Competition and control in the market for textiles:The weavers and the East India Company

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Introduction

The changes in the international textile market have been a central issue in explaining the rise of Britain as the industrial power and the relative decline of the Indian economy under colonial rule. India was the major producer and exporter. Indian textile products of different varieties flooded into the British market in the 17th and the 18th centuries, reaching a peak in the mid 18th century. The calicos were in great demand and acquired a mass market, while the muslins became the synonym of high fashion. A large share of these products brought to the British shores by the East India Company was re-exported to all parts of the world. The East India Company imported not just to supply the British market, but a growing volume of trade could be sustained as Britain acted as the *entrepôt* of the textile trade. The protests by textile weavers in Britain in the late 17th century led to the Calico Act of 1701, which banned the import of printed Calico for the home market, but allowed re-export. The policy encouraged a rapid growth of the printing industry in Britain, which provided a continuing and growing demand for white calicos. Further legislation in 1731 banned the import of white calicos for the home market, but allowed re-export. There are no precise estimates of the extent to which the ban was circumvented, although there were

[1] This is a preliminary draft, not be cited. I am grateful to Jan Luiten Van Zanden for the data on textile prices from Dutch sources and to Lakshmi Subramaniam for getting me started on this project.

indications that this was the case. (Chaudhuri 1978) Calicoes continued to be imported in large volume for re-export.

The decline of the textile trade in the last decades of the 18th century coincided with the political domination of the Indian subcontinent by the East India Company. The literature on India sees the political factors as central to the decline in the textile trade. While European demand had been at the centre of the analysis of the international textile market in the 17th and 18th centuries,[2] the supply side story has focused on regional developments in the textile industry in India (Prakash, Hossain, Mitra and Chaudhury on Bengal, Parthasarathi, and Mukund on the Coromandal). This literature has reconstructed the history of textile production in the sub regions of the Indian sub continent and the channels through which the output was traded in the international market. K.N. Chaudhuri's classic work on the East India Company brings together a picture of the Indian industry combining evidence from the West, South and the East. This is a comprehensive narrative of the shift in production centres from Surat to the Coromandal and finally to Bengal in the 18th century. This work presents empirical evidence on the volume of trade from the three major exporting regions. Chaudhuri's work stops at 1860 and therefore does not touch on the decline of India as a primary textile producer.

It is this aspect of the textile trade that will be the subject of this paper. The literature on decline of the textile industry has focused on the interactions between the weavers and the East India Company. This literature has emphasized the political factors in this relationship. The political supremacy and monopolist position of the company is seen as the decisive factor in the textile trade in India. As the East India Company

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[2] This view is questioned by S. Choudhury , who sees the Asia trade to have a larger share of the market.

acquired revenue rights in Bengal and gained control over the political and legal structure, the exploitation of weavers increased and consequently there was a squeeze on the price paid to the producers. Little attention has been paid to the implications of changes in the international market for the textile industry in India.

The technological progress in the British textile industry had important implications for competition in the world market. The imports from India provided the impetus from import substitution in Britain using more capital intensive technology. As labour productivity rose in Britain it began to compensate for the wage differential and tilted the balance away from Indian producers. (Broadberry and Gupta 2005) The episode charts the decline in India's share of the world market. This coincided with the rise in labour productivity in textile production in Britain and the political control of Bengal by the East India Company.

This paper argues:

1. The monopoly position of the EIC was not as important as has been argued. Although in specific segments the company exercised monopoly, the textile market in India must be seen as a competitive market where there were many buyers. The weavers had substantial bargaining strength in this market, which was reflected in the failure of the company in meeting its procurement targets all through this period. In the last decades of the 18th century, the Company agents found it increasingly difficult to meet the export targets suggesting that weavers could sell to other buyers.
2. The developments in the Indian textile industry must be seen in the context of the developments in the world market, in particular, the British market, which was the hub of international trade. The East India Company was a price taker in this market. The absence of an

increasing trend in textile prices in the European market from the middle of the 18th century and the eventual decline in nominal and real terms can explain the failure on the part of the East India Company to increase procurement prices.

Organization of the textile industry:

The low labour costs in India was the key to the comparative advantage (Chaudhuri, Habib) The cost equivalence of 1 shilling in England to 2 pence in India gave a 6: 1 advantage to the Indian producers. This advantage stayed roughly around the figure of 1: 5 from 1680 to 1820 (Broadberry and Gupta 2005) Technical skills were important both in processing of raw materials and weaving. These skills were passed down the generations within the family and tended to remain within caste groups. The technology used was labour intensive. The cost of fixed capital has been estimated to be between one to three month's wages (Hossain for Bengal, Parthasarathi for south India) Habib has argued that the ordinary loom meant for the simple weave was practically incapable for further development until the invention of the flying shuttle. This is true as far mechanization is concerned and by implication labour productivity remained unchanged. However, innovations took place through the centuries in the introduction of patterned loom and draw loom which allowed weaving of designs and also new methods and types of dyeing. (Ramaswamy)

The export trade has been estimated to be 10%of total output. (Arasaratnam for South India , Om Prakash for Bengal) However, the export trade had a significant effect on the economy of the producing regions. There was a qualitative difference between production for the local market and interregional/international market. Production for local markets was

dispersed across the country. Production for export was concentrated in four major centres in Gujarat, Bengal, Madras and Punjab.(Chaudhuri) Local fairs met the needs of intra regional exchange, but long distance trade led to greater specialization and the growth of weaving centres. The concentration of textile production in certain regions can only partly be explained by availability of hereditary craft skills and particular raw materials. Centres of textile production also developed in response to demand from the export market.

The main source of external trade moved from the West to the South and finally to Bengal in the East Surat in western India was the centre of the early textile trade. The Coromandel Coast in southern India became important from the middle of the 17th century as the European companies established trading posts along the coast. The European trade in the Coromandel boomed up in the 1680s and declined in the following decade as supply of textiles from North Coromandel declined due to political conflict. But trade recovered in the early 18th century. Bengal rose in importance in the export trade to Europe second quarter of the 18th century and remained the main centre until the turn of the century. This region bore the brunt of the decline in the export trade. The industry here enjoyed the advantage of skilled labour, cheap agricultural products and the cheap transport along the waterways. Weavers in many instances combined textile production with agricultural work. Spinning a part-time occupation done by women across different castes.

Different social groups were involved in the local and long distance trade.

Indian merchants were involved in the long distance trade to South East Asia, Central Asia and Africa, but did not have a presence in the European trade except as middlemen. This trade was dominated by the

European companies, in particular, the Dutch and the English trading companies. The English East India Company carried bulk of the textile trade to Europe. There was intense competition in the product market and the Dutch were willing to pay higher prices in many instances. (See Om Prakash and Mukund) The Dutch were involved in the Asian trade and the officials were instructed to give priority to the Asian market over the European one.(Arasaratnam , p179-180)

Table 1 shows the trade share of the English and the Dutch companies in the textile trade in Bengal. A great variety of textiles were exported from the different regions in India.. These included medium coarse verities such as longcloth and calicos and also fine verities such as muslins. Muslins were more important in the textile purchases of the English company and therefore in the European market.

