Transcontinental Trade and Economic Growth in the Early Islamic Empire: The Red Sea Corridor in the 8th-10th Centuries

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The question of why and how sustained economic growth occurs in historical societies is most frequently studied in relation to the European model, otherwise known as the 'Rise of the West', the only model to have been studied in detail so far.[1] The debate continues over why western Europe forged ahead and remained so consistently, while other societies, including eastern Europe, were unable to stage their own 'rise' through intensive growth, maintain it consistently once it occurred, or indeed successfully emulate the European model. On the other hand, there is a mounting feeling of dissatisfaction with the notion of exclusiveness and uniqueness which accompanies the debate about 'The Rise of the West/Europe'.[2] Those who study non-Western societies suggest that alternative interpretations and comparative studies of economic growth do exist and should be looked at, rather than simply accepting the European model at its face value. Such calls for the study of "… causes of economic progress whenever and wherever it has occurred…" are made, most frequently, in the pages of the *Journal of the Economic and Social History of the Orient*.[3] To date, no Islamic example has been suggested for study in the context of economic growth, probably because, unlike Asian economies, which are currently a site of economic growth, contemporary Islamic societies do not inspire such images.[4] John Hall summed it up:

> *"The cyclical [nature of the] state in Islam was unstable, and this affected the economy in two ways. It was arbitrary and predatory enough to interfere directly in the market, with the workings of justice and the autonomies of cities. On the other hand, government was weak. Land went out of circulation with a corresponding loss of tax revenue and a limitation on the number of state servants it was possible to recruit."*[5]

How could the economic history of one of the world's greatest civilizations be reduced to such an abysmal record?

In fact, an example, or 'case', of Islamic economic growth occurred in the Abbasid Empire in the period between the 8th and 10th centuries AD, and this deserves our attention.[6] Though it proved neither robust nor sustainable in the long term, it surely qualifies as a 'trend' or a 'cycle' in historical economic growth.[7] Several long-term factors brought about a series of changes in the key economic components of the empire: an increase in monetary supply and circulation; the development and elaboration of state fiscal institutions with an efficient system of tax collection; the creation of legal institutions to uphold property rights; demographic growth resulting from both internal population growth and the importing of slaves; increased output in the manufacturing sector as a result of increased division of labour; and finally, an increased volume of trade, efficient markets, commercial techniques and development of credit tools. It is the trade component that will concern us here, since it presents us with an element that is variable in a comparative context – the element being the role of intercontinental trade in economic growth.[8]

A short introduction and a definition of Islamic trade in the period from the 8th to the 10th centuries, is necessary first.[9] The definition of Islamic trade in this paper is comprehensive; it includes both international and inter-regional movement of goods by Muslims and non-Muslims to and from lands under Islamic rule and the use of maritime and overland routes. Although the political unit considered in this paper is that of an empire, regional economies also play an important role. In terms of institutional arrangements, there is no difference between an Islamic region and an Islamic empire except for scale. Both share the premise of an 'Islamic system' with distinct and recognisable legal, political, social and economic institutions of trade. Three chronological cycles can be observed in the history of medieval Islamic trade: the 8th-10th, 11th-13th and 14th-16th centuries AD. Each demonstrates changes in the economic fundamentals of their political units and institutions, in the global conditions affecting precious metals and transport system, and in the sources which we use to study them. Any study of the economic history of Islamic trade in the 8th-10th centuries suffers from a serious handicap in comparison with later periods: it lacks archival documentation, although the Egyptian papyri and recently discovered legal documents from Central Asia fill in some of the

1. Most recently Acemoglu *et al*. 2005, an important paper on the Atlantic trade and its influence on institutions as an economic growth factor.
2. Among the collected studies dealing with these and related questions, see Baechler *et al.* 1988; Jones 1988.
3. Hence with *JESHO*. See Goldstone 1993: 104-119.
4. In fact, the institutions affecting Islamic economic performance have been singled out in recent literature as the causes impeding economic progress in Islamic societies. See Kuran 2003: 414-446.
5. Hall 1988: 29.
6. The nature of these modifications and the way they occurred is the subject of my current research project, nearing completion.
7. Goldstone 1993: 116.
8. For comparative aspects, see McCormick 2001; Findlay & O'Rourke 2007: 71-73. This last work in particular highlights several historiographical debates that have the question of maritime commerce as their focus.
9. See Shatzmiller 1995. For a critical review of the current views of Islamic trade, Shatzmiller 2007.

gaps.[10] As a result we lack the numbers needed for quantification,[11] depriving us of quantitative studies and analyses based upon them. Lumping the cycles together, and the general failure to link Islamic trade to the economic factors that fed it – productivity, the division of labour, demographics and manpower distribution, money and capital – produce dubious interpretations.[12] In the past, qualitative studies of Islamic economic history were also subject to methodological diversity and disagreement, with Cahen advocating close reliance on texts, and Lombard favoring sweeping generalizations.[13] On the other hand, mutual ignorance among Islamic and European economic historians of each other's work led to ignorance of economic theory among the Islamists, and ignorance of Islamic history among the generalists.[14] The lack of econometric applications has resulted in an image of permanency, or one-dimensional linear progress and a literature which is fragmentary and, in the final account, misleading.

