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The Maria Theresa dollar in the early twentieth-century Red Sea region: a complementary interface between multiple markets

AKINOBU KURODA
University of Tokyo

The riddle of why the Maria Theresa dollar (or Maria Theresa Thaler) issued by Vienna continued in circulation for over one and a half centuries in Africa and the Middle East, even though Austrian sovereignty never reached these regions, has never been fully explained. In the Red Sea region, in particular, the coin bearing the image of the empress Maria Theresa and the inscription of 1780, the last year of her reign, was still popular during World War II. Ethiopian emperors, the Italian colonial government, and the British army in turn attempted in vain to substitute their own currencies for the Maria Theresa dollar.

The 'mystery' of the Maria Theresa dollar's popularity has attracted the attention of a number of social scientists, including Max Weber and J. M. Keynes, as well as numismatic students and other contemporaries before World War II.[1] The most persuasive answer might be that the coin itself served as a guarantee of its silver content. In other words, although the effigy and the year on the coin seemed to matter to people in northern Africa and the Middle East, they must also have trusted its contents.[2] Its physical appearance was a promise of its material worth.

Those who had territorial ambitions in Ethiopia or the Red Sea region shared this interpretation and tried to substitute their own silver coins for the Maria Theresa dollar. First, in the 1890s, the Italians issued coins whose fineness was not lower than that of the Maria Theresa dollar. However, they soon found that their coins were not accepted for widespread circulation. The next challenger was a local ruler. Between 1897 and 1915, with the assistance of the Paris mint, the Ethiopian emperor Menilek attempted to introduce new coins in the manner Italy had. Even

[1] I wish to thank Gareth Austin, Jonathan Miran and anonymous referees for bringing to my attention numerous references and giving useful suggestions. M. Weber, *Wirtschaftsgeschichte* (Munich and Leipzig, 1924), p. 217; J. M. Keynes, *A Treatise on Money* , vol. 1: *The Pure Theory of Money* (London and Basingstoke, 1971), p. 12. H. G. Stride, 'The Maria Theresa Thaler', *Numismatic Chronicle*, 16, 6th series (1956).

[2] D. H. Robertson, *Money*, 4th edition (Cambridge, 1948), pp. 48–9.

the popularity of the emperor himself could not, however, popularise his coins, which were in no way inferior to the Maria Theresa dollar.[3] These and many other failures to replace the Maria Theresa dollar suggest that there was something in addition to its intrinsic value that encouraged people to accept the dollar.[4]

To some extent, even local rates of the Maria Theresa dollar were influenced by the international price of silver. As we will see in Section III, the long-term trend of the dollar's rate in terms of the pound sterling had a positive relationship with the fluctuation of silver prices in London. However, more important is the fact that, except for the period influenced by war and extraordinary speculation, local prices of the Maria Theresa dollar usually exceeded its intrinsic value in terms of the current silver price.

This overvaluation of the Maria Theresa dollar was the incentive for the Austrian government to keep issuing it for one and a half centuries.[5] The Red Sea region continued to attract the dollar at such high rates as to easily cover transportation costs from Vienna. The flow was completely unidirectional: it appeared almost as though large quantities of the dollar disappeared into the desert.

Thus the metallic value of this particular coin did not persuasively explain the strong demand it enjoyed in those districts. On the other hand, neither was political enforcement the origin of its popularity, as both native governments and colonial powers tried in vain to replace the dollar. Unlike the pound sterling issued by Britain before World War II or the US dollar after that, the Austrian dollar was by no means an international standard currency supported by a global hegemony. All in all, neither intrinsic value nor extrinsic pressure provides a convincing solution to the question of what caused the Maria Theresa dollar to be accepted: the mystery remains unsolved. Rather, the local usages of the coin bearing an empress effigy for ornaments and for dowry might lead us to interpret its popularity in a cultural sense.[6]

However, students as well as contemporary observers have failed to pay attention to one point. That is, the Maria Theresa dollar was not the sole currency in circulation but functioned in the region as one of several coexisting monies, alongside the Indian silver rupee, paper currency in Italian lire, salt bars (*amole*) and cloth.[7] Not only contemporary rulers but also researchers assumed the dollar to be

[3] R. Pankhurst, *Economic History of Ethiopia, 1800–1935* (Addis Ababa, 1968), pp. 479–82.

[4] Tschoegl noticed that the difficulty of replacing network externalities was more persuasive in explaining the durability of the Maria Theresa dollar than the stability of its silver contents, but did not make clear in what kind of network the dollar circulated. A. E. Tschoegl, 'Maria Theresa's Thaler: a case of international money', *Eastern Economic Journal*, 27.4 (2001), p. 454.

[5] After World War II Vienna resumed minting and continues to issue the coin. Between 1998 and 2001 nearly 60,000 dollars were struck in response to demand from coin collectors. These issuances are not the object of this study. C. Semple, *A Silver Legend: the Story of the Maria Theresa Thaler* (Manchester, 2005), p. 40.

[6] Semple, *Silver Legend* contains ample illustrations of ornamental usage; see especially pp. 92, 109.

[7] R. Pankhurst, '"Primitive money" in Ethiopia', *Journal de la Société des Africanistes*, 32.2 (1962), pp. 213–47.

substitutive for other monies. Consequently, they have not attempted to make clear if other monies could do what the Maria Theresa dollar could do and vice versa. In other words, the complementary relationship between monies has rarely been considered. However, herein lies a clue to the question posed at the outset of this article. The dollar alone could not mediate between buyers and sellers: it could work well only in association with other monies. The key to solve the mystery is the nature of the complementary relationship among monies in circulation side by side.

The wars in northeast Africa between Ethiopia and Italy after 1935 and between Italy and Britain after 1940 have left ample information on the relationship of the Maria Theresa dollar with other monies, as well as the movement of the dollar. Individual information is fragmentary, but the collection of related documents compiled in the process of war and occupation is sufficient for us to induce a hypothesis. Before analysing the relationship between the Maria Theresa dollar and other monies, the next section will show a history of the dollar in the Red Sea region, through which we will confirm that the Austrian dollar took root in this area so deeply that other European nations had also to issue these coins in order to secure political dominance as well as economic interests.

II

It is not clear when and how the Maria Theresa dollar began to circulate in the Middle East or northern Africa. As early as 1762 and 1767, a Danish geographer found the dollar on his journey to the Arabian peninsula.[8] This confirms that the dollar was already in circulation there when the empress on the coin was still alive. Though not proven, it is said that the dollar's circulation in the Middle East commenced with the purchasing of cotton from Egypt and coffee from Moca (Mukha).[9] In 1780, Empress Maria Theresa passed away. The dollar bearing her effigy and the year 1780, however, continued to be cast after her death.

During the nineteenth century, the geographical sphere of the Maria Theresa dollar's dominance gradually shrank. A map in *Geschichte des Maria-Theresien Thalers* published in 1898 shows that, while the dollar circulated in Ethiopia, Eritrea, the Arabian peninsula and northern Nigeria, it had disappeared from Egypt and the coastal area of the Black Sea.[10] The prohibition by the Ottoman Empire against its use may have prompted the shrinking in the Middle East, while in west Africa the British colonial policy of substituting its own silver coins for the Maria Theresa dollar began to take effect after 1900.[11] Thus, by the early twentieth century, only

[8] Public Record Office, London [henceforth PRO], MINT/2253/19.