Table 1A: Bengal: Orders of textiles from Europe (No of Pieces in thousands)

	1720		1750	
	Dutch	English	Dutch	English
Total	367.5	501	337	828

Source: S. Chaudhury, Table 7.3, p184

Table 1B: Percentage shares of different categories

	Dutch			English		
	1730s	1740s	1750s	1730s	1740s	1750s
Ordinary Calico	46	40	56	46	31	31
Fine calico	15	20	13	20	22	19
Muslin	20	26	18	24	34	39
Silk	10	10	11	3	5	6

Source S. Chaudhury, Table 7.7, and p192

The Asian markets were concerned about the colours and paid little attention to the length and width of the woven cloth. By early 17th century, textile trade with South East Asia was well established. The Europeans wanted standardization. Adjustments were made to the looms to make this possible. The European companies bought textile goods through a network of intermediaries. Commissioning of cloth by a middleman merchant on behalf on the companies was a common practice. The weavers undertook production on the basis of advances made by merchants as in Europe. The significant difference with the European putting out system was that the advance consisted of cash and raw materials. The system of cash advance was crucial in the production of textiles. It allowed the weavers to purchase raw materials for production and food for the family. It also allowed the weaver to juggle sales between the English company and alternative buyers. The system of purchase, therefore conferred some advantage to the weaver.

Price and quantity trends in different markets:

The following tables show the rise in exports to Europe from the middle of the 17th century. The trend was punctuated by sharp downturns due to wars & political upheavals.

Note downturn in early C18th due to introduction of protection in GB, but trade bounced back as protection circumvented. The regional balance changed over time. Bengal emerged as the primary exporter in the 18th C. Export volumes showed fluctuations, but did not show a sustained decline until the 1790s, when there was a sharp decline in Indian exports.

TABLE 2A: Indian exports of textiles to Europe, 1665-1759 (1000 pieces per year)

A. 1665-1759

	To Britain via EIC from:				To Europe via VOC
	Bombay	Madras	Bengal	Three centres	
1665-69	96	37	7	140	127
1670-74	295	169	47	511	258
1675-79	310	193	67	570	127
1680-84	452	408	108	968	283
1685-89	201	244	169	614	316
1690-94	90	23	59	172	157
1695-99	149	108	131	388	365
1700-04	296	105	197	598	311
1705-09	34	99	71	204	295
1710-14	165	150	260	575	373
1715-19	82	200	252	534	436
1720-24	185	269	342	796	476
1725-29	120	142	559	821	399
1730-34	57	87	584	728	241
1735-39	67	137	581	785	316
1740-44	95	98	619	812	288
1745-49	60	144	480	684	262
1750-54	55	170	407	632	533
1755-59	56	106	308	470	321

	To Britain via EIC from:			
	Bengal	Madras	Surat	Three centres
1771-74	652	182	93	928
1775-79	584	197	48	830
1780-84	435	79	40	555
1785-89	697	67	38	803
1790-92	727	170	38	936

Sources: 1665-1759: Chaudhuri (1978: 540-545); Morineau (1999: 273-274). 1771-1794: Milburn [1813, vol.2: 234].

TABLE 2B: Indian exports of cotton textiles, 1790-1859 (thousand pieces per year)

	Exports to Britain		Total exports	
	Bengal	Total India	Bengal	Total India
1790-99	787	2,200		4,500
1800-09	1,331	1,824		
1810-19		1,358		
1820-29		431		
1830-39	6	271	478	3,000
1840-49		304		2,606
1850-59				2,279

Source: Twomey

Chaudhuri's data on unit price from the there major producing centres show a slight upward trend in all regions from 1660 to 1757. (Figure 1) Similar evidence is found in Parthasarathis's data on longcloth price from Cuddalore in the Coromandel from 1698 to 1790or the 18th century. In this data, prices rose until the first years of the 1730s, there after, remained stationary. (See figure 2)

There are no long term price series for Bengal. What we can find are short term series on prices from different regions and for specific products which makes systematic comparison difficult. In the Coromnadel, the trade in woven piece goods included three main varieties of cotton cloth: long cloth, salampores and moris. Figure 1 shows the price trend in the first two verities. Prices show a slight upward trend up to 1705, there after staying relatively flat. (Figure 3) Mukund argues that European demand increased sharply after 1710 and pushed up prices. There were two distinct periods of

price rise- 1696 to 1702, followed by a decline and another from 1732 to 1750- similar to what we find in Chaudhuri's data.

Sushil Chaudhury finds that the prices of finer verities of textiles tended to decline between 1730 and 1750, where as prices of coarse varieties rose. This is attributed to partly to the Maratha invasions, which affected those regions that produced coarse cloth more and partly to greater competition in the market for coarse textiles. A second factor is that private traders bought more coarse goods and created more competition in this market. Hossain's data for a later period also suggests little change in the prices of several varieties of cloth (See figure 4)

Weavers, merchants and the Company

The system of contracts that evolved in the procurement of textiles for export saw an important role for the intermediary or the merchant. The company advanced money to the merchants who contracted with the weavers on what was to be supplies and when. Despite the problem of being locked into a system of advance it offered interest free credit when the going rate of interest in urban areas was 12-15% and 7-8% in rural areas. (Mitra) Contracts between the weaver and the merchant decided on the advance and the type and price of products and the date of delivery. The price of cloth was determined by a process of bargaining between the weaver and the merchant.

Parthasarathi argues that the weavers had a stronger position in this bargaining process before 1750 so that rise in cost of yarn and food was passed on to the merchants., keeping the weaver's shares fixed. The way in which the contracts affected procurement has been documented by Mukund. When cloth price increase did not keep pace with increase in price of cotton

and food grains, there was a shortage of supply of cloth to the company. Often the merchants agreed to supply only half of what the company demanded. The weavers' response to the low price was to weave thinner cloth using less yarn leading to complaints form the company. There was a downturn in cloth procurement after 1684. The contracted quantity was only 54% of the previous year. 1695 marked an all time low in procurement. The company contracted only 15% of its requirements. (Mukund)

There was no uniform price in the market either. The French and the Dutch paid 10% more than the English. Weavers reneged on contracts and sold to the highest bidder. In 1692 the English increased the price by 8% and by 10% in 1694. There is ample evidence of production of coarser quality cloth instead of finer varieties and sales to other buyers all through the 18th century as well as in the last years of the 17th century. 1671-1683- The last cycle of booming textile exports from Coromandel to Europe for both English and Dutch companies took place at a time of high prices and shortage of cotton. But when prices were low, supply of cloth to the company declined. The weavers' response to the low price was to weave thinner cloth using thinner yarn leading to complaints form the company.

