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**South Asian Economy During 16th-18th Centuries and the Great
Divergence Debate**

Najaf Haider
Centre for Historical Studies
Jawaharlal Nehru University
New Delhi

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Geography and Polity

South Asia during 16th-18th centuries was a geographically and culturally diverse region but a large part of it was politically and administratively united by the Mughal state. Despite being a unified political entity it was not a homogeneous economic unit. The experiences of the different sub-regions of the Mughal Empire were varied and not all were able to maintain a uniform level of production and exchange. However, the principles governing the provinces administratively and fiscally were more or less uniform in all areas of the empire. The standardized currency system, the organization of the mint, the taxation system, and the maintenance of law and order were integrative elements of the state policy that worked together to provide a formal unity to the diverse market and monetary structures.

Population, Land Use and GDP

Population size is a major indicator of economic trend, but estimating it for the South Asian sub-continent for the pre-census period has been a daunting task. Broad population estimates, based on a comparison (and backward extrapolation) of the land-man ratio as it stood in the early twentieth century, and estimates of the ratio

between per capita and total revenue, suggest that at the turn of the seventeenth century 145 million people lived in South Asia. Out of this 98.3 million lived in the Mughal Empire: 14.7 million or 15 percent in cities and 83.6 million in the countryside. The population grew slowly at a compound annual rate of 0.21 percent between 1601 and 1801. The increase of 45 percent in the two centuries of the Mughal period is comparable with Europe and indicative of the fact that, with spells of famine, epidemics, high death rate (the estimated average life expectancy was around 25 years) and exploitation of the lower classes by the dominant, the economy still did not remain entirely stagnant.¹

South Asians during 16th-18th centuries lived mostly in villages that were smaller in size implying quicker movements between farms and houses than is the case today. Villages were largely self-sufficient but they had to feed the towns and arteries of commerce. At the turn of the seventeenth century the extent of cultivation was 50 percent of what it was in 1900 which meant that productivity per unit of land was higher if we suppose that there was not much change in agricultural technology in the intervening centuries. There was also greater forest cover and larger pastureland. Elephants and cheetahs roamed freely before forest and wasteland retreated in the face of the peasant's plough. Diminishing forest and pastureland meant that the livestock then available to peasants was considerably larger and so were the products collected for consumption or for craft production. The relationship between forest and manufacturing sector was much closer than was the case in modern times.

In 1601, the estimated Gross Domestic Product of the Mughal Empire stood at 562 million rupees or 6418 metric tons of silver (1 rupee = 11.42 grams of fine silver). Of this the shares of the primary (agriculture and ancillary sectors), secondary (value

¹ Moosvi, Shireen, *The Economy of the Mughal Empire c. 1595 A Statistical Study* (Delhi, 1987), pp. 399-405. Conversion mine.

added by manufactures) and tertiary (service) sectors were 66, 11 and 23 percent respectively.² Agriculture was generally practised by individual peasants, some of whom possessed large fields, raised crops for the market and employed wage labourers. A large portion of the agricultural produce (often amounting to half its value) was claimed by the state in land revenue and commuted into cash to support the military and civil apparatuses of the Empire. Food grains and raw materials sold by the village to meet its tax obligations fulfilled the requirements of the urban society and economy. The urban economy was sustained by a large craft and service sector which generated a good deal of employment owing to low productivity and the luxurious lifestyle of the ruling classes. The towns also became major centres for the supply of export goods by sea and land to the markets of the Middle East, Africa and Europe in the west and Southeast Asia, China, Japan and the Philippines in the east. Returning ships and caravans usually brought foreign currencies or un-coined metal to reinforce the circulating medium and commence fresh cycles of exchange (see below).

3. Exchange Economy and Monetization

The exchange economy of South Asia was made up of two overlapping components. The first was the subsistence economy of village communities where the exchange of goods and services was based on a socially established network of barter exchange. Here the role of money was marginal. The other was the domain of commercialized economy, both in the countryside and urban centers, where market relations of exchange prevailed. It was here that money was used on a large scale.

This above statement has to be qualified in one significant particular. There is sufficient evidence to suggest that the Mughal countryside never stood outside the

² Moosvi, Shireen, 'The Indian Economic Experience, 1600-1900: A Quantitative Study', *People, Taxation and Trade in Mughal India* (Oxford University Press, Delhi, 2008) pp. 3-4; Haider, Najaf, 'Structure and Movement of Wages in the Mughal Empire', *Wages and Currency: Global and Historical Comparisons*, ed. Jan Lucassen (Amsterdam, 2008), p. 292.

circle of monetary exchange insofar as it was the village which supplied raw and processed goods as well as money to the town. Yet the impact of monetization on the village economy and society was minimal. The village sold grains to the nearby towns and distant markets catering to the deficit areas through the agency of rural merchants (*bantias*; *mahajans*) and itinerant traders (*banjaras*) who brought the cash back to the countryside.³ Villages situated near trade routes developed markets for specific commodities and held seasonal fairs which attracted a big crowd of merchants and buyers from near and afar.⁴ Others were simply involved in supplying food to travellers.⁵ In the highly commercialized province of Gujarat, the cotton yarn supplied to the European market was produced entirely in villages and secured by local merchants for resale.⁶ In Bihar, another entrepot for long-distance trade, white cotton and silk fabrics (*amriti* and *alacha*) manufactured in villages and townships (*qasbas*) were taken to the markets of South-east Asia, Iran, Levant and Europe.⁷ Similarly, in the sale of indigo, sugar and saltpetre, the network of exchange extended from the countryside to the urban entrepots of international trade.⁸ The bulk of the money obtained by the villages was paid in taxes to the state and local right holders

³ *Waqai Sarkar Ranthambhor wa Ajmer*, MS Asafiya Library, Hyderabad, transcripts in Centre of Advanced Study in History, Aligarh Muslim University, no. 78, ff. 122, 326; Khan, Ali Muhammad, *Mirat i Ahmadi*, 2 vols. and *Supplement*, ed. Syed Nawab Ali (Baroda, 1927-30), I, pp. 260-1; *English Factories in India* (1618-1669), 13 vols. (each volume titled by the year/s it covers), ed. William Foster (Oxford, 1906-27), 1634-36, pp. 224-5. For a survey of the social composition and mercantile operations of the two groups see Irfan Habib, 'Merchant Communities in Pre-Colonial India', *The Rise of Merchant Empires, Long-Distance Trade in the Early Modern World 1350-1750*, ed. James D. Tracy (Cambridge 1990), pp. 371-99.

⁴ Abul Fazl, *Ain i Akbari*, 2 vols. ed. H. Blochmann (Bib. Indica, 1872-77), I, pp. 433-4; Sujan Rai Bhandari, *Khulasat ut Tawarikh*, ed. Zafar Hasan (Delhi, 1918), pp. 43-4.

⁵ "It is not necessary that those who travel in India should provide themselves with food beforehand...because even in the smallest village rice, flour, butter, milk, sugar and other sweetmeats, dry and liquid, can be procured in abundance". Tavernier, Jean Baptiste, *Travels in India*, 2 vols., tr. V. Ball, 2nd edn. rev. W. Crooke (London, 1925), I, p. 38.

⁶ "[The cotton yarn] is made or spun in the out villadges by the porest sort of people; from whence it is gleaned up by persons that trade in it." *English Factories, 1661-64*, p. 112.

⁷ *Bronnen tot de Geschiedenis der Oostindische Compagnie in Perzie, 1611-38*, ed. H. Dunlop ('s-Gravenhage, 1930), I, pp. 482-3; *English Factories, 1618-21*, p. 197.

⁸ For indigo see below. For sugar and saltpetre see *Dastur ul Amal*, BL, OIOC, MS Or. 1286, f. 313a; Francisco Pelsaert, *Remonstrantie*, tr. W. H. Moreland and P. Geyl, *Jahangir's India* (Cambridge, 1925), p. 46; *English Factories, 1651-54*, p. 122.