[9] J. Williams, 'Maria Theresa's dollar', *Chambers' Journal* (Nov. 1951).

[10] C. Peez and J. Raudnitz, *Geschichte des Maria-Theresien Thalers* (Vienna, 1898), p. 86.

[11] A. Mcphee, *The Economic Revolution in British West Africa* (1926; 2nd edition London, 1971), pp. 233–7.

the region stretching from Ethiopia to the coastal areas of the Arabian peninsula remained known for its preference for the Maria Theresa dollar.

In Ethiopia, the dollar was also used in the latter half of the eighteenth century, brought by the export of slaves to Arabia.[12] Arab merchants used the dollar in their transactions instead of salt bars or other commodity currencies, which were inconvenient for long-distance traders. Indian, Greek and Armenian traders followed suit, and the native rulers also levied taxes in terms of the dollar, such as one dollar per slave. Consequently, the usage of the Maria Theresa dollar increased during the nineteenth century, though the majority of Ethiopia was said still to use commodity currencies like cloth or salt at this stage.[13]

At the beginning of the twentieth century, Ethiopia, one of the few independent African states, was in the process of establishing a western style of public finance including a national bank. The government paid its officers and soldiers in the Maria Theresa dollar. According to MacGillivray's report, a sum of 1,651,000 Maria Theresa dollars was collected as a part of revenue for the emperor in 1904.[14] This accounted for more than half of the entire revenue of the year. Thus the administration relied heavily on the popularity of the Maria Theresa dollar, and it is no surprise that the Bank of Abyssinia issued its notes denominated in the Austrian dollar.[15] Considering that even the founder of Addis Ababa, Emperor Menilek, failed to establish his own legal tender, it is clear that the popularity of the dollar discouraged all attempts to substitute it. MacGillivray stated that the Maria Theresa dollar cost 2 francs 22 cents in Europe, and 2 francs 35 cents in Aden, and about 3 cents to bring it from Aden to Addis Ababa.[16] The prices show how highly the Maria Theresa dollar appreciated there.

Despite the spatial retreat of the Maria Theresa dollar in the nineteenth century, Figure 1 shows that the quantity cast by the Vienna mint continued to increase until after World War I. Increasing export of local products from the Middle East and northern Africa may have stimulated the demand for the Maria Theresa dollar, and in Ethiopia, unlike the slave trade in the previous century, the development of coffee export is thought to have increased the demand for the dollar. The coffee

[12] The slave trade also stimulated the import of manilas, brass currencies, to west Africa. Most of them were made in Birmingham and Nantes. J. I. Guyer, *Marginal Gains: Monetary Transactions in Atlantic Africa* (Chicago, 2004), p. 72.

[13] R. Pankhurst, 'The advent of the Maria Theresa dollar in Ethiopia, its effect on taxation and wealth accumulation, and other economic, political and cultural implications', *North African Studies*, 1.3 (1979–80), pp. 19–48, and '"Primitive money" in Ethiopia'.

[14] PRO, FO401/8, p. 50. D. MacGillivray was an agent despatched by the National Bank of Egypt to assist in the establishment of the Bank of Abyssinia. As for the bank, see C. Schaefer, 'The politics of banking: the bank of Abyssinia, 1905–1931', *International Journal of African Historical Studies*, 25.2 (1992), pp. 361–89.

[15] R. Pankhurst, 'The history of currency and banking in Ethiopia and the Horn of Africa from the Middle Ages to 1935', *Ethiopia Observer*, 9 (1965), p. 396.

[16] PRO, FO401/8, p. 51.

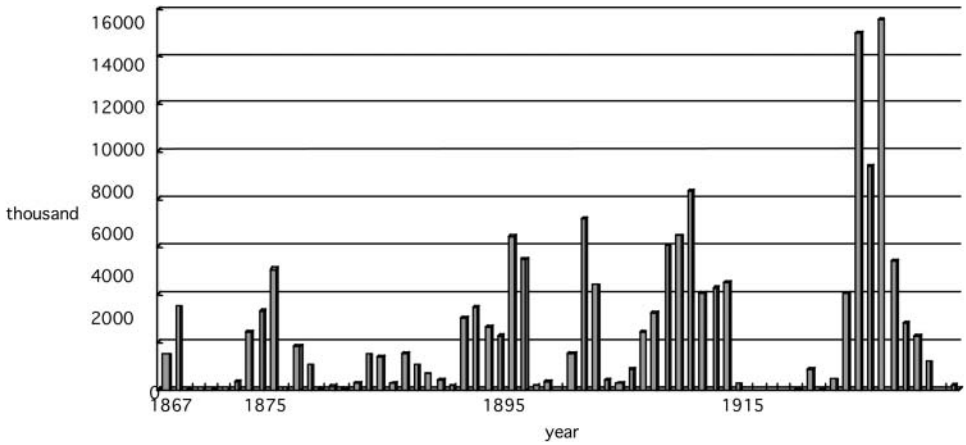

Figure 1. *Annual issuance of the Maria Theresa dollar from Vienna*
Source: J. Hans, *Maria-Theresien-Taler* (Leiden, 1961), p. 18.

price in Addis Ababa was 2.25–2.50 dollars per *farasulla* (16.83 kilos) in 1899, rising to 5–6.50 dollars in 1913 and 10 dollars in 1926. Abyssinian coffee export via Djibouti was 619 metric tons in 1915–19, but rapidly increased to 8,991 tons in 1920–4, 34,337 tons in 1925–9, and 42,115 tons in 1930–4[17] It is clear that rising prices invoked the rapid expansion of coffee export from Abyssinia.

During World War I, the Austrian government was forced to discontinue the issuance of the Maria Theresa dollar, and its shipment from Trieste was suspended. But after the war, Vienna resumed issuing the dollar in large quantities. The total number of coins issued after the war was over 56 million, including 15 million in 1927. The average annual production in the 1920s was about 5.5 million.

Large profits from minting the Maria Theresa dollar prompted other European mints to start issuing the coin. The Italian government in particular was keen to issue the dollar. Unlike other rivals, the Italian mints in Milan and Venice had inherited the dies of the Maria Theresa dollar when Austria had ceded these cities to Italy. In addition, territorial ambitions over east Africa were a strong reason for the Italian government's interest. However, the Austrian government firmly maintained its principle that any issuance of the Maria Theresa dollar outside its territory was illegal.

While the minting in Vienna got back on track again after World War I, a rumour spread through the diplomatic circuits of Europe that the Austrian government might concede the right to issue the Maria Theresa dollar. It sounded plausible, since the Austrian government had lost all political interest in the Middle

[17] C. W. McClellan, 'Land, labour and coffee: the south's role in Ethiopian self-reliance, 1889–1935', *African Economic History*, 9 (1980), pp. 74–7. On *farasulla* see R. Pankhurst, 'A preliminary history of Ethiopian measures, weights and values (part 3)', *Journal of Ethiopian History*, 8.1 (1970), p. 65.

