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Heavy and light money in the Netherlands Indies and the Dutch Republic: dilemmas of monetary management with unit of account systems

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From the late fifteenth century until about 1800, countries in western Europe were experiencing the phenomenon that the nominal value of large coins in circulation tended to increase and surpass the official valuation expressed in the unit of account. The general public perceived this process as an increase in the value of money, and an inflationary rise in the price of goods, although the effect was of course a debasement of the coins in circulation. Governments attempted to control this process, using the only instrument at their disposal for the management of the monetary system, namely, a money of account system for the evaluation of large coins.

These phenomena could be observed to an even larger extent in the Asian trading areas of the European trading companies, particularly in the area controlled by the Dutch United East Indies Company (Vereenigde Oost-Indische Compagnie, VOC) The VOC attempted to manage the problem with a monetary policy using a unit of account system. Nineteenth-century Dutch commentators strongly criticised this policy (in retrospect), but a closer examination of Dutch and VOC monetary policy shows that it can be explained as a relatively rational response to actual problems.

The world in which the VOC operated was a world of multiple currencies and in many parts, both in occupied areas and in the many trade circuits, we see the phenomenon of complementarity among monies. In the gradually expanding VOC-controlled areas in Java different types of coins, of varying composition through time, circulated side by side with some degree of specialisation of currencies in particular situations. During the two centuries of its existence (1602–1798) the VOC attempted to manage these multiple currencies with an imaginary money of account, with varying degrees of success.

This article will analyse the use of the imaginary unit of account in the VOC trading network and in the administered territories. Particular attention will focus on the problem of the disappearance of precious metal coins from local circulation.

In order to understand the problem of the imaginary unit of account, we will first look at the theoretical literature on the subject. After that, a brief digression into the monetary affairs of the Dutch Republic will set the stage for the discussion of monetary affairs in the Netherlands Indies.

I

Theoretically a distinction can be made between two functions of money, namely, the measuring function and the exchange function, or, in other words, the unit of account and the unit of payment. The unit of account is used as a standard of value and of deferred payments and for the purpose of keeping accounts, while the actual unit of payment is used as a medium of exchange. The unit of account is abstract, while the unit of payment is concrete. The two functions are completely different and in principle not interconnected, although in any working monetary system they have to be brought together somehow.

The relation between real coin and money of account has been the subject of a heated debate among economic historians since the 1930s. The Belgian historian Hans van Werveke argued on the basis of historical material that the monies of account in medieval Europe were based on real coins. On the other hand, Italian economist Luigi Einaudi, writing about Milan in the eighteenth century, held the view that money of account was imaginary money, independent of any 'real money', although it has developed out of real coins, with a precise gold or silver content. Einaudi argued that imaginary money was an instrument or technical device used by government to manage multiple currency systems. Gold and silver coins can circulate side by side in an area, without the need to change their precious metal content when changes occur in the relative values of gold and silver. The government can rearrange their relative value by changing their valuation in terms of the unit of account.[1]

On closer inspection it turns out that the two views, 'hard money' versus 'imaginary money', do not represent irreconcilable contradictions.[2] Governments used the unit of account to give nominal valuations to the large coins in circulation. The process of valuation, that is linking the abstract unit of account to a real coin in circulation, was a circular process. The government proclaimed one of the large coins as the standard coin or link coin for the unit of account. The precious metal content of the

[1] H. van Werveke, 'Monnaie de compte et monnaie réelle', *Revue belge de philologie et d'histoire*, 13 (1934), pp. 123–52; L. Einaudi, 'La teoria della moneta immaginaria nel tempo da Carlomagno alla rivoluzione francese', *Rivista di storia economica*, 1 (1936), pp. 1–35, translated as 'The theory of imaginary money from Charlemagne to the French revolution', in F. C. Lane and J. C. Riemersma (eds.), *Enterprise and Secular Change: Readings in Economic History* (Homewood, IL, 1953), pp. 229–61; L. Einaudi, 'The medieval practice of managed currency', in A. D. Gayer (ed.), *The Lessons of Monetary Experience: Essays in Honor of Irving Fisher* (New York, 1937).

[2] F. C. Lane and R. C. Mueller, *Money and Banking in Medieval and Renaissance Venice*, vol. 1: *Coins and Moneys of Account* (Baltimore and London, 1985), pp. 468–79.

abstract unit of account is then derived from the content of the link coin, by dividing the precious metal weight of the coin by the number of units of account designated as the nominal value. At any moment in time the unit of account is thus attached to a real coin, the link coin, but, after some time, when the nominal value of the real coins changes, the unit of account is detached from the old link coin and attached to a new link coin, usually with a lower precious metal content. This reduces the precious metal parity of the unit of account. The tendency was for the unit of account to get attached to the large coin with the highest nominal value. This was an endless game of attachment and detachment, whereby the unit of account was linked to and subsequently de-linked from the real coin, and some time later linked to a new coin with a lower precious metal content.[3] In other words: 'moneys of account were mobile, shifting their attachment from one base coin or link coin to another'.[4]

The rulers of a political territory had two ways of changing the value of the coin: (1) by altering the weight or the fineness of the coin; (2) by decreeing a different (nominal) value in terms of the unit of account, without changing its intrinsic quality of weight or fineness. However, in doing so the rulers also changed the value of the unit of account in terms of precious metal. People had in principle two ways of valuing coins: (a) on the basis of the silver content of the coins; (b) on the basis of the nominal value in the marketplace. Only merchants would have the capability of assaying the silver basis of the coins (and the instruments for doing so) and trading the coins as commodity. Most of the people would have to accept and handle coins on the basis of their nominal value.