(*zamindars*), while some was spent in buying goods not available locally. Since the Mughal ruling class was urban based it is fair to say that money was made in villages but spent in towns.

The urban centres and entrepôts were immersed deeply in the circuit of monetary exchange where the concentration of the members of military-bureaucracy, mercantile classes and artisans created regular demand for food, craft goods and services.⁹ Urban taxes, such as customs and transit dues and mint seigniorage were always paid in cash and were spent towards meeting the administrative costs and consumption expenses of the resident ruling elites.¹⁰

The monetized exchange network was based on the circulation of metallic and non-metallic currencies to meet the transaction demands of the commercial and fiscal sectors and household economies. The Mughal state standardized the circulating medium by minting currencies of uniform weight and fineness and restriking older issues into legal tender.¹¹ The success of the policy of giving currency only to money issued by the state in a large exchange economy was ensured by open coinage. The principle of open coinage entitled the suppliers of monetary metals, mostly *sarrafs* (money-changers cum buyers for the mint) and big merchants, to obtain freshly minted coins for the market on payment of mint charges.¹² Mints were located in

⁹ Moosvi, *Economy of the Mughal Empire*, pp. 86, 295-300; Richards, John F., *The New Cambridge History of India, The Mughal Empire* (Cambridge 1993), pp. 62-3.

¹⁰ *Mirat i Ahmadi*, I, pp. 171-3, 262, 297, 309, 318-9.

¹¹ Najaf Haider, 'Standardization and Empire: A Study of the Exchange Rates of Mughal Currencies', *Mind over Matter. Essays on Mentalities in Medieval India*, eds. D. N. Jha and Eugenia Vanina (Tulika, 2009), pp. 40-53.

¹² Najaf Haider, 'Precious Metal Flows and Currency Circulation in the Mughal Empire', *Journal of the Economic and Social History of the Orient. Special Issue on 'Money in the Orient'*, 39 (1996), pp. 326-342; Om Prakash, 'Foreign Merchants and Indian Mints in the Seventeenth and Early Eighteenth Century', *The Imperial Monetary System of Mughal India*, ed. John F. Richards (Delhi, 1987), pp. 173-174, 189.

market towns and capital cities, and in close proximity to the sources of monetary metals, such as copper mines and port cities.¹³

The Mughal state operated a trimetallic currency system of gold (*muhr*), silver (*rypiya* or rupee) and copper (*dam* or *paisa*) from the middle of the sixteenth century. The dominant currency of exchange in the sixteenth century was copper whereas in the seventeenth it was silver although copper retained its presence as small change and as the money paid in daily wages to unskilled workers. The transition from copper (and billon currency of previous regimes) to silver took place in the seventeenth century with important consequences for prices, wages and taxation. In the Northwestern frontier regions of Kabul and Qandahar a silver coin smaller than the rupee (*khani*) was in circulation which the Mughals modified to convert it into half a rupee. Bengal had a currency based entirely on silver and cowries, and in Gujarat the local silver coin (*mahmudi*) circulated cheek by jowl with the Mughal rupee along with a non-metallic currency (bitter almonds).¹⁴

The Deccan and South India were different from the north insofar as their monetary systems were based pre-dominantly on gold with copper as the second metal. The principal gold coin of this region was known as *hun* locally and *pagoda* internationally. It was modelled on the Venetian gold coin, *ducat*, which was a major currency of international commerce on the Mediterranean-Indian Ocean axis, and has been rightly called the ‘dollar of the Middle Ages’. From the second half of the seventeenth century, those areas of the Deccan which came under the influence of the Mughal administration had to pay tribute in silver rupees and began to turn tri-

¹³ C. R. Singhal, *Mint Towns of the Mughal Emperors of India* (Bombay, 1953); John S. Deyell, ‘The Development of Akbar’s Currency System and Monetary Integration of the Conquered Kingdoms’, *The Imperial Monetary System of Mughal India*, ed. John F. Richards (Delhi, 1987), pp. 58-59.

¹⁴ Haider, Najaf, ‘The Monetary Integration of India under the Mughal Empire’, *India Studies in the History of an Idea*, ed. Irfan Habib (Munshiram Manoharlal, 2005); ‘Mughals and Mahmudis: The Incorporation of Gujarat into the Imperial Monetary System’, *Negotiating India’s Past. Essays in Memory of Partha Sarathi Gupta* (Tulika, 2003)

metallic. In all regions of South Asia silver or gold was used for higher value and copper and non-metallic currencies for petty transactions.¹⁵

There was practically no domestic extraction of gold or silver in South Asia. Even though copper was extracted from the mines of Central India, its recurring economic demand outstripped supplies and it had to be imported in large quantities from Europe and Japan. Cowries and bitter almonds (petty money) too were imported from Maldives and Iran respectively. International trade therefore occupied a very important position in the exchange economy of South Asia.

There were three structural factors underlying the pattern of South Asia's international trade. The first was a limited demand for foreign goods generally ascribed to the ability of its economy to meet internal needs from local and regional trade at a lower cost. The second was the production and sale of a variety of export goods with a regular market in Southeast Asia, the Middle East and Europe. This obviously had to do with factor endowments and lower transaction costs. The third and the most important factor was that demand for gold and silver as the most favoured means of settling trade balances was inextricably linked to the operations of monetized exchange economy and fiscal regime.

Due to a favourable balance of trade, South Asia regularly imported foreign coins, bullion, raw copper and non-metallic currencies to replenish its internal stock. In the last quarter of the sixteenth century, developments on a world scale had important consequences for the exchange economy of South Asia. The most important external development was the eastward transmission of European-American silver to finance the Indian Ocean trade and the political unification of trade routes between the Levant and the Indian Ocean by the Ottomans. At the time when Spanish-

¹⁵ Haider, Najaf, 'International Trade in Precious Metals and Monetary Systems of Medieval India', *Proceedings of the Indian History Congress* (Patiala, 1998).

American silver was on its outward journey to India, the Mughal Empire expanded westwards to embrace the coastal regions of Gujarat and Sind. In the second half of the seventeenth century, Bengal and the Coromandel Coast emerged as major destinations for monetary metals (including Japanese gold and copper) in the trade of the Dutch (VOC) and the English East India Companies. The territorial expansion of the Mughal Empire created conditions for the integration of coastal hinterlands into a single network of commodity exchange, fiscal remittances and currency circulation.

Table 1
Precious Metal Imports of the Mughal Empire
(silver equivalent in metric tons)

<i>Source</i>	<i>1588-1602</i>	<i>% of the total</i>	<i>1630-45</i>	<i>% of the total</i>	<i>1679-85</i>	<i>% of the total</i>
Persian Gulf	21.0	17.9	30.0	31.6	40.0	28.4
Isfahan-Agra	10.0	8.5	5.0	5.2	10.0	7.1
Red Sea	75.0	64.0	45.0	47.5	56.0	39.8
Portuguese	11.2	9.6	3.0	3.2	-	-
English	-	-	5.2	5.5	25.1	17.8
Dutch	-	-	6.6	7.0	9.7	6.9
Total	117.2	100.0	94.8	100.0	140.8	100.0

Source: Haider, 'Precious Metal Flows', p. 323, Table 9 (figures slightly modified).

As a result of these developments, South Asia became the biggest importer of foreign bullion outside Europe. Between 1531 and 1600, Spain imported 7439 metric tons of silver from the New World at an annual average of 106 metric tons. Over 64 per cent of this quantity was imported in the last two decades of the century at an

average of 240.5 metric tons per annum.¹⁶ According to a rough estimate, the Indian Ocean received over 67 per cent (167 metric tons) of silver leaving Seville at the turn of the seventeenth century.¹⁷

Table 1 has estimates of supplies of monetary metals (largely silver, but also copper and gold) to the Mughal Empire through maritime and land routes. At the turn of the seventeenth century the import figure stood at 117.2 metric tons of silver equivalent. Ming China was the second biggest importer with an annual intake of 43 to 46 metric tons in the same period.¹⁸ Put together the two Empires were receiving around 150 metric tons of silver. It should be noted that our figures are for the Mughal Empire and the total flow of monetary metals to South Asia would be a little higher. The figures compare well with the total transmission of Spanish-American silver through the Indian Ocean (167 metric tons). The figure of imports into the Mughal Empire rose to 140.8 metric tons in the last quarter of the seventeenth century.¹⁹

No direct estimates for exports of manufactured goods are available except for those carried on by the European Companies. But the share of these companies in the total export trade of South Asia was limited to between 10 and 20 per cent. Some idea of South Asia's exports to Iran by Land and sea can be obtained from a detailed report prepared by a Dutch factor apparently based on the Surat customs records (Table 2).

