



**Série Documentos de Trabalho**  
**Working Papers Series**

**“Which way to turn?”**

**The destinations of the Spanish silver (1621-1650)**

**London, Lisbon or Genoa?**

Claudio Marsilio

**DT/WP n° 54**

**ISSN 2183-1785**

Instituto Superior de Economia e Gestão  
Universidade de Lisboa  
Lisboa - 2015

*“Which way to turn?”*  
**The destinations of the Spanish silver (1621-1650)**  
**London, Lisbon, or Genoa?**

Claudio Marsilio

claudio.marsilio@libero.it

**Abstract**

During the sixteenth and seventeenth centuries the public credit market of the Spanish Empire used the Genoese and Portuguese bankers' to intermediate on their behalf. They lent money to the Spanish Crown (*asientos*) and offered many other financial services all around Europe. The *asientos* was a typical form of short term borrowing which paid high rates of interest reimbursed in silver (bullion and coins), which could be sold to many different private economic agents and public mints all over Europe. The objective of this article is to analyse, within the environment of the international silver market, the role played by some of the European mints who were directly interested in this type of financial intermediation. While the production levels of the mints in Genoa and London depended more on the financial market that of Lisbon was derived from a purely commercial market.

**JEL codes:** N00 – N23

**Keywords:** Bullion Trade; Silver; International Payment System; Modern Monetary History; Exchange Fairs; Spanish Public Debt

## **Plan**

1. Introduction
2. The production of American precious metals: historical point of view
3. The *asientos* of Phillip IV: precious metals and loans from court bankers
4. The silver of the *asientos* and the mints of Lisbon, Genoa and London
5. The activity of the Mints of Genoa, Lisbon and London and the Spanish silver
6. Conclusion

Appendix A — Loans to the Spanish Crown (1618-1648)

Appendix B — Mints of Lisbon, London and Genoa (1621-1650): Silver outputs

(Kg.)

## 1. Introduction<sup>1</sup>

The mechanisms and circuits of distribution for silver in the modern age turns out to be a historiographical question that is still open. The authors who have dedicated themselves to this research have not even been able to come together on data that is only partially agreed. There are many reasons for this: mainly it comes down to the enormous volume of documentation collected by the Spanish administration which has often been dispersed across various colonial archives, and has consequently been produced with a lack of coherence and uniformity. It is also necessary to remember that the levels of production of various mines have often been recorded in places that are far apart from one another: from Mexico to Peru, from Colombia to Bolivia. The figures for the quantity actually sent outside of the American continent constitute another problem for interpretation. As will be seen below, the studies undertaken from the early 1800s have supplied figures which often vary greatly between them. The problem is then complicated if you want to define the quantity of gold and silver that actually arrived in Europe. The main destination for the silver was obviously Spain, in that almost all of the area in which the precious metals were produced was in territories controlled by the Iberian crown. Over the course of the past century, we have seen a number of scholars contribute to the debate regarding the quantity of precious metal that arrived in Europe, including Ramón Carande<sup>2</sup>, Pierre Chaunu<sup>3</sup>, Antonio Domínguez Ortiz<sup>4</sup>, Carmen Bancora Cañero<sup>5</sup>, María Encarnación Rodríguez Vicente<sup>6</sup>, Ruiz Rivera, García Fuentes, García-Baquero González<sup>7</sup>, Kindleberger<sup>8</sup> and more recently Romano<sup>9</sup>, Álvarez Nogal<sup>10</sup>, Bernal Rodríguez<sup>11</sup>, Yun Casalilla<sup>12</sup> and

---

<sup>1</sup> Claudio Marsilio is Postdoctoral Fellow of the *Fundação para a Ciência e a Tecnologia* of Portugal, linked to the *Gabinete de História Económica e Social (GHES) - Universidade de Lisboa* (bolsa nº SFRH/BPD/72316/2010). cmarsilio@iseg.utl.pt

<sup>2</sup> R. Carande, *Los caminos del oro y de la plata. Deuda exterior y tesoros ultramarinos*, Madrid, 1967.

<sup>3</sup> H. Chaunu – P. Chaunu, *Séville et l'Atlantique, 1504-1650*, 8 vols., Paris, 1955-1959.

<sup>4</sup> A. Domínguez Ortiz, 'Los caudales de Indias y la política exterior de Felipe IV', *Anuario de Estudios Americanos*, 13 (1956), pp. 311-383; A. Domínguez Ortiz 'Las remesas de metales preciosos de Indias de 1621 a 1665', *Anuario de Historia Económica y Social*, 2 (1969), pp. 562-585.

<sup>5</sup> C. Bancora Cañero, 'Las remesas de metales preciosos desde El Callao a España en la primera mitad del siglo XVII', *Revista de Indias*, 75 (1959), pp. 35-88.

<sup>6</sup> M. E. Rodríguez Vicente, 'Los caudales remitidos desde el Perú a España por cuenta de la Real Hacienda. Series estadísticas (1651-1739)', *Anuario de Estudios Americanos*, 21 (1964), pp. 1-24.

<sup>7</sup> A. García-Baquero González, *Cádiz y el Atlántico (1717-1778)*, 2 vols., Sevilla, 1976 and the most recent article: 'American gold and silver in the Eighteenth Century: From Fascination to Accounting', in D. O. Flynn – A. Giráldez – R. von Glahn (eds.), *Global connections and monetary history, 1470-1800*, Aldershot, 2003, pp. 107-121.

<sup>8</sup> C. P. Kindleberger, *Spenders and Hoarders: The World Distribution of Spanish American Silver, 1550-1750*, Singapore, 1989.