Islamic Silver on the Transcontinental and Maritime Routes

The large number of Islamic silver dirhams found in hoards along the northeastern trade routes in Russia, Sweden and the Baltic, are a strong indication of an intensive Islamic trade with this part of Europe, and a conspicuous sign of an abundance of specie and monetary circulation in Islamic lands and on commercial routes especially for the purpose of trade. The Northeastern hoards have been known and studied intermittently over the last hundred years, but their significance for economic history has only recently became evident. Noonan, a historian of medieval Russia, initially studied the content of the hoards in terms of the origins of state formation in Russia, and the role of trade in the founding of both Kiev and Novgorod by the Vikings, but quickly realised that the story of Islamic dirhams in Northern Europe was bigger than simply that of its ramifications for Russian history.[15] While he was unable to translate the numismatic evidence into economic parameters, Noonan nevertheless set out to study the dirhams systematically, and to catalogue them, estimating Islamic mint production in the cities, and the rhythm of their diffusion along the overland routes.[16]

Based on the finding of 1,212 hoards, minted by 273 individual mints, an estimated half a million dirhams were deposited in Europe. The hoards contained coins minted in a wide range of regional mints from Morocco and Ifriqiya, Basra, Kufa and Baghdad in Iraq, to Rayy, Isfahan, and Sistan in Iran, and to Transoxiana, Balkh, Samarkand and Shash, as well as in Armenia. Most of the coins (81% of them) were retrieved from hoards outside the Islamic lands, usually in Northeastern Europe, while the rest came from hoards located throughout the Middle East, North Africa and Central Asia. The supply of money for trade with Northeastern Europe appears to have increased in each century, and the hoards were deposited in an accelerated rate, with each decade represented by at least one hoard, and eight of the ten by more than two.[17] While the earliest hoards of the 9th century (i.e. between AD 800-825) were composed of North African dirhams, these disappeared from AD 825 onwards and the rest of the century was dominated by dirhams struck in Iran and Iraq, and – most importantly, as the legends on the coins reveal – in Central Asia and Transoxiana. That this region was driving the Northeastern overland trade is shown more prominently in the 10th century: the quantity of dirhams increases by 75% over the previous century. All the dirhams were minted in the Samanid mints of Samarkand, Bukhara, Shash and Balkh, and this was clearly a priority for the state. The peak of dirham exports occurred in the first decade of the 10th century, with a constant flow of 16,125,000 dirhams for each decade until the AD 940s, after which exports declined to 10,250,000 dirhams for each decade until the AD 970s.[18] Noonan suggested that 125,000,000 whole dirhams, each weighing 3 g, were transported from Central Asia to northern Europe during the course of the 10th century.[19] Some 80% of them were struck in Central Asia, compared to just 70,000 dirhams that came from the Near East. The short interval between minting and depositing indicates the higher intensity of exchange.[20] The cycle ended with the slow disappearance of silver hoards in northeastern Europe, which came to an end in AD 990.[21]

10. For papyri: Frantz-Murphy 1981, 2007; Central Asia: Khan 2007.
11. In comparison, statistics are available for the modern Middle East and thus allow for the study of economic growth in the 19th and 20th centuries. See Pamuk 2006.
12. See the general literature on the subject: Heck 2006; Spuler (*ed.*) 1977; Richards (*ed.*) 1970; Cook (*ed.*) 1970. See also my forthcoming review in *Der Islam*.
13. Cahen never concealed his reservations concerning the lack of Arabic sources in Maurice Lombard's works. He wrote: "Certes, avec l'imagination et l'audace qui le caractérisaient, celui qui aurait normalement dû être à ma place, Maurice Lombard, aurait construit quelques vastes hypothèses ou posé quleques grosses questions: je n'ai pas le même tempérament, et si de telles constructions peuvent avoir force stimulante, c'est naturellement à condition d'être édifiées à partir de la documentation existante et considérées comme cadre et lignes directrices de recherche, non comme en dispensant." (Cahen 1970: 179; see Lombard 1975).
14. So far no Geniza scholar has made reference to Greif's seminal work (1989), based on the Geniza documents.
15. Noonan 1986; Hellie 1999. For Noonan's bibliography see Kovalev 2001.
16. Neither Islamic copper nor gold coins are represented in the northeastern European hoards. See Noonan 1974. For a map of the *Approximate Locations of ninth-century dirham hoards from European Russia*, see Noonan 1981: 57.
17. On the 9th century hoards see Noonan 1982, 1986a, 1990; Rispling 2007.
18. Noonan 2001: 215.
19. Noonan 2001: 206. Noonan's numbers vary considerably, and we should wait for publication of the catalogue in order to have reliable quantification: in the meantime, these numbers are used qualitatively.
20. Noonan 2001: 203-204. On the 10th century hoards in addition to Noonan 2001, see the discussion surrounding four Samanid mints in Kovalev 2002-2003, 2001a; Noonan & Kovalev 2002: 163-73.
21. Noonan 2001: 206.

The supply of precious metal came from Islamic silver mines, and was equally spread between Morocco, Armenia and Central Asia.[22] Baghdad, Kufa and Basra probably received their silver from Yemeni mines, which were reported to have produced enough silver to mint 20,000 dirhams per week (about one million dirhams per year), during the 8th-10th centuries, using 3.1 tons of silver in total.[23] Basra minted silver from AD 647, and continued to issue dirhams almost continuously until AD 960. However, the mint there ceased production for two hundred years from the beginning of the 11th century.[24] Clearly, the richest mines were the Panjhir mines in the Hindu Kush mountains.[25] Even though these had already been exploited in pre-Islamic times, the Panjhir mines were not showing any sign of exhaustion, since 375,000 kg of silver would have been required to produce the dirham hoards of the 10th century.[26] Some of the silver must have been minted at the mine site itself, if we take *al-maᶜdin,* the Arabic term for a mine, to indicate the location. But most coins were minted in two-dozen primary and secondary mints, with Samarkand remaining the most productive one, and others in Shash (Tashkent), Balkh, and Bukhara.[27] Because the Panjhir silver has an extremely low presence of gold and copper, it is easily recognisable in the hoards.[28]

