1633	Barnstaple	15 sack of Segovia wool for Arthur Honychurch and 10 sacks of lambswool for John Daun
PRO E190 /948/10	The George	John Beaple	Barnstaple			04.11.1633		Virginia	George Ferres exports mercery and haberdashery valued at £23-6s-8d
PRO E190 /948/11	The George	John Beaple	Barnstaple			04.11.1633		Virginia	George Ferres
AFB/CB211 Num37	El Jorge	Juan Plepo	Bilbao			22.09.1634			brought cod
PRO E190 /949/2	The George	John Braple	Barnstaple	04.10.1634	Virginia				skins
PRO E190 /949/10	The George	John Braple	Barnstaple	03.10.1635	Bilbao				Nicholas Down, Arthur Honychurch, (?) Braple, Joseph Jackson and William Palmer import iron and wool
AHPV Leg.3119	El Jorge	Juan Bepel	Bilbao				22/23.08.1636	Barnstaple	takes 48 sacks of wool from Castile and Segovia for Richard Harris and 89 sacks of wool and 19 of lambs wool from Segovia for John Daun
AFB/CB211 Num39	El Jorge	Juan Bepel	Bilbao			30.09.1636			brought dried cod
AHPV Leg.3121	El Jorge	Juan Bepel	Bilbao				05.10.1637	England	takes 30 sacks of Castilian lambswool and 6 of Segovia wool for Nicholas Isaac and 54 sacks of Segovia wool for Nicholas Daun
AFB/CB211 Num40	El Jorge	Juan Bepel	Bilbao			10.10.1637			brought fish and fat, takes wool and lambswool
AHPV Leg.4728	El Jorge	Juan Bepel	Bilbao				01.10.1638	England	takes 84 sacks of Segovia wool for Nicholas Daun
AFB/CB211 Num41	El Jorge	Juan Bepel	Bilbao			10.10.1638			brought fish, takes iron and wool
AFB/CB211 Num43	El Jorge	Juan Bepel	Bilbao			23.09.1641			brought fish, takes iron

³⁶ PRO = Public Record Office London, AFB/CB = Archivo Foral de Bizkaia (Consulado de Bilbao), AHPV = Archivo Histórico Provincial de Vizcaya.

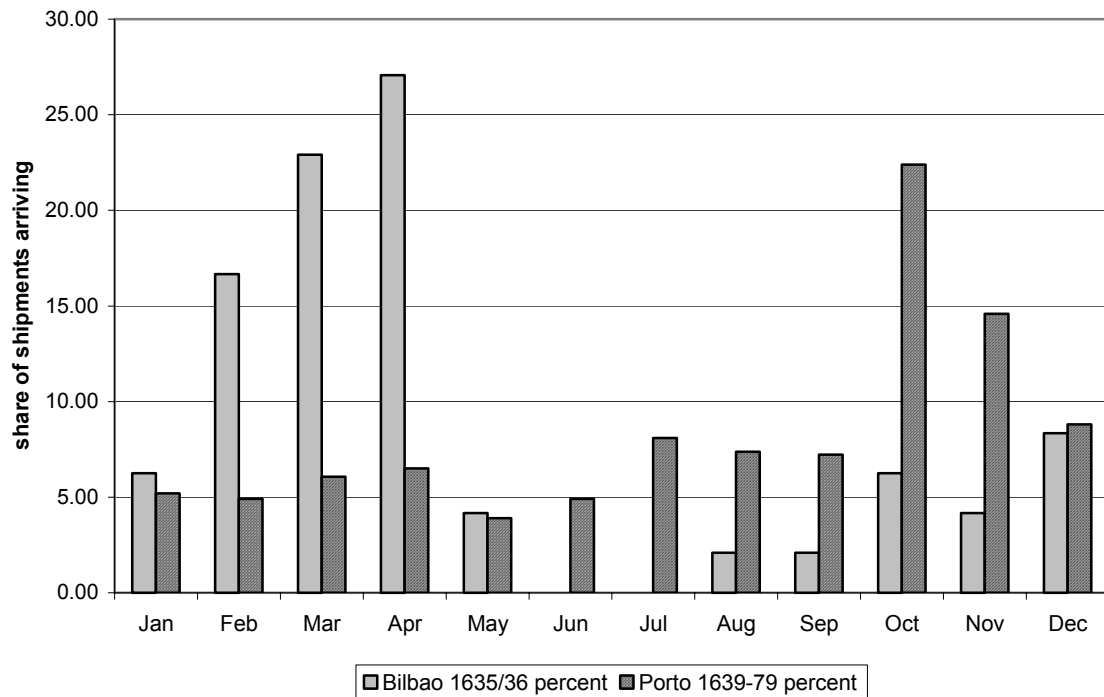
The fisheries off the North American mainland enjoyed several crucial advantages over the more traditional Newfoundland fisheries. The fish was of higher quality – a plus for sales to choosy southern European customers. Only cod of good to very good quality known as ‘merchantable’ could be sold in the Spanish market. It is telling that good quality *bacalao* became known in Spain as *bacalao ‘marchante’*, a word that did not exist in Spanish.³⁷