¹⁶ Hamilton, Earl J *American Treasure and the Price Revolution in Spain, 1501-1650* (Cambridge, Massachusetts, 1934), p. 42; Morineau, Michel, *Incroyables Gazettes et Fabuleux Metaux* (Cambridge, 1985), p. 578. Gold too was imported but its quantity was quite small (1.92 metric tons per annum).

¹⁷ Haider, 'Precious Metal Flows', pp. 308-16; Haider, Najaf, 'The Network of Monetary Exchange in the Indian Ocean Trade: 1200-1700', *Cross Currents and Community Networks: The History of the Indian Ocean World*, eds. Himanshu Prabha Ray and Edward Alpers (Oxford University Press, 2007), p. 195.

¹⁸ Richard Von Glahn, *Fountain of Fortune: Money and Monetary Policy in China, 1000-1700* (Berkeley, 1996), pp. 133-140.

¹⁹ The estimates offered by Moosvi for the Mughal Empire (c. 1595 AD), derived not directly from import figures but from estimates of silver mint output, are higher than mine, being 184.6 metric tons of silver and 4.6 metric tons of gold. *Economy of the Mughal Empire*, pp. 375-376.

The figures show that goods worth 14.39 metric tons of silver, mostly textile, earned over 24 metric tons of silver in 1634.

At this point it is important to take a closer look at the argument about the pattern of South Asia's international trade based on bi-metallic arbitrage.

4. Terms of International Trade and Theories of Monetary Flows

Economic historians have generally advanced an argument based on the simple laws of supply and demand to explain the basis of bullion flows to South Asia. The argument touches the core of the longstanding discussion on why Asian societies attracted and absorbed enormous quantities of gold and silver from Europe since Antiquity. The discussion centres on the role of South Asia as the sink pit of precious metals amassed in Turkey and Iran. According to this argument, international monetary exchange was a function of arbitrage in which a particular currency or monetary metal moved towards the market where it commanded a higher value. The value of silver is judged in terms of gold, and inter-regional movements of bi-metallic ratios are understood to be the indicators of monetary flows. A clear statement of this comes from a historian of the Ottoman Empire while addressing the issue of unidirectional flow of money from the west to the east:

If the silver taken out of the Ottoman Empire fetched 20 per cent in Persia, it brought in even larger profit in India in the 1580s. When the spiral of the de-facto devaluation, official debasement and inflation started in the Ottoman realm in the middle of that decade, silver was much cheaper in gold terms there than in India. The official rate stood at 13:1 in the former and 9:1 in the latter. The disappearance of gold coins from the Ottoman markets and the eastward flux of the precious metal could hardly be stopped in these circumstances. In the next three decades, the gradual decline in silver's gold value in India and its continued appreciation in the Middle East narrowed down the gap. Around 1618, when the cheapening trend of silver came to a halt in India after it hit 10.5:1, namely the level at which it then stood in the Ottoman Empire (in the asper zone), the pull of the east disappeared for

a while. Can it be a coincidence that the Ottoman silver currency enjoyed some respite from its dizzying downfall at about the same time when the silver: gold exchange ratio came to an equal footing in the two economic zones?²⁰

The above argument appears to be tautological insofar as money is always dearer in the primary market than in the secondary. A piece of cloth purchased in Agra for one unit of silver would fetch two units in Hurmuz and three in Aleppo in the same season. Goods gain in value as they travel due to the addition of transaction costs and mercantile profits. This phenomenon is natural to any exchange economy and to visualize it as an outcome of the cheapness of money or measure it against gold-silver ratios is unwarranted. An undervalued currency tends to migrate towards markets offering its full exchange value if it could escape the watchful eyes of the local authorities, but this has the effect of reinforcing an already existing trend in monetary flows (see below).

The arbitrage argument can also be misleading because the exchange ratio between gold and silver in various regions participating in long-distance trade may not be an accurate index of the general value of money. A sudden drop in the supply of gold or a spurt in its demand might raise its exchange value against silver without exercising any influence over prices and wages expressed in silver money. It is important to note that silver continued to be uniformly imported in the Mughal Empire when its exchange value rose against copper and gold at the turn of the sixteenth century as well as when it fell against both metals in the seventeenth century.

A variation on the above theme is the position that monetary flows were reciprocal and they were directed by speculative bi-metallic arbitrage. In other words, merchants and speculators found profit in exchanging the overvalued metal and trade

²⁰ Kafadar, Cemal, 'Les troubles monetaires de la fin du XVI^e siecle et la prise de conscience Ottoman du declin', *Annales E.S.C.*, 46,1991, p. 383.

in bullion continued until a position of equilibrium was reached. A classic illustration of this phenomenon has been the exchange of silver and gold in the Mediterranean trade in the twelfth and thirteenth centuries. After the discovery of silver mines in Germany and Central Europe (Goslar, Freisach and Kutna Hora), silver became cheaper in terms of gold compared to the Near East. The result was an outflow of silver from Europe against the reverse remittance of gold. Thus, the silver monetization of Mamluk Egypt and Syria (1171-1382 AD) and gold monetization of Italian city states, exemplified by *dirhams* and ducats respectively, are explained at once with reference to variations in the bi-metallic ratio and the pattern of monetary exchange in the Mediterranean trade.²¹ Similarly, the exchange of Chinese gold for Japanese silver is reckoned to be a major factor behind the Macao-Nagasaki trade in the sixteenth century because bi-metallic ratios in the two regions diverged from being 1:5.5 in China to 1:12 in Japan.²² Recently, the Sino-Japanese experience has been used to advance a general theory of international monetary exchange:

Divergent bi-metallic ratios created tremendous prospects for profitable arbitrage trade. Economic theory predicts that gold should have flowed out of China, where it was undervalued, relative to the rest of the world, in exchange for Japanese and Western silver, which was relatively overvalued in China compared with the rest of the world...

How can we be confident that the arbitrage argument outlined above is superior to the traditional European trade-deficit hypothesis? The trade-deficit argument says that “money” would have to have been transshipped to Asia to cover the trade imbalance. “Money” here refers to all types of high value coins containing internationally recognized intrinsic content, such as gold and silver. However, we have already established that gold and silver did not travel jointly into the Asian marketplace as a balancing item called “money.” New World silver did indeed travel from Europe to Asia, but it crossed paths with gold coming in the opposite direction – out of Asia and

²¹ Watson, A. M., ‘Back to Gold-and Silver’, *Economic History Review*, 2nd Series, 22 (1967), pp. 1-34.