The location of the hoards helps us to map Islamic transcontinental trade routes.[29] In the 8th century, both Muslim and Viking traders transacted their business in Baghdad itself. Later, merchandise moved via the Caucasuses, around and through the Caspian Sea, with the Khazar kingdom taking on a leading role as an intermediary and exchanges taking place in frontier towns like Itil, the Khazar capital. During the 9th-10th centuries, the routes shifted eastward and through the Volga Bulghar territories, but never too far from the Islamic border. Muslim traders travelled short distances inside Russian territory, but never far away enough to increase their transaction costs, which remained low. Transport took place in river boats or camel caravans. The short interval between minting and depositing indicates that Samanid dirhams were transferred directly between the Islamic and Russian territories. The 'Samanid' merchants of the 10th century may well have been Islamised Sogdians – Persian merchants who were involved in the great transcontinental trade through the Zarafshan Valley network, which continued to link China and Baghdad, as had the trade with Northeastern Europe in the pre-Islamic Sogdian period.[30] A slow migration of Sogdians towards Baghdad in the years immediately following the inauguration of Abbasid rule in AD 750 is confirmed in Baghdad by the existence of quarters and markets bearing the names of Sogdian cities.[31] The Islamic silver paid for furs, slaves, forest products and swords, but no Islamic goods were sold, at least none of significance. Furthermore, none of the Vikings, Khazars or Bulghars had economies whose infrastructure would enable them to absorb Islamic dirhams. None had a monetary system, minted coins, or had markets for luxury or household Islamic goods, all of which explains the high degree of hoarding. The condition was equally true for the Baltic regions, which were beneficiaries of the 'second hand' trade.[32]

Unlike Baghdad, the Carolingian economy did not have an intensive monetary circulation or sufficient specie to supply the markets.[33] Islamic trade with Western Europe was probably non-existent for all intents and purposes, as is indicated by findings of Islamic coins there.[34] Unlike the Northeastern hoards, the majority of coins deposited in western Europe at the time were probably lost coins, and in many cases these appeared in hoards together with Byzantine coins. Trade with the Islamic East was not direct, and the depositing patterns indicate movement up the rivers and across the mountains from the Mediterranean coast. The hoards found along the overland routes leading from Muslim Spain to France and dating from between AD 692/4 and AD 844/5 show only 22 coins in all metals, reflecting the low number of coins minted in al-Andalus at the time.[35] Limited monetary circulation is reported in Morocco, too, with linen being used instead of money in commercial transactions.[36] Some of the other coins were struck in Ifriqiya between AD 715-820, with two dinars in the group, one from Ifriqiya, the other unidentified. A single hoard of silver dirhams was discovered on the northern border of the Carolingian Empire. These dated from the late 9th or beginning of the 10th centuries, and were of eastern provenance, having travelled along overland routes. The current view among European historians that the Islamic lands bought large

22. Rosenberger 1964; Eustache 1970.
23. Al-Hamdani (d. 945); cited by Kovalev & Kaelin 2007: 9.
24. Lowick 1974: 319.
25. Noonan 2001: 210.
26. Lowick 1988. Noonan (2001: 209) called the trade "gigantic" and "probably the largest in all 10th century western Eurasia", in terms of silver deposits.
27. Kovalev 2002.
28. As a result, it will be easy to determine through chemical analysis whether the Carolingian deniers were minted of Islamic silver, and thus settle the question whether Islam played a role in the Carolingian renaissance. See Bolin 1953.
29. See Table *Spatial Distribution of Hoards and Dirhams from Macro Regions* in Kovalev & Kaelin 2007: 4.
30. Vaissière 2002: 290.
31. Vaissière 2002: 279-81.
32. Because of the Viking connection, the Islamic dirhams are referred to in some publications as 'Viking dirhams'. See "Viking" dirhams in Spufford 1988: 65-73, and Findlay & O'Rourke 2007: 73-80.
33. On the slow development of monetary circulation in Western Europe, see Spufford 1988.
34. McCormick 2001: 346; see also Noonan 1980.
35. Noonan & Kovalev 2000; McCormick 2001: 344.
36. Picard 1997: 45-46. Against all economic theory, Picard does not believe that the lack of monetary circulation on both sides of the Strait of Gibraltar hampered commercial exchange.

numbers of slaves from Western Europe still needs to be substantiated from Islamic sources.[37]

The large quantity of Islamic silver that went into the Northeastern trade stands in contrast also to the quantity of coins left by Islamic maritime trade along the Indian Ocean. Sind province did not mint any gold or silver coins in the 9th century, but excavations in Daibul/Debal, Sind, have revealed both Umayyad and Abbasid coins from the Caliphate, including silver dirhams (with the latest datable coin dated to AD 907) and one single Abbasid gold dinar.[38] Finds of copper coins minted with the name of the governor of Daibul show that copper was used in local transactions, but that it was not sufficient for inter-regional or international trade. Most probably Daibul did not have its own mint, either because it did not have access to silver bullion, or because it had a limited economy which did not require more advanced monetary exchange. Deyell suggests that the Arab amirs of Sind lacked a sufficient revenue base to control the region's monetary system, but that commercial activity to the East made up for the chronic shortfall by resorting to the readily available coinage of the neighboring Hindu Shahi kingdom. The Shahis, like the Samanids, exploited the Panjhir mines, and were in control of the region of Kabul, drawing revenue from the constant caravan trade passing to and from Khurasan. The Shahis' silver coinage was of a high and consistent quality, and was minted in huge quantities: like the Samanid silver, it was traded with confidence far and wide. The quantity of Shahi silver money circulating in the hinterland is estimated to have been between 400 million and 1 billion in the last quarter of the 10th century – larger than that of the Samanids.[39] In the 10th century, trade shifted into the interior and, as Deyell concluded, "A general decline of sea trade between the Persian Gulf and India is remarked for this period."[40] Multan, located well in the hinterland, became a depot for the caravan trade to Khurasan. The silver dirhams minted there during this period were found in the interior, in the region of Marwar, indicating that intercontinental and interregional trade was overland rather than maritime. As in the case of the Samanids, silver disappeared from circulation in the Indian Ocean in the year 1000.