<sup>9</sup> R. Romano, *Opposte congiunture. La crisi del Seicento in Europa e in America*, Venezia, 1992.

<sup>10</sup> C. Álvarez Nogal, *El crédito de la Monarquía Hispánica durante el reinado de Felipe IV*, Valladolid, 1997.

<sup>11</sup> A. M. Bernal, *España, proyecto inacabado: costes/beneficios del Imperio*, Madrid, 2005.

<sup>12</sup> B. Yun Casalilla, *Marte contra Minerva. El precio del Imperio español (c. 1450-1600)*, Barcelona, 2004.

Rahn Phillips<sup>13</sup>. However, it was the research of Hamilton<sup>14</sup> which provided the most reliable estimate on the shipment of white metal from the New World; in fact his data is still today the starting point for every study of a quantitative nature. The most prominently critical contributions in relation to the data collected by Hamilton are certainly the works of Michel Morineau<sup>15</sup>. The estimates proposed by the French historian, relating to the quantity of silver sent to Europe in the Seventeenth century are notably higher than those presented by Hamilton in the 1930s.

The classic historiography has often revealed the relevant role played by precious metals as a means of payment to allow the European continent to gain access to the spices and other goods from the Asian market. As Braudel has shown, it was the trade in spices that constituted the decisive push towards International integration in the modern age. This articulated process, defined as the “circulatory System of the World Economy”<sup>16</sup>, sees Europe as the main purchaser of Asian spices, and the silver extracted from the American mines as the form of international payment. Asian countries, *in primis* India, beyond China and Japan, received huge amounts of precious metal for exotic products (not only spices), in which the European market was increasingly interested. Silver moved from west to east with a constant and regular flow, counter balanced in the opposite direction by every type of rare and exotic produce. Also, the arrivals of precious metals influenced the monetary circuits altering the balance of the economies of Europe, changing in particular the levels of prices which, particularly in the Seventeenth century, grew dangerously. The noted “price revolution”<sup>17</sup> is not the subject of this work, although it is fundamental to analyse and understand how the silver was inserted into the financial circuits not only of Europe, but also internationally.

We recall that the Spanish Empire itself benefited in large part from the silver of its colonies. Indeed, the classic historiography is interested in the silver trade in relation to both the public debt of the Iberian crown<sup>18</sup> (of which the *asientos* are an example), and the credit market, as well as the

---

<sup>13</sup> C. Rahn Phillips, ‘The Growth and composition of Trade in the Imperial Empires 1450-1750’, in J. Tracy (ed.), *The Rise of Merchant Empires: Long Distance Trade in the Early Modern World, 1350-1750*, Cambridge, 1990, pp. 34-101.

<sup>14</sup> The most relevant works of E. J. Hamilton are the articles: ‘Imports of American Gold and Silver Into Spain, 1503-1660’, *Quarterly Journal of Economics*, 43/3 (May, 1929), pp. 436-472; ‘American Treasure and the Rise of Capitalism (1500-1700)’, *Economica*, 9 (Nov. 1929), pp. 338-357. His most important books are: *American Treasure and the Price Revolution in Spain 1501-1650*, Cambridge (Mass.), 1934 and *War and Prices in Spain, 1651-1800*, Cambridge (Mass.), 1947.

<sup>15</sup> M. Morineau, ‘Gazettes hollandaises et trésors américains’, *Anuario de Historia Económica e Social*, 2 (1969), pp. 289-363; 3 (1970), pp. 139-211 and his pivotal monograph *Incroyables Gazettes et Fabuleux Métaux. Les retours des Trésors Américains d’après les Gazettes Hollandaises (XVI-XVIII siècles)*, Cambridge-Paris, 1985. See also: A. Jara, *Tres ensayos sobre economía minera hispanoamericana*, Santiago de Chile, 1966.

<sup>16</sup> F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, vol. I, London, 1975, p. 569.

<sup>17</sup> C. P. Kindleberger, *Spenders and Hoarders: The World Distribution of Spanish American Silver 1550-1750*, Singapore, 1989. Critically commented on by D. O. Flynn in his review of the book in *Journal of Economic History*, 50/3 (1990), pp 721-724. See also: J. de Vries, ‘Connecting Europe and Asia: A Quantitative Analysis of the Cape-route Trade, 1497-179’, in D. O. Flynn – A. Giráldez – R. von Glahn (eds.), *Global connections and monetary history, 1470-1800*, Aldershot, 2003, pp. 35-105.

<sup>18</sup> For the reign of Philip IV see: A. Domínguez Ortiz, *Política y hacienda de Felipe IV*, Madrid 1983; C. Álvarez Nogal, *Los banqueros de Felipe IV y los metales preciosos americanos (1621-1665)*, Madrid 1997; C. Álvarez Nogal, *El crédito de la Monarquía Hispánica durante el reinado de Felipe IV*, Valladolid 1999, C. Álvarez Nogal, ‘The Role Played by Short-Term Credit in the Spanish Monarchy’s Finances’, in F. Piola Caselli (ed.), *Government Debts and Financial Markets in Europe*, London, 2008, pp. 81-97.

system of international payments<sup>19</sup> (in particular the exchange fairs<sup>20</sup>). We are missing however an in-depth examination that concentrates on the role of the mints both as active “clients” in the silver trade and as mediators used by the financial operators. This would allow us to understand how and to what extent the silver managed by the financial operators of Europe could have had a significant impact on the supply of currency in some “national” markets.