But most importantly these fisheries were a year round enterprise with two main fishing seasons in early spring and late summer. This removed the main barrier to an expansion of the codfish trade into a major commodity trade. While *bacalao* could be preserved over longer periods of time, its quality declined after several months of storage. Thus additional supplies that arrived after the short Newfoundland fishing season simply glutted the market. New England could supply fish all year round with a main fishing season between February and March. This was particularly convenient since delivery in March and April was just in time for the Lent fast, a period of 40 days in which the Catholic Church prohibited the consumption of meat. Graph 4 below illustrates this pattern. Most of the Bilbao cod imports arrived after the main New England fishing season and during the period of highest demand in Spain, while there were some shipments throughout the year except in June and July. The seasonality of cod imports into Bilbao shows that by the 1630s Newfoundland had been replaced by mainland North America as the main source of fish for northern Spain. Year round fishing and the high quality of the mainland fisheries gave them an edge over the traditional Newfoundland supplies. This contrasts sharply with data from the Portuguese port of Porto around the same time. Here imports continued to arrive mainly after the Newfoundland fishing season and before the wine export season that determined the export structure of Porto. The Porto Newfoundland fish for

³⁷ Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', p.166.

wine trade never developed to levels comparable to the Bilbao New England fish trade, which handled at least three times the Porto volume.³⁸

Graph 4 Seasonality of cod imports: Bilbao 1635/36 and Porto 1639-79



Source: Bilbao: AFB/CB, Libro 212, No.36; Porto: Abreu-Ferreira, D., 'The Cod Trade in Early-Modern Portugal: Deregulation, English Domination and the Decline of Female Cod Merchants' (unpubl. PhD, Memorial University Newfoundland, 1995), table 10.

The shift from Newfoundland fisheries to New England fisheries removed the largest remaining obstacle to the expansion of the cod trade, its seasonality. The European wool trade and the Atlantic cod trade became closely integrated within a triangular exchange that included: wool shipments from Spain to England, exports of manufactures from England to North America and fish exports from North America to Northern Spain. The importance of wool imports

³⁸ This comparison is based on Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', p.161-62 and Abreu-Ferreira, D., 'The Cod Trade in Early-Modern Portugal', table 10.

to England for the development of the most dynamic textile sector discussed above underpins the importance of the Spain-England leg of the trade. There is equally little doubt that the early English mainland colonies relied heavily on imports of manufactures from the mother country. Only within this context can we understand the emergence of the trans-Atlantic cod trade, which helped to finance the other two legs of this little-studied early triangular trade.

Historians of colonial America have appreciated the crucial role of cod exports for the development of the early colonies, though their scale and early emergence have been underestimated. Vickers for example, argues that only the pressure of the dislocation of trade during and after the Civil War enticed the colonies to seek an expansion of the fisheries.³⁹ But Graph 4 shows beyond doubt that New England was the main supplier of *bacalao* to northern Spain as early as the mid 1630s. Estimating the size of the sector in those early years is more difficult. There is some anecdotal evidence that exports from Boston were sizeable very early on.⁴⁰ Some estimates based on the number of ships arriving in Bilbao multiplied by a lower bound estimate for the volume of fish per cargo can be provided. Using such a very rough method and introducing several downward biases shows that shipments of dried fish from New England to Bilbao alone rose from about 8,000 quintals in 1632 to at least 15,000-22,000 quintals in the early 1640s.⁴¹ These figures are almost certainly too low as they coincide with Vickers

³⁹ D. Vickers, *Farmers & Fishermen. Two Centuries of Work in Essex County, Massachusetts, 1630-1850* (Chapel Hill and London, 1994), p.98.