Islamic trade with China in the 8th-10th centuries, whether maritime or terrestrial, left no traces of coins, but is not marginal to the focus of this paper. There is a large body of evidence about trade between the Abbasid Empire and its contemporary, the Tang dynasty, even though important caveats remain. Chaffee, writing about Muslim maritime communities in China, begins his survey in the 11th century because the sources are more abundant", but he believes that trade between the two empires took place in earlier centuries as well.[41] Both Schafer and Twitchett provide a detailed description of that trade, based on both Arabic and Chinese sources.[42] All three agree that the Abbasid-Tang trade relied on dangerous but direct sea voyages from the Persian Gulf to China, with Chinese ships anchoring at Oman, Bahrain and Siraf, Ubulla and Basra, and "Persian being the *lingua franca*" of the South Seas. However, the three centuries of the Tang Dynasty, which partly corresponded to Abbasid rule of the 8th-10th centuries, were a mixture of periods of security and of rebel attacks on the Tang trading cities, with infrequent monetisation.[43] Minting of coins in copper – the only metal used – was of short duration. There was a ban on exporting the coins, and taxes were collected in both kind and coins, although the 8th century saw the first appearance of the letter of credit, normally a sign of invigorated monetary circulation: in the 9th century this became a monopoly of the government.[44] While markets for Chinese imported luxury items were found in Baghdad, the lack of monetary evidence makes it difficult to gauge the direct impact of this trade on the development of the Abbasid economy.

Minting activity along the Persian Gulf coast was much more animated in comparison to Indian Ocean sites, reflecting the fact that the port cities there belonged to a different economic orbit. Lowick concluded that a peak in minting activities in the Gulf occurred during the mid-9th century when luxury goods from India, China, and Africa passed through it to the markets of Baghdad.[45] We may accept Lowick's assumption that these coins were used to pay for imports, but they also indicate a brisk local economy. In addition to the maritime imports, the towns on the Gulf coast also benefited from the fact that the caravan routes from the interior ended there, and those merchants could purchase items destined for the luxury markets of the north. The goods brought back along the maritime routes during the 8th-10th were also small luxury items, such as perfume, pharmaceutical goods, sapphires, ivory, ebony, pearls, camphor, aloe, pepper, building materials and manufactured goods, brazil wood, teak and sandalwood, iron, lead, silk brocades, and glass.[46] Without more detailed information about the goods that arrived from the interior for export to India, one hesitates to suggest that these export goods consisted of more than the dates and pearls produced in the Persian Gulf. Siraf, on the coast of Fars, was a terminus of the caravan route from the interior and the first

37. McCormick 2001: 252**.** On the debate over whether the extensive monetary power of the Muslims to purchase slaves from Europe brought an end to European slavery, see Bonnassie 1991: 1-60.
38. Deyell 1999: 44-50.
39. Deyell 1999: 57.
40. Deyell 1999: 46.
41. Chaffee 2006: 397; Agius 2008: 67, 77.
42. Schafer 1963: 12, "Persian was the *lingua franca* of the Southern seas, as Sogdian was the *lingua franca* of the roads of Central Asia"; Twitchett 1970.
43. Schafer 1963: 11-14.
44. Schafer 1963: 280, n. 13. Twitchett 1970: 72-74. The Chinese model needs to be added to the list of models available for the development of the Islamic *suftaja*. A chapter on credit tools will be included in my study on the economic growth of the Abbasid Empire.
45. Lowick 1974.
46. Agius 2008: 85-87.

port of call for ships from India. But as in Daibul, the local mint produced lead coins for local transactions. All the silver coins from Siraf belong to the Buwayhid period and stop in AD 992, after the town had been greatly damaged by an earthquake in AD 977. The port of Huza struck silver in AD 949-960 and Janaba, another port city that had gold and silver coins minted during the same period, was also a terminus of the caravan road from Shiraz. Oman, which did not mint locally in the period, struck gold and silver coins in the 10th and 11th centuries.[47] A hoard of 10th century dirhams found in Ra's al-Khaimah contained mainly Samanid coins, with a "sprinkling of Buwayhid and other Persian coins", confirming the link with Samarkand.[48] Until the 11th century, minting activities in the Gulf ports responded as much to the intense commerce of the intercontinental routes as they served the maritime trade, but with the disappearance of the caravan routes from Khurasan, minting there also decreased and disappeared. As for the Red Sea, Lowick, reflecting on the lack of Islamic coins minted in the port cities there, concluded that "maritime trade gravitated towards Aden and the Red Sea only when Cairo came to overshadow Baghdad."[49] Cahen also insisted that the Red Sea route to India lost its importance in the earlier centuries, ceding its place to the Persian Gulf and the land route.[50] However, transport through the Red Sea, including shipment of commodities and certainly of food items, must have existed, albeit on a limited scale, if only for the simple reason that Mecca had to be supplied and pilgrims had to be transported. However, explicit information about any intensive maritime trade there in the 8th-10th centuries is lacking.[51]

In conclusion, based on the numismatic evidence, there was more money circulating along the terrestrial routes than along the maritime trade routes with India and China. One interpretation of this finding may be that more money survived there because the trading partners could not use it in their own economies, and that the same amount of coin was circulating along the maritime routes but did not survive. A more reasonable interpretation would be that this is a reflection of scale. The large numbers of Islamic coins left along the intercontinental land trade routes indicate an intensive trade there, the existence of markets and monetary circulation and state intervention in making sure that coin was available for that particular trade, as substantial gain was generated both for individuals and for the Islamic state. The Northeastern hoards show a cycle of growth and relative decline: The 11th century signals the beginning of the "silver famine" in the Islamic lands, which lasted until silver began to arrive again, this time from Europe.[52] Before that, beginning with the Umayyads in the 7th century, but especially from the 9th century, specie and bullion seem to have flowed uninterruptedly along the transcontinental routes.[53]

Manufacturing along the Overland Trade Routes

The monetary evidence left along the northeastern intercontinental trade routes has its dimension in the manufacturing sector as there was a direct link between this trade and the manufacturing capacities and the markets. For instance, minting more money created demand for more miners, minters, changers, transport workers, and tax collectors. A rise in employment, and possibly in wages, increased the amount of money in the hands of individuals for spending on luxury items, and for state revenues from taxation. The items that came through the Northeastern trade – slaves and furs – also played a significant role, enabling the use of slaves as additional manpower, and of furs as coats and trimmings manufactured by the textile industry. These instances – two of many links between trade and economic growth – are corroborated by evidence for the manufacturing industries found in the Islamic towns along the trade routes. A glimpse of these industries is provided by a 10th century list, compiled by the geographer al-Muqaddasī, of items exported from the towns in the region of Khurasan-Transoxiana, some of which are known to us from the numismatic evidence described above:[54]