²² Boxer, C. R., *The Great Ship from Amacon, Annals of Macao and the old Japan Trade, 1555-1640* (Lisbon, 1959), pp. 426-7.

into the West. Abstract “money” did not balance a trade deficit in a passive way commonly portrayed in the literature; rather, it was a specific commodity – silver – that traveled to Asia, not gold. Gold was one of the products for which silver was exchanged.²³

The argument of reciprocal monetary exchange loses much of its force if we consider that gold or silver never crossed the western Indian Ocean either towards Iran, Turkey or Europe in any significant quantity. As we shall see, barring a few minor occasions the flow was always in the reverse direction. Secondly, monetary metal and specie were treated in the Indian Ocean trade as money and not as goods. This is borne out by customs duties levied separately on incoming merchandise and money. In the Mughal Empire, the customs duties on imported coins and bullion were always kept lower than those on merchandise. Merchants too treated foreign currencies as money and used the artifice of bills of exchange to streamline their circulation. Money taken up at Baghdad was paid at Aleppo or the debts owed at Erzerum were settled at Bursa, Smyrna and Leghorn.²⁴

Finally, the employment of a particular currency to purchase commodities from any region where prices were expressed in the same metal, which was the norm in the Indian Ocean trade, eliminated any possibility of speculative gain from bi-metallic arbitrage. In fact, there was always a loss in converting foreign currencies into local legal tender. In 1617, an English factor at Agra sent the following message to the Company in which he complained about the ‘loss’ incurred on the sale of the *reales of eight* on account of the high fineness of the Indian rupee and the commission charged by the money-changers (*sarrafs*):

²³ Flynn, Dennis O. and Arturo Grialdez, ‘Born with a “Silver Spoon”’: The Origin of World Trade in 1571’, *Journal of World History*, 6, ii (1995), pp. 206-207.

²⁴ Tavernier, J. B., *Les six voyages de Jean Baptiste Tavernier, en Turquie, en Perse, et Aux Indes*, I, (Paris, 1679), pp. 767-768.

I desire to make a matter known unto your worship which hitherto we never heard of as yet, and this is the loss which you sustain by exchange of your Spanish money; for the loss is so great that I wish it might be remedied if it be possible. I believe that the loss is about 15 in the hundred. And this cometh to pass by the villainy of the money-changers here, that are called in the Indian tongue Sharafs, men that are permitted by the king both to raise and abase the value of money according to their own pleasure; whereby it cometh to pass that your dollars yield you less here than in any other Mahometan country, either Turkie, Persia or Barbarie.²⁵

Yet, merchants carried all types of foreign currencies and bullion to India because they knew that goods could be readily bought with cash obtained from the mint or the money market. Around 1659, Francois Bernier sketched the route taken by world bullion in search of merchandise:

It should not escape notice that gold and silver, after circulating in every other quarter of the globe, come at length to be swallowed up, lost in some measure in Hindoustan. Of the quantity drawn from America, and dispersed among different European states, a part finds its way through various channels to Turkey, for the payment of commodities imported from that country; and a part passes into Persia, by way of Smyrna, for the silks laden at that port. Turkey can not dispense with the coffee, which she receives from Yemen, or Arabia Felix; and the productions of the Indies are equally necessary to Turkey, Yemen and Persia. Thus it happens that these countries are under the necessity of sending a portion of their gold and silver to Moka, on the Red Sea near Bab el Mandel; to Bassora, at the top of the Persian Gulf; and to Bander Abbasi or Gomeron, near Ormuz; which gold and silver is exported to Hindoustan by the vessels that arrive every year ... at those three celebrated ports, laden with goods from that country.²⁶

Table 2
Export of Manufactured Goods from South Asia to Iran (1634)
(Metric tons of silver)

²⁵ *Letters Received by the East India Company from its Servants in the East, 1602-17*, vol. 6, eds. Charles Danvers and W. Foster (London, 1902), p. 193.

²⁶ Bernier, Francois, *Travels in the Mogul Empire AD 1656-1668*, tr. Archibald Constable, 2nd edn. rev. Vincent A. Smith (London, 1916), pp. 202-203.

<i>Goods Exported</i>	<i>Net value</i>	<i>Gross value*</i>	<i>Value realized in Iran</i>
Textiles from Agra and Lahore (land route)	6.24	7.49	11.95
Indigo, sugar and gumlac from Agra and Lahore (sea route)	3.82	4.85	5.72
Textiles and gumlac from Sind by the sea route	2.23	2.84	3.30
Textiles from Gujarat by the sea route	1.04	1.29	2.09
Textiles from Daulatabad by the sea route	1.06	1.35	1.77
Total	14.39	17.82	24.83

* Includes transaction costs: 20 per cent for the land route and 27 per cent for sea.

Source: *Bronnen*, I, pp. 482-94.

Apart from a small quantity kept for non-monetary usage, foreign supplies were converted into currency and added to the pre-existing stock through the twin institutions of the mint and the market.²⁷ No figures for money supply are available in our sources and only one attempt has been made so far to offer partial estimates. Moosvi converted estimated output figures of the Mughal mints into aggregate estimates of coined silver stock and treated the latter as figures of annual silver money supply disregarding additions on account of the use of other currencies and credit as well as withdrawals from the stock on account of hoarding and weight loss. According to her calculations there was an increase of 138 per cent in the stock (silver money) between 1595 and 1705. Adjusted to population growth the increase was 101 per cent or less than one per cent per annum.²⁸ Moosvi's methods and estimates have been critiqued but we do not as yet have alternate figures.²⁹ The figure for 1595 (4552

²⁷ Haider, 'Precious Metal Flows', pp. 300-335.

²⁸ Moosvi, 'Silver Influx, Money Supply', pp. 74-81 (esp. Table 7). The currency level of the base year was made up of the cumulative addition of all rupee specimens of the period 1556-91/95. To this was added the total for each individual year until 1705.

²⁹ Haider, Najaf, 'The Quantity Theory and Mughal Monetary History', *Journal of Medieval History*, vol. 2, no. 2 (1999).

metric tons of silver stock) can be helpful in raising the issue of the extent of monetization in the Mughal Empire. Together with the GDP figure estimated for 1595 (6418 metric tons of silver) it yields that 70.9 percent of the economy was monetized. This appears to be quite an impressive figure since as late as the 1950s the share of the non-monetized sector in the Indian economy was estimated by the National Sample Survey to be around 43 per cent for rural areas and between 8 and 11 percent for urban areas.³⁰ In Moosvi's calculations it has already been assumed that the velocity of circulation of money in 1595 was 1 and there was no net addition from the side of credit to compensate for withdrawals from the silver stock. It is possible to argue that in the seventeenth century there were substantial additions to the volume of money supply with the use of credit papers and there was also an increase in the velocity of circulation of money with commercial loans as well as the practice in the money market to impose discounts on older silver coins on account of real or fictive weight loss. The latter must have increased the tendency to use the silver coin before it crossed the year of mintage leading to an increase in the velocity of circulation.³¹

5. Credit, Banking and Interest Rates

In medieval monetary economies, coins were the lifeblood of exchange and commerce. While the use of metallic money served to overcome the restrictions of barter transactions, its absence threatened to disrupt the continuity of economic activities. To ensure continuity in economic exchange, a system of credit was devised

³⁰ A. G. Chandavarkar, 'Money and Credit: 1858-1947', *The Cambridge Economic History of India*, vol. 2 (c.1757-c. 1970), ed. Dharma Kumar (Cambridge, 1982; Indian edition, Hyderabad, 1984), p. 764.

³¹ Haider, 'Standardization and Empire: A Study of the Exchange Rates of Mughal Currencies', pp. 30-43.

in developed market economies by allowing claims to money to be used for making payments and settling obligations. Such a system of credit, where payments could be deferred or money could be transferred from one sector to another, brought about an expansion in the existing volume of currency money and, at the same time, an increase in its velocity of circulation. The volume of money increased automatically when banking instruments, such as bills of exchange and letters of credit, were used in place of currency, while deposits and money-loans facilitated the movement of currency between individuals.

The close co-existence of metallic-money, credit and banking instruments is widely discussed by historians and economists and there is a lively debate over the exact nature of this relationship in the event of a change in money supply. In an argument against the role of money in triggering the economic depression of the Renaissance, credit was presented as a substitute for actual money capable of performing specific acts of exchange on its own.³² Monetarists, on the other hand, argued that credit is only a supplementary means of payment for the reason that medieval transactions were structurally tied to settlement in specie.³³

Within the South Asian monetary economy the continuous movement of goods across the various levels of the market and the reciprocal flow of money in the reverse direction was supported by an organized system of credit. The most important point in the complex cycle of credit was the one at which money loans on interest were advanced to commodity merchants. These loans were the most popular form of financing commerce and trading on borrowed capital was a norm among small and

³²M. M. Postan, 'Note', *Economic History Review*, 2 Ser. xii (1959); John Hatcher, *Plague, Population and the English Economy, 1348-1530* (London 1977), p. 53.