II

From the fifteenth century until the end of the eighteenth century, monetary policy in the Low Countries was based on the use of a money of account. This practice was continued when the northern part of the Low Countries, the Netherlands (the Republic of the Seven United Provinces), achieved independence from the Spanish empire – formally proclaimed in 1576, and factually consolidated in the last decades of the sixteenth century – as the Dutch Republic, under the sovereignty of a national parliament. The country inherited the monetary system from the Burgundy–Habsburg administration in the Low Countries. The national parliament attempted to regulate the money circulation by supervising the minting of coins, by deciding which foreign coins were admitted in the country and by setting the rate at which the coins would circulate. However, parliament regularly had to change the tariff lists of the valuations, because the coins in circulation showed a steady enhancement, or, as it was called at the time, a soaring of the currency (*steigering van de munten*), i.e. they circulated at a premium.[5]

[3] G. van der Wal, *Rekeneenheid en ruilmiddel* (Den Helder, 1940), pp. 82–4.
[4] Lane and Mueller, *Money and Banking*, p. 470.
[5] H. Enno van Gelder, *Munthervorming tijdens de Republiek, 1659–1694* (Amsterdam, 1949), pp. 9–10; H. Enno van Gelder, *De Nederlandse munten* (Utrecht and Antwerp, 1965), p. 103.

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The monetary practice was to express the value of coins in circulation in terms of a unit of account. In the last decade of the sixteenth century the system of account in the Dutch Republic was formed by the imaginary guilder (*gulden*), divided into 20 stivers (*stuivers*). The silver parity of this unit of account system was derived from the link coin, which changed in the course of time. It was only in 1681 that the Republic would issue a real guilder.

A number of mechanisms can be identified as causes of the enhancement or soaring of the currency.[6] The first was that coins that were worn thin or clipped were not withdrawn by the government, but remained in circulation. As a result, coins of a certain type varied in quality, weight and silver content. While most people accepted both good and bad coins at their nominal value, merchants and moneychangers selected the good coins and rejected the bad ones. The good coins were then traded at a higher rate or melted. The bad coins were brought into circulation again at the going rate. As a result, the good coins seemed to increase in value in terms of the unit of account. In reality, the silver parity of the unit of account decreased. The second factor was that the southern Netherlands, under Spanish rule, issued coins with a lower silver content, but at the same nominal rate as similar coins in the Republic, namely, the patagon and the ducaton, and these coins flooded the northern Netherlands, pushing up the valuation of other silver coins. The third factor was the competition between the numerous mint houses in the Low Countries, which were buying silver in the market at a premium.

The Dutch historian Polak has pointed out that the quality of the large coins produced in the Republic was generally very high. The Dutch officials followed a policy of keeping the standard of coinage, i.e. the intrinsic value or silver content, high, and the official valuation in terms of stivers low. This high standard of coinage was tantamount to an official undervaluation of the coin in nominal terms. As a result, the coins disappeared from circulation, because the market traded them at a premium and replaced them with coins with a lower silver content. The Dutch parliament held on to this high standard of coinage with great tenacity. Polak explains this policy by pointing out that the minted coins were used for two purposes, namely, both for domestic use (*standpenningen*, standard coins) and for international trade (*negotiepenningen*, trade coins). The Dutch Republic, and particularly the town of Amsterdam, as an important trading centre for precious metals, considered the availability of good coins for export and international trade more important than the improvement of the domestic circulation.[7]

In 1606 the Republic started minting a new silver riksdollar (*rijksdaalder*), weighing 29.03 grams, with a fineness of 88.54 per cent and a pure silver content of 25.7 grams.[8]

6 Enno van Gelder, *Nederlandse munten*, pp. 105–47.

7 M. S. Polak, 'Historiografie en economie van de "muntchaos": de muntproductie van de Republiek (1606–1795)', vol. 1 Tekst, vol. 2 Bijlagen, dissertation, University of Amsterdam (1998).

8 Enno van Gelder, *Nederlandse munten*, pp. 220, 268.

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In the same year, the national parliament issued a decree proclaiming the riksdollar as the standard coin, and by implication as the link coin, valued at 47 stivers; in 1608 its value provisionally increased to 48 stivers, in 1610 it was confirmed at that rate, and in 1619 it was valued at 50 stivers. In 1608, when the riksdollar was 48 stivers, the system of account guilder equalled 10.71 grams of fine silver and the unit of account stiver 0.535 grams. In the second half of the seventeenth century, the name riksdollar was attached to the new silver ducat, with a pure silver content of 24.66 grams, valued at 50 stivers. By the end of the seventeenth century, the old riksdollar had disappeared from circulation in both the Netherlands and the Netherlands Indies.

The monetary policy of changing the nominal value of the link coin of the unit of account, and even changing the link coin itself, sometimes led to a distinction between 'heavy' and 'light' money. We have seen that the system of account is connected with a real coin, the link coin, for a certain period of time, but that after some time the two are disconnected again. This happened to the riksdollar, after the government proclamations of 1608/1610. After a few years the riksdollar acquired a higher value in the market and consequently the 1608 unit of account was disconnected again from the real coin. Government officials were then faced with a dilemma. Either they could continue working with the imaginary system of account, based on the link coin of the latest (1608/1610) proclamation, and use this unit of account to establish the valuation of new coins in terms of stivers, which would have resulted in a lower valuation of these new coins, as they invariably had a lower silver content. Or they could assign a new and relatively higher valuation in terms of stivers to the new coins, thereby reducing the silver content of the imaginary system of account. This is what happened in practice: the unit of account attached itself to the current coin, with a lower silver content. There was of course a practical consideration: the first strategy would have resulted in an undervaluation of the coin, resulting in its disappearance from circulation.