> *"As for commerce, in **Naysabur**, 11 different items of clothing and garments, including veils and turbans, all made of expensive cloth, sometime silk, sometime plain cloth as well as bracelets, clothing of hair of superior yarn, iron. From Naysabur's rural districts, much thick clothing.*
> *From **Nasa** and **Abiward** silk and silk clothes and clothes of Zanbaft, sesame and its oil, fox fur.*
> *From **Tus**, superior earthenware pots, mats and grain;*
> *From **Harat**, much cloth, silk brocade of inferior quality, taffeta, raisins, syrup, steel, pistachios and confections;*
> *From **Marw**, garments, veils of silk, silk, cotton, cattle, cheese, cottonseed oil, sesame oil, copper;*
> *From **Sarakhs**, grain and camels;*
> *From **Sijistan**, dates, woven baskets, ropes of bast, mats;*
> *From **Quhistan**, white clothing, rugs, fine dates;*
> *From **Balkh**, sesame, soap, rice, walnuts, almonds, raisins, dried grapes, clarified butter, honey from grapes, figs, pomegranates, vitriol, sulphur, lead, yellow herb, arsenic, incense, armour, garments, oil, fat, skins;*
> *From **Garj al-Shar**, gold, felt, fine carpets, saddlebags, excellent horses and mules;*
> *from **Tirmidh**, soap, asafetida [a natural resin];*
> *From **Walwalij**, sesame, sesame oil, walnuts, almonds, pistachios, rice, chickpeas, coverlets, cheese, clarified butter, horns, fox pelts;*

47. Stern & Bivar 1958.
48. Lowick 1968. Lowick conjectured that the hoard belonged to a carpet trader from Shash (Tashkent) journeying on his way to India in 370 AH, who was barred from using the land route by the Turks.
49. Lowick 1974.
50. Cahen 1964.
51. Agius quotes the geographer al-Ya'qūbī, (died c. AD 891-2), saying that merchants in the port of Qulzum in the north supplied the Hijaz and Yemen, though it is not clear what was transported. Agius 2008: 96.
52. The subject of the Islamic silver famine requires further study *vis-à-vis* Fatimid trade in the Indian Ocean and Mediterranean. In the meanwhile see Watson 1967.
53. Noonan 1986a. The methodology used by Noonan allowed him to estimate mint production only in yearly comparative terms.
54. Al-Muqaddasī, 285-288.

*From **Bukhara**, soft fabrics, dried dates, prayer carpets, woven fabrics for covering the floors of inns, copper-coloured lamps, hanging Tabari tissues, horse girths (which are woven in prisons) Ushmuni fabrics, tallow and sheepskins, oil for anointing the head;*
*From **Karminiya**, napkins;*
*From **Dabusiya** and **Wadhar**, Wadhari fabrics which are dyed in one colour. I have heard that one of the sultans of Baghdad called them the satin of Khurasan.*
*From **Rabinjan**, winter cloaks of red felt, dried dates, prayer-carpets, pewter ware, skins, strong hemp and sulphur;*
*From **Khorezmia** [Khawarazm], sables, squirrels, miniver, ermines and the fur of steppe foxes, martens, foxes, beavers, spotted hares and goats, wax, arrows, birch-bark, high fur caps, fish glue, fish teeth [i.e. walrus tusks], castoreum oil, amber, prepared horse hides, honey, hazelnuts, falcons, swords, armour, khalanj [birch] wood, Slavonic slaves, sheep and cattle. All these came from Bulghar. Khorezmia also exported jujubes, raisins, almond pastry, sesame, fabric of striped cloth, carpets, blanket-cloth, satin for royal gifts, veils of malham fabric, locks, Aranj arrows for bows that only the strongest could bend, rakhbin (a kind of cheese) yeast, fish, boats hewn and smoothed (the latter also exported from Tirmidh).*
*From **Samarqand** is exported silver-coloured fabrics [simgun], and Samarqandi stuffs, large copper vessels, artistic goblets, tents, stirrups, bridle-heads and straps;*
*From **Dizak**, fine kinds of wool and woolen clothes;*
*From **Banakath**, Turkistan fabrics;*
*From **Shash**, high saddles of horsehide, excellent quality quivers, tents, hides (imported from the Turks and tanned), cloaks, prayer carpets, leather capes, linseed, fine bows, needles of poor quality, cotton for export to the Turks, and scissors;*
*From **Samarkand** again, satin which is exported to the Turks, and red fabrics known by the name of mumarjal, sinizi cloth, many silks and silken fabrics, hazel and other nuts;*
*From **Farghana** and **Isfijab**, Turkish slaves, white fabrics, arms, swords, copper, and iron;*
*From **Taraz** [Talas] goatskins;*
*From **Shalji**, silver;*
*From **Turkistan**, horses and mules are driven to those places, and also from Khuttal.*
*There is nothing to equal the meats of **Bukhara**, and a kind of melon they have called ash-shaq [or ash-shaf], nor the bows of **Khorezmia**, the porcelain of **Shash** and the paper of **Samarqand**."*

This list provides the names of cities and their specialised products of textile, leather, metal, drugs, food, building, glass, both luxury and everyday items, which were distributed along the transcontinental land routes. It does not state exactly where the items went, but the impression we get is one of mercantile activity everywhere along the routes linking these towns. For instance al-Muqaddasi named Khorezmia as the origin of the items imported from Russia, but it is understood that Khorezmia was only the point of entrance, and that from there they were distributed to secondary markets. Furthermore, the items manufactured testify not only to the existence of markets, but also to the existence of sophisticated labour organisation, enabling a considerable productivity scale and a corresponding degree of efficiency. I have studied elsewhere[55] the developments in labour organisation and specialisation which made this extensive manufacturing feasible, so they need only to be mentioned here briefly.