East after its defeat. The rumour became true when Vienna conceded the right to issue the Maria Theresa dollar to Rome in 1935, the very year Italy under Mussolini began its invasion of Ethiopia. Though the agreement between Vienna and Rome was valid for 25 years,[18] it was enough for Mussolini to establish a de facto monopoly. In the course of the war, which lasted until 1937, the Maria Theresa dollar became a crucial topic, since, as noted above, it had served almost as legal tender in Ethiopia. That is why the acquisition of the right to issue the currency carried a great advantage. Thus the mint of Rome began to issue large quantities of the Maria Theresa dollar, and an embargo on the dollar's shipment to Ethiopia was declared.[19]

After the embargo by the Italian government, the rate of the Maria Theresa dollar to the pound sterling in Addis Ababa increased rapidly to 1 shilling 7 pence or less per dollar. At that time, the intrinsic value plus transport cost from Europe was as high as 1 shilling 5 pence or more.[20] The embargo, however, did not affect only Ethiopia. The exchange rate of the Maria Theresa dollar in Aden, which was under British sovereignty, became even higher than in Addis Ababa. It recorded 2 shillings 1 penny or more per dollar. This suggests how severely exporters of local products suffered from a shortage of the Maria Theresa dollar.

The Italian monopoly of the Maria Theresa dollar sparked fierce opposition from other countries that had economic and political interests in the region. Britain in particular had numerous concerns in the Red Sea region, including Aden, which was under its sovereignty. The ruler of the region had control over transportation between Egypt and India. Besides the strategic importance of its location, the British government could not neglect the fact that many British firms engaged in trade with the region. For example, Messrs A. Besse & Co. exported hides and imported kerosene, sugar (from Britain) and textiles (from Japan) via Aden.[21] The point was that the most important products there, such as coffee, were bought and collected in Maria Theresa dollars. Thus the Italian government's acquisition of the right to issue the Maria Theresa dollar meant not only a potential threat to Britain's national interest in the Red Sea region, but also an immediate threat to British subjects, who would lose the means of payment for local products.

[18] R. Gervais, 'Pre-colonial currencies: a note on the Maria Theresa Thaler', *African Economic History*, 11 (1982).

[19] During the initial stage of the invasion, Italians distributed the dollar even in the countryside of Ethiopia. C. Schaefer, 'Serendipitous resistance in fascist-occupied Ethiopia, 1936–1941', *Northeast African Studies*, 3.1, n.s. (1996), p. 93.

[20] British Library, London, Indian Office Documents [henceforth IO] J1836/8/1. Sir S. Barton to Mr Eden.

[21] PRO MINT, F817/2/1936, 22 Dec. 1936. Indian merchants also played a significant role in Messrs A. Besse & Co. C. Schaefer, '"Selling at a Wash": competition and the Indian merchant community in Aden crown colony', *Comparative Studies of South Asia, Africa and the Middle East*, 19.2 (1999).

Britain's immediate remedy was to issue the Maria Theresa dollar from its own mint, the Royal Mint. In fact, this was not the first time that the British government had considered whether or not to produce the Austrian dollar, but London had previously respected Vienna's insistence that the issuance of an Austrian coin by foreign governments meant invasion of a sovereign state.[22] However, after Austria conceded the right to Italy in 1935, Britain had no need to pay the same respect to Italy. In 1936, London commenced minting the Maria Theresa dollar.

Paris and Brussels also joined the race. Claims from Rome that any minting outside Italy was illegal had no effect. The clearest argument against the Italian assertion was supplied by the French government. They insisted that, once the original issuer, Austria, had abandoned the right of issue, the dollar was no longer a currency belonging to a specific country but a medal that happened to be exchanged. According to this logic, it was quite legal for the French mint to issue the very same 'medal', responding to requests from French nationals.[23]

As long as the gap between the cost of collecting in Aden and that of importing from London was maintained, the Royal Mint could earn profits from issuing the dollar. So could Paris and Brussels. Table 1 shows the quantities of the Maria Theresa dollar minted in Rome, London, Paris, Brussels and Bombay (mentioned below). It suggests how severely exporters of local products suffered from the shortage of the Maria Theresa dollar between 1935 and 1945, since we can see how great was the demand in the Red Sea district for the dollar. It is also noticeable that, despite its claim to legitimacy, Rome issued far fewer coins than Brussels in 1938.

Despite the Italian embargo, huge amounts of dollars entered Ethiopia, largely as a result of Italy's failure to popularise the lire currency.[24] Even in the regions occupied by Italian troops, the dollar remained necessary for trade. As long as such a strong demand continued, it was impossible to prevent the dollar from entering Ethiopia illegally. Smuggling did not come to an end until large quantities from European mints curbed the demand in the region. In the autumn of 1938, the exchange rate fell to 1 shilling 5 pence per dollar, which rendered shipments from European mints almost unprofitable.[25] Then the war of the Italian annexation of Ethiopia ended, as did the first stage of issuing the Maria Theresa dollar by non-Austrian governments. However, the second stage would follow before long.

Following the outbreak of World War II, the battle between Britain and Italy along the front line in northeast Africa again raised the Maria Theresa dollar as a key

22 PRO Treasury 18112, 21 Apr. 1920.

23 PRO Mint 1182/2/1937.

24 Contraband trade importing the Maria Theresa dollar and exporting lire was immensely profitable. R. Pankhurst, 'The perpetuation of the Maria Theresa dollar and currency problems in Italian-occupied Ethiopia 1936–1941', *Journal of Ethiopian History*, 8.2 (1970), pp. 106–11.

25 PRO MINT F817/1937. Then it cost 1 shilling 6 pence to manufacture one dollar in London.

Table 1. *Quantities of Maria Theresa dollars minted outside Vienna*

Place	*Year*	*Amount of dollars*
Rome	1935–9*	19,446,729
	(1935–7)	18,000,000
	(1938)	500,000
	(1939)	945,000
London	1936–41[a]	14,400,000
	(1936–8)**	4,700,000
Paris	1935–45	4,512,750
Brussels	1937	3,145,000
	1938	6,700,000
Bombay	1940–1***	18,864,537

[a]The amount may be overestimated.
Sources: J. Hans, *Maria-Theresien-Taler*, p. 19; *A. E. Tschoegl, 'Maria Theresa's Thaler', p. 445; **National Archives, Kew, IO F2563/1941; ***National Archives, Kew, IO F6048/1942.

issue. However, its issuance at this stage was strictly confidential for military reasons.

War makes it necessary to collect materials, in particular food supplies for despatched troops. In purchasing food, British as well as Italian troops could not help but depend on the Maria Theresa dollar, since Arabian[26] and other merchants dominating markets in the Red Sea region preferred to receive payment in this currency for the commodities they supplied.

What distinguished the issuance of the Maria Theresa dollar during this period was its minting outside Europe, since the Bombay mint became the major supplier. Bombay had several advantages over London in minting. Not only was it closer to Aden, but Bombay also had an ample stock of silver, as the substitution of paper currencies for the silver rupee was taking place in India. Though opposition from the Treasury had made the government abandon the idea of establishing production in India in 1937,[27] the situation in 1940 made the plan more persuasive. German submarine attacks made transportation from London extremely difficult and military urgency made it necessary to establish a new mint in a location closer to the east African front.