Therefore, the objective of this article is to place in relation to one another the links that existed during the reign of Philip IV (1621-1665) between the silver used in the *asientos* (the loans made to the Spanish crown by foreign bankers) and the activity of some of the European mints. The question that I am raising is whether the European mints were “good clients” within the silver market that originated in the Iberian Peninsula? Why select the years 1621-1650 within the reign of Philip IV? Because it was right in this period that Portuguese and Genoese bankers were holding control over the market of the *asientos* in Madrid, and consequently the mints of Lisbon and Genoa could represent a privileged observation point on the trade in Spanish silver. In addition, in the same years new mechanisms of payment of the Spanish troops deployed to Flanders facilitated the emergence of a new Atlantic route that favoured the inclusion in this market of the London Mint. In other words, to what extent did the precious metal coming from the financial activity of the Portuguese and Genoese bankers in Madrid, influence the monetary supply within some European States?

In order to respond adequately to this question, I have concentrated on the study of the mints of Genoa, Lisbon and London in the period 1621-1650. Why these mints? Because the presumption is that the Genoese and Portuguese mints were directly linked to the interests of the *banqueros* of Madrid, whilst that of London had a strong link with the Spanish silver market, a fact that is proven in particular by a reading of the papers in the *Archivo General de Simancas*. Indeed, as will be seen, the credit system activated by the payment of the Spanish troops involved in the interminable military campaign in Flanders (1568-1648), shows how the *asientos* influenced the activity and the levels of production of the mints examined here. In addition, it will also be revealed how the logistics of the International payments system were remodelled in order to transform the Atlantic route into an essential instrument for the financial and credit activity of the bankers of Madrid, so as to transform the London market into a new centre for the distribution of silver. If this hypothesis is confirmed, we can then observe the competition between these three mints in the European silver market, as well as calculate an estimate of the amount of silver coming from the Spanish *asientos* acquired by these monetary shops with the aim of satisfying their own demand for national currency.

The first part of this essay is dedicated to the presentation of important historiographical debate about the production of American precious metals in the Sixteenth-Seventeenth centuries,

---

<sup>19</sup> For a general analysis of the financial market of Early Modern Europe see L. Neal, ‘How it all began: the monetary and financial architecture of Europe during the first global capital markets, 1648–1815’, *Financial History Review*, 7/2 (2000), pp. 117-140.

<sup>20</sup> On the Italian exchange fairs see: Silva, J. G. da, *Banque et crédit e Italie au XVII<sup>e</sup> siècle*, Paris, 1969. For an up to date bibliography see: C. Marsilio, *Dove il denaro fa denaro. Gli operatori finanziari genovesi nelle fiere di cambio del XVII secolo*, Novi Ligure, 2008.

because it is important to tackle it and establish its relevance in relation to the levels of production by the mints.

The second part of the work intends to analyse the *asientos* during the reign of Philip IV (1621-1665) in order to see if there exists a correlation between the silver obtained in reimbursement from the court bankers, the Portuguese and Genoese *hombres de negocios*, and the successive distribution of precious metal in different European monetary circuits studied through the production cycles of the mints of Genoa, Lisbon and London.

The third part of the article aims to underline how the financial circuits generated by the *asientos* influenced the levels of production of the mints studied here, revealing both the growing participation of the Lusitanian bankers in the market of the *asientos*, and the preponderant role of the Royal Navy in the organisation of the logistics and transport of Spanish precious metal. It is logical to suppose that there is a link between the production levels of the mints selected and the volumes of precious metal covered by the loan contracts granted to the Spanish crown.

In conclusion, not all the mints observed were affected as the same level by the financial activity of the Genoese and Portuguese *banqueros*. Unexpectedly, the levels of production of the *Casa da Moeda* of Lisbon points to poor arrivals of silver linked to the *asientos* in Madrid, whilst the mints in Genoa and London were more conditioned by the mechanisms of the financial market managed in those years by the financiers of Philip IV.

## **2. The production of American precious metals: historical point of view**

The shipments from America, as has already been mentioned, have been at the centre of a long and heated debate which still today has not been concluded by definitive and certain results. After the first works of the Nineteenth century, amongst which it is worthwhile mentioning the contributions of W. Jacob<sup>21</sup> as well as the investigation subsequently conducted by A. Soetbeer<sup>22</sup>, the most thorough research of the first years of the century is that of A. Von Humbolt<sup>23</sup> whose estimates for the Seventeenth century are presented here:

---

<sup>21</sup> W. Jacob, *An historical inquiry into the production and consumption of the precious metals*, London, 1831.

<sup>22</sup> A. Soetbeer, *Edelmetall-Produktion und Wertverhältnisse zwischen Gold und Silber seit der Entdeckung Amerikas*, Gotha, 1879.

<sup>23</sup> A. von Humbolt, *Political Essay on the Kingdom of New Spain*, 4 vols., London, 1811.

Table 1 - American silver production (1601-1700)

| <b>Periods</b> | <b>Average Annual Production (Kg.)</b> | <b>Total Production (Kg.)</b> |
|----------------|--|-------------------------------|
| 1601-1625      | 340.000                                | 8.500.000                     |
| 1626-1650      | 395.000                                | 9.875.000                     |
| 1651-1675      | 445.000                                | 11.125.000                    |
| 1676-1700      | 500.000                                | 12.500.000                    |
| <b>Total</b>   |  | <b>42.000.000</b>             |

Source: A. von Humbolt, Political Essay on the Kingdom of New Spain (republished In W. Barrett, 'World Bullion flows, 1450-1800' cit., pp. 242-243).