In my study of labour organisation I relied on a methodology used for the study of division of labour, known as Occupational Classification in Economic Sectors, which uses quantification of trade names as indicators. Division of labour is a mechanism for increasing market volume without requiring a major technological change, even though Islamic rural and urban manufacturing were not devoid of new and improved technologies, as were commercial techniques.[56] The premise of the study was that the numerical relationships between sectors and trade names represent a reliable indicator of the degree of division of labour, and will allow a measuring of the size of the labour force engaged in each.[57] These findings allowed me to establish that a high degree of division of labour was prevalent in many sectors, which would explain the existence of manufacturing surpluses for the purpose of export and trade. Furthermore, the arrival of Islam in the Middle East equally coincided with, or caused, the elimination of slave labour in the agricultural sector, and brought more efficiency and rationalisation to this sector, something that also contributed to higher output.[58] Transport lines are the blood lines of cities, and maintaining regular communications between them was crucial to trade activities, demonstrated in the development of both the mercantile and transport sectors, and reflected in the 233 or so commerce-related occupations which were recorded, showing that about 50% of the city's labour force was engaged in services.[59] Along with the increase in manpower and increased agricultural output in response to the demand for raw material came the increase in division of labour in trade-related activities. Besides the trade names referring to merchants, the commercial occupations include those selling raw materials grown, extracted or gathered in the countryside and brought unprocessed into the city; breeders and sellers of pack animals; makers of saddles and bridles; middlemen differentiated according to their location in the markets; specialised commodities; and keepers of inns and *funduqs*. Efficient trade organization stimulated and expanded the industries through the creation of new markets or the enlargement of existing ones.

In addition to the supply of raw materials, trade clearly provided finished goods and luxury items in response to local

55. Shatzmiller 1994. Based on Arabic literary sources, this is a quantitative and qualitative study of labour organization and division of labour in comparative context.
56. Al-Hassan & Hill 1986.
57. Shatzmiller 1994: 167-254.
58. Discussion of several innovations in the irrigation system in Watson 1985: 103-112.
59. Shatzmiller 1994: 259-75, and chart on p. 215.

demand. A good example is what happened in the Samanid capital, Bukhara, where manufacture in large numbers of 'luxury' items for everyday use has been documented.[60] In this manner trade was instrumental in the integration of the rural and urban economies.[61] With a regular and increased supply of money, overland trade and its markets became efficient, and catered to a growing class of consumers in the towns. Trade also brought with it increased personal wealth and state income. As the size of their industries and demand for their products grew, merchants, transport workers, textile workers and miners saw their numbers grow and their personal income increase. Occupations such as bakers, butchers and builders experienced rising demand for their skills and services in the towns where caravans stopped to unload their goods in the markets.

The contrast with the case of the trading partners to the north, referred to earlier, could not have been greater. Rus, Khazars and Bulghars did not have a monetary economy, and the Islamic silver, coined or bullion, failed to stimulate their economies to the point where elite markets for Islamic goods could be created, or consumption on the part of the general population could develop.[62] Thus, one could argue that the transcontinental trade was actually in negative balance for the Islamic economy, because the Muslims imported northeastern luxury items and paid for them in cash – the silver dirhams – without exporting any manufactured goods or raw materials of their own. However, the fact that the Northeastern trade continued uninterrupted for three hundred years indicates that the markets on both sides saw it as beneficial.

Maritime or Terrestrial:
Models of Trade and Economic Growth

> *"The rise of Western Europe after 1500 is due largely to growth in countries with access to the Atlantic Ocean and with substantial trade with the New World".*[63]

This statement, which introduces a recent article, sums up a consensus of many publications dealing with the economic records of nations with access to maritime transport. The Atlantic Ocean states, Britain, France, the Netherlands, Portugal, and Spain trading in the 18th century,[64] and others in the 13th century Mediterranean,[65] benefited from that maritime trade for economic growth. Nonetheless, a closer look reveals that not all participants in the European Atlantic trade displayed the same rate of economic growth, and that the Atlantic trade on its own did not have sufficient impact on the economy to explain the economic growth. The authors of the article quoted above seek to enlarge the frame of inquiry by including a new qualifier – changes in political institutions that led to more efficiency and a more benevolent attitude at home to trade and traders. In other words, economic growth occurred in Atlantic port cities because of altered institutional arrangements, such as the introduction of checks on the monarchy, and security for merchants and their property rights. While the role of institutions in economic growth has been agreed upon – it found another application for itself, demonstrated and argued in this article – it is clear however, that access to the Atlantic Ocean alone would be a simplistic answer to a complex process. This is perfectly obvious to any Islamic historian who ponders the fate of Morocco, a nation which certainly had access to the Atlantic coast, but lacked many of the other components found in Europe.[66]

A different model highlighting maritime trade is suggested by Chaudhuri's adaptation of the Braudelian model of Mediterranean trade for the Indian Ocean. This study directly involves an Islamic component.[67] Chaudhuri explains the rise of the Indian Ocean system through political events and cultural transformations. He compares the dynamics of the accession of the Tang Dynasty in China in AD 618 with the rise of Muhammad in the Hijaz from AD 622.[68] The two cultural processes that followed – 'Sinicisation' and Islamization – affected the food, religious beliefs, and political behaviour of the trading partners, including the disruption of existing Arabian/Middle Eastern overland trade routes and the reconstitution of new ones around maritime parameters. The importance given to the cultural identity of the trading partners in this model presents some problems of historical accuracy, since the 'Islamic' partners in Indian Ocean trade – in particular those trading with the west coast of India – were not Arabs or Muslims, but actually Persians, with a Persian cultural identity. Conversion to Islam in Persia did not peak before the middle of the 9th