³³Frank C. Spooner, *The International Economy and Monetary Movements in France, 1493-1725* (Cambridge, Massachusetts, 1972), pp. 54-7; John Day, 'Money and Credit in Medieval and Renaissance Italy', *Medieval Market Economy*, p. 145; Pamela Nightingale, 'Monetary Contraction and Mercantile Credit in Fourteenth Century England', *EHR*, 2 Ser. xliii, 4 (1990), 560-75.

big merchants.³⁴ One reason for the popularity of money-loans was the accessibility to a market free from theological restrictions, where customary laws enforceable in local courts governed the obligation for payment of debts and bills.³⁵

The demand for money and freedom to charge interest on loans provided a firm foundation to the business of money lending and banking. In commercial centres, *sarrafs* and Chettiars took a leading position in financing commodity trade by advancing short and long term loans depending on the seasons and circumstances of the borrowing.

The facility of finance was further extended to the level of production where merchant-borrowers themselves supplied credit to the manufacturers (known by the technical name of *dadani*) to ensure commodity supply at bargain prices.³⁶

Deposit Banking and Bills of Exchange

The expansion in commodity exchange and a concomitant rise in the demand for money exerted pressure on the resources available for credit. Given the complex nature of the credit cycle and the diverse portfolios of South Asian moneylender, it is difficult to determine the volume and composition of the various types of capital flowing into his coffer. An unknown and self-generating portion of this capital was indeed made up of profits earned from interest and ploughed back into the reserve funds. But the capital that originated outside the money market also constituted a regular source of running money-lending and banking operations. The bankers

³⁴ Banarasidas, *Ardhakathanak*, ed. and tr. Mukund Lath, Jaipur, 1981, p. 261, verse 494.

³⁵ *Farmans and Sanads Granted to the Dutch East India Company*, B. L., MS Add. 29095, ff. 1a-10b; *Mirat i Ahmadi*, I, p. 250-1; Niccolao Manucci, *Storia do Mogor, 1656-1712*, 4 vols., tr. W. Irvine London, 1907-8, II, pp. 77-8. Also see Irfan Habib, 'Usury in Medieval India', *Comparative Studies in Society and History*, vi, 1964, pp. 416-7.

³⁶ *English Factories, 1637-41*, p. 137; Master, *Diaries*, I, p. 26; II, pp. 14-5; Moreland, *Akbar to Aurangzeb*, pp. 134-5, 192-4; Habib, 'Usury in Medieval India', pp. 399-400; Tapan Raychaudhuri, 'Non-agricultural Production', *CEHI*, I, pp. 281-2.

accepted cash deposits against bills of exchange (*hundi*), and demand deposits from individuals, merchant-groups and state officials who had cash to put out on interest.

A interesting description of direct deposits payable on demand comes from Agra where the entire amount deposited by diverse creditors was suddenly withdrawn probably as a result of some immediate demand for cash (to be called back at different intervals in the case of time deposits). The difference between rates paid on deposits and loans, mentioned separately, constituted the profit of the bankers.³⁷

The second important source of banking capital was short term time deposits which the bankers received by issuing bills of exchange (*hundi*) - the species of commercial paper in South Asia which functioned simultaneously as a mode of money transfer from one place to another. In order to avoid the risks of transportation, merchants deposited the cash with a banker in exchange for a *hundi* drawn on his agent or correspondent. Tavernier, the peripatetic French jeweller, travelled with little cash and kept his main capital in circulation by transferring it from one place to another through the *hundi*.³⁸

Expansion in Money Supply and Volume of Credit

There is sufficient data in the form of interest rate quotations to analyze changes in the demand and supply of money and credit.³⁹ The inter-regional structure of interest rates broadly divides the highly commercialized regions of South Asia into two groups. Gujarat and Agra (western and northern India) formed a uniform region

³⁷ *English Factories, 1642-45*, p. 303; Irfan Habib, 'Merchant Communities in Precolonial India', p. 392.

³⁸ Levon Khachikian, 'The Ledger of the Merchant Hovhannes Joughayetsi', *JASB*, New Series, viii, 3 (1966), 153-6, 173-4. Also see Manucci, *Storia do Mogor*, II, pp. 77-8 for an Armenian merchant, Khwaja Safar, carrying a *hundi* from Agra to Patna to buy textiles.

³⁹ Figures of interest rates are produced in Shireen Moosvi, 'The Indian Economic Experience 1600-1900: A Quantitative Study', *The Making Of History. Essays Presented to Irfan Habib*, eds. K. N. Panikkar, Terence J. Byres and Utsa Patnaik, New Delhi, 2000, pp. 337-8.

whereas Bengal and Golconda constituted another, rates in the latter appearing to be much higher than the former. The rates remained stable at 1 percent per month in the former and 2 percent in the latter, but a fall sometime towards the middle of the seventeenth century (0.5 and 1 percent respectively).

It is difficult to explain all the variables in the interest rate structure by referring to a single factor whether monetary or real. In the commercial correspondence of the European merchants trading in India we get several examples of money supply driving the course of interest rates in the short run. When the supply of foreign bullion was once threatened by dangers on the sea, the English factors sent the following report from Surat:

Tis tho[ugh]t [that] those 5 ships gone into the Gulph wil not returne for fear of the pyrates. So that no treasure wil be bro[ugh]t from thence this year; if so interest of money wil be rise and scarce any to be had and wee shal find it a hard task to take up any on use... [at] 3/4 p.ct.⁴⁰

Here, the evidence points to a positive link between the fall in money supply and rise in interest rates. We also get the impression that the money and credit market of the port city was fully saturated and tied to the seasonal imports of precious metals. Conversely, a sudden increase in money supply exercised a downward pressure on interest rates as illustrated by another instance quoted in a letter of the English Company from London:

Mr. Penning ['who lately arrived from Surat'] ... informs us that our sending lately such large stocks, hath made such a fall of interest there that persons of good credit could take up money at 4 p. cent., and that our old broker Bhimgee Parrack was

⁴⁰ OIOC, *Factory Records, Surat*, vol. 94, ff. 69a-b.

arrived at so vast an estate as to be computed worth one million of pound sterling, which give us cause to suspect that he hath made too great advantage of us.⁴¹

Apart from reiterating the relationship between money supply and interest rates, the second passage also alludes to an increase in the profits of the broker, Bhimji Parakh, apparently over the period of time he was associated with the English Company. This was perhaps an indication of the rise in the fortunes of commercial classes, notably those associated with big merchant groups.

In these instances, money supply was the prime determinant of interest rate in the face of a fixed demand for credit. The other important variable was the absolute demand for credit linked to the rate of profit.⁴² In pre-industrial economies this meant buying cheap and selling dear, and the greater the rate of commercial profit the higher the demand for credit and the rate of interest.⁴³ Instances of merchants taking advantage of opportunities created by short term fluctuations in prices are numerous and it will suffice to cite here only two such cases reported in the letters exchanged between Masulipatam and London:

[The English] can not raise means by sale of their goods to make an investment this year [1638], especially now that the cloth is so cheap, 'being at least a sixt penny fallen in its former price.' The Dutch are taking up money at extra-ordinary rates in order to benefit by it.⁴⁴

The close correspondence between commodity prices, mercantile investments and the demand for credit was brought out in another letter:

Fresh demands are made upon them daily; while money is extra-ordinary scarce (as shown by the low prices of the goods). The Dutch owe here [Masulipatam] upwards of 70,000 pagodas, and the Danes 28,000 or 30,000. The former (possibly 'to break

⁴¹ OIOC, *Letter Book*, vol. 7, f. 1a.