As can be observed in Table 1, if we consider the period 1601-1650, the production of the American mines is estimated at a little more than 18,000 tons<sup>24</sup>, despite not providing any estimate for the amount of silver that arrived into the ports of Europe. However, research has been conducted by Earl J. Hamilton<sup>25</sup> which has supplied more reliable estimates on the shipments of white metal from the New World, which today still represents the starting point for every study of a quantitative nature regarding the arrivals of precious metals in Europe. From the table which follows we can see that the American historian estimated the arrivals of silver into the port of Seville at 9,500 tons in the first half of the Seventeenth century (1600-1660), the port at which the Iberian crown recorded the goods arriving from the American colonies.

Table 2 – Hamilton: Arrivals of silver into Europe from America (1600-1660)

| <b>Periods</b> | <b>Silver arrivals (kg.)</b> |
|----------------|------------------------------|
| 1601–1610      | 2.213.631                    |
| 1611–1620      | 2.192.255                    |
| 1621–1630      | 2.145.339                    |
| 1631–1640      | 1.396.759                    |
| 1641–1650      | 1.056.430                    |
| 1651–1660      | 443.256                      |
| <b>Total</b>   | <b>9.447.670</b>             |

Source: E. J. Hamilton, *El Tesoro Americano y la revolución de los precios en España, 1501-1650*, Barcelona, 1975, p. 47 (conversion from silver pesos of 450 *maravedís* into kg.).

<sup>24</sup> Another document that is very interesting from a quantitative point of view is that prepared in 1930 by Merrill for the government of the United States. See: C. W. Merrill et al., *Summarized Data of Silver Production*, Washington, U. S. Dept. of Commerce, Bureau of Mines, *Economic Paper*, 8 (1930).

<sup>25</sup> See note 13.

Ward Barrett, in a recent study<sup>26</sup>, has also verified and recalculated the value proposed by Morineau which has been gathered together here in the following table:

Table 3 - Morineau: Arrivals of silver into Europe (1601-1700)

| Periods      | Average Annual European arrivals (Kg.) | European arrivals (Kg.) |
|--------------|--|-------------------------|
| 1601-1625    | 245.000                                | 6.125.000               |
| 1626-1650    | 290.000                                | 7.250.000               |
| 1651-1675    | 330.000                                | 8.250.000               |
| 1676-1700    | 370.000                                | 9.250.000               |
| <b>Total</b> |  | <b>30.875.000</b>       |

Source: W. Barrett, 'World Bullion flows, 1450-1800' cit., pp. 242-243.

An example of the recent effort to interpret this complex historiographical theme has been supplied by the recent works of D. A. Brading and H. E. Cross<sup>27</sup>, P. J. Bakewell<sup>28</sup>, H. S. Klein<sup>29</sup>, J. J. Tepaske<sup>30</sup>, D. O. Flynn<sup>31</sup>, and A. Giráldez<sup>32</sup>. However, without doubt the most solid and stimulating contribution to the criticism of Hamilton's data has been the research on mining production in Peru and Mexico by Brading and Cross<sup>33</sup>. In 1983 Cross<sup>34</sup> further refined his quantitative analysis, showing that the values of production of the South American mines, in particular that of the Viceroyalty of Peru, are greater than Hamilton's estimates. As a result it has become evident that if we add to the production of Peru the silver extracted from the Mexican mines, that the values greatly exceed the estimates provided by Hamilton. It therefore seems reasonable to suppose that the figures presented by the American historian in relation to the arrivals of precious metals into Europe, not only underestimate the arrivals into the European ports, but also give a distorted view of the same mining production of the New World<sup>35</sup>. It should be observed that the differences in values presented by the two authors relate to the reign of Philip IV (1621-1665), the same period covered by our analysis.

<sup>26</sup> W. Barrett, 'World Bullion flows, 1450-1800', in J. Tracy (ed.), *The Rise of Merchant Empires: Long Distance Trade in Early Modern World 1350-1750*, Cambridge, 1990, pp. 224-254.

<sup>27</sup> D. A. Brading - H. E. Cross, 'Colonial Silver Mining: Mexico e Peru', *Hispanic American Historical Review*, 52/4 (1972), pp. 545-579.

<sup>28</sup> P. J. Bakewell, *Silver Mining and Society in Colonial Mexico: Zacatecas, 1546-1700*, Cambridge, 1971.

<sup>29</sup> J. J. Tepaske - H. S. Klein, 'The Seventeenth Century Crisis in New Spain: Myth or Reality?', *Past & Present*, 90 (1981), pp. 116-135.

<sup>30</sup> Applies to all: J. J. Tepaske, 'New World silver, Castile and the Philippines, 1590-1800', in J. F. Richards, *Precious Metals in the Later Medieval and Early Modern Worlds*, Durham (N. C.), 1983, pp. 425-445.

<sup>31</sup> D. O. Flynn, *World Silver and Monetary History in the 16<sup>th</sup> and 17<sup>th</sup> Centuries*, Aldershot, 1996.

<sup>32</sup> D. O. Flynn - A. Giráldez - R. von Glahn (eds.), *Global connections and monetary history, 1470-1800*, Aldershot, 2003.

<sup>33</sup> D. A. Brading - H. E. Cross, 'Colonial Silver Mining' cit.

<sup>34</sup> H. E. Cross, 'South American Bullion production and export 1550-1750', in J. F. Richards, *Precious Metals in the Later Medieval and Early Modern Worlds*, Durham (N. C.), 1983, pp. 397-423.