In principle this dilemma created a distinction between 'heavy' and 'light' money. In the Dutch Republic this phenomenon briefly arose with the currency reform of 1659. This reform introduced two new coins, the silver rider and the silver ducat, with lower silver content than the Brabant (southern Netherlands) ducaton and patagon. The officials followed the second strategy outlined above: they abandoned the old silver parity of the unit of account and adopted a new one, based on the lighter coins. Based on the unit of account of the 1622 currency law, the new coins were worth 56.26 and 44.9 'heavy' stivers, but the officials chose the valuations of 60 and 48 'heavy' stivers. If the unit of account was derived from the Brabant coins in circulation, the silver rider and the silver ducat were valued at 63 and 50 'light' stivers respectively. This last calculation soon became the prevalent one.[9] In other words, the unit of account was detached from the older coins and attached to the

[9] Van der Wal, *Rekeneenheid en ruilmiddel*, pp. 84–9.

new ones. As a result, the 'heavy' money was quickly discarded and the 'light' money became the standard.

For almost three centuries the guilder and the stiver formed the system of account in the Low Countries. While the guilder did not exist as a real coin from about the 1570s until 1681, the stiver did. The silver content of the unit of account stiver could be derived from the official valuation of the standard coin. The silver content of the real stiver and double stiver (*dubbeltje*) was in relative terms lower, and did not add up to the silver content of the imaginary guilder. In 1608/1610 the stiver as the unit of account had 0.535 grams of fine silver, in 1614–20 the current stiver had 0.509 grams.[10] As long as small coins were not significantly lighter, in relative terms, than the larger full-bodied coins, they did not drive out these larger coins. The public accepted coins primarily at their nominal value, and for traders small differences in relative silver content did not create sufficient opportunities for profitable transactions. Larger differences, however, were disruptive, as we will see in the next section on the situation in the Netherlands Indies.

III

During the seventeenth and eighteenth centuries, the Dutch United East Indies Company, or VOC (1602–1798), operated in what was called from the Amsterdam perspective 'the East Indies', and what we presently call the region of South, Southeast and East Asia, between the east coast of Africa and Japan. The VOC had its main headquarters in Amsterdam, where the Gentlemen XVII ruled the Company, and carried out its Asian trading activities from its headquarters in Batavia, present-day Jakarta in Indonesia. Batavia was not only the centre of the operations in the whole Asian trade area; the town, with its harbour, castle, warehouses and living quarters, became the centre of a gradually expanding VOC-controlled area, with a population of Dutch and other Europeans, Chinese and indigenous people, and with a growing local economic activity.[11]

Elsewhere in Asia the VOC established fortified trading posts along the coast, where it collected goods to be shipped to Batavia for sale in other parts of Asia or for transportation to Amsterdam. This meant that every year a large fleet sailed from Amsterdam to Batavia and back, and that smaller flotillas were sent from Batavia to the trade settlements in the spice islands in the Indonesian archipelago, in India, Japan and China, Thailand, Vietnam and Ceylon. In each of the establishments a senior merchant was in charge of trade, assisted by bookkeepers and other assistants.

The large distance between Amsterdam and Batavia hampered communication between the Gentlemen XVII and the officials in Batavia. Amsterdam sent two to three fleets a year to Asia, carrying precious metals, goods and personnel, and

[10] Enno van Gelder, *Nederlandse munten*, pp. 22–3; Polak, 'Historiografie', vol. 2, pp. 95–8.

[11] F. S. Gaastra, *De geschiedenis van de VOC* (Zutphen, 1991).

instructions to the officials in Batavia. These fleets returned carrying Asian goods to Amsterdam. Each trip took seven to nine months. It took almost a year and a half before instructions from the Amsterdam headquarters had reached Batavia and the reply had come back. This situation gave the VOC officials in Batavia some space for formulating their own policies.

Within a few decades of its arrival in Asia, the VOC had assumed a dual role: apart from managing the numerous trade settlements in different parts of Asia, the Company also became a territorial ruler, primarily in the area around Batavia, the core of what was to become the Netherlands Indies, to a lesser extent on other islands and on the island of Ceylon. In these areas, the Company fulfilled the functions of local government.

In this Asian world the VOC was confronted with a perplexing diversity of currencies. To pay for its purchases in Asia, the VOC shipped large amounts of silver bullion and coins. In addition, the Company acquired silver and copper in various parts of Asia, to be used in trading activities. As a territorial ruler, the VOC was responsible for orderly money circulation in the areas under its control.

Throughout the two centuries of its existence, the VOC used a unit of account system, made up of two imaginary coins, the guilder of 20 stivers and the stiver.[12] The Company adopted the Spanish piece of eight, initially with a pure silver content of 25.26 grams, in 1609 valued at 47 stivers, in 1622 at 48 stivers, as the standard coin and the link coin of the unit of account.[13] Later, the silver content of the Spanish piece was reduced to about 24.25 grams. However, the Spanish piece turned out to be inappropriate as a link coin, because its nominal value was driven up in the market. The VOC bought large amounts of Spanish pieces in the Netherlands at a premium, for shipment to Asia. In Batavia, the price of Spanish pieces went up even more sharply, because of the large demand for silver coins. In the 1640s and 1650s the VOC officials in Batavia increased the nominal value of the coins (as will be discussed below) and the Spanish piece at 48 stivers became an imaginary coin. As such, the piece became interchangeable with the old riksdollar (pure silver content 25.7 grams), in 1608 valued at 48 stivers. The system of account then became the Spanish piece/riksdollar–guilder–stiver, at the 48–20–1 ratio. This system of account was used in the VOC-controlled areas in Asia until the end of the eighteenth century. Later in the seventeenth century the link coin became the ducaton. The Company used this system of account for two rather different purposes, which were clearly at variance.