[26] 'Arabian' is, in fact, too broad a description. For example, Hadhrami were one of the groups of traders dominating the slave and coffee trades in Aden and other cities in this region. Janet Ewald and William G. Clarence-Smith, 'The economic role of the Hadhrami diaspora in the Red Sea and Gulf of Aden, 1820s to 1930s', in U. Freitag and W. G. Clarence-Smith (eds.), *Hadhrami Traders, Scholars and Statesmen in the Indian Ocean, 1750s–1960s* (Leiden, 1997).

[27] IO F.4101/1937.

The Bombay mint cast the 'Austrian' dollar from December 1940 to July 1941, and its total issue exceeded 18 million dollars. This quantity was far greater than that of the Royal Mint, which had minted 4.7 million dollars from 1936 to 1940. Column 2 of Table 2 shows the destination of the dollars shipped from Bombay. It also shows that nearly 4 million dollars finally remained unshipped at Bombay. Four months later, after the last ship carrying the dollars left Bombay in November 1941, Britain finally won the battle against Italy in northeast Africa, and succeeded in securing a safe route through the Red Sea.

Column 3 in Table 2 shows the stock of Maria Theresa dollars in major cities of the region in February 1943. The total stock is about 3 million dollars less than the quantity shipped from Bombay. Comparing it with column 2, we find that the dollars that had landed in Khartoum, Nairobi and Berbera had finally moved and were being held at Harar and Asmara in Ethiopia and Aden.

The Maria Theresa dollar had taken root so deeply in the Red Sea region that Britain had to bring its imitation from Bombay in order to win victory on the east African front. In the following sections we shall see what made a foreign silver dollar so indispensable to the business in this district far from the issuers.

III

The most detailed information on the circulation of the Maria Theresa dollar was conveyed by a correspondent whom C. S. Collier, former managing director of the National Bank of Abyssinia,[28] had despatched to Aden. This report was made in July 1937, after the Italian embargo seriously affected the local trade. The exchange

Table 2. *Destinations of the Maria Theresa dollar minted by the Bombay mint*

	Amount of MTD shipped from Bombay (million)	*Stock of MTD (million)*
Place	*Dec. 1940 – Aug. 1941*	*Feb. 1943*
Khartoum	9.5	0.7
Nairobi	3	0.9
Aden	0.5	4.7
Berbera	2	
Harar		3.2
Asmara		2.5
Total	15	12
Bombay	3.8	3.8

Sources: National Archives, Kew, IO F2563/1941; IO F580/1943.

[28] As for Collier, see Schaefer, 'The politics of banking', pp. 379, 387.

rate of the Maria Theresa dollar at Aden in August 1937 was 2 shillings or more, which far surpassed the total cost of both minting in Europe and transporting to Aden. The correspondent was sent off to enquire into the reason for the appreciation.[29]

I have made careful enquiries and I find that the final destination of Maria Theresa dollars shipped to Aden is Arabia (Hodeidah, Makalla, Shehr and Jeddah).

The dollars that we have so far sold in Aden to the merchants known as Shroffs are not used by them, but they re-sell them mostly to big Arab firms and to firms like A. Besse, F. Livierato, B. Tivari etc., and to small local traders. The Arab firms and the other firms mentioned are buying dollars solely for the purpose of sending them to places like Hodeidah, Makalla, Shehr and Jeddah to buy Hides, Skins, Coffee, Incense, Honey and other export produce.

Local dealers who buy dollars are generally Banians and Jews who sit in the open market and sell dollars to Arabs and Somalis coming from the interior. The daily retail sale in the market done by those local dealers amounts to: from October to April (full season) Four to Eight thousand dollars, and from May to September (slack season) Two to Four thousand dollars per day.

There are also Banian and Jew speculators who buy dollars in the market from the Shroffs and re-sell them when the price offers a little benefit to local Arab and other firms, and to local retail dealers. (Aden, 30 June 1937)

The report identifies three points regarding the circulation of the Maria Theresa dollar. First, the dollars imported to Aden were transported to other districts in the Arabian peninsula. In fact, the destinations of the transferred dollars were not only the cities of the peninsula but also those of east Africa across the Red Sea. Second, as expected, the dollar was used for the purchase of export products such as hides. Third, demand for the dollar fluctuated seasonally. Daily sales in the busy season were twice as high as in the slack one. This last point vividly shows that the dollar was bought and sold for other monies such as the Indian rupee or the pound sterling. The need to exchange currencies suggests that one money could do what another could not. The Austrian dollar appeared to be especially useful in collecting export goods like hides, and was taken to places producing them.

What this report fails to mention is that the Maria Theresa dollar was too expensive for ordinary people to use in daily transactions. The lack of subsidiary coins had often been mentioned as a defect of the popular Austrian dollar, and the shortage of smaller-denomination currency in this region was often noted by contemporary observers. In 1918, an American report stated that only about one million dollars' worth of small coins were in circulation in Ethiopia. However, no doubt bars of salt, iron, cartridges, glass beads and other items accounted for the majority of 'small monies' used in daily transactions.[30]

[29] IO F3573/1937, 'Report from Aden on Maria Theresa dollars'. Though not cited, the description on Aden below appears to depend on this report. Stride, 'The Maria Theresa Thaler', pp. 341–2.

[30] Pankhurst, *Economic History of Ethiopia*, p. 486.

Table 3 shows that salt and cloth accounted for 20–30 per cent of the Ethiopian emperor's revenue, but local markets might have been far more dependent on them. The point is not that commodities worked as currencies, but that local preferences dictated their usages. In the early twentieth century, the number of bars of salt, *amole*, exchangeable for a dollar at Addis Ababa was 4, while it was 10 at Goré. Regional preferences were clearer in beads. In Dizu, small transparent sea-blue beads the size of peas exchanged at the rate of 1,200 to the dollar, and no other type was acceptable. In Chako and Gurafarda, on the other hand, the preference was for violet-blue opaque hexagonal beads or small white opaque beads.[31]

More important is that the exchange rate between the Maria Theresa dollar and local small monies fluctuated from day to day.[32] Incidents like famine and military actions made the exchange rate of salt appreciate against the dollar. In 1905, MacGillivray wrote on Ethiopia, 'Nearly every tenth man is a money changer evidently doing good business.'[33] Wherever small money is always in use, a small money exchanger can make profits.

The smaller-denomination currency than the dollar used locally for daily transactions was not always in a traditional or primitive form such as the salt bar.

Table 3. *Revenue and expenditure of the Ethiopian emperor, 1902–4*

Revenue (dollar)	*1902*	*1903*	*1904*
Gold	327,560	384,840	501,000
Dollars	2,069,122	903,887	1,650,763
Salt	854,427	904,988	666,085
Ivory	175,100	98,770	201,280
Cloth	216,720	128,485	112,300
Total	3,642,929	2,420,970	3,131,428
Expenditure (dollar)	*1902*	*1903*	*1904*
Gold	17,520	93,080	950,40
Dollars	920,941	645,977	933,450
Salt	647,864	686,679	421,274
Ivory	166,600	170,000	175,950
Cloth	174,630	119,970	48,785
Total	1,927,515	1,545,876	1,674,499

Source: National Archives, Kew, FO 401/8, p. 50.