<sup>35</sup> H. E. Cross, 'Colonial Silver Mining' cit., pp.417-419.

Table 4 – Hamilton vs. Cross: Registered import of bullion into Seville from America and the estimated production of silver in the Viceroyalty of Peru (1621-1660)

| Periods      | (Hamilton)<br>American Treasure<br>imports (kg.) <sup>36</sup> | (Cross)<br>Estimated Peruvian<br>silver outputs (kg.) |
|--------------|--|---|
| 1621–1630    | 2.194.720  | 2.472.888   |
| 1631–1640    | 1.411.256  | 2.383.568   |
| 1641–1650    | 1.076.944  | 2.107.952   |
| 1651–1660    | 449.152  | 1.612.864   |
| <b>Total</b> | <b>5.132.072</b>   | <b>8.577.272</b>                                      |

Source: H. E. Cross, 'South American Bullion production and export 1550-1750' cit., p. 419

The evident difference between the values of the two estimates shown here raises another question about the redistribution of the American silver: how much precious metal was used in Europe and how much was sent outside of Europe? J. de Vries, in his recent work, has reconstructed the articulated network of distribution of silver<sup>37</sup>. For the period 1600-1650, the Dutch historian has presented a picture that brings together the different areas of production and distribution of precious metal. In synthesis, he calculates that the average annual production of the American mines was 368 tons (18,400 tons over the 50 years studied), of which 268 tons reached the continent of Europe. Europe then held back about 160 tons, while it sent 56 tons to the Baltic region, 38 tons to the Middle East via the sea and about 14 tons to the Asian continent (particularly to the area of the south-orient) through the route of the Cape of Good Hope. In his article de Vries has underlined the role, which has still not been sufficiently examined in the classic historiography, of the Cape of Good Hope<sup>38</sup>.

In the end, with regard to the first fifty years of the Seventeenth century, de Vries has underlined the importance of Japan as a significant producer of white metal, the relevance of which has often been underestimated, and of the Philippines to which was sent a consistent part of the American production. He has calculated that there was perhaps 60 tons of silver sent from Japan to south-east Asia on average per year. The arrival of silver in Manila poses a problem of interpretation: TePaske<sup>39</sup> calculates a figure of 17 tons a year, while Flynn and Giráldez<sup>40</sup> propose more than 52 tons a year. It seems plausible that this was followed by a reduction in the arrivals into Manila which might not take into account smuggling which was an endemic problem, as in the case

<sup>36</sup> 1 *real de a ocho* = 0.02552 kg. (silver).

<sup>37</sup> J. de Vries, "Connecting Europe and Asia: A Quantitative Analysis of the Cape-route Trade, 1497-179" cit., especially pp. 80-82.

<sup>38</sup> Some interesting observations also in: J. de Vries, 'The limits of globalization in the Early Modern World', *Economic History Review*, 63/3 (2010), pp. 710-733.

<sup>39</sup> J. J. TePaske, 'New World silver' cit., pp. 444-445.

<sup>40</sup> D. O. Flynn – A. Giráldez, 'Born with a "Silver Spoon": The Origin of World Trade in 1571', *Journal of World History*, 6/2 (1995), pp. 201-221, especially pp. 202-204.

of Atlantic trade, which seems to have grown substantially in those very years<sup>41</sup>. In addition, Borah<sup>42</sup> and Boxer<sup>43</sup> have underlined that the Pacific route towards Manila was perhaps used not only for sending silver from Mexico, but also for that coming from Peru. Flynn has noted several times the importance of this second maritime route, as well as the almost total lack of quantitative studies that can help us to better understand the Asian monetary market<sup>44</sup>.

In the case of India, the collection of essays edited by J. F. Richards<sup>45</sup> dedicated to the financial system of the Mughal Empire has provided an ample analysis of the impact of silver on the financial system and the mechanisms of International payments in the area of the Indian Ocean. Undoubtedly, most of the imports to India from Europe were of precious metals, *in primis* silver. In summary, according to the calculations of de Vries, in the first half of the Seventeenth century there arrived in Europe 13,400 tons of silver, of which only 60 per cent (8,000 tons) stayed in Europe whilst the rest was sent to other continents.

Table 5 - J. de Vries: Silver arrived in Europe and sent outside Europe (1600-1650)

|  | <b>Silver annual average<br/>(1600-1650)<br/>(tons)</b> | <b>Silver total<br/>(1600-1650)<br/>(tons)</b> |
|--|---|--|
| Silver used in Europe                            | 160   | 8.000  |
| Silver sent to Baltic Sea                        | 56  | 2.800  |
| Silver sent to Near East (Via Mediterranean Sea) | 38  | 1.900  |
| Silver sent to Asia (via Cape Town Route)        | 14  | 700  |
| <b>Total (silver arrived in Europe)</b>          | <b>268</b>  | <b>13.400</b>                                  |

Source: J. de Vries, 'Connecting Europe and Asia' cit., pp. 80-82.

<sup>41</sup> See also: R. von Glahn, 'Money Use in China and Changing Patterns of Global Trade in Monetary Metals, 1500-1800', in D. O. Flynn – A. Giráldez – R. von Glahn (eds.), *Global connections and monetary history, 1470-1800*, Aldershot, 2003, pp. 187-205; R. von Glahn, *Fountain of Fortune: Money and Monetary Policy in China, 1000-1700*, Berkeley (Cal.), 1996; W. S. Atwell, 'International Bullion Flow and the Chinese Economy circa 1530-1650', *Past & Present*, 95 (1982), pp. 68-90 and W. S. Atwell, 'Some Observations on the "Seventeenth-Century Crisis" in China and Japan', *Journal of Asian Studies*, 45/2 (1986), pp. 223-244.