There is little indication that there was a monopsony in the market. Instead there was fierce competition between the European companies, Asian merchants and local trade. The competition took the following form: the European companies paid advances to weavers through the merchants. The system of cash advances gave certain advantages to the weaver. The weaver was cash constrained and the cash advance provided a loan at a lower than the market rate of interest, which could be used not just to buy raw materials, but also food and other necessities. It also allowed the weaver to produce for other buyers before meeting the requirement of the European companies. The contract allowed a long period before the finished

cloth was supplied allowing the weaver flexibility in the timing of production. The system also allowed another advantage to the weaver. If the output did not meet the quality standards set by the European company, the weaver could sell to another buyer. Since the European market demanded superior quality cloth, anything which failed the quality teat could be sold to other markets. Yarn purchases gave control over choice of raw materials. When price of yarn rose, the weaver could buy lower quality yarn to maintain their income. If the order did not satisfy the agents of the company , the cloth could be sold to other buyers. The system of contract provided an advantage to the weavers.

Parthasarathi argues that the weavers had a strong bargaining position in the early 18th century. This advantage disappeared as the East India Company gained political power. Weavers' distress in other parts of India has also been seen to coincide with the political domination of the company. (Hossain, Mitra) After 1770, the EIC brought in a series of legal sanctions to make the contracts more binding. These in effect reduced the bargaining power of the weaver and strengthened the power of the company. For delays in production, incomplete orders and clandestine sales, the weavers could be prosecuted and fined. Towards the close of the 18th century, weavers often did not have enough money to buy yarn and produced coarse quality cloth. The goods failed to meet the company's standard. At the time of sorting the cloth was given a lower grade and a lower price and some were rejected. The share of ferreted cloth increased. The weavers found it increasingly difficult to sell this in another market due to the legal restriction introduced by the company on such sales. Further the rejects had to be replaced which led to further indebtedness.

There is evidence that suggest that weavers received harsh treatment in the hands of the Company agents. However, at the same time, some of

the bargaining advantages enjoyed by the weaver, which Parthasarathi discusses in the context of early 18th century Coromandel, continued to be a feature of the late eighteenth century Bengal. What was missing was the buoyancy of the European demand. The response of the weavers documented for southern India in the late 17th and early 18th century was also seen in Bengal in the late 18th century. The rising prices of food and raw material led to supply shortfalls. The increasing problems in fulfilling company's orders in Bengal can be documented for the 1770s. Despite the legal backing and confiscations of products delivered by the weavers and the use of force in many instances, the company found it difficult to meet the export demand. This was particularly true for finer varieties of cloth.. The procurement problems dominate the correspondence between the company agents in Bengal and the higher authorities. There was increasing dissatisfaction with the gumasthas for failing to meet procurement targets. The Company resident withheld further advances until the shortfalls or confiscated orders could be replaced.

The gumashtas, on the other hand complained of their inability to procure new products from the weavers unless the some advances could be made. In January 1776, the persons in charge at different arangs wrote to the Residents in Patna, Dacca, Cossimbazar and elsewhere that if goods from a subordinate factory were found to be unsatisfactory, the resident by whom they were provided should pay for the difference at which they were rated and there actual value.[3] The contracts with the chief at Patna specified a penalty of 10% over and above the money advanced.[4] In many instances money for further investment was raised by the sale of confiscated goods. One case reported in May 1776 refers to the purchase of thread with

[3] Letter to Board of Trade, January 2 1776.
[4] Letter to P. M. Dacres, 17 Jan 1776.

the advance received for 10,8000 pieces from the gumashta. As the price of thread was high, the advance was not adequate to pay for the appropriate quantity and the quality of the cloth failed to meet the required standard. The weavers claimed that the money was only adequate to purchase a certain amount of yarn. The local resident placed the blame on the agent for his failure to ensure quality. 600 pieces met the quality standard and 900 were rejected. The Board of Trade discussed the inferior quality of the cloth delivered and the consequent effect on the colours on the woven cloth.[5] The following table reports on the loss made by the company on sale of ferreted cloth. The Board stated the recovery of outstanding balances of 1774/75 and 1775/76 as the primary objective. Advances were to be denied to weavers who had not settled their balances. Resolving disputes in the legal system was also mentioned.[6] However, further advances continued to be made in response to the demand by weavers that they would not be able to supply the contracted quantity. During the same period, weavers from two *arangs* returned the advances paid to them and refused to work for the company[7] The chief of Luckipore wrote to the Board of trade in April of 1776 that the prices paid by the company was below the "real cost of cloth to the weavers" and the loss made on sales to the Company were made up by clandestine sale to private traders. He warned about the problems with procurement unless the weavers were paid the right price. The chief of Dacca, on the other hand had a much less compassionate view and argued that the weavers made use of the advance paid by the company to produce cloth and then sold to the best bidder. When pressed for the contracted delivery or in of more advances, they produced cloth in a hurry that had many defects.

[5] Fort William May 17 1776.
[6] Fort William June 7 1776.
[7] Fort William May 14 1776.

Payments on the spot or "ready money purchases" as they were known, were seen to be the only option left to procure the right quality cloth.[8] However, with this the Company could never be sure of meeting its procurement target and stood to loose any control it had on the weavers. The existing system of contracts allowed the Company to use substantial threat against the weavers as output was confiscated and sold to local buyers and the weavers continued to remain indebted to the Company and work to pay off the loan. Table 3 shows the losses that were sustained by the Company on these sales.

Table 3: A comparative statement of the profit and loss on the following goods sold at Outcry the 15th May 1776.

[s.no.]		Pieces	Prime cost	Outcry Price	Profit	Loss
1]	Baflaes Tugdea	240	797.7.3	731.4		66.3.3
2]	D.Luckypore	480	1794.4	1725		69.4
3]	D.Fine	1200	5869.15.3	5298.12		571.3.3
4]	D.Callipatties	960	5271.7.6	4477.8		793.15.6
5]	Cossaes	400	3275.8	2690.10		584.14
6]	D.	100	922	737.8		184.8
7]	D.	100 ms.	666	715.10	40.10	-
8]	Raw silk	39.4.4	19,343.10.3	8630.11.3		10,712.15
9]	D.	3.8.8	1336.6.3	739.4		597.2.3
10]	D.	38.39.4	18696.15.6	8,790.12.3		9,906.3.3
11]	Charges merchandize		57,943.10	34,536.15.6	40.10	23,486.4.6
12]	Wrappers & Wax Cloths			172.12		49.10 deduct
				34.709.11.6		23436.10.6

Source: Board of Trade May 21 1776.

[8] Board of Trade, 10 May 1776

The textile market after 1760 was characterized by the shortfalls in supply to the East India Company. The story of weavers' impoverishment is one of increasing debt to the company, harassment in the hands of the agents and increased legal penalties as the east India Company gained political power in Bengal. Although the balance of power titled heavily in their favour, the agents of the company failed to meet the export targets.
This puzzle can be explained if we look at the market for textiles in Britain.