31 Ibid., pp. 460–6.

32 As for seasonal fluctuation of exchange rates between salt bars and the dollar, see Pankhurst, '"Primitive Money" in Ethiopia', p. 228.

33 PRO FO401/8, p. 51.

The circulation of the 10-lire note provides a clear example. Rome had originally planned to replace the Maria Theresa dollar with the lire currencies after its annexation of Ethiopia. However, the replacement completely failed as, in spite of the embargo, the Maria Theresa dollar continued to circulate.[34] The 10-lire note was, however, an exception. Unlike other Italian currencies, the 10-lire note became so popular in local markets that the British army could not replace it with east African currencies and had to recognise its use in the region it occupied.[35] The success of the 10-lire note, equivalent to a sixth to a quarter of the Maria Theresa dollar, suggests that local markets seriously needed such a denomination.

Although Britain set a fixed rate between the Maria Theresa dollar and the 10-lire note, the active rate fluctuated constantly and varied according to region. For example, in February 1942, the rate was 60 lire per dollar in Massawa, a port by the Red Sea in Eritrea, while it was 48 lire in Asmara, an inland city. The distance between the two towns is as much as 50 kilometres. The fact is that a sudden outflow of the Maria Theresa dollar from Massawa caused the dollar to appreciate. The leakage of the dollar occurred with the payments for imports from Yemen, as the owners of the dhows in Massawa, engaging in coastal trade, transferred a large quantity of Maria Theresa dollars.[36] This incident suggests that the dollar worked as a measure for payments in distant trade, while the 10-lire note was used for relatively local transactions.

Another episode supports this view. In the period that the Latin monetary union operated in Europe, the Italian government once issued 5-franc coins for Eritrea. However, Rome found that the francs were useless, because they needed to purchase the Maria Theresa dollar for payments outside Eritrea. As a result, they had to recall two-thirds of the 5-franc coins and abandon them.[37] This failure makes it clearer that the demand for Maria Theresa dollars was closely related to payments beyond local markets. From the viewpoint of international business in pounds sterling or US dollars, the Maria Theresa dollar worked as a 'local' currency. However, for local traders, the foreign silver coin played a significant role as an inter-regional currency. The report from Aden at the beginning of this section supports such a view. It is important to note that this division of labour among monies was not organised through any form of regulation but appeared spontaneously through local trade.

Given such a weakly regulated system, it would be a great challenge to establish any monetary principle with fixed rates among concurrent currencies. In east Africa during World War II, the British government's view was that currencies should circulate only at rates they fixed. For example, in the autumn of 1941, they allowed notes and coins of less than 10 lire issued by the former Italian government to be in

[34] Pankhurst, 'The perpetuation of the Maria Theresa dollar'.
[35] 'Currency and banking in ex-Italian colonies', *Manchester Guardian*, 6 Sep. 1941.
[36] IO F4895/1942.
[37] IO F360/1933.

circulation at the following rates: 492 lire = 1 Egyptian pound, 480 lire = 20 east African shillings, 36 lire = 1 rupee, 45 lire = 1 Maria Theresa dollar.[38] In order to respond to the demand for small-denomination currencies, those less than 10 lire were accepted, but fixation of exchange rates was thought to be indispensable to control of the markets.

Setting fixed rates was one thing, however, but maintaining them was another. In the case of the rates for the Maria Theresa dollar, its active quotation in markets was always far from the official rate. In Aden in May 1942, the Bank of Aden exchanged 140 rupees for 100 Maria Theresa dollars according to the official regulation, but 100 dollars were traded for 175 rupees in the black market. The truth was that, in purchasing vegetables for the British navy from Yemen, payment had to be made in Maria Theresa dollars, or the rate in the black market had to be adopted if paid in rupees.[39]

Britain had struggled to keep the ratio of 1 Maria Theresa dollar = 1 shilling 10.5 pence, which was not far from its intrinsic value. However, as late as the end of 1942, active rates in major markets in this region were quoted at more than 3 shillings. As a result, the occupation government raised its official rate in food trade to 3 shillings in order to avoid a serious loss in exchange.[40]

Thus we can find three layers of monetary circulation. Above the layer of the dollar's circulation, the pound sterling or its compatible rupee flowed in the international and inter-regional circuits. At the boundaries between the two layers, depending on fluctuating exchange rates, native exchangers like shroffs and traders engaging in inter-regional trade were competing for profits through speculation. On the other hand, below the dollar's flow, a variety of smaller monies, such as the 10-lire note, copper coins, cartridges, cloth, salt bars and beads were in circulation with significant and greatly varying regional preferences. At the border between the lower two layers small businesses interchanging their currencies were also common and prosperous.

Whether in the international market or local markets, the Maria Theresa dollar and other currencies were exchangeable, but no fixed rates were available. The rates fluctuated from day to day and differed according to region. In the triple-layer monetary system, the Maria Theresa dollar might be supposed to work as a buffer between international and local currencies. Few statistics regarding this region remain with which to test the hypothesis, but fortunately a series of monthly rates of the Maria Theresa dollar in Addis Ababa is recorded in the reports from the British consul.

Figure 2 shows monthly movements of the silver price in London and the exchange rate of the Maria Theresa dollar to the pound sterling in Addis Ababa from October 1930 to June 1935. The coefficient of correlation between the two

38 'Currency and banking', *Manchester Guardian*.

39 IO CMD/22318 cipher, from G.O.C. in C. East Africa to the War Office, 7 May 1942.

40 IO OET/09646 cipher, from G.O.C. in C. East Africa to the War Office, 14 June 1943.

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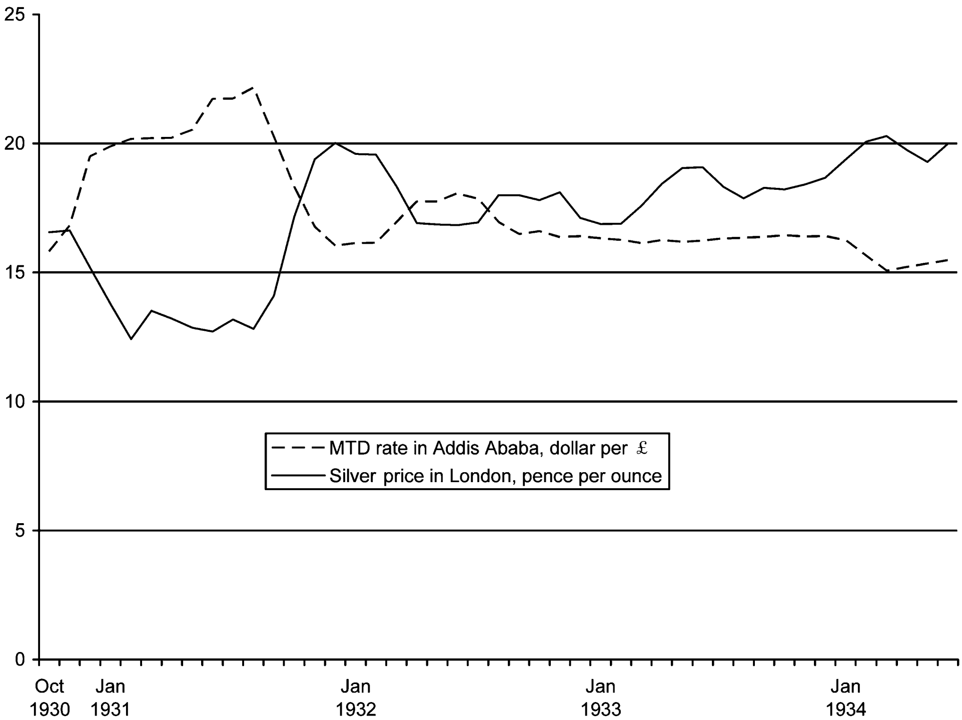

