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Fernando Cerqueira Lima Rita Martins de Sousa

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Production, Supply and Circulation of 'National' Gold Coins in Brazil (1720-1807)

Fernando Cerqueira Lima*
(Institute of Economics of the Federal University of Rio de Janeiro/UFRJ)
Rita Martins de Sousa
(CSG/GHES/ Lisbon School of Economics and Management-ISEG / UL)

fcarlosgreenhalgh@gmail.com martins@iseg.ulisboa.pt

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Abstract

Based on the hypotheses that Brazil was not merely an economy that exported precious metals

and that there was a relative expansion of the domestic market, in this paper we assess the

production, supply and circulation of 'national' gold coins in Brazil in the 18th century. New estimates

are provided of the production of these gold coins at the mints of Rio de Janeiro, Bahia and Minas

Gerais. Comparing the values of the coinage with remittances to Lisbon, the first half of the 18th

century reveals a more stable conjuncture than was found in the second half. This latter period shows

fluctuations that were expressed in the faster growth of the supply despite the fall that took place in

the production/coinage of gold. Our conclusions question the historiographical theses about the

shortage of currency in Brazil throughout the 18th century. The growth of the economy from the last

quarter of the century onwards implied an increase in the demand for money, which it proved possible

to meet through the production of 'national' gold coins.

JEL codes: N13; N23; N43

Keywords: Brazilian Mint Houses; Brazilian gold; Money Supply

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1. Introduction

The most recent historiography has reassessed the monetary aspects of relations between Brazil and Portugal (Carrara, 2010b; Costa, Rocha, Sousa, 2013), with one of its conclusions pointing to the existence of complementarity in the production of metallic money. In the 18th century, the mints opened in Brazil produced not only provincial coins, but also gold coins destined for circulation in Portugal, the so-called 'national' currency. In turn, the Lisbon Mint also produced provincial coins destined for circulation on the other side of the Atlantic. Such complementarity also derived from the recipients of the issues of gold coins: in Rio de Janeiro, Minas Gerais and Bahia, the national gold coins that were produced were destined for private economic agents, who then sent them to Portugal in the ships' coffers, while in Lisbon gold bullion and gold dust were mainly received by the State. Between 1720 and 1807, 557 tons (271,000 contos) of gold arrived in the port of Lisbon, corresponding to 73% of the total gold production in the period between 1721 and 1799. Of these imports, 78% were destined for private economic agents, while 22% were net tax revenues collected by the State. While this conclusion highlights the gap between the production and the remittances of gold, the systematic calculation of all the gold coined at the Brazilian mints needs to be reassessed. This will make it possible to understand whether, during the 18th century, all the coins minted in Brazil were or were not shipped to Lisbon. A comparison of these three variables - production, coinages, and remittances - also enables us to find an explanation for the gap between coinages and remittances.

In turn, in Brazilian historiography, there is now greater consensus about the view that, in the 18th century, Brazil was not merely an export economy, but that it also expanded its domestic trade¹. Recently, the debate about the relationship between mining, currency and the domestic market has extended the discussions that had previously taken place in relation to the former Spanish colonies, such as Potosi, Córdoba, Paraguay and Buenos Aires (Assadourian, 1982; Gelman, 1984 and 1993; Romano, 1998; Ibarra, 1999). The debate has tended to become polarised into a discussion of the nature of these areas that produced precious metals: were they natural economies or monetary economies? (Johnson, 1973; Carrara, 2010a)

Based on the hypotheses that, in the 18th century, Brazil was not merely an economy that exported precious metals and that there was a relative expansion of the domestic market, the main research question is whether this market was or was not "irrigated" by the circulation of metallic money. Quantifying the currency stock that was available in Brazil might help to solve this question. Determining the total amount of currency produced at the mints of Portuguese America, and subtracting from this the total amount of coinages sent to Portugal would be a first step.

¹ A group of authors have demonstrated the importance of domestic trade for the development of Brazil, such as Lapa (1994) and Fragoso (1992). For a synthesis of this debate, see, for example, Schwartz (1999) and Chaves (2003).

The aim of this paper is to assess the production and stock of national gold coins in Brazil in the 18th century, hoping in this way to contribute to the discussion of the monetarisation process. Writing, in his classical study *A Política Monetária do Brasil*, about the history of money in Brazil in the period prior to the arrival of the Royal Family in Rio de Janeiro in 1808, Pandiá Calógeras asked: "What amounts had been coined? What amounts were in circulation? These problems are impossible for us to solve, given the current state of our knowledge" (Calógeras, 1960, p. 15). This paper seeks to provide an answer to these questions. Although recognising that part of the currency was also in the form of provincial coins, the authors of this paper chose not to contemplate this particular problematics here, since they considered that the difference between the amounts of national and provincial coins that were in circulation does not call their conclusions into question and raises different theoretical problems (Fantacci, 2005).

In the first section, a brief summary will be made of the historiographical debate about the role of currency in the colonial period. The aim will be to demonstrate how the various approaches have tended to focus on contradictory theses: sometimes, what is most noticeable is the absence of a demand for money, and, at other times, its shortage. In the second section, a description is made of the legal design of the monetary system, and new estimates are provided of the production of national gold coins at the mints of Rio de Janeiro, Bahia and Minas Gerais. The continuing permanence of national gold coins in Brazil makes it possible to question their destination, and, furthermore, serves to provide a first step in the regional analysis, establishing a difference between Rio de Janeiro and Bahia. This will be the target of section 3. The fourth section is devoted to a discussion of the calculation of the stock of national gold currency in Brazil, corroborating the information available from that time about its circulation. The conclusion is that at least part of this national gold currency remained in Brazil, helping to oil the domestic market.