<sup>42</sup> C. R. Borah, *Early Colonial Trade and Navigation between Mexico and Peru*, Berkeley - Los Angeles, 1954, pp. 115-127.

<sup>43</sup> C. R. Boxer, 'Plata es sangre: Sidelights on the Drain of Spanish-American Silver in the Far East, 1500-1700', *Philippine Studies*, 18 (1970), pp. 457-478.

<sup>44</sup> D. O. Flynn, 'Comparing the Tokagawa Shogunate with Hapsburg Spain. Two silver-based empires in a global setting', in E. H. G. van Cauwenberghe (ed.), *Money, Coins, and Commerce: Essays in the Monetary History of Asia and Europe (From Antiquity to Modern Times)*, Leuven, 1991, pp. 11-46, especially pp. 12-13.

<sup>45</sup> F. Perlin, 'Money-Use in Late Pre-Colonial India and the International Trade in currency media', in J. F. Richards (ed.), *The Imperial Monetary System of Mughal India*, Delhi, 1987, pp. 232-373, O. Prakash, 'Foreign Merchants and Indian Mints in the Seventeenth and the Early Eighteenth Century', in J. F. Richards (ed.), *The Imperial Monetary System of Mughal India*, Delhi, 1987, pp. 171-192. S. Subrahmanyam, 'Precious Metal Flow and Prices in Western and Southern Asia, 1500-1750. Some Comparative and Conjunctural Aspects', in E. H. G. van Cauwenberghe (ed.), *Money, Coins, and Commerce: Essays in the Monetary History of Asia and Europe (From Antiquity to Modern Times)*, Leuven, 1991, pp. 385-418.

In order to understand fully the impact of the arrivals of precious metals on the European economy in the Seventeenth century it is very important to verify the amount of silver registered by the Spanish authority, in order to be able to assess the actual resources available to the treasury in Madrid. The recent work of Álvarez Nogal analyses in detail the arrival of precious metals to the Iberian Peninsula<sup>46</sup>. In particular, thanks to new archival research, the quantity of silver that actually arrived in Spain has been calculated, which the Spanish scholar has subdivided into that destined for the cash registers of the Hapsburg crown and that which was the property of private operators (*particulares*). For the period of the reign of Phillip IV, the figures of Álvarez Nogal have come close to those proposed more than eighty years ago by Hamilton. Particular attention has been paid to the subdivision between the quantity of silver unloaded in Seville and Cadiz destined for the cash registers of the treasury and that belonging to the private financial operators. The merchants of the Iberian Peninsula received the shipments from the American correspondents who often, at least in these years, exceeded the quantity of silver available to the *Hacienda Real* in Madrid.

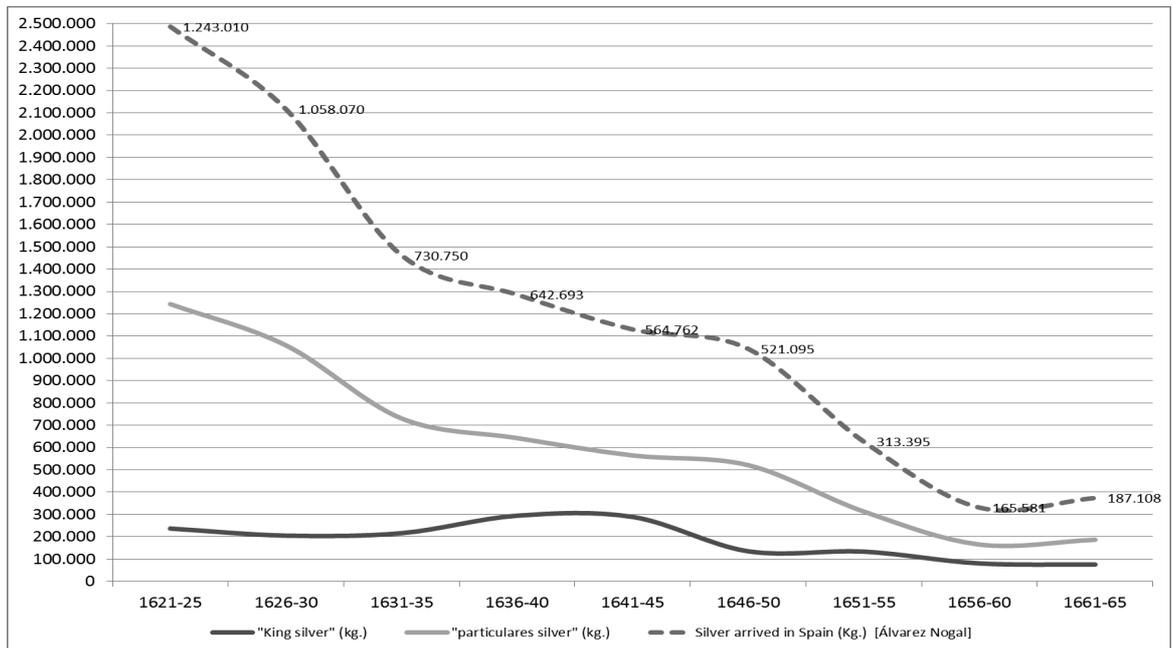
Table 6 – Arrivals of silver into Spain (1621-1665): Private stock (*particulares*) vs. Public stock (king) in kg