Indian textiles and the world market

The economic distress of the Indian weavers coincided with the stability of textile prices in the British market. It also coincided with the rise in prices of agricultures products in the Indian market. These included price of cotton and food. As the cost of production rose the weaver's profit margin became increasingly smaller. Yarn accounted for approximately 70% of the cost of production. Therefore an agricultural crisis which increases the cost of cotton had a large effect on the cost of production. At the same time an agricultural shortage increased the price of food and the weavers demanded higher prices for the cloth they supplied. The prices offered by the company showed little upward trend. Table 4 shows the gap between the weaver's asking price and the Company's offer price. The offer price had increased by about 50% fine cloth but there was no increase for coarse quality cloth. The price acceptable to the weaver had doubled in fine cloth, but was 50% higher for coarser varieties. While the Company was prepared to increase the offer price for finer textile, it was reluctant to do so for inferior quality cloth as the price gap in different varieties suggest.(see table 4) This reflects the demand and supply situation in the market. The imbalance between

demand and supply was higher in the market for fine cloth. The main shortfall was in fine quality textiles.

<u>Table 4: Difference in Company's price and the price acceptable to the weaver</u>

TYPE OF GOOD	AV. PRICE (1764-66)	Offer Price in 1790	Price acceptable to the weaver	Price Gap
Midling Malmal	9.2.6	9.13.0	13.8.0	40%
Fine Malmal	12.7.11	16.0.0	18.0.0	12%
Superfine Malmal	17.8.5	28.4.0	35.0.0	25%

Source: Hossain, Table 2.4, p55.

The gap between the company's demand price and the weavers' asking price reflected the ceiling imposed by changes in the British market. Weavers adopted the same defence mechanism as earlier in the century- they economized on the use of yarn and produced inferior quality cloth which could be sold to other buyers. One explanation of the weavers' response is that there was more competition in coarse and medium varieties due to private trade and if the rejected cloth could be sold to other buyers. Hossain argues that it is not necessarily true that aggregate output declined. It is likely that weavers switched to private trade. Weavers, particularly in coarse varieties produced for both export market and home market. They a used advance from the company to produce for the domestic market and once this was sold, sometimes surreptitiously, use this to money to complete the company's order. A differential pattern of production developed. The first part of the season was spent on part of company's orders and part of the time on the cheaper warp that was laid for the private trades. Money spent

from the sales of the private traders was then spent on completing the company's orders.(Hossain) Mitra suggests that in the failure to increase exports from India was demand in Britain The market for Indian goods was shrinking.

Competition in the textile market

There is much evidence of competition in the textile market, although it is difficult to find reliable quantitative estimates. The changing market share of the Dutch Company and the English Company have been documented for Bengal (Chaudhury) It has been suggested that only one third of the estimated output was under the EIC's control. The prices offered by the company were invariably lower than that offered by its rivals. The price difference between private traders and the EIC on comparable varieties of cloth, though not the same, ranged from 4% to 83%.(Mitra)

If competition in this market was so intense, then clearly the Asian merchants had an important role. However, there are no quantitative estimates of Asian trade. Chaudhury presents some patchy information from specific centres. Qualitative evidence suggests competition from the Asian merchants in the procurement of textiles in Bengal. One estimate puts the volume of textiles exports from Dhaka in 1747 by Asian merchants including Armenians at 2/3rds and European merchants including private trade at 1/3rd. Dutch sources estimate the investment by non Dutch merchants (Asians and Europeans) to be twice as high as the share of the English Company Chaudhury's own rough estimates support these numbers.

We do not have precise magnitudes of the European and the intra Asian trade, all the evidence from the competition in the textile market indicates a significant presence of alternative buyers. Although these

estimates are not very accurate, they indicate that the share of the Asian trade was significant.. Qualitative estimates from the correspondence of the company officials to the court of directors indicate high volume of intra Asian trade carried out by Asian merchants. Therefore the idea of a monopsonistic market in textiles is not a realistic one.

An alternative framework of analysis

Let us consider an economic model. Why did the weavers face a squeeze in earnings in the East India Company trade? We have already shown the trends in the prices of Indian exports from different regions. Now let us consider the prices at which they were sold in the European market. Prices in London and Amsterdam shown similar trends over the 18th century (See figures 5, 6 and 7). Prices obtained by the East India Company in London began to decline both in nominal and real terms. Calico prices in Amsterdam show a similar picture. The price trends reflect the technological change in Britain and the rising labour productivity.

What about the cost s of production in the Indian textile industry? Here the picture suggests an increase after 1760. Agricultural crisis raised the prices of cotton and food. The weavers demanded higher prices for the final product. But given the prices in the international product market , it not surprising therefore that the procurement prices in India did not compensate for the rising cost of production.

Although there is little evidence on the price of yarn, we can take price of cotton as an indicator. Evidence from the Coromandel suggests that the price of raw cotton was substantially higher during the first half of the eighteenth century than during the 1670s. (Mukund). This coincided with the periods of supply shortfall in the Coromandel Mukund's econometric

estimates show that the rise in textile price cannot be explained by changes in food prices or cotton prices, although food prices had a greater impact the cotton prices. Demand factors appear more important.

In 18th century Bengal, there is evidence of rise in cotton prices in all regions in after 1740s. In Dhaka the price of cotton increased from Rs 2 per maund in 1738 to Rs 10 in 1752 an Rs 24 in 1762. In Lakhipore cotton prices went up 25% between 1788 and 1789. The rise was 50-100% for some varieties of cotton. This was caused partly by political conflicts and partly due to weather conditions. The corresponding rise in the price of rice was as follows: 30% from 100 seers per Rupee in 1738 to 72 seers between 1738 and 1751. In the last few years of the 18th century price of cleaned cotton doubled From the 1750s there is evidence of increasing cotton prices. High cotton prices reflected shortages. Bengal produced just over 7 million lbs of cotton and imported over 43 million. Periods of high cotton prices clearly coincided with periods of procurement problems. Towards the end of the seventeenth century in the Coromandel and after the mid-eighteenth century in Bengal, the EIC frequently failed to meet its procurement target.

By analyzing the demand and supply of cotton textiles within a competitive international product market we can explain the shortfall in output. The EIC can be seen as facing a perfectly elastic demand curve, given by the British price (P_B). This represents the EIC's marginal revenue curve (MR). The supply curve (S) of Indian textiles is upward sloping. Let us first consider a market with many buyers. Now consider the situation where the supply curve in an Indian region shifts up because of an increase in local costs, while costs and prices in Britain are unaffected. There are two likely reasons why the supply curve may have shifted to the left; first, a rise in the cost of yarn or raw cotton and second, an increase in the cost of labour.

Region-specific movements in raw cotton costs and in labour costs can thus be seen as affecting the regional balance of supply. As the supply curve shifts upwards, the new equilibrium will see a reduced volume of output.