60. See the magnificent collection of Samanid glass in the L. A. Mayer Islamic Art museum in Jerusalem. Hasson 1979.
61. A demonstration of the integration process is provided by textile merchant/entrepreneur in Egypt, where the textile production was already at high level by the 8th century. The merchants who ordered textiles to be woven for them for the purpose of export, make sure that the locally grown raw material and the dyeing and tanning materials, such as indigo, sumac, and gall-nuts, were available in time.
62. The minting of imitation dirhams by the Khazars and Bulghars during the period when they were trading with the Muslims indicates attempts to initiate a monetary economy. Rispling 1990. On the state of the Khazar economy, see Kovalev 2004, 1998. I thank Dr Kovalev for making his thesis available to me. On the impact of the Northeastern trade and the silver dirham on the Carolingian economy, see Bolin 1953.
63. See Acemoglu 2005 and the bibliography quoted there.
64. Among the many works on the subject, see Tracy 1990; Elliot 2006.
65. Lopez 1971.
66. On this question, see my keynote address to the conference celebrating 1,200 years of the foundation of Fez held at Al-Akhawayne Univerity, Morocco, 9-11 October 2008. Entitled 'Marinid Morocco - Global Order and the Quest for Empire': forthcoming in the conference proceedings.
67. Braudel 1966; Chaudhuri 1985: xi-xiii, 1-6. In spite of criticism of Braudel's concept, historians have adopted it for the Atlantic Ocean as well as for the Indian (see Bailyn 2005). On the Indian Ocean and Islam see also Hourani 1995: 61-83; Risso 1995. On the organisation of ship building and trade in the Gulf, see Agius 2002, 2005.
68. Chaudhuri 1985: 34.

century and was not completed before the 10th century.[69] On the other hand, an Islamic cultural-identity component to the trade model is visible in another area – that of overland or intercontinental routes. Recent publication of legal documents discovered in Central and Inner Asian societies show an early adaptation of Islamic norms.[70]

However, the Islamic model of intercontinental trade and economic growth proposed here may benefit from a comparative perspective. A model for Europe's economic growth, highlighting the role of the overland trade routes in it, is offered by Van der Wee and Peeters in an article published in *Annales* in 1970.[71] These two authors observe that while the 12th, 13th and 16th centuries were indeed periods of global economic expansion, they actually corresponded to prosperous transcontinental European commerce. The 14th and 15th as well as (largely) the 17th centuries were periods of economic regression, characterised by a retreat, recession or decline in terrestrial European trade, but an intensification of maritime expansion. They concluded that the transcontinental trade provided economic growth by stimulating the growth of markets, productivity and the supply of raw materials in the towns through which it passed. The similarities with the Islamic case are numerous. The Islamic towns along the transcontinental routes benefited from the stimulus of trade in a way that certainly increased their prosperity. But more importantly, the trade benefited the Islamic economy as a whole. The Islamic port cities, with the exception of Basra,[72] could not respond to the stimulus of the longdistance trade in the same way, and did not become manufacturing centres or consumer markets. Rather they were shipping terminals, or processing warehouses for dates, fish and pearls. Most of these cities did not have an immediate agricultural hinterland or easy access to a regular supply of raw materials. More importantly, most of them lacked the manpower needed for manufacturing industries for environmental reasons. There are several mentions of textile manufacturing in Janaba on the Gulf coast, which as the geographer Ibn Hawqal notes, was famous for its linen garments and embroidery, something that Ubulla and Wasit also produced.[73] Even though al-Istakhri (d. AD 952) says that Sohar was the most populous and wealthy town in the Islamic World,[74] the lack of fresh drinking water along the Arabian coast put a severe restriction on its demographic growth.[75] Archeological digs in Sharma reveal that the city was built on the Gulf coast in the 11th century as a replacement for Siraf, and that it acted as a large warehouse rather than a fully-fledged manufacturing and administrative centre.[76] Local pottery found there testifies to the existence of a settlement that imported pottery or manufactured it locally for personal use, but not for commercial export. In conclusion, port cities had only limited potential for either manpower or industrial resources to have an effect on the development of export industries – at least not in the way the towns along the overland routes in the 8th-10th centuries had done.

The Red Sea Corridor

Such is the empirical and theoretical background upon which we should now examine the role of the Red Sea corridor. Its place in the Roman economy is of some relevance to the Islamic period as a historical precedent, since both Rome and the Abbasids may be viewed as two examples of imperial economies. Economic historians who study the Roman period ponder the question of trade in the economy, but do not relate it directly to that of economic growth. Bang describes an economic model comprising an enormous conglomeration of interdependent markets, which the Roman Empire, as an imperial state, had no choice but to leave to regulate themselves.[77] As for trade, a free trade policy meant that market formation was undisturbed by state-organised redistribution. Keith Hopkins' innovative approach to the Roman economy – "speculative", as he himself admits – argues that long-distance trade evolved as a result of the shift in monetary circulation in the empire, namely the conversion of tax payments by the provinces from kind to cash.[78] A similar evolution was apparent in the Islamic economy, and several centuries later in the European, but it is difficult to prove its existence in the Roman situation. The manufacturing scale of the Roman Empire remained limited, undermined by the lack of a division of labour and specialisation, and by markets fed only by wool and linen. In contrast to what we observe in the Islamic markets, demand was dominated by orders from the army, not consumer markets. Cloth was bought directly from the weavers. Spinning and carding were carried out by women in their spare time. Weaving was undertaken in small family workshops in villages and towns by a combination of a free labour force and slaves, with customers buying directly from the loom and doing the fulling by themselves. Neither Bang's nor Hopkins' models address the question of any surplus manufacturing capacity, a key factor in the Islamic situation. Moreover, as seen earlier, the limited organisation, division of labour and productivity of the Roman textile sector bears no resemblance to the intensive manufacturing activities of the Islamic one.[79] In terms of maritime trade, the nature of the goods carried through the Red Sea corridor did not vary much from those imported during the Islamic era. It included Chinese live