2. Money in colonial Brazil: a brief literature survey

The most common approach to monetary questions in the colonial period is based on the idea that there was almost no circulation of metallic money. Not even the great production of gold (and gold coins) in the 18th century would have changed this picture, because, in a *slave-based* economy, based on the *plantation* system, with self-sufficient economic units geared exclusively to the external market, the absence of currency would not interfere with its economic performance. From the mid-18th century onwards, the development of trade, especially in the Rio de Janeiro region, would have led to a hierarchical system of credit. This line of reasoning leads one to conclude that inside the colony itself there would be no demand for money for transaction purposes, since these could be carried out without the need for monetary resources.

A survey of some of the authors who have written and reflected on Brazilian economic history allows us to demonstrate these claims. First of all, Roberto Simonsen (1941), analysing the monetary

situation prevalent at the end of the colonial period, states that "in a land where industries, except for the production of raw cotton cloth, were prohibited, where the main activity was concentrated in agriculture, and where foreign trade was in the hands of Portugal, the money stock would have been limited, just as the needs for currency would also have been limited" (Simonsen, 1941, vol. 2, p. 261). This makes it explicit that there would not have been any demand for money; consequently, it does not make sense to talk about a *shortage* of money.

Following the same line of thought, Celso Furtado, in his book *Formação Econômica do Brasil*, published in 1959, considers that production was basically destined for export, so that the monetary flow was established between the production unit and the external market. In the event of an external crisis, the adjustment was made automatically. By reducing income, the fall in exports also implied a reduction in the imports not only of consumer goods, but also of capital goods and labour, giving rise to a (frequently lengthy) process of decline. It should be added that there would be no demand for money for transactions inside the colony, for the only "multiplier effect" caused by the sugar industry would be related with cattle farming, which would absorb no more than 5% of the monetary income generated by sugar exports.

In turn, when writing about the Brazilian export economy, Caio Prado Júnior (1942) assumed:

"the general nature of Brazilian colonisation... is that of a colony destined to provide European trade with some tropical commodities of great economic importance. It is for this purpose that it was created. ... Anything more that exists therein, and which, in fact, will always be of limited value, is subsidiary and destined solely to support the achievement of that essential aim. Also included here is the subsistence economy...." (Prado Jr., 1942, p. 41).

The author describes the various secondary activities at length, highlighting the "agricultural renaissance" that took place from the 1770s onwards and mentioning the existence of coastal trade to supply the urban centres. But he reveals almost nothing about the forms (means) of payment.

Among the authors who sought to analyse the monetary questions more directly, D.T. Vieira (1985) explains, in a frequently quoted passage, why there was little actual need for cash, in view of the economic and social characteristics of Brazil at that time:

"[The] producer did not need cash, because the payment of work was limited to the maintenance of the slave (...). The stewards and skilled workers mainly received their payments in natura. (...) Money, existing in small quantities, was only accumulated in the most important cities, and even there it was only in the hands of the wealthiest; the latter, in turn, had no need for a trading intermediary, given the scarcity of the population and the scantiness of their needs, and

tended to hoard it rather than cause it to circulate. (Vieira, 1985, p. 350, our emphasis)

The problematics of the scarcity of currency was also considered by Noya Pinto (1979), who highlights the importance of mining on the supply and demand for money. This author considers that until the appearance of gold, the circulation of currency in Brazil was reduced in scale, being limited by the small amounts of coins minted in Lisbon and sent to the colonies. To overcome this shortage, the colonists resorted either to trading with the use of native products transformed into currency, such as tobacco and cotton, or to trading with the Spanish colonies, especially Buenos Aires, where they acquired silver coins. This circumstance meant that a system of trade in natura remained dominant, stimulating a closed internal economy that supplied itself, in which prices changed little due to the weak mechanism of supply and demand. In the 18th century, however, gold altered this situation. Firstly, gold in the form of dust, and then later in the form of coins produced at the various mints set up in Brazil, began to circulate in the Brazilian domestic market, leading to a rise in prices resulting from the huge demand and limited supply. Mining activity, which was accompanied by urban and demographic growth, created conditions for the formation - for the first time in the history of Brazil - of an internal market stimulated by the increased amount of currency in circulation and the greater purchase power of the colony in general, and the mining regions in particular. Thus, for Noya Pinto, the greater supply of currency (metallic money and gold dust) contributed to the development of the internal market. The exception to this picture was the region of Bahia, where the demand for money existed, but the supply was insufficient to meet it, at least until the 1730s.

More recently, Jucá Sampaio (2002) reached a number of conclusions about the shortage of metallic currency in some regions of Brazil. Studies based on inventories serve him as an argument. He considered credit not as an option for postponing the settlement of payments in keeping with a mercantile logic, but as a consequence of that shortage. According to Jucá, money travelled in just one direction, namely from the mining areas to Rio de Janeiro, where a merchant elite controlled its flows; in the daily life of Rio society, money was scarce. Like Fragoso (1992) and Fragoso & Florentino (1993), Jucá considers that the shortage of currency led to the establishment of hierarchical chains of credit (indebtedness).

Therefore, according to these authors the questions related both with the supply and demand of money would not have been important to analyze the Brazilian economy in the colonial period. The most common conclusions point to the absence of currency in most regions, together with its geographical and social concentration. But is it possible to continue to defend this picture of an economy that was poorly irrigated by metallic money?

3. Production of 'national' coins in Brazil

3.1. The monetary system

At the beginning of the 18th century, the monetary system in Portuguese America was a bimetallic one. The unit of account was the *real* and, besides metallic money (gold, silver and copper), the means of payment included such commodities as cotton, sugar and gold dust. While cotton was a means of exchange in the State of Maranhão and Grão-Pará, gold dust circulated, above all, in the mining regions (Antonil, 2001). The ratio between the settlement of exchanges in commodities or in "cash" had changed in comparison with the previous century. Cash payments became more common, or, in other words, metallic money became not only the means of payment, but also the predominant means of exchange. In this sense, the shortage of metallic money might have represented an obstacle to trade in general, including the business of the State. However, if metallic money is seen to have circulated in sufficient quantities to meet the demand for money for transaction purposes, then this would strengthen the thesis of the expansion of the internal market throughout the 18th century.