We can also consider a situation where the EIC enjoys monopsony power, its marginal outlay curve (MO) lies above the supply curve. The supply curve (S) of Indian textiles is upward sloping, and determines the average outlay (AO) of the EIC. The EIC equates marginal revenue to marginal outlay to determine the quantity of cloth purchased (q), while the price paid to the Indian supplier (P_I) is read off the supply curve. The new supply curve is S' and the new marginal outlay curve is MO'. The response of the EIC is to raise the procurement price to P_I', but by less than the shift in supply resulting from the cost increase. Hence the quantity procured falls from q to q'.

Note also that the framework can be adapted to deal with oligopsonistic competition between the EIC and the VOC, with the two companies having different strengths in different regions of India. Even with cotton cloth fetching similar prices in the Netherlands and Britain, relative procurement prices would be expected to vary inversely with the extent of regional market dominance. Hence the EIC would be expected to offer higher procurement prices in regions of Dutch dominance and vice versa. This would be consistent with Mukund's (1999: 93) claim that the Dutch offered 10 per cent higher prices than the British in the Coromandel Coast region during 1672-1683.

Therefore in both scenario, there would be a procurement failure if the cost of production increased. The essential condition here is that the East India Company was a price taker in the international market. Prices in this market reflected gains in labour productivity in Britain. Therefore bringing in

the world market resolves the puzzle of procurement failure in the market for textiles despite the political domination of the East India Company

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Figure 1

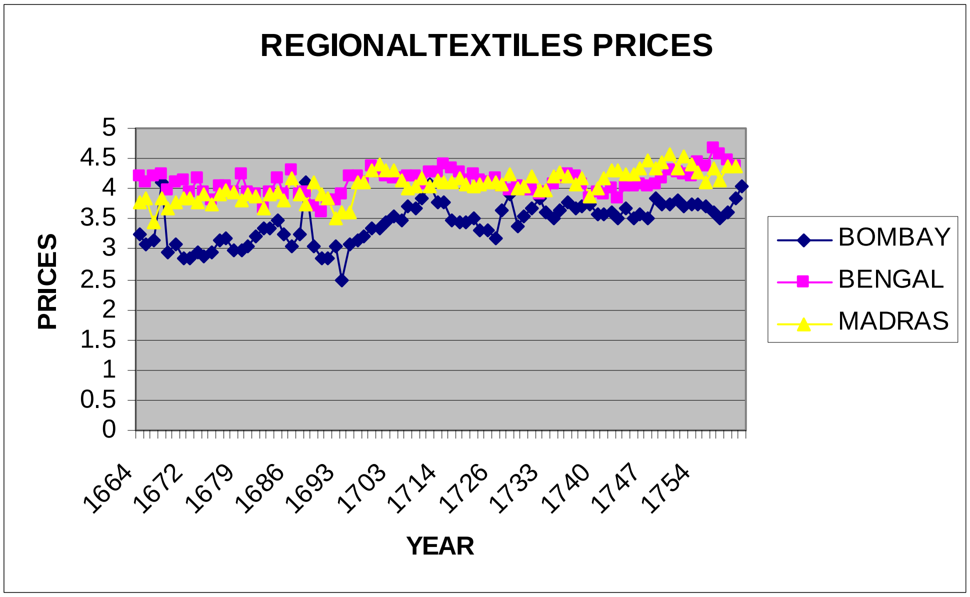
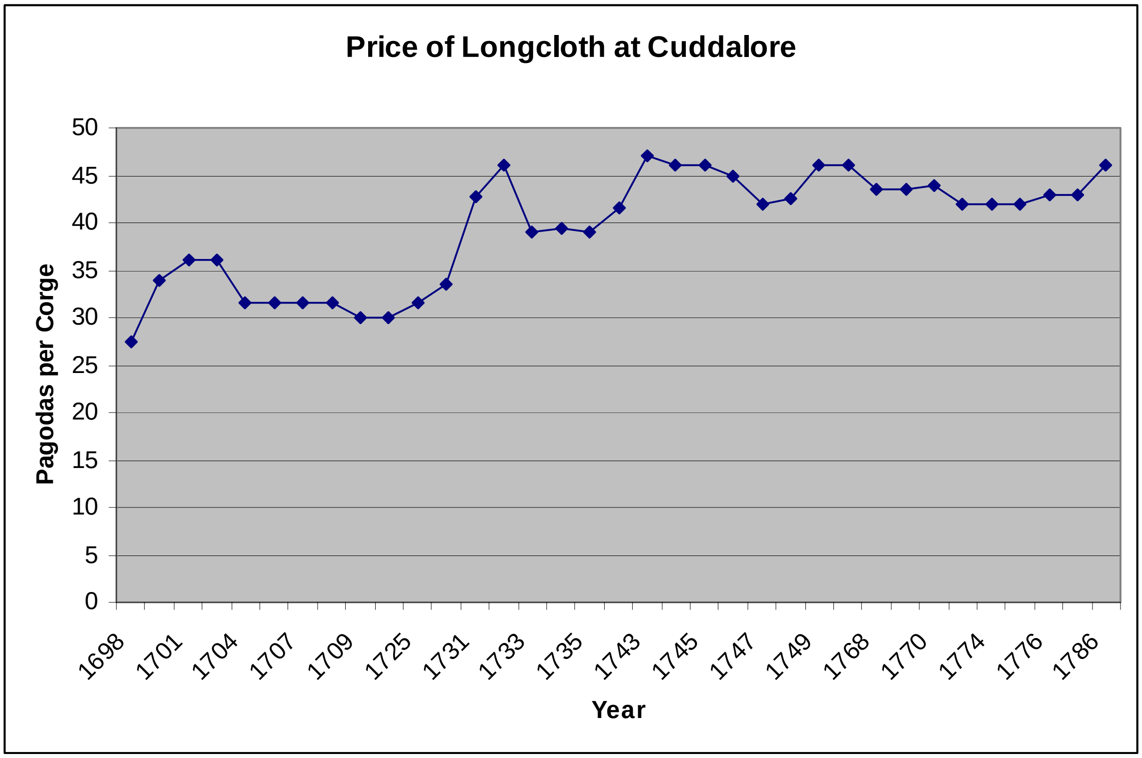