⁴² Massimo Pivetti, *An Essay on Money and Distribution* (London, 1991), pp. 8-9; Hume, 'Of interest', *Writing on Economics*, pp. 43, 45, 50-56.

⁴³ See Habib, 'Monetary System and Prices', p. 377.

⁴⁴ *English Factories, 1637-41*, p. 55.

the Danes altogether') are selling their cloves at 4 $\frac{1}{2}$ and 4 pagodas per maund; and at that rate the 'moneyed men' choose rather to invest in this commodity than to lend at interest to the English.⁴⁵

In the passages quoted above the merchants viewed the widening difference between the buying and selling price as an opportunity for investment. Such an opportunity also induced professional moneylenders to divert investments from commercial usury into commodity trade. These tendencies would have the effect of pushing interest rates up by creating additional demand for loanable capital and a simultaneous fall in its supply at the same time.

Thus it seems that both monetary and real factors were operative in South Asian market economy, at one time or another, exercising dialectical influence over the cost of borrowing.⁴⁶ In the long term, it was the sustained dominance of one over the other which would have determined the course of interest rates movements in the seventeenth century. If we take the position that the reason for a fall in interest rates was an increase in money supply, for which there is qualitative and quantitative evidence, this could have only come through an increased accumulation of banking capital in the form of deposits as well as profits generated from other portfolios.

With the possibility of an increase in bankers' income from these sources, there was a proportionate increase in the size of the commercial capital available with them to be loaned out. By looking at the size of the capital borrowed by the European merchants, we find that towards the last decades of the seventeenth century, it

⁴⁵ *Ibid.* p. 186.

⁴⁶ A good discussion of these opposite tendencies - known as the Gibson Paradox - can be found in J. M. Keynes, *A Treatise on Money*, London, 1971, II, pp. 177-8. Also see Knut Wicksell, *Lectures on Political Economy*, London, 1935, II, pp. 168-9.

assumed considerable proportions.⁴⁷ One explanation, therefore, for the decline in interest rates could be a faster growth in the capital accumulated by the bankers relative to commercial expansion which simultaneously created the paradox of placing new demands on credit.

The seventeenth century brought considerable progress in the techniques of transferring capital and making payments. Inland commerce and long-distance maritime trade were now open to the massive participation of big and small merchants including the European Companies. The continued influx of precious metals, particularly silver, provided the monetary basis upon which the credit structure rested. The function of credit instruments was to make existing money circulate more efficiently and take its place when it was not physically present. To that extent the volume of metallic money also defined the scope and size of banking activities. With the growth in money economy aiding specialization in commodity exchange and multilateral payment, credit also grew in proportion. It was both a symptom of the growing monetization and its cause. Interest rates signified this reciprocal relationship. When the circulation of money reached a point where it exceeded the demand for commercial capital, interest rates fell. The lowering of the cost of credit helped commercial investment and further broadened the parameters of monetized exchange.

Prices and Wages

Quantitative data on prices, wages and income is extremely limited and fragmentary for South Asia during 16th-18th centuries. It is only from the middle of the nineteenth century (1861 AD) that one begins to get unbroken statistical series on

⁴⁷ Om Prakash, 'Sarrafs, Financial Intermediation and Credit Network in Mughal India' in *Money, Coins and Commerce: Essays in the Monetary History of Asia and Europe (From Antiquity to Modern Times)*, ed. E. Van Cauwenberghe, Leuven, 1991, pp. 476-7.

prices and wages. There has not been a consistent effort to collect data from primary sources or put them together from published material for the preceding three centuries. In an essay written a few years ago I presented data on prices and wages and drew some general conclusions.⁴⁸ I wish to summarize them here while add some fresh material. In the section on wages, the data is presented in grams of silver (silver wages) following works done by Stephen Broadberry, Bishnupriya Gupta and Jan Luitjen van Zanden.⁴⁹ The purpose is to study the movement of prices and wages in South Asia as well to facilitate comparison with other regions of the world.

For the Mughal Empire, information on the prices of various commodities, notably food products, is available in the *Ain i Akbari*. The *Ain* was formally completed in Lahore, the then capital of the Empire, during 1597-1601 AD, although much of its statistical information belongs to the year 1595 AD. The prices given in the *Ain* were prevalent in the markets of Lahore and recorded at a time when they had risen by 20 percent after the city became the capital. Irfan Habib has argued that the figures given in the *Ain* for Lahore are comparable with those of Agra, another big city of northern India for which we have data for the seventeenth century.⁵⁰ As a gazetteer of information, the *Ain* is unique. There are no works written either before or after the sixteenth century with price data of a similar kind. This makes the comparison of the *Ain* prices very difficult. However, there are four commodities for which information is available to the extent of building a reasonably consistent time

⁴⁸ 'Prices and Wages in India: 1200-1700. Source Material, Historiography and New Directions', International Conference on "Historical Wages and Prices", Utrecht, 19-22 August, 2004 (www.iisg.nl/hpw/conference.html).

⁴⁹ Broadberry, Stephen and Gupta, Bishnupriya, 'The early modern great divergence: wages, prices and economic development in Europe and Asia, 1500-1800', *Economic History Review*, LIX, 1 (2006), pp. 2-32; Van Zanden, Jan L., 'Wages and the standard of living in Europe, 1500-1800', *European Review of Economic History*, 2 (1999), pp. 175-197.

⁵⁰ Habib, Irfan, *The Agrarian System of Mughal India*, 2nd edn (New Delhi, 1999), pp. 90-92. The argument is based on the evidence of cash revenue rates charged by the state in the two regions. These rates, based on local prices, suggest that prices in Agra were higher than Lahore by almost 20 percent

series of prices prevalent in the seventeenth century, viz. wheat and other items of food, indigo, copper and gold.

Table 3
Food Prices at Agra: 1595-1718 AD
(Grams of silver per kg.)

	1595	1637*	1638*	1670	1718
Wheat	0.136	-	0.309	0.391	-
Wheat flour	0.173	-	-	-	1.946
Barley flour	0.127	0.368	0.587	-	-
Gram	0.091	0.359	0.582	0.323	1.760
Pulse (<i>moth</i>)	0.136	0.337	0.528	-	-
Pulse (<i>mung</i>)	0.205	-	-	-	2.097
Rice (grade I)	1.137	-	-	0.978	2.729
Clarified butter (<i>ghi</i>)	1.196	2.861	3.247	3.411	6.822
Jaggery (<i>gur</i>)	-	1.469	1.392	-	2.097

* Annual average of monthly prices.

Source: Based on Haider, 'Prices and Wages in India: 1200-1700', Table 6 (1 rupee = 11.42 grams of fine silver).

Figures in Table 3 demonstrate a marked ascent in the prices of gram (255 per cent), wheat (187 per cent) and clarified butter (185 per cent) by 1670, a year of plentiful harvest. A similar trend is visible in the prices of gram (295 per cent), barley flour (189 per cent), *moth* (147 per cent) and clarified butter (139 per cent) up to 1637. The still higher prices of the next year were probably caused by scarcity. The prices

of wheat flour and *mung* showed a much steeper hike although it should be remembered that 1708 was a year of scarcity.

Hence, it can be argued that, on average, and with the exception of rice whose price dropped slightly, the prices of food items in Agra almost doubled (193 percent) between 1595 and 1637 and stayed at that level (209 percent) at least till 1670.

The commodity for which we have somewhat consistent price figures from a single region is indigo, a commercial product which was used in India and abroad to dye textile. Indigo was produced in the Bayana tract, comprising several villages and their nucleus towns in the province of Agra. The indigo crop was sensitive to extreme weather conditions and short-term movements in its price were caused predominantly by a poor or bountiful harvest.⁵¹ Within each harvest, prices also varied according to the product made out of a particular crop: the best variety fetching the highest price.