Figure 2. *Monthly movements of Maria Theresa dollar in Addis Ababa and silver price in London*
Sources: Silver: Treasury Department, Bureau of the Mint, *Annual report of the Director of the Mint for the fiscal year ended June 30* (Washington) *1931*, p. 124, *1932*, p. 126, *1933*, p. 86, *1934*, p. 90; MTD rate: PRO, FO 401/28, 'Addis Ababa intelligence report for the quarter', passim.

trends during the entire period is −0.92, so the dollar's price in Addis Ababa appeared to follow silver's in the international market. However, in the shorter term, we can notice that the correlation between the silver price and the dollar's exchange rate depended on conditions in the export trade from Ethiopia. The coefficient is −0.94 during 1931, but decreases to −0.79 during 1932 and becomes almost nil, −0.02, during 1933. In the background lay rapid changes in international demand for coffee produced in Ethiopia. Due to unfavourable conditions for Brazilian coffee caused by the export tax in 1931, Abyssinian coffee became successful in the international market, while, after the return of Brazil, Ethiopia lost its competitiveness and unsold coffee was stockpiled within the territory in 1933.[41] Unlike during 1931 and 1932, the exchange rate of the Maria Theresa dollar in Addis Ababa moved little during 1933. This hints that the stagnation of coffee exports did not raise the demand for foreign exchange in the

[41] PRO, FO 401/28, further correspondence respecting Abyssinia, 'Intelligence report for the quarter ending March 31, 1932' and 'ending March 31, 1933'.

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middle of the year, and consequently it decoupled the dollar's domestic rate from international intrinsic quotation. It is probably safe to say that favourable export trade brought the dollar value in the local market into synchronisation with the silver price in international circuit, while the disruption of the trade separated them.

It is true that the arbitrage between the international silver price and local price of the Maria Theresa dollar influenced the movement of the Austrian coins. However, this does not exclude the possibility that local demand for it existed independently from the silver dealers' businesses. The Maria Theresa dollar appeared to serve as a device for switching on or off the connection between local markets and the international market according to whether conditions were favourable or unfavourable for export. Far from the simple but popular view that a currency is accepted due to its intrinsic valuation, the Austrian dollar in Ethiopia worked as an interface between two widely separated levels of monetary circulation: the pound sterling and various local currencies such as salt bars.

Could anyone intentionally introduce such a flexible buffer? The process by which the 10-lire note gained unexpected popularity under British rule suggests a negative answer.

The Italian colonial government valued one Maria Theresa dollar at five lire after their occupation of Addis Ababa in 1936, but in the markets it continued to appreciate. Consequently, the rate of the dollar against lire was frequently revised upwards, as would happen later under Britain. With the fall of the Italian colony in 1941, the lire currencies seriously depreciated and were almost disappearing. However, the fall stopped at between 40 and 60 lire to a Maria Theresa dollar, and, unlike other lire currencies, the 10-lire note survived and remained in circulation under British rule. The reason was simply that a currency valued at a quarter or a sixth of the dollar was required in local transactions; and through its depreciation to one-tenth of the initial official rate, the 10-lire note happened to fill the gap between the Maria Theresa dollar and currencies of far smaller denomination. Nobody designed such a complementary relationship among currencies. It was produced by the markets themselves.

IV

While the demonetisation of the Maria Theresa dollar proceeded in such regions as west Africa and Egypt, the dollar retained a significant role in the Red Sea region. What were the differences between regions demonetising the dollar and regions keeping it? The increasing export of peasant products and big gaps in prices between the international market and local ones, mentioned in the previous section, must have been common phenomena of the entire region of the Middle East and east Africa. The elastic supply of local currency was also recognised in Egypt as a crucial problem in purchasing raw cotton from peasants.[42] Nevertheless,

[42] P. Arminion, *La situation économique et financière de l'Egypte, le Souden Egyptien* (Paris, 1911), p. 392.

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the Maria Theresa dollar disappeared from Egypt. A report from a British attaché at Cairo in 1887 noted that, as the dollar had become useless, they wanted to dispose of their holdings of it.[43]During World War II, a considerable number of dollars poured into Egyptian territory, but they were thought to be melted down for use as silver.[44] Why did the same phenomenon as in Egypt not happen in the region of Ethiopia and the southern Arabian peninsula?

By combining the scattered reports cited below, an invisible circuit of the dollar which distinguished this region from other regions will come into view.

(A) His Majesty's consul at Gore has for some time past been considerably exercised lest the trade between Western Ethiopia and the Sudan should be hampered by a shortage of silver on the Gore market. … the Western Ethiopian trade is essentially one-sided, considering as conditions this export is balanced by the import of cotton goods and other foreign commodities to Addis Ababa by way of Djibouti, and the necessary adjustment between the export trade in the west and the import trade in the east is effected by the bank between Addis Ababa and Gore. (Addis Ababa, 13 February 1936)[45]

(B) At Gambeila supplies for local requirements of the government were obtained from Gore branch of the Bank of Ethiopia until this supply ceased since when there has been shortage at Gambeila. (Khartoum, 14 June 1937)[46]

(C) M.T. dollars are not legal currency in the Sudan but are accepted by Sudan Government post office Gambeila in respect of postal transactions and district commissioner Gambeila uses a small quantity for cinema discs. Dollars are used by merchants trading with Abyssinia but import to the Sudan is controlled and permitted only under licence of Financial Secretary. (Khartoum, 16 May 1937)[47]

(D) I have not heard, since we have been doing business in Maria Theresa dollars, that any dollars have been shipped from Aden to Port Sudan. But on the contrary many dollars have arrived from Port Sudan for sale on the Aden market.

Dollars are not shipped from Aden to Djibouti or British Somaliland (Berbera and Zeila). But dollars from Djibouti have come many times to Aden for sale. (Aden, 30 June 1937)[48]

Gathering miscellaneous information from reports such as these, we find that the flow of Maria Theresa dollars formed a round circuit connecting a number of city markets. First, Maria Theresa dollars landed at Aden and were transported to regions producing export commodities by Arabian or Indian merchants. The dollars for purchasing coffee were sent to Gore, western Ethiopia, where the route of the dollar divided into two streams. Some dollars were collected as taxes to be sent to Addis Ababa, where they were distributed to soldiers and officials as salary. Some of them must have been transported in trade for grains or cotton textiles (mostly made in Japan) via Djibouti, finally returning to Aden. Other dollars from

43 PRO, Mint 23/22, Cairo Treasury Chest: disposal of Maria Theresa dollars, 1885.
44 IO OET/08201 cipher, from C. in C. Middle East to the War Office, 5 June 1942.
45 IO F1542/1936.
46 PRO Mint 20/637 FO telegram 267.
47 PRO, Mint 20/637 FO telegram 240.
48 PRO, Mint 20/637, report from Aden on Maria Theresa dollars.