The first purpose was keeping the accounts of this huge trade organisation. Although actual transactions in Asia were carried out in various denominations, the

12 N. P. van den Berg, and G. Vissering, 'Muntwezen', in S. de Graaf and D. G. Stibbe (eds.), *Encyclopaedie van Nederlandsch-Indië*, part II: *H–M* (The Hague, 1918), pp. 793–811, p. 794.

13 The Spanish silver coin is often called 'real'. However, this name is not entirely correct. The 'real' is ⅛th of a Spanish piece. The Spanish name of the large coin is *real de ocho*, translated as 'piece of eight reales'. The large coin was cut in halves, quarters and eighths.

financial settlement between the overseas trading offices and the Gentlemen XVII in Amsterdam, as well as the VOC bookkeeping in Batavia, were carried out in guilders of 20 stivers. The money of account also served to reduce the different currencies in the trading outposts to a common denominator. This means that VOC bookkeepers had to convert the actual currency used in transactions into guilders, using the official valuation of these coins in the unit of account as the basis for the calculations.[14]

The second purpose was managing the actual money circulation in the occupied territories in Asia. The VOC spent money by paying salaries and wages and by purchasing services and goods. People in these areas spent money on daily purchases. These payment areas were not isolated from the wider world, as outside traders (Chinese) made their presence felt, and money flowed in and out. As a territorial ruler, the VOC had to develop a monetary policy for the areas under its control.

In order to finance its Asian trade and to purchase goods for the European market and services for its Asian establishments, the VOC shipped silver bullion and coins as well as (to a lesser extent) gold from Amsterdam to Asia. The VOC used these coins primarily for trading in Asia, but certain types also circulated in Batavia and its environs. The VOC attempted in vain to maintain the distinction between coins for trade and coins for local circulation. The value of these coins was in principle determined by their precious metal content, although supply and demand in the market played a role as well.[15]

Apart from large silver coins, the VOC also shipped small silver coins of one and two stivers (*dubbeltje*), as well as shillings (*schellingen*) of six stivers, and smaller coins to Java. The general name for these small coins, with a relatively low silver content and heavy alloy, was *payement* (small change). Initially these coins only circulated in Batavia, but later they spread to the other VOC-controlled areas in Java. The nominal value of these coins was in principle higher than their precious metal content, although this depended on the price of gold and silver.

The VOC officials in the Netherlands Indies were confronted with the problem that all the silver sent from Amsterdam rapidly flowed out of Batavia. Several factors caused this outflow: (a) the shipment of silver from Batavia to the VOC trading settlements in Asia; (b) Chinese traders bringing silver coins on their return voyage to China; (c) VOC officials and private traders used silver coins for their private trading operations in Asia; (d) both large and small silver coins were used in the native shipping and trade in the archipelago and this money seldom returned to Batavia; (e) silver coins were melted and turned into ornamental objects for Europeans and native rulers; and (f) small coins, including copper coins, were used by native artisans for industrial purposes.[16]

14 J. P. de Korte, *De jaarlijkse financiële verantwoording in de Verenigde Oostindische Compagnie* (Leiden, 1984), pp. 32–4.

15 L. de Bree, *Gedenkboek van de Javasche Bank: 1828 – 24.1.1928*, 2 parts, part 1 (Weltevreden, 1928), p. 25.

16 Ibid., pp. 55–6.

The VOC officials in Batavia noticed that not only were the large silver coins disappearing from local circulation, but these coins were being exchanged at a premium in local markets, an Asian variety of the soaring of currency. They interpreted this as proof of the fact that silver had a higher price in Asia than in Europe, in the order of 20–25 per cent.[17]

In order to prevent the exportation of full-bodied silver coins they decided to raise the price in terms of the unit of account, the stiver. With this measure they followed the practice of European governments, including that of the Republic, of increasing the valuation of large coins in order to protect the domestic currency. By expressing the valuation in a fixed measure, the stiver, they intended to discourage the purchase of large silver coins with small coins.

The government in Batavia issued several decrees, raising the valuation of European coins: in 1639 it raised the value of the Dutch riksdollar, which was worth 50 stivers in Holland, to 52 stivers, and in 1640 to 60 stivers. In 1640 the government increased the value of the Spanish eight-real piece, to 60 stivers, the same rate as the riksdollar. However, for accounting purposes, the Spanish piece was valued at 48 stivers. These measures created in fact two types of eight-real pieces, namely, an imaginary coin valued at 48 stivers as a unit of account, and the metal coin in circulation, valued at 60 stivers.