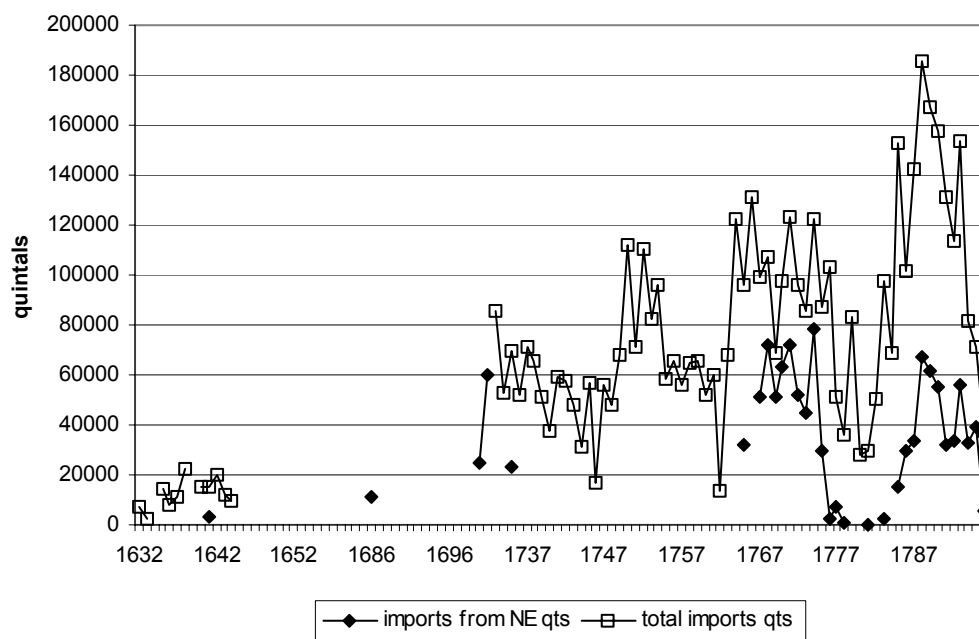
⁴⁰ See e.g. J.G. Lydon, 'Fish and flour for gold: southern Europe and the colonial American balance of payments', *Business History Review* XXXIX (1965) 2, pp.171-173.

⁴¹ A quintal is 112 lbs. There is a threefold downward bias introduced in these estimates. Firstly, as noted above the number of cargoes entering the port of Bilbao is underreported. Secondly, I have applied a very low average size of cargo of about 200 quintals. The existing evidence from surviving bills of lading and court cases suggests that loadings in the order of 500 to 1000 quintals were no exception. By 1735 the average cargo arriving in Bilbao was 1302 quintals, A. Zabala Uriarte, *Mundo urbano y actividad mercantil. Bilbao 1700-1810*, Vol. 9 (Bilbao, 1994), p.206. Finally, the evidence for number of fish per quintal suggests that New England cod were considerably larger than Newfoundland cod. Thus Vickers suggests that there were about 50 fish to the quintal as opposed to 100 for Newfoundland fish. Vickers, *Farmers & Fishermen*, p.99.

estimates for shipments from Boston and Marblehead alone.⁴².

Graph 5 below reports both total imports of codfish to Bilbao and those that can be identified for certain as being of New England origin. Despite of lack of data for the second half of the 17th century it is clear that the expansion of the codfish trade continued throughout the 17th and 18th centuries. Setbacks during wartime, such as the Spanish War of Succession 1700-14, War of Jenkins's Ear 1739, Seven Years War 1755-63, British colonial conflict 1776-83 or the 1793 English French conflict never led to more than temporary interruptions.

Graph 5 Long-term evolution of Bilbao *bacalao* imports from North America 1632-1800 (quintals)



Source: imports from New England: J.G. Lydon, 'Fish and flour for gold' and A. Zabala Uriarte, 'Mundo urbano y actividad mercantil', total imports R. Grafe, 'Northern Spain Between the Iberian and Atlantic Worlds' and A. Zabala Uriarte, 'Mundo urbano y actividad mercantil'.