As far as metallic money is concerned, two types of coins were produced both at the Lisbon Mint, and at the mints set up in Brazil: *national* gold coins, intended for circulation in Portugal, and *provincial* coins, made of gold, silver and copper, which were to be used exclusively as legal tender in the Portuguese American territory. Thus, in the case of colonial Brazil, not only was it a bimetallic system, but it was also a system with complementary coins in circulation (Fantacci, 2005). However, as will be demonstrated in Section 3, the so-called 'national gold coins' also circulated in Brazil. Let us, then, assess their production at the mints opened by the Portuguese Crown in Brazil.

3.2. Coinages in Brazil (1703-1807): new estimates

The large-scale mining of gold in Brazil from the late 17th century onwards brought profound changes to the coinage policy. It was decided to reopen the Rio de Janeiro Mint (CMRJ) in 1703 and then, in 1714, the Bahia Mint (CMBA), which remained in operation until 1832. A third mint was established in Vila Rica (CMVR), between 1724 and 1734. The initial idea was to mint exclusively "national" coins, with the same intrinsic and extrinsic value as those produced at the Lisbon Mint (Table 1). With this measure, the metropolitan authorities sought to prevent the smuggling of gold dust, for this diminished the Crown's revenue.

Historians interested in calculating the quantity of gold transferred from Brazil to Europe have investigated the total amounts produced at the Brazilian mints. Soetbeer (1880) presents annual data regarding the marks of gold entering the Rio de Janeiro mint in the period 1703-1810. These data are coherent with the information about the coinages made in Rio, as stated in documents from the second half of the 19th century. For example, in 1862, Candido de Azeredo Coutinho, the director of the CMRJ stated that 867 *contos de réis* had been coined at that mint each year during the period

when the CMVR was in operation. This average annual value for the period 1725-1733 is confirmed by Soetbeer's data. Also, according to Azeredo Coutinho, 1755 was the year of greatest production, with production in 1780 having been 2,550 *contos* lower. According to Soetbeer's data, the CMRJ produced 4,844 *contos* in national coins in 1755 (the highest value in his series) and 2,297 *contos* in 1780, or, in other words, 2,547 *contos* less. The numbers presented by Soetbeer also match the annual values presented by the Conde de Resende for the period 1768-1796.

The table showing the production of the CMRJ for five-year periods, presented by Michel Morineau (1985), is based on Soetbeer's data, even though they do not always coincide with one another.

The coinage of the Vila Rica Mint (CMVR) was originally presented by Charles Boxer (1962). As in the case of Soetbeer, his data show the amount of marks that entered that mint each year.

A synthesis of the information provided by Morineau and Boxer has been made by Costa, Rocha, Sousa (2013), aggregating the values for some years of the 1760s at the Bahia Mint. In the case of the CMVR, in order to convert marks (weight) into *contos de réis* (unit of account), the value in marks was divided by 10 and multiplied by 1.024.

In this section, the data that have been systematised so far are completed and consolidated. Figure 1 and Table 2 (see the appendix) present the data for the production of national gold coins over five-year periods by the three mints operating in Brazil in the 18th century.

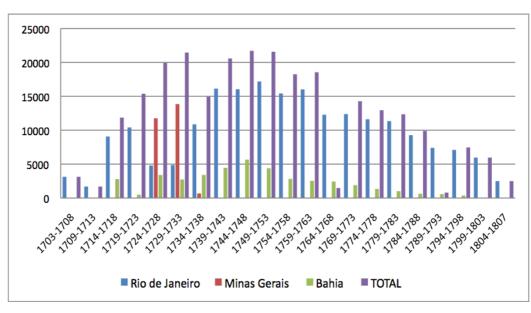


Figure 1 – Production of 'National' Gold Coins (1703-1806) (in *contos*)

Sources: See Table 2 (Appendix)

It can be concluded that for the group of mints as a whole, the coinages were high between 1724 and 1763, and that they remained significant in size until the late 1780s. It should be noted, however, that the production of coins only began to become concentrated at the CMRJ from the

1750s onwards, since, until then, the amounts produced at the Bahia Mint remained relatively stable, with its coinages amounting to roughly one third of those of the CMRJ. It can also be concluded that, during the ten years in which it was in operation, the CMVR produced more than half of the total amount of coins produced in the colony, and that the beginning of its activity in 1724 greatly reduced the coinages made both at the CMRJ and at the Bahia Mint. For the period as a whole between 1703 and 1807, the CMRJ was responsible for 74.1% of the total of national coins minted in Brazil.

4. Difference between coinages and remittances of national gold coins

While the national gold coins were destined for circulation in Portugal, not all of them reached there. The difference between the coinages of national gold coins produced at the Brazilian mints and their subsequent remittances was one of the conclusions already highlighted in Costa, Rocha, Sousa (2013). However, the new data make it possible to reassess this difference. Figure 2 and Table 3 (see the Appendix) organize the data regarding the coinages of national gold coins in comparison with their actual remittances on board ships crossing the Atlantic in the period between 1720 and 1807.



Figure 2 – Ratio of remittances to coinages of national gold coins (1719-1806) (in %)

Sources: See Table 3 (Appendix)

We conclude that there were two five-year periods when remittances were higher than coinages, although for most of the period the proportion of remittances was lower. For the

period as a whole, there was a difference of roughly 20%. Secondly, there were certain conjunctures that affected the ratio between the two variables. There was a fall in remittances beginning in the 1740s, followed by a slight rise between 1764 and 1773, and then a sharp fall from the late 1770s onwards. Remittances rose once again at the end of the century and the beginning of the next one.

This behaviour of the two variables raises at least two questions. First of all, what justifies the differences between coinages and remittances? And, on the other hand, what is the meaning of the conjunctures detected?

As has already been demonstrated in previous research, 91% of the coins shipped were sent to private agents and only 9% were destined for the State (Costa, Rocha, Sousa, 2013, pp. 72-82). Of these shipments, 80% were related with commercial activities, while the remainder was equivalent to what today is referred to as unilateral transfers and the remuneration of services.