69. Bulliet 1979: 23.
70. Khan 2007. The documents, written on parchment and following Islamic law date from the mid-8th century. There has been a great deal of interest recently in the process of Islamisation and cultural colonization in Central Asia following the Islamic conquest. See Vaissière 2002; Tor 2007.
71. Van der Wee & Peeters 1970.
72. Naji & Ali 1981: 298-309.
73. Agius 2008: 68.
74. Different view in Agius 2008: 86.
75. Agius 2008: 90-95.
76. Rougeulle 2002; Agius 2008: 94-95.
77. Bang 2007.
78. Hopkins 1980.
79. On textile manufacturing in the Islamic city see Shatzmiller 1994: 240-249, and 347-368 on women's share of the textile industry.

animals, furs and hides, ivory, pearls, mother of pearl, precious and semiprecious stones, lacquered dye, silk, pepper, cinnamon, cardamom, cloves, spikenard, nutmegs, indigo, cotton and precious woods. The Roman Empire favoured overland communications for the sake of their armies and their transport, and our ability to gauge a rise in per-capita income is limited. If the Red Sea trade had a beneficial effect on the economy, it was in a regional context. Indeed, Young, writing on Roman trade with the East, concluded that "...in spite of the decline of trade in the 3rd century, it could not have but contributed to the overall prosperity of Roman Egypt; to what extent, however, it is very difficult to say."[80] The economic development of Egypt during the 8th-10th centuries was quite substantial, and yet a role for the Red Sea trade has not been established. What fuelled Egypt's economy was the way in which the development of the textile sector contributed to increasing income for individuals, the local administration and the imperial treasury.[81] Any link to the role of Red Sea communications remains unsubstantiated. For Egypt, significant maritime trade begins in AD 996, with wood from Amalfi arriving in Egypt in Italian ships, and the first Geniza letter from the India trade appearing in AD 1097.[82] Egypt's taxes in money and kind moved along the overland routes, as did North African dirhams from the hoards of the 8th and 9th centuries.

Two reasons may be suggested for the prolonged decline in Red Sea corridor trade from Late-Antiquity to the 11th century: demographic decline; and the disappearance of monetary circulation in the Mediterranean lands during the three centuries preceding the Islamic conquest.

There is enough evidence to suggest a serious population decline in the regions along the Syrian coastal plains and the Jazira before the Islamic conquest.[83] The sources of this evidence include studies of the plague in Mesopotamia and Syria; archaeological studies, including that of the settlements far from the Mediterranean, around Baghdad; as well as reports on taxes collected by the Abbasid administration in this region. In addition, the response by the incoming Islamic administration – settling troops and tribes in the Palestinian coastal cities during the period AD 640-1099 and offering them land, buildings and employment, including in naval workshops – appears unequivocal. However, there is disagreement among scholars with regard to the degree of the economic decline in Late-Antiquity.[84] Bang and Magness, believe that Late-Antiquity was no less vibrant than previous periods, and that the province of Syria, along with Palestine and the Late-Roman flowering of North Africa, never did better than between the 4th and 6th centuries.[85] They present an image of land cultivated with greater intensity, proto-industrial villages or small towns in the countryside compensating for the stagnation of the cities, accompanied by technological "maturisation", namely not quite technological innovation but perfection of technical devices, an image which is in contradiction to the picture of the desolation of the Palestinian coast depicted by Arab chroniclers.[86] There is also strong evidence to suggest a decline in monetary circulation throughout the Byzantine Empire with the exception of Constantinople.[87] The revival of minting and circulation immediately following the establishment of the Umayyad Dynasty was an attempt to reverse the Byzantine decline and the act which set the stage for the Islamic economic recovery and growth beginning in the 8th century.[88]

In conclusion, the movement of goods and people along the Red Sea corridor may not have disappeared altogether, but its waning as an economic factor – in comparison to the role it would assume from the 11th century onwards – is symptomatic of, and comes in tandem with, an overall shift in overland intercontinental trade. This is not to say that maritime trade ceased entirely, but that its role in the economic growth of the 8th-10th century was relatively a minor one. That shift followed a change in the geographical location of resources, manpower, and precious metals, even agriculture, manufacturing and markets, from the Mediterranean to Central Asia, making the Khurasan/Transoxiana region a driving force. Wider monetary circulation and the development of manufacturing capacities in the towns of this region substantiate a link between them and the overland commercial routes, as a stimulus to the economy. General increases in manpower and money supply were not the only factors behind the trade stimulus, but they were fundamental to the operation of markets and to local manufacturing. More precisely, trade contributed to economic growth by its efficient distribution and allocation of resources, efficient organization of supply to market demand, raising personal income for traders, labourers and service people, and by raising state income through an increase in the taxes the state could collect. All these fed a demand for luxury items, brought along the maritime routes.

80. Young 2001: 89.
81. Discussing the economy of medieval Egypt in an article written in 1981, Gladys Frantz-Murphy writes: "Mounting evidence indicates that the economic prosperity of medieval Egypt may have hinged on the Egyptian textile industry. This is in conflict with the traditional view, which attributes that prosperity primarily to Egypt's passive role in East-West trade, i.e., transit trade." See Frantz-Murphy 1981: 274, 2007.
82. Goitein 1973: 177-179. On the entire economy of the Fatimid state, see Goitein 1967.
83. Elad 1982.
84. See references below.
85. Bang 2007: 15-16, "The province of Syria was probably never doing better than in the fourth to the sixth centuries." As well as the references he provides in note 28, p. 15. Magness 2003: 216. See a different opinion in Kennedy 1985.
86. Ashtor 1970: 170-72.
87. On Byzantine monetary circulation and trade in the 7th-10th centuries, see Laiou 2002: 697-736.
88. On the continued circulation and minting of coins immediately following the conquest, see Heidemann 1998. For the Umayyads, see Ehrenkreutz 1970. For the Abbasids, see Bates, M., "The Abbasid Coinage System, 833-946," posted on http://www.numismatics.org/collections/abbasid.html.

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