Gore were carried north by Sudanese merchants and exchanged for necessary goods such as salt and cloth (probably British-made). Thereafter, they passed through Gambaila and Khartoum to Port Sudan by the Red Sea, where the demand for the Maria Theresa dollar was low, and finally were sent to Aden, where high demand was expected.

Thus we find that, by crossing territorial borders, Maria Theresa dollars made their way in grand circles. Dollars brought to Aden from Europe entered into circuits and journeyed around the grand circles before returning to Aden. As mentioned above, there were many circuits of the dollar connecting distant cites. Aden functioned as a hub of the circles.

The current of the dollar moved along the circuit unidirectionally, as described in (A), rather than in both directions. Although Aden worked geographically as an important crossing point for some circuits, it did not work as a centre that distributed the dollars to towns and promptly recalled them. Here lies one of the reasons why no single authority could succeed in replacing the Maria Theresa dollar. The grand circuits of the dollar crossed a number of authorities' territories. No single government could easily substitute a new currency of its own issue for the Maria Theresa dollar, and consequently the dollar survived in the regions crossing the Red Sea and the Gulf of Aden longer than in other regions such as Egypt. The length and unidirectional nature of this circuit might also have discouraged any merchant group from trying to monopolise business with their own money. It is hardly difficult to imagine that this long, one-way circuit would make the supply of the dollar seriously inelastic.

As Table 2 shows, in February 1943, Britain held 12 million Maria Theresa dollars in this region, including 3.2 million dollars in Harar and 4.7 million in Aden. In March 1943, Harar suffered food shortages. The British government planned to transfer 3 million Maria Theresa dollars for purchasing food, but they faced difficulty in transportation. It would have taken at least one month to send the dollars from Aden to Harar.[49] This reveals that it was very difficult to adjust the imbalance between regions swiftly by transportation. Under such conditions, the only remedy was to keep in local cities a larger stock of Maria Theresa dollars than was required for normal usage. However, if the estimate in Table 2 is close to reality, we can see that even the reserve of 3.2 million dollars in Harar would have been insufficient to meet the monetary demand caused by the food shortage there.

Seasonal fluctuation in demand for the dollar may have made the unidirectional stream more stagnant. As reported by the correspondent despatched by Collier in 1937, there was a substantial difference in demand for the dollar between the busy season and the slack one. With the difficulty in balancing stocks between cities, the seasonal bias made it inevitable for each local market to keep more dollars than would on average be needed. Moving along the chain of a number of cities, the

[49] IO Political/86426 cipher from G.O.C. in C. East Africa to the War Office.

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Maria Theresa dollar would often be kept for an unnecessarily long time in order to prepare for the busy season, before it finished its long round trip.

In spite of its inelasticity, it was the dollar's supply through daily spot transactions that enabled merchants to collect commodities from outside cities, as described in the report from Aden, where some thousands of dollars were traded from day to day. In other words, any interruption in the dollar's daily supply could cause a suspension of the collection of goods. Regardless of actual harvests, a short supply of the Maria Theresa dollar resulted in fewer commodities collected and consequently caused their prices to rise. The following example is a case in point.

After the Italian embargo of the Maria Theresa dollar in Ethiopia, the rate of the dollar in Aden began to rise in 1936, as noted above. Then, the price of hides, the main export product, in Aden was also reported to rise in terms of the pound sterling. If the hides were purchased in terms of the Maria Theresa dollar, and the dollar appreciated against the pound sterling, it would be quite normal for the price in terms of the devalued currency (pound) to increase. However, the price of hides increased at a ratio far steeper than that of the dollar to the pound.

As far as the exchange ratio of the Maria Theresa dollar was concerned, its level was as high in 1936 as it had been in 1935 when silver purchases by the US government caused silver prices to jump internationally. However, the price of hides did not increase.[50] Here lies the most important point. Mere appreciation of the Maria Theresa dollar caused no panic in the markets of the Red Sea basin. The difference between 1935 and 1936 is not in the exchange ratio of the Maria Theresa dollar but in the quantity of dollars supplied in Aden.

The commodities whose prices were hiked accompanying the dollar's appreciation were not limited to export products like hides. According to a letter from the Aden administration in May 1939, prices of vegetables, eggs and meat also rose. They came from inland and were paid for in Maria Theresa dollars. The short supply of the dollar was said to have raised the prices of foodstuffs.[51] Reports suggest that the smaller the supply of the Maria Theresa dollar, the higher was the price of goods.

These phenomena appear to be extraordinary in terms of the quantity theory of money, $MV = PT$, in which M and P are thought to have a positive correlation. The problem lies in that, in the above equation, monetary supply and the size of transactions are assumed to be independent factors. However, this study of the Maria Theresa dollar suggests that M and T could, rather, be mutually dependent on some occasions. The cases examined so far reveal that the volume of trade in particular regions depended to some extent on actual supply of the particular currency.

[50] IO F817/2/1936.

[51] IO F1863/1939.

The sudden shortfall of the currency that vertically buffered multiple markets and horizontally connected distant local markets led to shrinkage in the volume of collected commodities and consequently accelerated the hiking of prices. Other currencies concurrently in circulation could not easily be substituted for the Maria Theresa dollar, while the Austrian dollar also could not replace salt bars or the pound sterling. Apparently their relationship was not substitutive but complementary. The combination of two conditions, non-substitutability and a unidirectional circuit, made the dollar so indispensable for local markets that its sudden short supply easily invoked panic, such as in 1937. Once it is recognised that shortfall of the dollar supply could cause the price of commodities to hike, the overvaluation of the Maria Theresa dollar in this region, mentioned in the first section, ceases to be a mystery.

V

Finally, we should confirm that the functions performed by the Maria Theresa dollar in Africa and the Middle East were not an isolated case. Circulation of foreign silver dollars was a well-known global phenomenon in the nineteenth century and early twentieth century. Cases in China are helpful for us to compare the roles that foreign silver dollars played. In Jiujiang, an inland port in the mid-Yangzi region, the Mexican silver dollar and the Japanese silver dollar were in circulation with other currencies in the early twentieth century. The Mexican dollar made a round trip mainly between Shanghai and Jindezhen, located inland via Jiujiang. Meanwhile, the Japanese dollar circulated along a larger circle; it flowed from Fujian's coastal regions, including Amoy and Fuzhou, into mountainous southern Jiangxi, and into Shanghai via Jiujiang before returning to Fujian. Along these currency circuits, porcelain from Jindezhen was brought to Shanghai, native cotton cloth produced in Ji-an, southern Jiangxi, was sold to Fujian, and kerosene was brought to southern Jiangxi from Shanghai via Jiujiang.[52] The large circuit of the Japanese silver dollar in China (Figure 4) is strikingly similar to that of the Maria Theresa dollar in east Africa (Figure 3) which was described above.