Considering the proportions that have been calculated, it can therefore be said that the 20% difference can be explained by the fact that the shipments of these national gold coins minted in Brazil were not conducted in an official manner. However, did the fact that the remittances were not official mean that they were shipped in such a way as to avoid payment of the 1% import duty levied at the Lisbon Mint, the place where these shipments were delivered? Or, on the contrary, did it mean that these national gold coins remained in Brazilian territory? The information provided by the governors of Rio de Janeiro, Bahia and Maranhão point to their circulation in domestic transactions (see Section 4). In this sense, some explanatory hypotheses may be put forward to account for the fall in legal remittances of gold coins from the 1740s onwards.

First of all, smuggling was, as ever, the prime suspect, but this activity would be more profitable in the case of gold dust. Simple fraud was, certainly, part of the problem, but the fact that gold dust had a lower nominal value than that of the (international) market was more important, as stressed by some contemporaries. In commenting on the different values officially attributed to gold dust, Eschwege summarises the argument as follows: "By virtue of this arbitrary process (...), the mistake was made of never attributing to it the real exchange value, which resulted in a loss of many millions for the Crown. In fact, as gold had a much lower commercial value than the one attributed to it by the government, it was natural that smuggling should appear as such an attractive proposition, for, not only were the **20% of the one-fifth tax** saved, but, furthermore, a high premium was gained" (Eschwege, 1944, vol. 1, pp. 247-248, our emphasis).

The second reason that can be suggested is the trade taking place with Portugal. First of all, because Brazilian exports increased, in particular, with the "agricultural renaissance" beginning in the 1770s (Ferlini, 2003, pp. 128-133), and imports fell (Costa, Rocha, Sousa, pp. 83-84). In turn, if remittances reflected the imports paid for *in cash* and the "unilateral

transfers", the imports paid for with other merchandise (barter) helped to reduce remittances. Exports paid for in cash did not reduce remittances (in the short term, they may even have increased, if the money was used to pay off debts, etc.). Therefore, the effects of foreign trade on remittances depended both on the trade balances and the way in which payments were made (for example, the greater use made of bills of exchange could explain the fall in remittances).

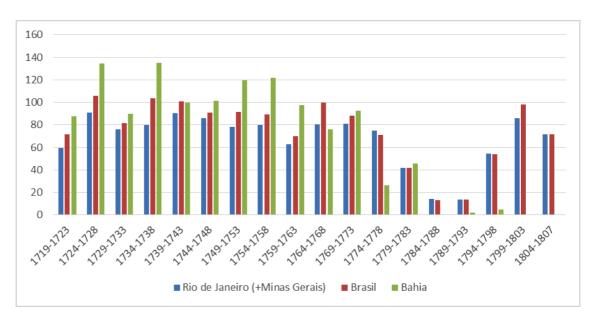
Arbitration operations in the River Plate and Colónia do Sacramento region could also explain the fall in remittances, since silver was highly valued at the time (Lima, 2013), but this would, of course, be a silent effect, because, unlike gold, there are no records of its imports into Lisbon (Sousa, 2012).

Another hypothesis is related with the probable increase in hoarding (or liquidity preference). Gold coins completely fulfilled the function of offering reserves of *universal* value, all the more so because, at the time, the absence of a banking system or a capital market did not allow for alternative forms of financial investment.

Finally, and perhaps the most important reason for not sending coins to the metropolis was the increase in the demand for money (the demand for transactions in the colony) arising from the growth in the population and in income, the diversification of production and the expansion of intra and interregional trade (Fragoso, 1992; Lapa, 1994). Various payments were necessarily made in cash (civil and naval construction) and there were individual and institutional cash loans, urban and rural property investments, rental charges, etc. all paid for in money. When the amounts were high, gold coins were used as they had a greater extrinsic value. The increased demand for money without any increase in its supply might, in fact, have generated situations in which there was a shortage of currency. In turn, the colony's economic and political growth must have motivated the reinvestment of part of the profits from foreign trade in the colony itself (whether or not these were productive investments). (Sampaio, 2002; Pesavento, 2012).

The aggregate data may conceal regional differences in the shipments. Thus, Figure 3 and Table 4 may clarify these differences by separating Rio de Janeiro and Bahia.

Figure 3 – Proportion of remittances in the coinage of national gold coins by geographical mints (1719-1807) (in %)



Sources: See Table 4 (Appendix)

The distribution of the regional pattern of the proportion of remittances in the coinages at the different mints shows the high percentage recorded between 1724 and 1733, arising from the coinages at the Minas Mint and the shipment of these through the port of Rio de Janeiro. Comparing, after this, Rio de Janeiro and Bahia, it can be seen that the latter mint shipped proportionally more coins than the CMRJ until the 1760s. From the five-year period 1764-1768 onwards, Rio increased and Bahia drastically reduced its remittances. Bahia's links to the remittances of private agents may explain the decrease in the importance of this mint, since, from 1750 onwards, there was a reduction in the remittances sent by these agents to Lisbon (Costa, Rocha, Sousa, 2013). We continue to put forward the research hypothesis that these remittances were linked more to agents located in the north of Portugal, above all in Porto. The possibility of alternative areas of trade, namely with the east of Europe, may have led some of these agents to operate in other geographical regions.

Figure 4 and Table 5 (see the Appendix) show the relationship between private remittances and the income of the mints, with this latter variable having been calculated from the total coinage minus the seigniorage paid (6.25% for gold).

160
140
120
100
80
60
40
20
0
Treatily at the treatily at the

Figure 4 - Proportion of coinage shipped by private agents in the income of the mints (in %)

Sources: See Table 5 (Appendix)

This strengthens the conclusion that private agents did not send all the national gold coins that they received to Lisbon, especially those produced at the CMRJ. In Bahia, it was, above all, from the five-year period of 1774-1778 onwards that this fall became particularly significant, for, until then, shipments had included almost all the coins minted.