⁴² Ibid., p.98.

These data understate the importance of the sector for the New England colonies. Out of the initial export sector directed to southern Europe grew an additional one that shipped codfish to the West Indies from the later 17th century onwards. The growing West Indies plantation economy was a perfect outlet for low quality 'refuse' cod fish, i.e. broken, undersized, over salted, left out in the rain, damaged cod that could not be sold in the southern European markets. Price differences between high and low quality fish were about 50% but the production process meant that only a certain percentage of high quality *bacalao* could be produced. Shepherd and Walton have shown that by the late 18th century the Massachusetts ports were the major trading point for dried codfish, which concentrated and re-exported the overwhelming share of these shipments.⁴³ Around 1770 fish accounted for 35% of New England export value.⁴⁴ Codfish prices between North America and Spain seem to have been at least partially integrated from the 1630s onwards.⁴⁵

The cod export sector was important for the development of local credit networks, mercantile skills, the shipbuilding industry and coastal trade and thus contributed greatly to the early and longer-term survival and growth of the New England economy.⁴⁶ It emerged out of the cod-wool-manufactures trade that linked New England with northern Spain and the English West country since the 1630s. Fish ceased to be the product of a fishing sector and became one more commodity traded in increasingly global markets balancing New England merchants' accounts with their English counterparts' provision of the young colonies with essential manufactures. Cod was a God-Sent for colonial balance

⁴³ J.F. Shepherd and S.H. Williamson, 'The Coastal Trade of the British North American Colonies, 1768-1772', *The Journal of Economic History* 32 (1972) 4, pp.788-789 and p.796.

⁴⁴ J.J. McCusker and R.R. Menard, *The Economy of British America, 1607-1789* (Chapel Hill and London, 1985), p.108.

⁴⁵ Vickers, D., 'A known and staple commoditie': Codfish Prices in Essex County, Massachusetts, 1640-1775', in *Essex Institute Historical Collections* Vol. CXXIV (1988), pp.186-203 and Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', chapters 4 and 5. The author is presently working on an analysis of fish price integration in the longer run.

⁴⁶ See McCusker and Menard, *The Economy of British America, 1607-1789*, chapter 5.

of payments.⁴⁷ By the early 1640s one of the first regular trans-Atlantic commodity trades bringing together the European and North-American economies had come into existence.

III

Making the new triangular trade work required changes to production and sales networks on both sides of the Atlantic. The new trading pattern had a profound impact on the market structure and commercialisation of the products involved. The triangular trade removed the constraint placed on early modern commerce by the inadequacy of international capital markets, which reduced the possibilities of financing large-scale commodity trades in the absence of return cargo. Still, even when a 'multilateral' exchange had come into existence it could only flourish thanks to a reorganisation of the existing commercial networks. As mentioned above, wool exports had previously been in the hands of the monopoly holding merchant guild of the northern Castilian commercial centre Burgos. The wool trade required a substantial amount of skill in assessing quality and intricate knowledge of the Castilian production regions. English West Country merchants had little experience in this business. They lacked the know-how and contacts needed to buy wool in the Castilian hinterland. Furthermore, wool sales were usually agreed by advance contracts.⁴⁸ This increased the need for working capital in the trade. The large Castilian merchant houses of the 16th century had been able to provide that capital thanks to the financial services provided at the Castilian fairs. Yet the Fairs had lost their previous functions or ceased to exist altogether.⁴⁹

⁴⁷ Lydon, 'Fish and flour'.

⁴⁸ See on the workings of the trade in the 16th century Phillips and Phillips, *Spain's Golden Fleece*, chapter 9.