The VOC directors (the Gentlemen XVII) in Amsterdam did not immediately approve the policy measures taken by the VOC officials in Batavia. The directors held different opinions about the valuation of the coins, assuming that these had the same value in the Indies as in Holland, and in 1649 they ordered the administrators in Batavia to annul the increase in valuation of the silver coins. The directors could not understand why this rate increase had been necessary. In their correspondence with Amsterdam, the officials in Batavia pointed out the problem of the disappearance of coins from circulation and defended their decisions. In 1651 the Amsterdam directors expressed their dissatisfaction with this policy and repeated the demand that the valuation of the coins be lowered. Initially, the officials in Batavia complied, but in their correspondence with the directors they continued to complain about the problems with the silver circulation. In 1655 the directors gave in and authorised the officials in Batavia to raise the rates of the large silver coins.[18]

The directors in Amsterdam insisted that if the value of currency in Asia was higher than in Europe, this also held for the smaller coins, and they ordered the officials in Batavia to raise the value of the *schelling* (6 stivers) to 7½ stivers, the *dubbeltje* (2 stivers) to 2½ stivers and the stiver to 1¼ Indies stiver. The directors did not indicate

[17] J. J. P. van Zuylen van Nijevelt, 'Bijdrage tot de geschiedenis van het muntwezen in Nederlandsch Oost-Indië', in *Utrechtse bijdragen tot de kennis der Nederlandsche en vreemde koloniën*, no. 4 (Utrecht, 1847), pp. 366–7.

[18] E. Netscher and J. A. van der Chijs, 'De munten van Nederlandsch-Indië', in *Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen*, vol. XXXI (Batavia, 1864), pp. 19–38. De Bree, *Gedenkboek*, pp. 30–8.

in what kind of coin this increased rate had to be expressed. The officials in Batavia protested, as this would restore the original balance between large and small coins. However, the Amsterdam directors insisted that the *payement* should be brought onto the same valuation as the large coins. In 1658 the officials in Batavia raised the value of the small coins according to the directives of the Amsterdam directors.[19]

To remedy the confused situation the Batavia, in 1658 administrators issued a new small copper coin, called *tang*, in order to have a smaller coin that would serve as the valuation of the stiver. The *tang* had the value of one *oord* or *oortje* (farthing), a small coin. The exchange rate with the stiver was: five *oortjes* equalled one 'heavy' stiver, and four *oortjes* equalled a 'light' or Indies stiver.

In 1658 the officials in Batavia issued a decree which complicated matters even more by creating a 'heavy' Spanish piece valued at 60 stivers and a 'light' one at 75 stivers. The valuation of other coins was changed according to the same ratio. In other words, after the increase in the valuation of the small coins, which restored the balance between small and large coins, the official rate raised the valuation of the large coins again by 25 per cent. The silver coins in circulation in the Indies then had three different values: the value in Holland, the value in heavy money in the Indies and the value in light money in the Indies.[20]

This measure created three types of stivers, namely, the so-called Dutch stiver (*Hollandse stuiver*), equal to 1/50th of a piece of eight, the 'heavy' stiver (or *Indische stuiver*), equal to 1/60th of a piece, and the 'light' stiver equal to 1/75th of a piece. The exchange rate between these latter two kinds of stivers was: five light stivers equalled four heavy stivers.[21] Both the Dutch stiver and the 'heavy' stiver were represented by a real silver stiver coin, while the 'light' stiver was an imaginary unit of account.

These increases in the value of the coins in circulation in terms of the unit of account was by implication a reduction of the metal parity of the money of account in the Netherlands Indies. The above-mentioned valuation of the riksdollar at 60 'heavy' stivers implicitly gave the imaginary guilder of 20 stivers a silver content of 8.818 grams (while the official figure in the Netherlands at the time was 10.28 grams).[22] Table 1 shows the valuation of the main silver coins circulating in the Netherlands Indies during the second half of the seventeenth century.[23] Remarkably, the VOC never introduced the Dutch guilder coin in the Netherlands Indies.[24] The reason for this is understandable: it would have been

19 De Bree, *Gedenkboek*, pp. 32–4.

20 Ibid., pp. 34–8.

21 Ibid., pp. 34–5.

22 N. W. Posthumus, *Nederlandse prijsgeschiedenis,* part 1: *Goederenprijzen op de beurs van Amsterdam, 1585–1914, wisselkoersen te Amsterdam 1609–1914* (Leiden, 1943), p. cxii. W. C. Mees, *Het muntwezen van Nederlandsch Indie* (Amsterdam, 1851), p. 14.

23 De Bree, *Gedenkboek*, p. 35.

24 Mees, *Muntwezen*, p. 24.

Table 1. *List of coins circulating in the Netherlands Indies and their valuation there and in the Netherlands in 'heavy' and 'light' stivers and in* oortjes *(farthings) in the years after 1659*

Name of the coin	Pure silver contents in grams	Value in stivers in Netherlands	Value in 'heavy' stivers	Value in 'light' stivers	Value in *oortjes*
Spanish piece of eight	25.26	50	60	75	300
silver ducat (new riksdollar)(1659)	24.66	50	60	75	300
leeuwendaalder	20.55	40	48	60	240
kruisdaalder	24.59	50	60	75	300
ducaton (stiver rider)	30.85	63	75	93¾	375
schelling	2.88	6	6	7½	30
dubbeltje	0.89–0.94	2	2	2½	10
stuiver (stiver)	0.47	1	1	1¼	5

Source: L. de Bree, *Gedenkboek van de Javasche Bank: 1828–24.1.1928*, part I (Weltevreden, 1928), p. 35.

difficult to assign a proper Batavian valuation to a coin that embodied the unit of account in the Dutch Republic.