Since not all of the coins produced were sent to Lisbon, the difference could mean that remittances were sent to the State. However, not only did the State absorb only 9% of the total coinage made in Brazil (Costa, Rocha, Sousa, 2013), but also the policy of shipments to Portugal changed in the course of the 18th century. In the first decades of the century, the tax revenue related with gold (the "quinto" tax and the seigniorage) were supposed to be sent to the Court. In the case of the seigniorage, despite this recommendation, an ever greater part of this was being used in Brazil. From 1767 onwards, the whole revenue from the CMRJ was, quite probably, sent to the Royal Treasury of the captaincy. For example, between 1719 and 1738, the seigniorage amounted in total to 3575 contos and remittances to 7876 contos, thus pointing to the sending of the seigniorage revenue together with the revenue from other taxes. However, this was not the case in the last few decades of the 18th century. In the period between 1780 and 1807, the revenue from seigniorage amounted to 2723 contos, whereas the remittances to the State only amounted to 2344 contos. The most probable explanation for this would be the increase in the State's financial requirements, mainly with the defense of the territory, which not only included the soldiers' pay, but also expenditure on fortifications. In the 18th century, outside the mining regions, such payments could only be made in cash, or, in other words, with metallic money. The monetary cost of maintaining the colony was increasing.

5. Stock and circulation of 'national' gold coins in Brazil

What has been said so far allows us to conclude that a significant percentage of the national gold coins produced at the Brazilian mints remained in the colony. Based on this premise, a first attempt can be made to calculate the money stock in Brazil, considering only legal operations. *Stock* is not the same as *circulation*, with the difference between these two variables lying in the phenomenon of hoarding. As was seen in the previous section, part of the national gold currency was being hoarded.

The calculation of the stock of national gold coins in Brazil can be made by adapting the formula proposed by Glassman and Redish (1985) as follows:

Stock of national gold coins (in Brazil) = Coinage at the mints of RJ, BA and MG - Remittances of national coins to Portugal in commercial transactions or unilateral transfers (State and private agents) + Brazilian exports received in national currency + Transfers by private agents to Brazil - Losses through wear

The first two components of this formula (coinage and remittances) are known, and they are undoubtedly the most determinant variables. The amount of illegal shipments, which include smuggling and arbitrage operations, is not known, and it would represent a reduction in the money stock. However, due to a lack of systematic data, neither the component 'Brazilian exports received in national currency' nor 'transfers by private agents to Brazil' will be included. These amounts may not be overvalued, for, in fact, both the data to be found in the Balances of Trade, as well as in some documents from the period, show the existence of cash transfers from Lisbon to Brazil.

As far as the variable 'losses through wear' is concerned, the calculations contemplate a rate of wear of both 0.25% per year and 1% per year, in keeping with the rate proposed and used in previous studies (Glassman and Redish, 1985). Considering these two percentages makes it possible to calculate a range of variation for the stock of national gold coins in Brazil with a difference of roughly 10,000 *contos* (see Table 6 in the Appendix).

But what is the initial value to be taken into account? The most exact calculation is only possible from 1719 onwards, since the value of the remittances sent on the fleets was only recorded from 1720 onwards (Costa, Rocha, Sousa, 2013). However, there are some data available about the gold imported to Lisbon as from 1713, before the beginning of a fleet system in 1720 (Lopes, 2001). The consideration of these data makes it possible to calculate the value of gold arriving in Lisbon between 1713 and 1719 as amounting to 2,627 *contos*. However, this amount corresponds to gold bullion, since there is almost no record of coins entering the country. Or, in other words, the roughly 16,700 *contos* worth of gold minted as national gold coins at the Rio de Janeiro and Bahia mints (see Table 2 in the Appendix) are not included in the data before 1720. In this sense, while this might be a possible methodology for calculating the value of 1719, its calculation is not reliable for the reasons that have

been explained. We therefore begin from a value of zero in 1719, since it is not possible to precisely assess the amounts that remained in Brazilian territory.

The accumulated data give a picture of the balance of the monetary base, serving as a basis from which other forms of means of exchange and payments might be created (bills of exchange, paper-money, bank deposits, etc). In this case, the ratio between coinage and remittances is just a first approximation for calculating the money stock, with the oscillations taking place in this ratio being more relevant than absolute values (table 6 and Figure 5).

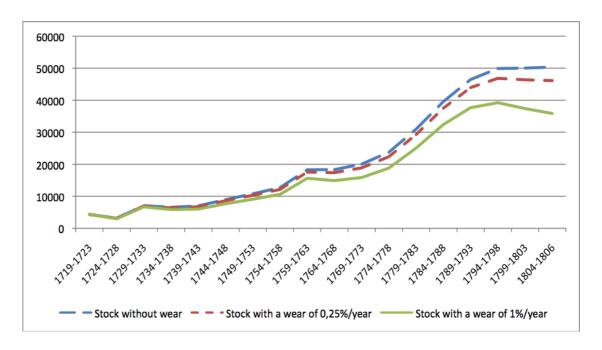


Figure 5 – Stock of 'national coins' in Brazil (contos)

However, the absolute values reveal that the availability of metallic money in the colony, at least in the second half of the 18th century (when the demand for money increased greatly), would not have been an obstacle to the development of a "domestic market", thus contradicting the notion that there was a shortage of currency. In 1806, the amount was between 36,000 and 46,000 *contos* of gold metallic money, which may point to the thesis put forward by Redish (1984), according to which, at the beginning of the 19th century, in some colonial areas, the currency problem was a qualitative and not a quantitative one.

A calculation of the value of the currency in Brazil at the beginning of the 19th century was originally presented by Cândido José de Araújo Viana, in 1833, which, since then, has been quoted by all authors. Viana estimated the total amount of metallic currency in circulation at 10,000 *contos*, which included gold, silver and copper coins, 2/3 of which were gold. Therefore, this estimate is much lower than the one that has just been calculated, all the more so if one considers that some of the gold currency included in these calculations consisted of provincial coins. However, Viana's estimates cannot be strictly compared with our own, insofar as they referred to the money in circulation, whereas our calculations refer to the money stock.