Like the Maria Theresa dollar, the Japanese dollar in China was neither available for daily transactions by local traders, who used copper coins for this purpose, nor in circulation for international transactions, which had become dependant on the gold standard system. In addition, the exchange rates among concurrent currencies fluctuated incessantly. Thus, we can assume a universal trend that a foreign silver coin worked vertically as an interface in multiple market transactions and made its one-way trip in a grand circle connecting local markets horizontally. In this situation, it was neither local currency nor an international one.

[52] A. Kuroda, 'Seasonal fluctuation, multi-layered market and monetary diversity: how to make or not to make a single domestic currency', *Proceedings of the 13th International Economic Historians Congress*, Buenos Aires, 22–26 July 2002, http://www.eh.net/XIIICongress/English/index.html.

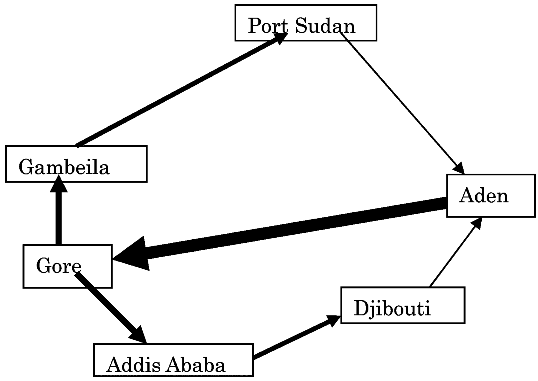

Figure 3. *Circuits of the Maria Theresa dollar in east Africa*

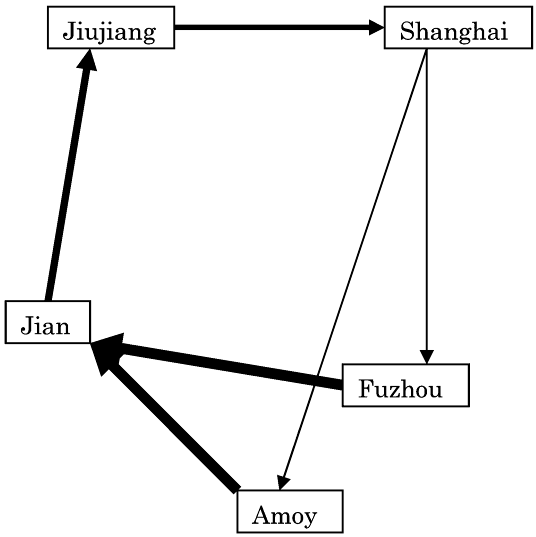

Figure 4. *Circuit of the Japanese silver dollar in southern China*

VI

The aim of this study has been to find not what caused the Maria Theresa dollar to go into circulation in the Middle East more than two centuries ago, but why it was indispensable in market activities in the Red Sea region even in the early twentieth century. The dollar was popular not only because of its silver content but also because it played a significant role in the complementary relationship among monies in two ways. First, vertically, the Maria Theresa dollar functioned as a buffer between the international monetary circuit represented by the pound sterling and local markets mediated by various smaller currencies ranging from the 10-lire note to salt bars. Second, horizontally, the dollar helped form unidirectional circuits

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connecting local cities. Depending on these functions of the dollar, the export of local products could develop in this region. That is why no currency succeeded in substituting for the coin bearing a particular effigy and year.

The material substance of Maria Theresa dollar, namely, silver commodities, helped it perform its functions in bridging markets vertically and horizontally. The 10-lire notes or beads could hardly play the same role as the silver coins. In this sense, the role of a currency in relations with other monies, *to some extent*, depends on the material substance of its own. A precious metal for inter-regional trade certainly differs from a cheap material for daily transaction. This dual materiality and functionality of the Maria Theresa dollar might lead to a mis-description of it as a silver commodity in circulation. The fact that we cannot detach the Maria Theresa dollar from its materiality does not mean we could ignore the actual mechanism adjusting demand and supply.

The Maria Theresa dollar was not always priced by its intrinsic value during transactions and therefore we cannot take it as a mere silver commodity. The fluctuating demand for Maria Theresa dollars in the market was the decisive factor in determining the exchange rate. More importantly, the multiplicity of markets allowed the monetary demand to differentiate between currencies and also made it difficult to synchronise demands from different currencies. Furthermore, since the layers of multiple markets were rather fuzzy, the demand for and supply of one specific currency cannot be entirely independent from the others. Therefore, the political attempt to fix exchange rates in multiple markets usually failed. In multiple markets, the total supply of money cannot be measured without considering the complementary relationship between multiple currencies. This non-substitutability among monies often made the quantity of a currency non neutral in making prices.

The complementary relationship among monies means that no money works independently, but a combination of monies can do what a single money cannot.[53] The complementarity uncovers a defect in the concept of single-purpose money,[54] which assumes that some money merely serves a function such as measure of transaction or store of value, and implies evolution from imperfect money to perfect money. This view seems to describe the pre-modern or underdeveloped markets, but all the money types mentioned above could actually perform all these functions. The appearance of imperfection in each currency resulted from the division of labour among monies, not from their own nature. However, the Maria

[53] Fantacci brought this topic to our attention and made clear that some division of labour among monies existed in early modern Europe, but held a view of evolution from imperfect to perfect money. L. Fantacci, 'Complementary currencies: a prospect on money from a retrospect on premodern practices', *Financial History Review*, 12.1 (2005), pp. 48, 57. Sargent and Velde showed that small change could do what big money could not, but they did not consider that the complementary relationship among monies went beyond intrinsic value or technological issue. T. J. Sargent and F. R. Velde, *The Big Problem of Small Change* (Princeton, 2002).

[54] P. Lovejoy, 'Polanyi's "ports of trade": Salaga and Kano in the nineteenth century', *Canadian Journal of African Studies*, 16.2 (1982), pp. 245–77.

Theresa dollar was obviously not made to pair with salt bars or 10-lire notes. Did anyone design a variety of monies to work together?

It is important to note that it was neither a government nor a merchant group that organised the assortments of monies, but the market itself. The process by which the 10-lire note took root (after the Italian surrender) provides a vivid example of a local market itself establishing what it wanted. Self-organisation in each circuit made the entire market multi-layered. The multiplicity gave a segmented appearance to the system of markets,[55] and the absence of a fixed rate among monies appeared to be less institutional. However, this did not mean irrational backwardness. Rather, it offered sufficient flexibility to stabilise transactions.[56] The Maria Theresa dollar and its partners in a complementary relationship do not fit a pattern of linear evolution, such as from imperfect to perfect money or from a segmented market to an integrated one. The complementary role of the Maria Theresa dollar resulted from a self-organising process implemented by markets themselves to smooth dealings, although its rationality might be beyond our contemporary common sense in which we presume that one single currency works in one single-layer market.

Author's address:
Institute of Oriental Culture
University of Tokyo
7 – 3 – 1 Hongo
Bunkyo-ku
Tokyo 113-0033
kuroda@ioc.u-tokyo.ac.jp

[55] James L. A. Webb, Jr, 'Towards the comparative study of money: a reconsideration of West African currencies and neoclassical monetary concepts', *International Journal of African Historical Studies*, 15.3 (1982).

[56] Guyer also insists that stabilization should be distinguished from integration. *Marginal Gains*, p. 129.