| Periods      | "King's silver" (kg.) | "Particulares' silver" (kg.) | Total Silver arrived Spain (Kg.) |
|--------------|-----------------------|------------------------------|----------------------------------|
| 1621-25      | 237.337               | 1.005.673                    | 1.243.010                        |
| 1626-30      | 205.486               | 852.584                      | 1.058.070                        |
| 1631-35      | 216.598               | 514.152                      | 730.750                          |
| 1636-40      | 294.958               | 347.735                      | 642.693                          |
| 1641-45      | 289.297               | 275.465                      | 564.762                          |
| 1646-50      | 135.389               | 385.706                      | 521.095                          |
| 1651-55      | 133.903               | 179.491                      | 313.395                          |
| 1656-60      | 81.011                | 84.570                       | 165.581                          |
| 1661-65      | 76.069                | 111.040                      | 187.108                          |
| <b>Total</b> | <b>1.670.048</b>      | <b>3.756.415</b>             | <b>5.426.463</b>                 |

Source: C. Álvarez Nogal, 'Las Remesas americanas en las finanzas de la Real Hacienda' cit., pp. 485-488.

<sup>46</sup> C. Álvarez Nogal, 'Las Remesas americanas en las finanzas de la Real Hacienda. La cuantificación del dinero de la Corona (1621-1675)', *Revista de Historia Económica*, 16/2 (1998), pp. 453-488.

Chart 1 – Arrivals of Silver (in kg.) into Spain (1621-1665): Private stock (*particulares*) vs. Public stock (king)



Source: C. Álvarez Nogal, 'Las Remesas americanas en las finanzas de la Real Hacienda' cit., pp. 485-488.

This division between the silver of the king and that of private operators turns out to be fundamental for the period in which we assess the actual resources available to the Hapsburg crown<sup>47</sup>. In this article we take this value as a reference point from which we can calculate the silver that arrived in the Iberian Peninsula, the 5,426 tons proposed by Álvarez Nogal.

The only way to finance the huge costs was therefore to borrow money through the *asentistas*, in order to have each year huge tax advances. We must not forget that one of the more delicate and expensive aspects of the managing the payment of the Spanish troops who had been engaged in war since the 1580s, was certainly the management of precious metals and various kinds of coins destined for the wages of the military<sup>48</sup>. Until the 1620s only gold coins were accepted into the military cash register of Brussels. But with the passing of time, the growing rarity of yellow metal brought a radical change in the management of the cash registers of the army of Flanders: the gold coins were gradually substituted with coins of white metal, to the extent that the administration in Madrid and its collaborators, the Portuguese and Genoese bankers found it much easier, more economical and more practical to manage the payment of the troops in silver money.

<sup>47</sup> For a detailed analysis of the costs of the Spanish Empire see: A. M. Bernal, *España, proyecto inacabado: costes/beneficios del Imperio*, Madrid, 2005 e B. Yun Casalilla, *Marte contra Minerva. El precio del Imperio español (c. 1450-1600)*, Barcelona, 2004.

<sup>48</sup> G. Parker, 'Spain, her Enemies, and the Revolt of the Netherlands, 1559-1648', *Past and Present*, 49 (1970), pp. 72-95.

From as early as 1619 the expenses incurred by Philip III began to grow at an alarming rate, to the point that the costs incurred by the new king Philip IV had doubled by 1642 from what they were in 1621 at the start of his reign<sup>49</sup>. The main cause of the unexpected soaring in costs was the dispute with France, which since 1635 committed the Castilian troops on a new front. A substantial reduction in costs was recorded only in 1643 when the by now deposed first minister Olivares, changed the choice in international politics, sacrificing Flanders<sup>50</sup> in the hope of recovering Catalonia and Portugal<sup>51</sup>.

### 3. The *asientos* of Phillip IV: precious metals and loans from court bankers

The *asiento* can be defined as a contract between a private individual and the Spanish crown. Normally the object of the agreement<sup>52</sup> was a loan of money, a service or a special licence<sup>53</sup>. In the *asiento* both the conditions offered by the bankers for the delivery of money (quantity, type of currency, delivery location), and the means of reimbursement which the crown was bound to respect, were fixed. Within each *asiento* various operations could be distinguished: the loan itself, the costs of transport and of managing the money, as well those costs inherent to the act of exchange between various European currencies. In addition, especially from the 1630s, another important part of the cost was the silver/bullion exchange<sup>54</sup>, which was the subject - particularly in Spain - of a running debate throughout the middle decades of the Seventeenth century. These contractual clauses also included the *adehalas*, the true and proper benefits which in many cases constituted the most profitable part (together with the exchanges) of the *asiento*. But what guarantees did the *hombres de negocios* receive for their loans? First of all they fixed the *consignaciones* that is the supplementary guarantees offered to the creditors of the crown made up from the revenue of the *Hacienda Real*. This income was subsequently liquidated through the various *tesorerías* of the *Hacienda Real* spread across the entire territory of the Iberian Peninsula. The capitals that were newly available to the foreign bankers could therefore be exported outside of

---

<sup>49</sup> A. Marcos Martín, 'La Spagna e le Fiandre (1618-1648)' cit., pp. 25-26.

<sup>50</sup> For a total picture of the political and economic situation of Spanish Flanders in the seventeenth century see: M. Á. Echevarría Bacigalupe, *Flandes y la monarquía hispánica, 1500-1713*, Madrid, 1998 and J. Alcalá-Zamora y Queipo de Llano., *España, Flandes y Mar del Norte (1618-1639). La última ofensiva europea de los Austrias madrileños*, Madrid, 1975.