Certain official statements from the time help to strengthen our conclusion about the undervaluation of the amount indicated by Viana and generally upheld by other authors. An official letter sent, in 1799, to Dom Rodrigo de Sousa Coutinho by the head of the Bahia Treasury, proposing the issue of paper money, makes the following conjecture: "Supposing that at this Captaincy, at least five million *cruzados* of metallic money – both national and provincial – are in circulation, the sum of 500 thousand *cruzados* in paper is one tenth of this amount...". Thus, he estimated the amount of metallic currency in the captaincy of Bahia alone to amount to two thousand *contos*.

Considering that the values shown in Table 6 (see the Appendix) would therefore be very close to the total currency stock in Brazil, we can therefore begin to assess its significance by comparing it first with Portugal.

Table 1 – Stock of national gold coins (nominal values)

| | Total stock of gold (contos) | Stock of gold per capita (réis) |
|-----------------|------------------------------|---------------------------------|
| Brazil (1806) | 35 855 – 46 126 | 9 796 – 12 603 |
| Portugal (1806) | 72 927 | 22 790 |

Sources: For the population of Brazil, the data provided by Mortara (1941, p. 43) were used. For the value of the stock of gold in Portugal, see

http://aquila4.iseg.ulisboa.pt/aquila/investigacao/ghes/investigacao/base-de-dados.

It should be noted that, in comparing the two stocks, for Portugal it is not just a question of the coinages made at the Brazilian mints. The stock also includes the coinages made in Lisbon both for private agents and for the State, as well as the exports arising from the negative trade balances with foreign nations. Comparing the two stocks of gold, it can be concluded that between 30% and 40% of the national gold coins would have been in Brazil at the beginning of the 19th century. In terms of the money supply *per capita*, the degree of monetarisation of the Brazilian economy was roughly half of that of the Portuguese economy. The different demographic and economic structures would account for such differences. Therefore, the degree of monetarisation of the Brazilian economy calls into question those theses that point to the absence of currency in slave-based economies.

Next, we shall compare the value obtained for Brazil with that obtained for Nova Granada, a mining economy, and with England, an economy that was beginning its industrialisation process.

Table 2 – Stock of gold currency (minimal values)

| | Total stock (pounds) | Stock <i>per capita</i> (pounds) | | |
|---------------------|------------------------|----------------------------------|--|--|
| Brazil (1806) | 9,959,722 – 12,812,777 | 2.7 – 3.5 | | |
| Nova Granada (1800) | 691,778 | 0.74 | | |
| England (1800) | 51,000,000 | 5.5 | | |

Sources: For Nova Granada, see Moreno, 2013. For England, see Lindert, 1985. Note: Conversions – $\mathfrak{L}1 = 0.0036$ contos; 1 peso = 38 pence = $\mathfrak{L}0.158$ (McCusker, 1992)

Comparing the values of Table 2, it can be concluded that Brazil would be an economy that was much more heavily monetarised than the former Spanish colony (roughly three times as much) and had a degree of monetarisation that was closer to that of England (roughly one half). It should be stressed that this degree of monetarisation tells us nothing either about the pattern of its distribution or about the velocity of circulation of money. We are comparing economies with different levels of financial development, with the degree of monetarisation in England also being explained by the existence of banking institutions that increased the potential for the use of gold coins (monetary base).

As we have already stressed, calculating the currency stock does not mean that this was the currency that was actually in circulation. However, some information provided by governors allows us to observe the presence of national gold coins in Brazil, alongside provincial coins. This very fact can be concluded from the information sent by the governor of Bahia to Dom Rodrigo de Sousa Coutinho, and dated 1797: "For regular daily transactions, there are in circulation the provincial coins of this captaincy... besides the half doubloons of six thousand and four hundred réis, which very frequently circulate so well in trade." These doubloons of 6\$400 réis were included in the national currency. And the governor also gave details about all the different types of coins in circulation: "There are in this captaincy gold, silver and copper provincial coins... Gold coins of 4\$000, 2\$000 and 1\$000. Silver coins: 2 patacas are worth 640 réis; 1 pataca is worth 320; ½ pataca is worth 160... Also in circulation are silver coins of 800, 600, 300, 150 and 75 réis... Copper coins: of 20 réis, which have the same size as the Portuguese coin of 10 réis; of 10 réis, which have the same size as the Portuguese coin of 5 réis; and of 5 réis, which have the same size as the Portuguese coin of 3 réis." The governor of Bahia could not, however, provide any information about the total amount of coins in circulation "because as these are generally in circulation across the whole of America, with the exception of Minas Gerais, where silver coins are also in circulation, it is difficult to make such a calculation because of the trade taking place between the different captaincies".

Regionally, there were no differences in circulation. In 1797, the viceroy, the Conde de Resende sent the Minister for Overseas Affairs information about the coins that were in circulation in the captaincy of Rio de Janeiro. His report was similar to that presented by the governor of Bahia: there were "national gold coins circulating throughout the realm" (doubloons of 24\$000, coins of 6\$400,

4\$800 and 800 *réis*, among others), as well as "provincial gold currency that is only in circulation in Brazil" (coins of 4\$000, 2\$000 and 1\$000 *réis*). In the captaincy of Rio de Janeiro, there were also silver coins in circulation, all of which were provincial coins, of different values between 640 *réis* and 40 *réis*, as well as copper coins, also provincial, of 40, 20, 10 and 5 *réis*. Just like Dom Fernando of Portugal, the viceroy stated that it was not possible to calculate the total amount of provincial coins in circulation "because, as these are in circulation throughout the whole of Brazil, and are not produced only at this city's mint, it is neither easy to calculate the currency that has been transported nor that which is still kept at the limits of the captaincy".