An element of deceit played a role as well. The officials in Batavia did not inform the Gentlemen XVII in Amsterdam of the new distinction between 'heavy' and 'light' money. Amsterdam had given permission to increase the valuation of the large coins by 20 per cent and had ordered an increase in the valuation of the small coins of 25 per cent. Amsterdam thus assumed that the term 'heavy money' referred to the valuation used in Holland, and that the term 'light money' referred to the increase in accordance with their directives. However, Batavia used the term 'light money' for the second value increase of 25 per cent, together with the small coins. The Batavia officials followed this policy of illegitimate increase in the valuation and of not informing Amsterdam, with the purpose of increasing their private trade profits.[25]

The effect of this rate increase of the eight-real piece and the riksdollar to 60 stivers or 30 *dubbeltjes* (double stivers) was that *dubbeltjes* disappeared from circulation in Batavia, causing a scarcity of *payement*. Moneychangers had found out that 30 *dubbeltjes*, when melted down, yielded more pure silver (30 times 0.89 grams is 26.7 grams) than a piece of eight (25.26 grams) or a riksdollar (24.66 grams). It was profitable to exchange the large coins for *dubbeltjes* and to export these for recoinage elsewhere, probably in China.[26]

[25] De Bree, *Gedenkboek*, p. 36.

[26] Pieter van Dam, *Beschryvinge van de Oostindische Compagnie*, vol. 1, part II, ed. F. W. Stapel, Rijks Geschiedkundige Publicatiën (The Hague, 1929), p. 63.

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The distinction between 'heavy' and 'light' money lasted for almost a century. In the 1740s the government in the East Indies made an attempt to put an end to the distinction between 'heavy' and 'light' stivers. In 1741, VOC official Van Imhoff (later to become Governor General) wrote a report on the state of affairs of the VOC in Asia, under the title 'Consideratiën' (Considerations), in which he called the distinction between 'heavy' and 'light' a mystery that no one has penetrated, and he proposed a swift end to the practice, at least to remove it from the accounting books.[27] The Gentlemen XVII agreed with his proposal. In 1742 the government of Batavia abolished the 'light' money and ordered a restoration of the value of the small coins, the *schelling*, the *dubbeltje* and the *stuiver* at respectively 6, 2 and 1 stiver. In 1743 Van Imhoff as Governor General ended the distinction and stipulated that henceforth only 'heavy' money would be used. The 25 per cent premium on shipments from the Netherlands was abolished, although it is not clear whether this decision was implemented.

In 1766 the Gentlemen XVII decided that in the VOC books the 'light' money would be abolished and that all currencies would be calculated on the basis of the milled ducaton, valued at 66 stivers (the valuation in 'light' stivers had been 80 stivers). This resulted in a reduction of the book value of the VOC's capital.

In 1767, the government in the Netherlands Indies adopted a new currency regulation. The 'light' money was officially abolished, but the decree stipulated that the 'heavy' money, now called 'Indies' money, would have the same relation to Netherlands money as the earlier 'light' money had to 'heavy' money, that is, that the Netherlands money would be worth 25 per cent more than the 'Indies' money. The Indies stiver was equal to 4/5th of a Dutch stiver. This currency regulation was the first official recognition of the fact that the currency in the Netherlands Indies had depreciated.[28]

The new valuations were not based on the silver content parity, but were done in a rather arbitrary way, so that the currency confusion was not ended and neither was the exportation of large silver coins.[29] It would have been rational to apply the tariff of four Netherlands stivers equal to five Indies stivers across the board to all coins in circulation. However, the rule was only applied to the small coins (*schellingen*, *dubbeltjes* and *stuivers*), not to the large ones. The milled ducaton, valued in the Netherlands at 63 stivers, was proclaimed as the standard coin in the Netherlands Indies at a rate of 80 Indies stivers. The Dutch riksdollar was valued too low, the Spanish dollar and the Java rupee were valued too high. The coins with relatively lower values disappeared from circulation.

[27] G. W. Baron van Imhoff, 'Consideratiën over den tegenwoordigen staat van de Nederlandsche Oost Indische Maatschappij', *Bijdragen tot de Taal-, Land- en Volkenkunde van Nederlandsch-Indië*, 66 (1912), pp. 483–513.

[28] Mees, *Muntwezen*, p. 16.

[29] Ibid., pp. 16–19.

IV

As noted above, the final accounting in the VOC books, as well as the reporting to the Amsterdam directors, was done in guilders of 20 stivers, based on the two link coins, the Spanish piece of eight and later the riksdollar. These two coins had almost the same pure silver content, and were both valued at 48 stivers. The use of a system of account was needed, not only for bookkeeping but also as a mechanism of valuation in dealing with the many foreign coins encountered in VOC trading operations. Because the VOC carried out an extensive inter-Asian trade, a large variety of currencies was used in the different trade settlements: Coromandel gold pagodas, silver Surat rupees, Bengal sicca rupees, Chinese thael, Japanese thael, Venetian ducats, Dutch ducatons, etc. Converting these currencies into Dutch heavy guilders was quite complicated, not only in the actual transactions, but also in the accounting.[30]

In the previous section we have seen that in the middle of the seventeenth century (1640s–60s) the officials in Batavia increased the nominal value of the silver coins twice: first by 20 per cent and then again by 25 per cent. The effect was that four different systems of account coexisted, each based on the abstract unit of account, the guilder of 20 stivers, but each had different silver parity values derived from the link coin: (1) the VOC system of account, the guilder of 20 stivers, with the Spanish piece valued at 48 stivers as the link coin; (2) the real coins circulating in the Netherlands in the seventeenth century, with the riksdollar and later the silver ducat of 1659 valued at 50 stivers as the link coins; (3) the 'heavy' money in the Netherlands Indies, based on the Spanish piece of eight and the riksdollar (silver ducat), both valued at 60 stivers; (4) the 'light' money, based on the imaginary 'Indies' stiver, derived from the Spanish piece, valued at 75 'light' stivers.