Figure 2



Source: Parthasarathi

Figure 3

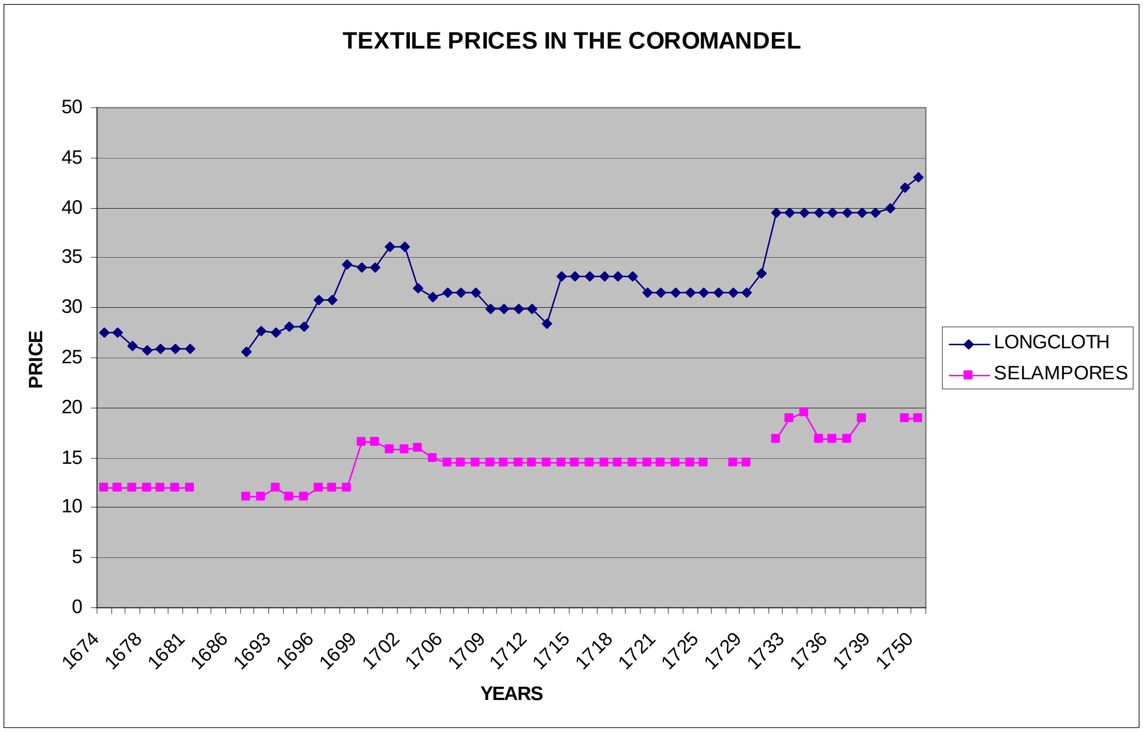


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Figure 4

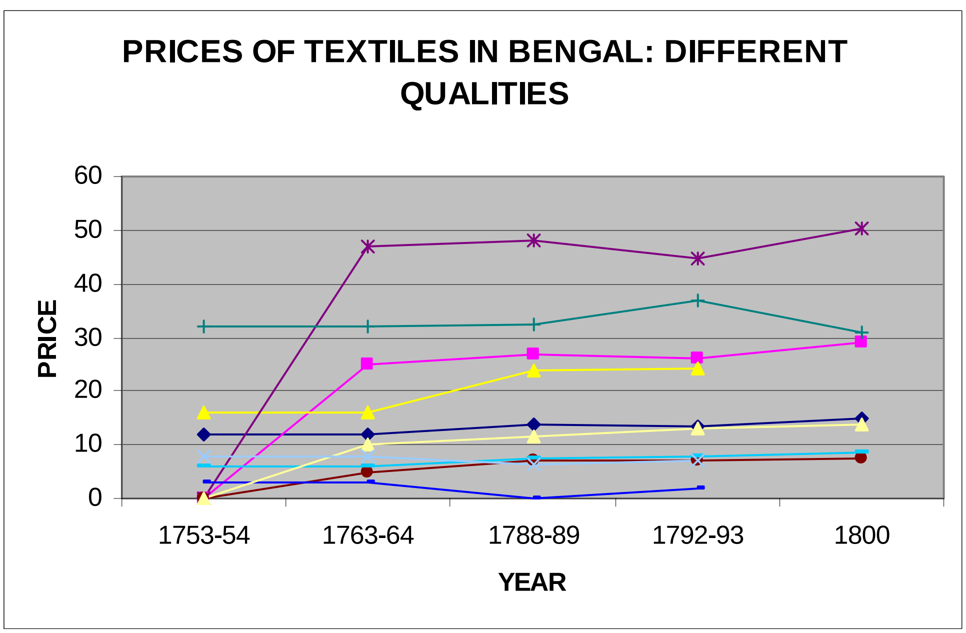

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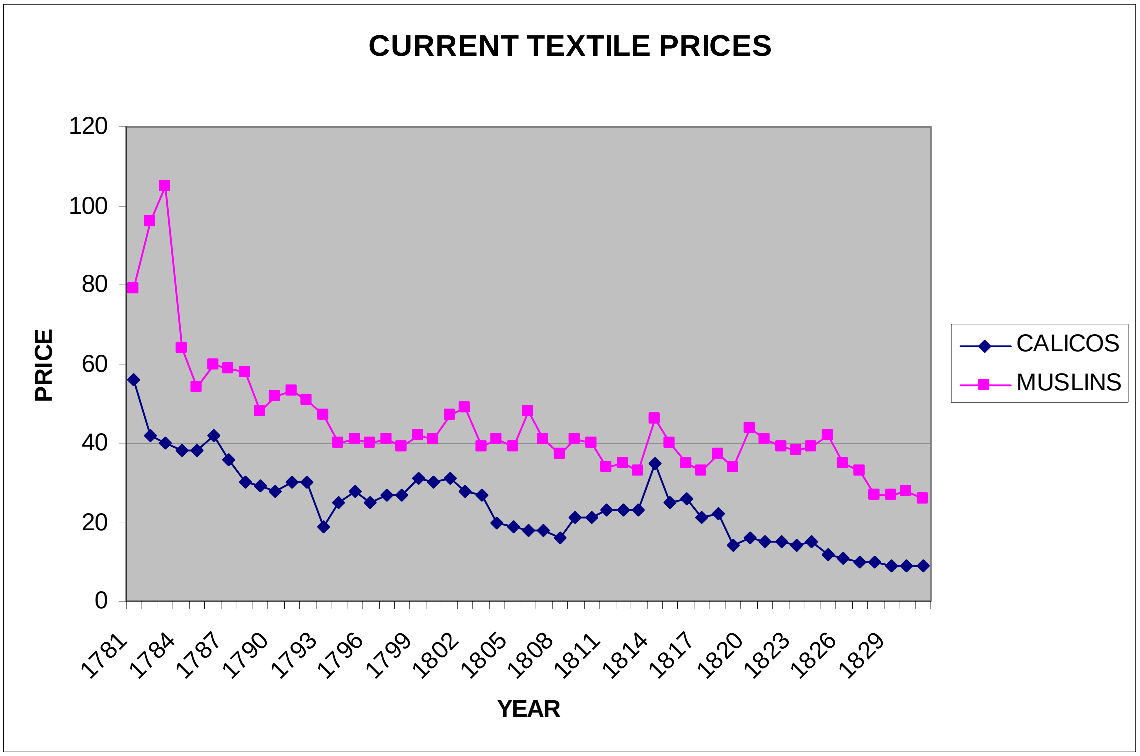
Figure 5