Indigo could be bought directly in the villages where it was manufactured to ensure a high degree of quality and low prices.⁵² However, there was an established network of local merchants stationed in nearby towns, who advanced money-loans (*dadani*) to the manufacturers in order to secure the bulk of the supplies.⁵³ Purchases made through the local merchants reflected commissions charged on such transactions. Also, the price of the commodity was highly responsive to demand and there was always the possibility of a rise in markets most frequented by buyers.⁵⁴

Table 4
Indigo Prices at Agra: 1595-1675 AD (Decennial Averages)
(Grams of silver per kg.)

⁵¹ Pelsaert, *Remonstrantie*, p.13; *English Factories, 1618-21*, pp. 260, 268; *1637-41*, p. 278; *1646-50*, pp. 62, 276, 322; *1661-64*, p. 320.

⁵² Pelsaert, *Remonstrantie*, pp. 15-6; *English Factories, 1624-29*, p. 208.

⁵³ Pelsaert, *Remonstrantie*, pp. 15-6.

⁵⁴ *Ibid.*

Years	Average of Highest Prices	Index (1595 = 100)	Index (1609-15 = 100)
1595	7.277	100	57
1596-1605	-	-	-
1606-1615	12.734	175	100
1616-1625	15.372	211	121
1626-1635	16.659	229	131
1636-1645	17.887	246	141
1646-1655	19.556	269	154
1656-1665*	17.282	236	135
1666-1675*	13.644	188	107

* Single quotation.

Source: Based on Haider, 'Prices and Wages in India: 1200-1700' (Tables 7 and 8).

Ranging from weather and variety to the market and demand of the manufactured product, there were at least four major factors which went into the determination of indigo prices. Our data reflect some or all of these conditions at one time or other. In order to build a time series of price movements with any degree of uniformity, three categories have been selected representing the highest, lowest and average prices of indigo. The highest and lowest prices are taken from the maximum and minimum prices paid for the commodity in a calendar year. Average prices such as those given in our documents are directly reproduced. Others should be taken to mean simple averages of the various prices at which the commodity was bought. The three sets of prices show remarkably similar trends which points to the fact that each category of prices is capable of revealing the general trend in indigo prices. In order to further minimize the fluctuations and follow the long-term movement amid the short-term peaks and valleys, an index of simple arithmetic averages of the highest prices is worked out for each decade from 1595 to 1675. All prices, expressed in

different currencies or units of weight, have been converted into grams of silver per kg (Table 4).

The figures assembled in Table 4 show a steady increase in indigo prices in the long seventeenth century (1595-75). By 1655, prices had risen by 169 percent over the index year of 1595, representing an annual increase of 2.8 percent. Despite a decline in later years, the levels were still 136 and 88 percent above the index year. The increase appears far less spectacular if we focus only on the trend in the seventeenth century. At their peak in the middle of the seventeenth century, the prices were 54 percent higher. Towards the end of the period, they were only slightly higher than what they were in the beginning.

If there was an inflationary trend in the price of indigo its causes are never directly described in our sources. It could have been due to the effective demand for the product, i.e. demand backed by money supply. When the English and the Dutch first entered the indigo market, there was a sudden increase in its demand which raised prices. European demand continued to grow till at least the middle of the seventeenth century. Quantitative evidence on the export of indigo by different merchant groups indicates a progressive rise in the purchases of the English and the Dutch merchants.⁵⁵

Two other components of the indigo price structure, viz. subsistence cost and fiscal demand, need attention in any investigation of the causes of inflation. On the first, the evidence presented for Agra is instructive in showing that, on average, the prices of food items almost doubled between 1595 and 1637 (Table 3). The inflation in urban food prices would have directly affected the mercantile classes of the city of Agra and the townships in which indigo was processed and sold. If the inflation

⁵⁵ *English Factories, 1618-21*, p. 47; *1624-29*, p. 335; *1630-33*, p. 209; *1634-36*, p. 9; Van Santen, *De VOC*, pp. 32-3.

originated in the rural areas from where supplies came to the townships and cities, it would have also affected indigo manufacturers who were not normally subsistence farmers. The combined effect of the inflation on the cost of subsistence may have driven the price of indigo upwards.

The relationship between fiscal demand and price movement is important: a rise in the prices of taxable items leads to a rise in revenue demand and higher rates of taxation drive prices further up.⁵⁶ Between 1595 and 1655, the estimated revenue demand in the provinces of Agra and the neighbouring Delhi increased by 154 percent.⁵⁷ If the pressure to enhance the rate of taxation came from the desire of the ruling class to maximize its resources, it was likely to have contributed to inflation.⁵⁸ A detailed study of the dynamic constitution of the Mughal fiscal structure would indeed reveal the nature of the reciprocal relationship between taxation and prices.

The silver price of copper poses some interesting problems. The traditional historiography of prices in Mughal India, under the influence of quantity theory of money, assumed that copper appreciated in terms of silver at the turn of the century due the heavy influx of silver. What happened was exactly the opposite (Table 5). It was silver that appreciated due to its demand as an efficient medium of exchange as well as due to the over plus of demonetized copper in the market. Once silver had replaced copper in the circuits of exchange the bi-metallic ratio began to stabilize and copper regain its value (post 1615). Silver also appreciated against gold at the turn of the seventeenth century. However, in the seventeenth century, the average price of copper rose by about 66 percent and that of gold by 47 percent.

⁵⁶ For a rise in indigo prices following higher rural taxation see *Original Correspondence* 6490, ff. 277a-b. Also see *Mirat i Ahmadi*, I, pp. 309, 315 for the reduction in urban taxes leading to a fall in food grain prices.

⁵⁷ Moosvi, 'Silver Influx, Money Supply', p. 91 (Table 10).

⁵⁸ For the suggestion of a relationship between higher rent and sixteenth century inflation see Eric Kerridge, 'The Movement of Rent, 1540-1640', *EHR*, 2 Ser., vi (1953), pp. 27-8.

Table 5

The Price of Silver Rupee in Copper Dams in Northern India

Year	Official Rate (<i>dams</i>)	Market Rate (<i>dams</i>)
1574	48	48
1574-82	48	35
1582	40	40
1595	40	45
1606	40	102

Source: Data derived from Haider, "Quantity Theory and Mughal Monetary History", pp. 338-45.

The wage data we have is once again quite limited temporally and spatially. Much like the data on prices our story has to begin with the *Ain*, Agra and 1595 AD. The first set of data is from the building department of the Mughal state where a large number of skilled and unskilled workers were employed and paid wages and salaries.

Table 6

Daily Wages of Construction Workers in Grams of Silver: Agra 1595 AD

Category of Workers	I class	II class	III class	IV Class	Unclassified
Lime worker	2.0	1.71	1.43		
Carpenter	2.0	1.71	1.14	0.86**	0.57*
Bricklayer	1.0	0.86**			
Bamboo- cutter					0.57
Water-carrier	0.86	0.57			
Wood-sawyer					0.57
Thatcher					0.57
Ordinary Labourer					0.57

* V Class

** Superior Labourer

Note: All figures originally given in *dam* (copper coin of 20.9 grams): 40 *dams* = 1 rupee = 11.42 grams of fine silver.

Source: Abul Fazl, *Ain i Akbari*, tr. I, pp. 235-236.

Table 7

Daily Wages of Unskilled Construction Worker: Agra 1595-1638 AD

Year	Original Figures	Currency	Exchange Rate	Grams of silver	Kgs of wheat
1595 AD	2 <i>dam</i>	Copper coin of 20.9 grams	1 rupee = 40 <i>dam</i>	0.57	4.19
1595 AD	3 <i>dam</i> *	Copper coin of 20.9 grams	1 rupee = 40 <i>dam</i>	0.86	6.32
1637 AD	4 <i>paisa</i>	Copper coin of 20.9 grams	1 rupee = 54 <i>paisa</i>	0.85	-
1638 AD	4 <i>paisa</i>	Copper coin of 20.9 grams	1 rupee = 55 <i>paisa</i>	0.83	2.69
1638 AD	7 <i>paisa</i> *	Copper coin of 20.9 grams	1 rupee = 55 <i>paisa</i>	1.45	4.70

* Superior Labourer

Note: *Dam* and *paisa* were different terms used for the Mughal copper coin weighing 20.9 grams. Haider, Najaf, 'The Quantity Theory and Mughal Monetary History', *Journal of Medieval History*, vol. 2, no. 2 (1999), pp. 338-344.