In principle it was possible to convert these different kinds of money into the VOC bookkeeping unit of account (the guilder of 20 stivers) as long as the bookkeepers applied the correct exchange rates. If someone in Batavia wanted to buy these large silver coins with real stivers, that person had to pay 60 real stiver coins for one piece. Or that person had to pay 75 'light' stivers, but this stiver was 4/5th of a real stiver. As that coin did not exist, one probably paid with 60 real stivers.

However, the multiple systems of account caused confusion in the financial accounting within the VOC enterprise. Rather than converting each transaction from 'light' to 'heavy' money, the Company officials decided to give silver shipped to Asia a 25 per cent higher value. This practice probably started around 1660. Merchandise from Amsterdam arriving in Asia was also recorded in 'heavy' money, but Asian goods shipped to Amsterdam in 'light' money. The sale of European goods in Asia was recorded in 'light' money, and the sale of Asian merchandise in Europe in 'heavy' money. As a result, the accounting system did not give a correct picture of the transactions, and consequently of the profits made.[31]

[30] De Korte, *Jaarlijkse financiële verantwoording*, p. 39.

[31] Ibid. p. 33.

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The previous section noted that the officials in Batavia had not informed the directors in Amsterdam of the second increase in valuation of the large coins. Consequently, Batavia and Amsterdam had different views of what were 'heavy' and 'light' monies. This game of deceit was probably played with the intention of creating opportunities for Company servants to appropriate money from Company treasuries and to make money for themselves in private trade. As historians of the VOC invariably report, the level of corruption in the Company was high.

Towards the end of the seventeenth century a number of VOC officials criticised the confusion and the mistakes in the bookkeeping, and suggested measures to correct these mistakes and to put the accounting system on a more systematic basis. Van Roo, who was acting as inspector on behalf of the Amsterdam directors, found irregularities in the bookkeeping in the VOC establishments in India. When he died in 1695, it was suspected that he had been poisoned, because he had come too close to the secrets of local VOC officials.

The VOC directors asked the lawyer Pieter van Dam to write a report on the history and organisation of the Company. Van Dam, who submitted his report in 1701, was very critical of the accounting practices in the VOC enterprise. He stated bluntly that the accounting books sent from Batavia contained many mistakes, probably made intentionally with the purpose of concealing the real activities from the directors in Amsterdam.[32]

Van Dam gives the following example of mistakes made. European goods arriving in Batavia, valued at 1,000 'heavy' guilders, were sold for 2,000 'light' guilders, seemingly a profit of 1,000 guilders. In reality, the value of the goods in 'light' money was 1,000 plus 250 (25 per cent) equals 1,250 guilders, sold for 2,000 guilders, yielding a profit of 750 'light' guilders, or 600 'heavy' guilders, a profit not of 100 per cent, but of 60 per cent.[33]

In his voluminous report, Van Dam discusses extensively the opportunities for self-enrichment for VOC officials in Batavia and in the trading posts. Manipulation of the different exchange rates between the systems of account played an important role in these activities. VOC servants in Asia could send money from Batavia to Amsterdam by means of bills of exchange. They deposited the money with the treasurer in Batavia, and they or their relatives later cashed the bill in Amsterdam. A common practice was that the number of coins paid in 'light' money in Batavia was paid in 'heavy' money in Amsterdam, at a loss to the Company.[34] Van Dam also describes how officials in Batavia, shipping *payement* to the trading posts, wronged the Company by reducing 'heavy' money to 'light' money.[35]

[32] Pieter van Dam, *Beschryvinge van de Oostindische Compagnie*, vol. 3, ed. F. W. Stapel, Rijks Geschiedkundige Publicatiën (The Hague, 1943), p. 336.

[33] Ibid., p. 331. Also De Korte, *Jaarlijkse financiële verantwoording*, p. 34.

[34] Van Dam, *Beschryvinge*, vol. 1, part II, pp. 57–79.

[35] Ibid., vol. 3, p. 336.

The different rates in Amsterdam and Batavia offered opportunities for profit to the Amsterdam headquarters as well. The VOC office in Amsterdam realised that the Company could make a profit with its money shipments. Instead of shipping for 200,000 guilders *payement*, it was more profitable for the Company to change this amount in Amsterdam into pieces of eight at 49½ stivers a piece, yielding 80,808 pieces, ship these coins to Batavia, sell them for three guilders a piece, which would yield 242,424 guilders, resulting in a profit of 42,424 guilders, compared to the *payement* shipment.[36] The conclusion is that the coexistence of different systems of account, while complex in appearance, provided opportunities for profit both to Company servants in their private capacity and to the Company as a business organisation.

V

In the second half of the nineteenth century a number of Dutch economists wrote extensive discussions of monetary policies in the Netherlands Indies during 'the last 250 years' (i.e. the period from 1600 till about 1850). Without exception these authors passed a very negative judgement on the VOC policies, particularly the coexistence of 'heavy' and 'light' money, using characterisations such as 'chaotic policies', 'currency confusion', 'capital mistakes', 'misconceptions', 'mismanagement' and 'ignorance', causing 'miserable conditions' in the Indonesian archipelago. The Dutch economist Van den Berg attributed this confusion to the practice, a mistaken practice in his view, of bringing European coins into circulation in Asia.[37]

This strongly negative judgement can, however, be questioned. It is in general more fruitful to assume that human beings are more or less rational actors within the historical context in which they are operating. It is also advisable to analyse the Dutch East Indies Company not as a monolithic bloc, but as a layered structure, in which the Amsterdam directors only had partial control over the organisation, with a second layer of administrators in Batavia, and a third one in the numerous trading settlements in Asia. On these different levels, actors operated more or less rationally, at least from the viewpoint of their self interest, and that of the VOC office they represented.