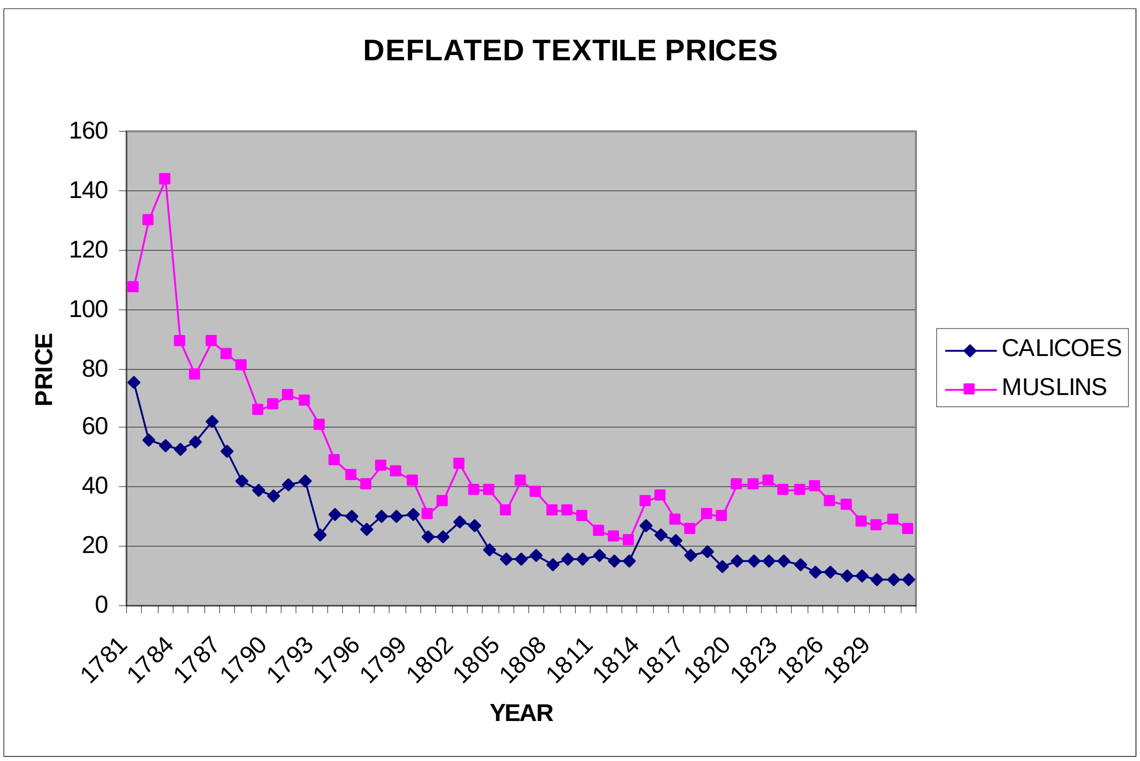


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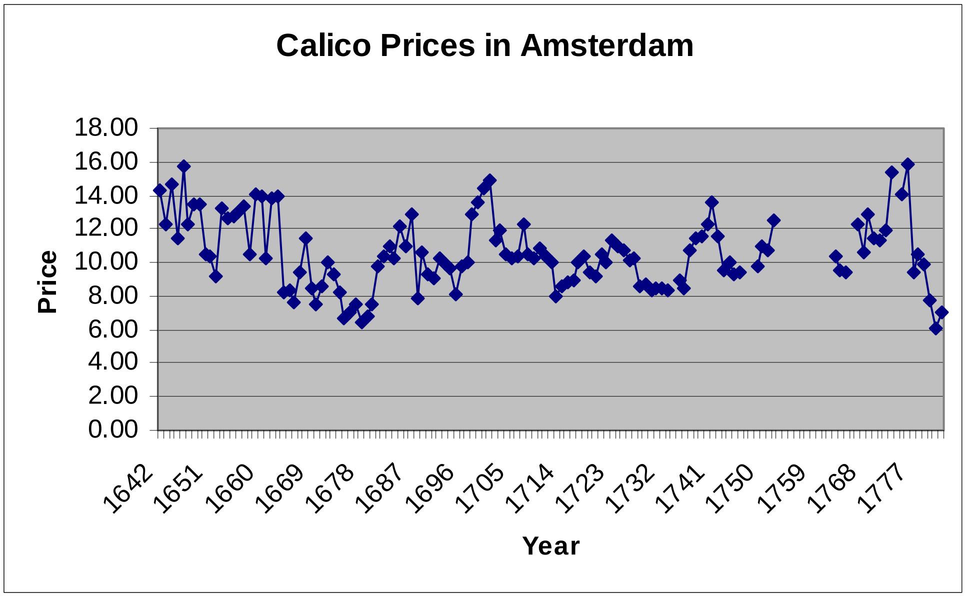
Figure 6