⁴⁹ See F.H. Abed al-Hussein, 'Trade and business community in Old Castile. Medina del Campo, 1500-1575' (unpubl. Ph.D., University of East Anglia, 1982), B. Yun Casalilla, *Sobre la*

English merchants were hardly able to extend credit to both wool producers and for the actual transport. West Country merchants with rather limited funds thus relied on merchants from the main commercial town on the northern Spanish Coast, Bilbao, to provide them with wool. Traders from the coast had seen most of the monopoly-based business disappear in the late 16th century. Now they by-passed the merchant guild monopoly of Burgos, which had virtually ceased to exist with the business slump in the late 16th century. Merchants on the coast began to supply wool to the English in the port of Bilbao and the big Castilian wool merchants were cut out of the trade to the benefit of the coastal merchant community. Interestingly, the northern Spanish merchants did not seek to renew any monopoly privileges or impose a return to the company regulated trade that had existed previously although the English clearly needed their services. Rather than relying on the internal economies of scale provided by company organisation they ventured to benefit from the external scale economies that the growing market at Bilbao offered.

Their 'free-trading' attitude was matched by that of the English. The buying of wool was organised by a large group of English merchants resident in Bilbao from the 1630s onwards.⁵⁰ The low barriers to entry that the newly resident English merchants encountered in the main northern Spanish port enabled them to build up the networks necessary to link up the fish and wool trades. Their existence runs counter to most accounts of commercial activity in Spanish territories in the 17th century. The English at Bilbao opposed regulation of their trade, even refusing to establish a consular representation. Collective action was costly and its benefits had been reduced by the increased openness to

transición al capitalismo en Castilla. Economía y sociedad en Tierra de Campos (1500-1830) (Valladolid, 1987) and for a quick overview F. Ruiz Martín, 'El Consulado de Burgos y las ferias de pagos de Castilla', in *Actas del V Centenario del Consulado de Burgos (1494-1994)* (Burgos, 1994).

⁵⁰ During these years there were often more English merchants resident in Bilbao than locals. In 1644 there were at least 44 English traders living and working in the port at the same time, a very large number by the standards of the time. For an in depth study of this group and its collective behaviour see Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', chapter 7.

entry for foreigners in the northern Spanish market. Surprisingly, English merchants in northern Spain expressed their confidence in the local legal system, preferring the Bilbao commercial court to courts back in England. Most accounts of Spain's commercial sector seem to suggest that barriers to entry for foreigners were high while Spanish traders limited their business activities to translating those barriers into rents for themselves. By contrast the northern Spanish merchants collaborated with the English in ways that were mutually beneficial. The English could rely on traders with expertise to supply wool. The Spanish gained access to supplies from the new English colonies and to the ready market for wool in the English West Country, where they did not possess any commercial contacts of their own.

While the Spanish wool supply networks integrated the English resident in Spain with their Northern Spanish business partners the delivery of dried-cod fish to the important southern European markets stopped being the product of local fishing industries in areas of England, France and northern Spain and became a North American production sector. With the dominance of New England came a transformation of a fishing sector into a staple commodity trade organised by local New England merchants in collaboration with their English West Country business partners. This sector combined year round employment of fishermen with the construction of a trading network along the coast and a remarkably regular trans-Atlantic commercial contact.⁵¹ The supply organisation was entirely different from the previous Newfoundland fisheries. Rather than sending out fishing vessels and sack ships to pick up the catch the English traders now shipped manufactures to the new English colonies. Hence, for the first time the problem of having to subsidise an outward journey with an empty ship to the fishing grounds was solved. In fact, most of the ships stopped being involved in the fishing itself altogether and became cargo ships.

Vickers has described the evolution of the fishing sector in the new colonies in great detail. In the first half of the 1630s attempts were made to use

bound servants hired for seasons by the Massachusetts Bay Company in the English fishing regions. However, their 'ungodly' behaviour created conflict in the colonies. These fishermen constituted exactly the opposite of what the founding fathers had in mind. They were unmarried, attached to the High Church in matters of religion and known for their 'immoral' behaviour. Fishermen were encouraged to become resident, but those who did often chose to work the readily available land rather than risk their lives in fishing boats. According to Vickers fishermen remained outside the mainstream colonial society because the working relationships they formed contradicted their integration into the social fabric of a puritan farming community.⁵²

New England merchants organised the trade based on capital advanced by the English entrepreneurs, which financed salt and equipment. In return the New England merchants guaranteed punctual delivery of a full lading of cod at a specified date and port. If they failed to provide the agreed quantity at the agreed time they were liable for damages. This type of contract meant the local merchant had to assure certain delivery. Yet because supervision of fishermen along the coast was virtually impossible, the contracts between local New England merchants and the fishermen mirrored those between English and New England merchants. They were not employed but remained at least theoretically independent responsible to deliver their catch at a particular time. Advances of capital and equipment kept them indebted with the colonial merchants and gave the latter an advantage when negotiating the price of fish at the beginning of each season.⁵³ In this way a sector of more or less independent fishermen emerged that supplied merchants in the main colonial 'centres' such as Boston/Charlestown with a regular quantity of fish. The merchants, or intermediaries, organised the

⁵¹ The best studies of the early fish trade in North America is Vickers, *Farmers & Fishermen* .