The governor of Maranhão also submitted a report about the currency in circulation in the captaincy, stating that "there are in circulation (...) provincial coins with the following values: those of copper are worth 5, 10, 20 and 40 *réis*: those of silver are worth 80, 160, 300, 320, 600 and 640 *réis*, and those of gold are worth 1,000, 2,000 and 4,000 *réis*; and there are also in circulation those national coins that have a value of 6,400 *réis* or more" (our emphasis).²

It can therefore be concluded that, in three different regions of Brazil, the currency in circulation was composed not only of provincial coins, but also of national coins. In none of these reports submitted by the governors were there any complaints made by the local councils about the shortage of currency, or any demands for the dispatch of more provincial coins. However, this information does not allow us to estimate the amount of the different types of coins in circulation at the end of the 18th century.

6. Conclusions

This paper set out to assess the production, supply and circulation of national gold coins in Brazil in the 18th century.

The calculation of the coinage made it possible to recalculate the values for the different mints and to demonstrate a relative continuity until the end of the century. The last quarter of the century still presented levels of coinage that were comparable with those from the beginning of the century.

Comparing the values of the coinage with remittances to Lisbon, the first half of the 18th century reveals a more stable conjuncture than was found in the second half. This latter period shows fluctuations that were expressed in the faster growth of the supply despite the fall that took place in the production/coinage of gold.

These conclusions question the historiographical theses about the shortage of currency in Brazil throughout the 18th century. The growth of the economy from the last quarter of the

² IHGB. Consulta ao Conselho Ultramarino, 1.1.6, pp. 54-54v. Officio de Fernando Antonio de Noronha para Rodrigo de Souza Coutinho, em 24/03/1797.

century onwards implied an increase in the demand for money, which it proved possible to meet through the production of national gold coins.

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APPENDIX

Table 1 - 'National' Gold Coins

| | Extrinsec value (<i>réis</i>) | Period of coinage in Portugal |
|-------------------------|---------------------------------|-------------------------------|
| Dobra de oito escudos | 12,800 | 1722 – 1732 |
| Dobra de quatro escudos | 6,400 | 1722 – 1826 |
| Moeda | 4,800 | 1688 – 1732 |
| Dobra de dois escudos | 3,200 | 1722 – 1826 |
| Meia moeda | 2,400 | 1688 – 1722 |
| Escudo | 1,600 | 1722 – 1826 |
| Quartinho | 1,200 | 1688 – 1826 |
| Meio escudo | 800 | 1722 – 1826 |
| Cruzado novo | 480 | 1718 – 1826 |

Table 2 - Coinage in Brazil, 1703-1806 (contos)

| | Rio de Janeiro(1) | Minas Gerais(2) | Bahia(3) | TOTAL |
|-----------|-------------------|-----------------|----------|---------|
| 1703-1708 | 3,135 | | | 3,135 |
| 1709-1713 | 1,697 | | | 1,697 |
| 1714-1718 | 9,068 | | 2,796 | 11,864 |
| 1719-1723 | 10,415 | | 4,960 | 15,375 |
| 1724-1728 | 4,789 | 11,755 | 3,393 | 19,937 |
| 1729-1733 | 4,859 | 13,850 | 2,739 | 21,448 |
| 1734-1738 | 10,864 | 672 | 3,408 | 14,944 |
| 1739-1743 | 16,136 | | 4,449 | 20,585 |
| 1744-1748 | 16,042 | | 5,666 | 21,708 |
| 1749-1753 | 17,184 | | 4,387 | 21,571 |
| 1754-1758 | 15,424 | | 2,824 | 18,248 |
| 1759-1763 | 16,015 | | 2,531 | 18,546 |
| 1764-1768 | 12,283 | | 2,437 | 14,720 |
| 1769-1773 | 12,375 | | 1,903 | 14,278 |
| 1774-1778 | 11,617 | | 1,334 | 12,951 |
| 1779-1783 | 11,343 | | 1,009 | 12,352 |
| 1784-1788 | 9,270 | | 628 | 9,898 |
| 1789-1793 | 7,397 | | 583 | 7,980 |
| 1794-1798 | 7,101 | | 363 | 7,464 |
| 1799-1803 | 5,969 | | | 5,969 |
| 1804-1807 | 2,494 | | | 2,494 |
| TOTAL | 205,477 | 26,277 | 45,410 | 277,164 |

Sources:

- (1) For the periods 1703-1767 and 1797-1807, the source is the annual report of gold imports presented by Soetbeer. In order to convert the data, which were originally presented in marks, into *contos de réis*, the number of marks was divided by 10 and the result was multiplied by 1.025. For the period 1768-1796, the source that was used is the official report sent by the Conde de Resende to Dom Rodrigo de Souza Coutinho in July 1797 (RIHGB, *op. cit.*).
- (2) Based on Boxer. In order to convert the data, which were originally presented in marks, into *contos de réis*, the number of marks was divided by 10 and the result was multiplied by 1.025.

| (3) Based on AHU_CU_BahiaCA, doc. 19.779. The data shown in Table 2 correspond to the sum of the |
|--|
| values presented in the columns "income of the mints" and "real income". |
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Table 3 – Coinage in Brazil and Remittances to Portugal (1719-1806)

| | Coinage | (A) | Remittances (B) | B/A (%) |
|-----------|---------|-----|-----------------|---------|
| 1719-1723 | 15,375 | | 11,047 | 71.9 |
| 1724-1728 | 19,937 | | 21,097 | 105.8 |
| 1729-1733 | 21,448 | | 17,549 | 81.8 |
| 1734-1738 | 14,944 | | 15,455 | 103.4 |
| 1739-1743 | 21,200 | | 20,758 | 97.9 |
| 1744-1748 | 21,708 | | 19,759 | 91.0 |
| 1749-1753 | 21,571 | | 19,764 | 91.6 |
| 1754-1758 | 18,248 | | 16,292 | 89.1 |
| 1759-1763 | 18,546 | | 12,982 | 70.0 |
| 1764-1768 | 14,720 | | 14,663 | 99.6 |
| 1769-1773 | 14,278 | | 12,565 | 88.0 |
| 1774-1778 | 12,951 | | 9,218 | 71.2 |
| 1779-1783 | 12,352 | | 5,144 | 41.6 |
| 1784-1788 | 9,898 | | 1,308 | 13.2 |
| 1789-1793 | 7,980 | | 1,092 | 13.7 |
| 1794-1798 | 7,464 | | 4,021 | 53.9 |
| 1799-1803 | 5,969 | | 5,842 | 97.9 |
| 1804-1806 | 2,114 | | 1,787 | 84.5 |
| TOTAL | 261,083 | 1 | 210,343 | 80.6 |