Source: Table 6; Moreland, W.H. 'Some Sidelights on Life in Agra, 1637-39', *Journal of U.P. Historical Society*, 3 (1923), p. 159. For exchange rate see Van Santen, H. W., *De Verenigde Oost Indische Compagnie in Gujarat en Hindustan, 1620-1660* (Leiden, 1982). p. 114.

Table 8

Daily Wages of Skilled Worker (Carpenter): Agra 1595-1638 AD

Year	Original Figures	Currency	Exchange Rate	Grams of silver	Kg of wheat
1595	7 <i>dam</i>	Copper coin of 20.9 grams	1 rupee = 40 <i>dam</i>	2.00	14.70
1637	3 <i>ana</i>	One sixteenth of a rupee		2.14	
1638	13 <i>paisa</i>	Copper coin of 20.9 grams	1 rupee = 55 <i>dam</i>	2.70	8.74

Source: Tables 6 and 7; Van Santen, *De VOC*, p. 102; Moreland, 'Some Sidelights on Life in Agra, 1637-39', p. 160.

Table 9

Daily Wages of Peons and Domestic Servants: 1611-89 AD

Year	Place	Category of Wage Earners	Grams of silver	Kgs of wheat
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1611	Agra	Lowest wage (Imperial Establishment)	1.14	
1616	Surat	Domestic Servant	1.06	3.28 (1619 price)
1622	Agra	Peon	1.52	
1623	Agra	Porter	1.52	
1623	Surat	Domestic Servant	1.14*	3.85 (Broach price)
1626	Agra	Domestic Servant	1.33	
1633	Surat	Peon	1.06	0.24 (1632 price)
1634	Surat	Peon	1.58**	1.06
1634	Ahmadabad	Peon	1.33**	0.52 (1633 price)
1637	Agra	Peon	1.24	4.01 (1638 price)
1659	Ahmadabad	Peon	1.52	
1689	Surat	Peon	1.52	
1746	Ahmadabad	Peon	1.14	

* With food and clothing

** Wages increased due to famine (see below)

Sources: Hawkins, *Early Travels in India*, p. 99 (stayed in Agra from 1609 to 1611); *Supplementary Calendar*, p. 66 (six *mahmudis* per month: each *mahmudi* = 5.28 grams of silver); *English Factories in India, 1622-23*, pp. 94, 222; *1634-36*, p. 151; Della Valle, *Travels of Pietro Della*, I, p. 42; Pelsaert, *Remonstrantie*, p. 62; British Library, Egerton MS 2086, f.121a; *Geleynssen*, 123; Moreland, 'Some Sidelights on Life in Agra, 1637-39', p. 160 *Factory Records, Miscellaneous*, vol. 3, folio 133; Ovington, *Voyage to Surat in the Year 1689*, p. 229; Khan, Ali Muhammad, *Mirat i Ahmadi, Supplement*, tr. (Baroda), p. 154; Haider, 'Prices and Wages in India: 1200-1700' (Table 4).

The data presented in Tables 6-9 on silver wages and grain wages of unskilled workers, skilled workers and servants offer a few interesting points about determination of wages and their movements. The first and quite obvious point is that wages were determined by the skill of the worker: the difference in wages in one sector (construction 1595 AD) between the two sets of workers was of the order of 3.5 times (Table 5). The second point is that while daily wages were paid mainly in copper, monthly wages were paid in silver. It is possible that even monthly wages were paid in copper in the sixteenth century till the time when copper began to be replaced by silver in the currency sector. In the period of transition, prices were

quoted in both copper and silver (gradually moving towards silver) and it is therefore important to know about the purchasing power of both the metals.

Moreland and others have argued that there was no change in the money wages paid to the skilled and unskilled workers between 1595 and 1637. It can be seen that this was not the case at all and silver wages of unskilled workers registered a rise of 50 per cent. The increase will be 100 percent (from 2 *dam* to 4 *dam* or *paisa*) if we do not convert the amounts into silver. Even in the case of skilled workers there was an increase although it was not of the same order. It is quite possible that the rise was related to inflation. There was depreciation in the value of copper against silver and quite possibly against commodities in general.

Grain wages did not rise at the same rate as the silver wages either at the turn of the seventeenth century or later. There was a precipitate decline in grain wages paid at Surat during the aftermath of the great famine of 1630-32. The phenomenon is difficult to explain and I reproduce below the passage (letter of the English East India Company factors from Surat to Ahmadabad, dated 11 January 1636) from which the quotations are taken:

Our purpose concerning the peons produces this consultation. Wee perused the bookes of former tymes [and] found that two yeares since their wages was first augmented, before which tyme some had 5 m[ahmudi]s. p. mo. others 6, few or none 7. Wee called them all together & demanded why provisions being reduced unto the cheapness of former tymes, they should not also returne unto their former wages, they answered unanimouslie that clothing continues still much derer, and wee were soe sensible of that truth, as to continue until sometyme might alsoe bring remedie thereunto, 3 ms. p. m. to everyman more than hee had in the cheapest tymes, soe that he that had 5 ms then had 8 ms. now: 6 ms. then 9 now, in proportion-whereunto if you thinke to gratifye them [the peons of the Ahmadabad

factory] wee approve thereof & so those that have 3 rups.1/2 may continue where they are the rest...⁵⁹

South Asian Economy and the Great Divergence

During 16th-18th centuries the South Asian economy grew at a slow pace. The population, area under cultivation and agricultural production increased and so did urbanization and manufacturing particularly in the seventeenth century. Foreign trade grew with the coming of the European companies but more particularly from the middle of the seventeenth century when textiles began to be exported in large quantities to the Middle East which had sufficient cash from the sale of coffee. The exports were much larger than imports of goods and the difference was serviced with monetary metals (on this see more below).

The economy was sufficiently monetized as a result of silver influx, fiscal practices of the state (cash income and expenditure) and growing artifices of mercantile and banking sectors. Prices rose and so did silver wages but grain wages fell. There were signs of the Hamilton effect but perhaps it was not of the same order as in Europe. The gap between silver and grain wages was not big or prolonged enough for 'profit inflation' to transform the character of the industrial sector. It seems the banking sector accumulated more profits with service charges on a variety of mercantile transactions even after the fall in interest rates. Interest rates in South Asia were lower than Europe (and West Asia) and it was convenient for European and West Asian merchants to borrow funds to the extent that was possible in the credit market.

The findings of this paper broadly support (and strengthen) the argument advanced by Broadberry and Gupta that both silver and grain wages were lower in

⁵⁹ British Library, Egerton MS 2086, f. 121a.

South Asia compared to Europe. However, insofar as the subsistence cost of the wage earning population of South Asia is concerned (as can be seen from the quotation above) more empirical evidence needs to be adduced and the database to be extended to the eighteenth and nineteenth centuries for as many regions as possible for a clearer picture to emerge. Also, certain peculiarities of the Indian situation, such as the transition from copper and billon to silver which absorbed inflationary pressures in the silver sector, and the persistence of dual price and wage structures have to be taken into account. It also seems that issues material to the Great Divergence debate should include changes in technology, not only of industrial production but also trade and navigation. South Asia seems to have lost out particularly on the latter count from 1500 onwards.⁶⁰ Any comprehensive comparison of the two regions has to include as many variables as possible and they have to be integrated within a framework. Prices, wages and income have to be read along with transaction costs and the ability to earn profit from multilateral trade by using violence and extra-economic means.

⁶⁰ For the Middle East see the perceptive essay of Charles Issawi, 'Europe, the Middle East and the Shift in Power: Reflections on a Theme by Marshall Hodgson', *Comparative Studies in Society and History* (1980), pp. 487-504.