⁵² D. Vickers, 'Work and Life on the Fishing Periphery of Essex County, Massachusetts, 1630-1675', in *Seventeenth-Century New England* (Boston, 1984).

⁵³ Ibid..

transport along the coast for delivery in the main port.⁵⁴ From there merchants sent large quantities to the northern Spanish coast where English agents and merchants received the lading. The multiple connections between English and New England merchants guaranteed the steady supply of *bacalao* for the Spanish market.

One outcome of this change in structure was a process of commercial agglomeration in northern Spain that benefited the main town of Bilbao at the expense of both the former northern Castilian commercial centres and smaller ports on the coast.⁵⁵ Equally the 'de-monopolisation' of the all important wool trade resulted in more direct commercial relations with the wool producing regions of Castile and the major fish consuming centres, especially the rapidly growing city of Madrid. On delivery in Spain English merchants sold the fish either directly or through Bilbao intermediaries to small-scale muleteer traders. This trade required hardly any capital on the side of the latter since either English merchants or their Bilbao business partners provided short-term credit until the fish was sold. Thus traders with little more working capital than half a dozen mules and no need for more sophisticated business skills or indeed basic literacy created an efficient distribution system in the Castilian hinterland.⁵⁶

Conclusions

This paper has traced the emergence of one of the first regular trans-Atlantic commodity trades. Large-scale fish exports from the North American mainland colonies became possible because they were integrated into a larger trans-Atlantic trade that combined them with the traditional intra-European wool trades and manufacture exports to the British colonies. The triangular pattern

⁵⁴ Vickers, *Farmers & Fishermen*, chapter 3 describes the workings and labour relations of this sector.

⁵⁵ See *Ibid.*, chapters 6 and 7.

⁵⁶ Grafe, 'Northern Spain between the Iberian and Atlantic Worlds', chapter 6.2.

overcame the restrictions imposed on bulk commodity trades by balance of payments problems and the restriction of bullion exports. The newly emerging mercantile networks replaced the need for large amounts of working capital that early modern capital markets failed to provide. English merchants advanced amounts of short-term capital to New England merchants, which hardly exceeded that previously employed in the Atlantic fisheries. The latter in turn extended this capital as credit to the resident fishermen on the New England coast. They repaid their English contacts with the return cargoes from northern Spain, which had been acquired by their agents in Bilbao with finance from the local Spanish merchant community. Finally, the English resident in northern Spain provided small credits for the small-scale traders who took the fish to the cities and villages of Castile.

It was shown that the emergence of this trade altered the existing patterns of commercial organisation as regards the supply of fish, the supply of wool and the distribution of fish. The wool commerce had been a protected trade, carried out by large merchant houses under the control of a merchant guild, which focused on vertical integration as a means of realising internal economies of scale. Yet, after the 1620s this was replaced by a commerce that was highly competitive, with low barriers to entry for locals and foreigners, executed by merchants with limited capital in cooperation with illiterate muleteer traders. In the colonies the local community had to accept the establishment of a fishing sector that remained firmly outside their godly society. Though viewed with much suspicion selling fish to papist southern Europeans guaranteed the survival of the puritan colonies and helped crucially to establish markets for goods and credit. By focusing on the economic rationale of this successful integration of two previously separated commodity trades the paper furthermore questions the received wisdom about the origins of the relative success of English commercial expansion as opposed to the Spanish failure in all things commercial. The success of English new draperies relied on efficient Spanish commercial networks that supplied the raw material. The expansion of colonial settlement

and commerce was impossible without southern European consumers. Overcoming the market limitations of the early modern period was no easy task, but given the opportunity it seems that West Country merchants, New England traders and northern Spanish commercial interests found it quite easy to collaborate for mutual benefit.

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