It was quite rational for the VOC traders to bring European coins to Asia. Although Asia was a world of multiple currencies, these currency systems were distributed unevenly. India had a fully fledged monetary system, where foreign traders could simply fit in and use the system to their advantage. In other parts of Asia the Dutch traders had to bring in outside currencies. In the Indonesian archipelago, where the Company started its operations, the existing currency consisted of small coins only.

[36] Ibid., vol. 1, part II, p. 63.

[37] Van Zuylen van Nijevelt, 'Bijdragen'; W. C. Mees, *Het muntwezen van Nederlandsch-Indië* (Amsterdam, 1851); N. P. van den Berg, *De kwestie over den geldsomloop in Nederlandsch-Indië* (Batavia, 1863); N. P. van den Berg, *Munt-, crediet, en bankwezen* (1907), pp. 1–23.

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The VOC brought large amounts of silver coins as well as bullion to Batavia and to its trading posts. The Company officials saw these coins in the first place as commodities, to be traded against other commodities. In principle it was not strange that these coins disappeared, because the Company acquired Asian goods in return, which could be sold in Europe. In fact Company officials welcomed the arrival of Asian traders who were interested in the acquisition of silver coins.

In the 1640s and 1650s the VOC officials in Batavia took measures to discourage the outflow of coins in circulation in the VOC areas around the town, namely, they increased the valuation of these coins in terms of the unit of account. These policy measures were in principle not different from what the officials in the Dutch Republic had been doing for a long time. However, they were more drastic than was the practice in the Netherlands. The Dutch historian De Bree categorically states: 'The government in the Netherlands Indies was completely right in raising the value of the coins.'[38]

The VOC officials interpreted the great demand for silver coins in Asia and the disappearance of coins from local circulation in Batavia as proof that silver was 20–25 per cent more valuable in Asia than in Europe. They considered the monetary measures taken not only as defensive steps to protect the local money circulation, but also as a great opportunity for profit for the Company and for themselves. The increased rate of large coins, in terms of the stiver, meant that they could employ the silver from Europe with a premium in local markets. VOC officials in Batavia defended the rate increase as a measure to increase profits for the Company.

However, the relationship between large and small coins complicated the matter. The VOC directors reasoned that if silver were more valuable in Asia than in Europe, that principle would apply to both large and small coins. It was therefore not an illogical step for the VOC directors in 1658 to order the increased valuation of the *schellingen*, *dubbeltjes* and *stuivers* by 25 per cent. However, this restored the original balance between large and small coins, and exposed again the large coins in circulation to the dangers of being exported. The VOC officials reacted to this new situation with another increase in valuation of the large coins, of 25 per cent. The effect was the creation of four different systems of account. The main consequences of these monetary measures were experienced in the bookkeeping and treasury departments. The VOC was keeping the accounts of trading transactions and prices and reporting the results to the directors in Amsterdam, converted to a standard system of account, the guilder of 20 stivers. This was not done systematically and, as several authors have pointed out, the Company bookkeepers made so many mistakes that for many years, if not decades, the books must have given an incorrect view of the trading results.

The two compartments, monetary policy and bookkeeping, could not be isolated from each other, not only because the trading activities of the Company reached deeply into Asian societies, but also because of the important link with the Dutch Republic. Cargoes of coins, bullion and goods from Amsterdam were booked

[38] De Bree, *Gedenkboek*, p. 31.

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in Batavia with a premium of 25 per cent, and thus figured in the books as 'light' money. The value of return cargoes was booked in 'light' money, but sold in Amsterdam for 'heavy' money. Salaries of VOC employees and payments for soldiers and sailors in Asia were paid in 'light' money. Bills of exchange drawn in Batavia, by Company employees and private persons, for the transfer of funds to Amsterdam, were paid in 'light' money, but cashed at the same amount in 'heavy' money. In Batavia and other VOC controlled areas, contracts between Europeans were drawn up in riksdollars of 48 stivers, regardless of the actual currency used for discharging the debts.

From the late seventeenth century onwards, bookkeeping practices were standardised and improved, but it was only in the middle of the eighteenth century that the 'light' money was removed from the books, and that all accounts were done in 'heavy' money.

Finally, a few words may be added about something that looks like a puzzle at first sight. In the first half of the seventeenth century Dutch traders were convinced that silver was worth 25 per cent more in Asia than in Europe, and that they could make a profit from this premium. In the middle of the eighteenth century the VOC recognised the fact that the currency circulating in the Netherlands Indies had depreciated compared to the Dutch currency, by 20 per cent. The first statement is, of course, an illusion: the demand for silver was high in Asia, and this allowed the European traders to fetch a higher price. The question is, what is the unit in which this higher price is expressed? The traders probably could purchase a larger amount of goods than they had expected on the basis of their European experience. Those goods were shipped to Europe and were sold at a good price. In the short run the higher valuation had offered opportunities for profitable trade. However, in the long run the currency system was undermined. When the higher price of silver is expressed in a higher number of units of account, by implication the silver parity of the unit of account is decreased. In other words, the whole operation left behind a devalued currency system. Apparently, the VOC recognised that only with the currency reform of 1767.