Sources: Coinage - see Table 2; Remittances - Costa, Rocha, Sousa (2013), pp. 67-68.

Note: There is a time lag in the data, so that the dates shown in Table 2 correspond to the five-year period of coinages, while remittances always have a time lag of one year. For example, the five-year period 1719-1723 corresponds to the period of coinage, whereas, for remittances, the period considered was 1720-1724.

Table 4 – Proportion of coinage by geographical mints (%)

| | RJ (+MG) | Brazil | ВА |
|-----------|----------|--------|-------|
| 1719-1723 | 59.3 | 71.9 | 87.8 |
| 1724-1728 | 91.2 | 105.8 | 134.4 |
| 1729-1733 | 75.9 | 81.8 | 90.1 |
| 1734-1738 | 80.2 | 103.4 | 134.9 |
| 1739-1743 | 90.4 | 100.8 | 99.8 |
| 1744-1748 | 85.9 | 91.0 | 101.2 |
| 1749-1753 | 78.3 | 91.6 | 119.7 |
| 1754-1758 | 80.0 | 89.1 | 121.7 |
| 1759-1763 | 62.8 | 70.0 | 97.6 |
| 1764-1768 | 80.4 | 99.6 | 76.1 |
| 1769-1773 | 81.0 | 88.0 | 92.4 |
| 1774-1778 | 75.0 | 71.2 | 26.3 |
| 1779-1783 | 42.1 | 41.6 | 45.7 |
| 1784-1788 | 14.1 | 13.2 | 0.0 |
| 1789-1793 | 13.8 | 13.7 | 2.2 |
| 1794-1798 | 54.7 | 53.9 | 5.0 |
| 1799-1803 | 86.0 | 97.9 | |
| 1804-1807 | 71.7 | 71.7 | |

Table 5 – Proportion of coinage shipped by private agents in the income of the mints (%)

| | RJ+MG | ВА |
|-----------|-------|-------|
| 1719-1723 | 46.6 | 93.6 |
| 1724-1728 | 95.8 | 135.9 |
| 1729-1733 | 79.9 | 88.0 |
| 1734-1738 | 80.5 | 132.5 |
| 1739-1743 | 89.5 | 98.7 |
| 1744-1748 | 89.9 | 75.2 |
| 1749-1753 | 82.3 | 117.9 |
| 1754-1758 | 77.7 | 120.8 |
| 1759-1763 | 61.6 | 97.0 |
| 1764-1768 | 77.8 | 72.6 |
| 1769-1773 | 84.5 | 86.2 |
| 1774-1778 | 78.7 | 27.1 |
| 1779-1783 | 40.3 | 30.8 |
| 1784-1788 | 10.0 | 0.1 |
| 1789-1793 | 9.3 | 2.6 |
| 1794-1798 | 52.5 | 14.4 |
| 1799-1803 | 79.8 | |
| 1804-1806 | 40.3 | |

Table 6 – Evolution of the stock of 'national gold coins' in Brazil (in *contos*)

| | Coinage | Remittances | A-B Stock | Stock with wear of | Stock with wear of | |
|-----------|---------|-------------|-----------|--------------------|--------------------|---------|
| | (A) | (B) | A-D | A B Stock | 0.25%/year | 1%/year |
| 1719-1723 | 15375 | 11047 | 4328 | 4328 | 4328 | 4328 |
| 1724-1728 | 19937 | 21097 | -1160 | 3168 | 3114 | 2952 |
| 1729-1733 | 21448 | 17549 | 3899 | 7067 | 6974 | 6703 |
| 1734-1738 | 14944 | 15455 | -511 | 6556 | 6376 | 5857 |
| 1739-1743 | 21200 | 20758 | 442 | 6998 | 6738 | 6006 |
| 1744-1748 | 21708 | 19759 | 1949 | 8947 | 8603 | 7655 |
| 1749-1753 | 21571 | 19764 | 1807 | 10754 | 10302 | 9079 |
| 1754-1758 | 18248 | 16292 | 1956 | 12710 | 12130 | 10581 |
| 1759-1763 | 18546 | 12982 | 5564 | 18274 | 17542 | 15616 |
| 1764-1768 | 14720 | 14663 | 57 | 18331 | 17380 | 14892 |
| 1769-1773 | 14278 | 12565 | 1713 | 20044 | 18875 | 15861 |
| 1774-1778 | 12951 | 9218 | 3733 | 23777 | 22372 | 18801 |
| 1779-1783 | 12352 | 5144 | 7208 | 30985 | 29301 | 25069 |
| 1784-1788 | 9898 | 1308 | 8590 | 39575 | 37525 | 32405 |
| 1789-1793 | 7980 | 1092 | 6888 | 46463 | 43944 | 37673 |
| 1794-1798 | 7464 | 4021 | 3443 | 49906 | 46837 | 39232 |
| 1799-1803 | 5969 | 5842 | 127 | 50033 | 46379 | 37398 |
| 1804-1806 | 2114 | 1787 | 327 | 50360 | 46126 | 35855 |
| TOTAL | 261083 | 210343 | 50360 | | | |

GABINETE DE HISTÓRIA ECONÓMICA E SOCIAL

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