Source: Van Zanden

Figure 7

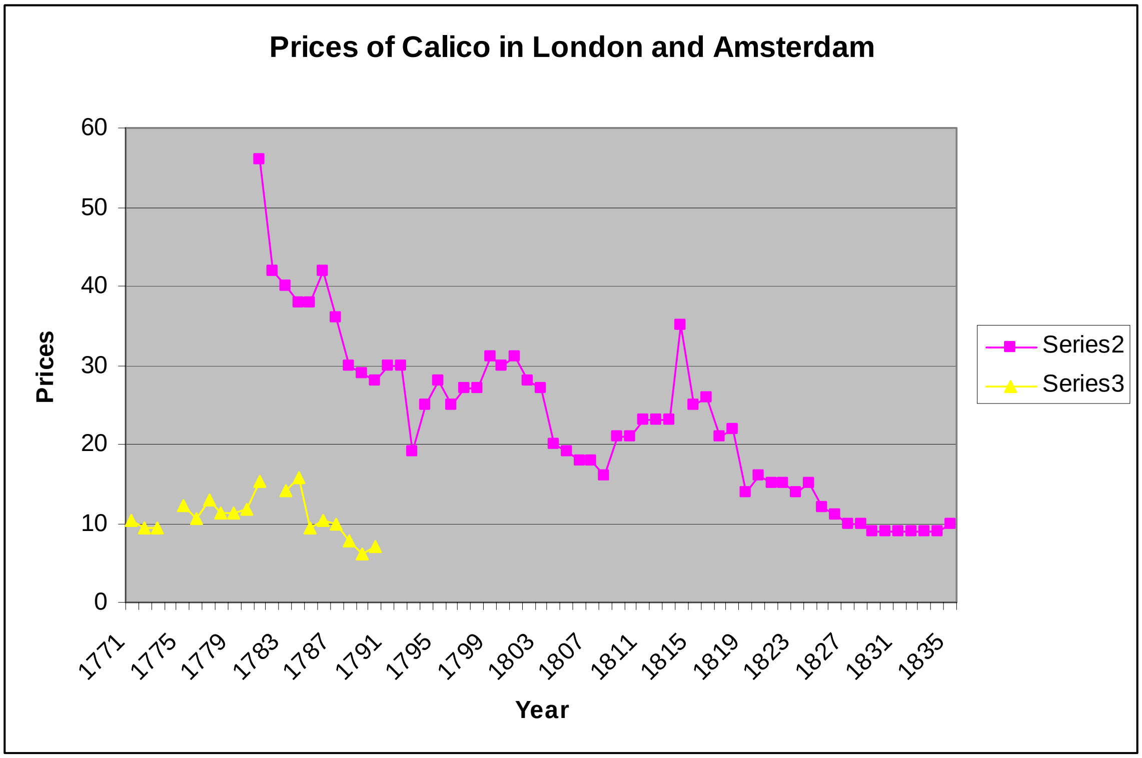
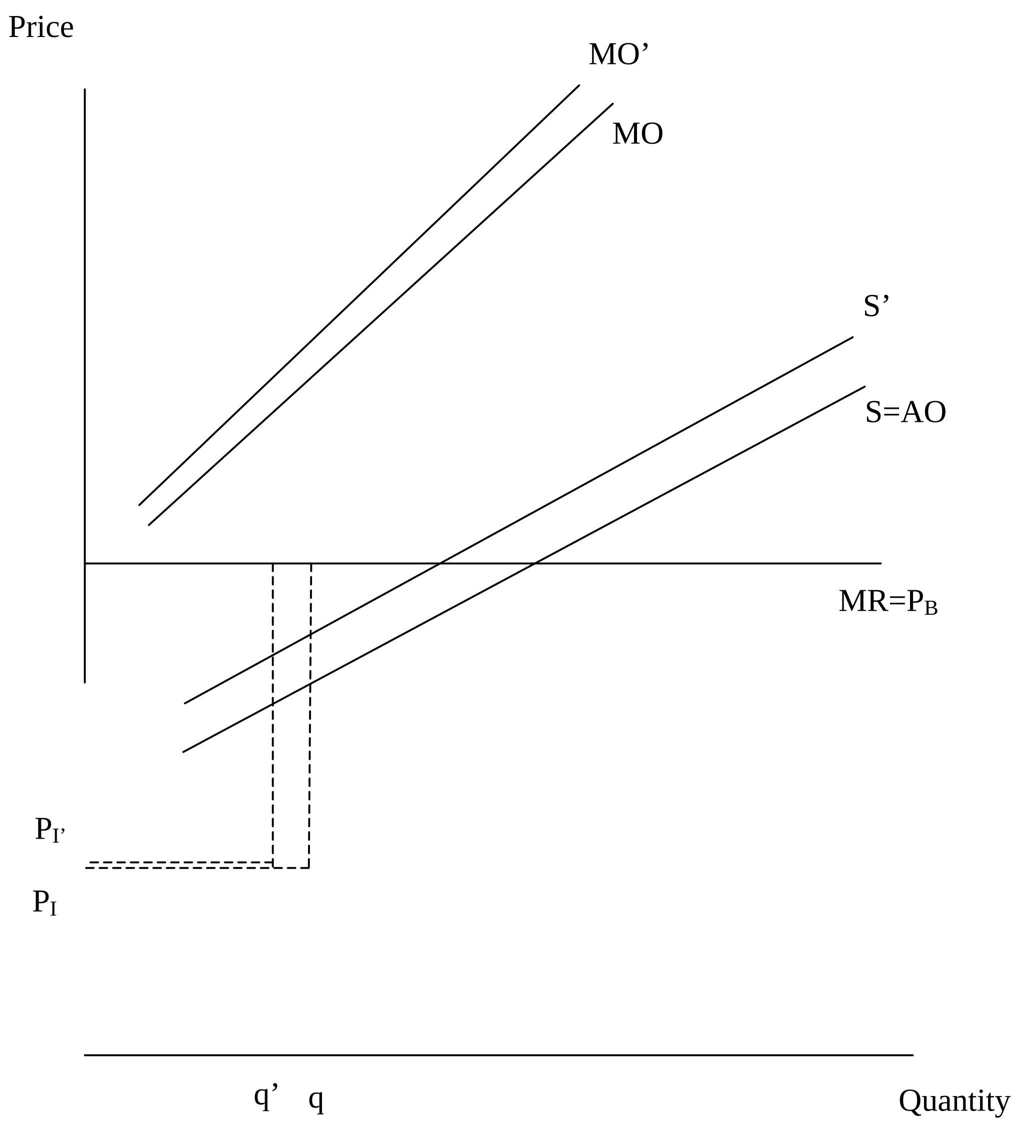
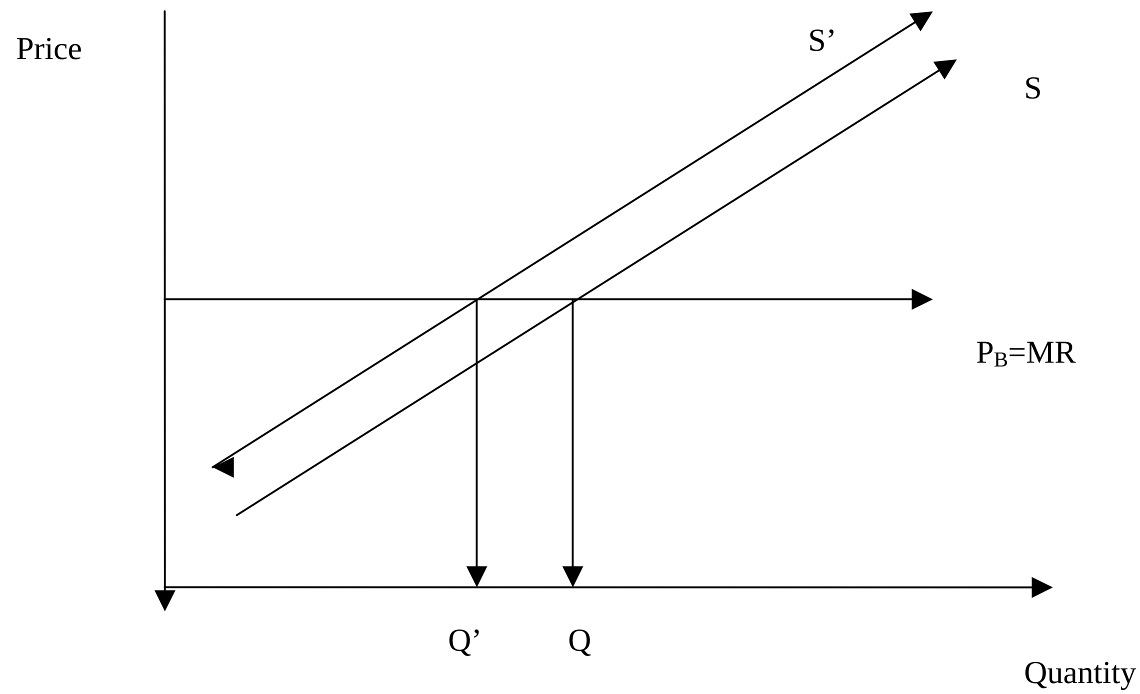


Figure 8: The EIC and the market for textiles



Monopsony



Perfect Competition