<sup>51</sup> See the classic study: J. H. Elliott, *El conde-duque de Olivares. El político en la época de decadencia*, Barcelona, 1990.

<sup>52</sup> For a precise description of the series of contracts kept in the *l'Archivo General de Simancas* see A. Marcos Martín, *España y Flandes (1618-1648): la financiación de la guerra*, in J. Alcalá Zamora – E. Beleguer (eds.), *Calderón de la Barca y la España del Barroco*, II, Madrid, 2001, pp. 15-40, now also in A. Marcos Martín, *Finanze e fiscalità regia nella Castiglia di antico regime (secc. XVI-XVII)*, Galatina, 2010, pp. 15-40. The contracts can be found in Archivo General de Simancas (AGS), *Contadurías Generales*, legajos (legs.), 113-142.

<sup>53</sup> For a detailed description of the various clauses contained in a *asiento* see: J. M. González Ferrando, *Negociación de cambios y asientos. Un opúsculo de autor anónimo sobre asientos, cambios y contabilidad por partida doble, de finales del primer tercio del siglo XVII*, Madrid, 1993.

<sup>54</sup> Small denomination coins made up of an alloy of silver and copper.

Spain. It should be underlined that until 1566 the export of precious metals was absolutely prohibited, and for this reason the *asentistas* were constrained to spend their credit in goods (particularly in food products) or to negotiate letters of exchange at the Castilian trade fair at Medina del Campo<sup>55</sup>. Only later would there be included in the contract the right to export precious metals (*licencia de saca*), which would allow the bankers of the crown to manage freely the silver obtained in payment from the *Hacienda Real*. All of this allows us to hypothesise with greater conviction that a part of the silver negotiated in the contracts of the *asientos* could have been acquired by mints outside of Spain.

In order to understand fully the financial power of the Portuguese and Genoese *banqueros* during the reign of Phillip IV it is necessary to analyse from a comparative point of view the data that we have. The Ligurian bankers occupied an elevated position until the end of the 1620s, when their Lusitanian colleagues<sup>56</sup> (from 1626) were affirmed as the leaders of the Spanish credit market until the end of the 1640s<sup>57</sup>. In particular, we have chosen to use the series presented by Alberto Marcos Martín<sup>58</sup>, because it is considered to be the most complete and reliable<sup>59</sup>. He has elaborated on two series of data: the total quantity of money lent by the *banqueros*, destined to cover various expenses, and the *asientos*, destined specifically for Flanders<sup>60</sup>. For example, in 1627 (year of the first insolvency, or *quiebra*) of Phillip IV, Marcos Martín has shown that the most relevant part of the shipments to Brussels and Antwerp were sustained by the Ligurian *hombres de negocios* (53%) and that, in the following year a pool of four Genoese bankers guaranteed to the crown almost 68% of loans<sup>61</sup>. However, in the five years from 1636-1640 the Portuguese *asientos*<sup>62</sup> made up more than 42% of the money given in loan to the crown as opposed to 34% from the Genoese. But it was in the

<sup>55</sup> F. Ruiz Martín, 'La Banca de España hasta 1782', in F. Ruiz Martín (ed.), *El Banco de España: una historia económica*, Madrid 1970, pp. 1-196, H. Casado Alonso, 'Comercio, crédito y finanzas públicas en Castilla en la época de los Reyes Católicos', in Bernal Rodríguez (ed.), *Dinero, moneda y crédito en la monarquía hispánica*, Madrid, 2000, pp. 135 – 156 and H. Casado Alonso, 'Medina del Campo Fairs and The Integration of Castile into 15<sup>th</sup> to 16<sup>th</sup> Century European Economy', in S. Cavaciocchi (ed.), *Fiere e Mercati nella Integrazione delle Economie Europee. Secc. XIII – XVIII*. Firenze, 2001, pp. 495 – 517.

<sup>56</sup> The first Portuguese *asentistas* (1626-1636) were: Manuel Rodriguez de Elvas, Duarte Fernández, Manuel de Paz, Simão Soares, Juan Núñez Sarabia, Simón & Lorenzo Pereira, Simón Suárez Dorta, and Nuño Díaz Méndez Brito. During the following years (1636-1647) many others were added to the list of the *banqueros de la Corona*: Marcos Fernández Monsanto, García de Yllán, Jorge de Paz Silveira, Felipe Martínez Dorta, Duarte Brandão Soares, Fernandes Tinoco, Salvador Báez Martínez, Antonio Báez de Guzmán, Duarte Díaz de Olivares, Andrés Gomez Dávila, Juan de Silva Lisboa, Manuel Cortizos, and Felipe Denis Pacheco y Medina.

<sup>57</sup> A. Dominguez Ortiz, *Política y hacienda* cit.; J.C. Boyajian, *Portuguese Bankers at the Court of Spain, 1626-1650*, New Brunswick (N. J.), 1983; F. Ruiz Martín, *Las finanzas de la monarquía hispánica en tiempos de Felipe IV (1621-1665)*, Madrid, 1990, E. Neri, *Uomini d'affari e di governo tra Genova e Madrid (secoli XVI e XVII)*, Milano, 1989 and E. Grendi, I Balbi. Una famiglia genovese fra Spagna e Impero, Torino, 1997

<sup>58</sup> A. Marcos Martín, 'La Spagna e le Fiandre' cit., pp. 15-40.

<sup>59</sup> See the collection of *asientos* in the Archivo General de Simancas (AGS), *Contadurías Generales*, legajos 121-123.

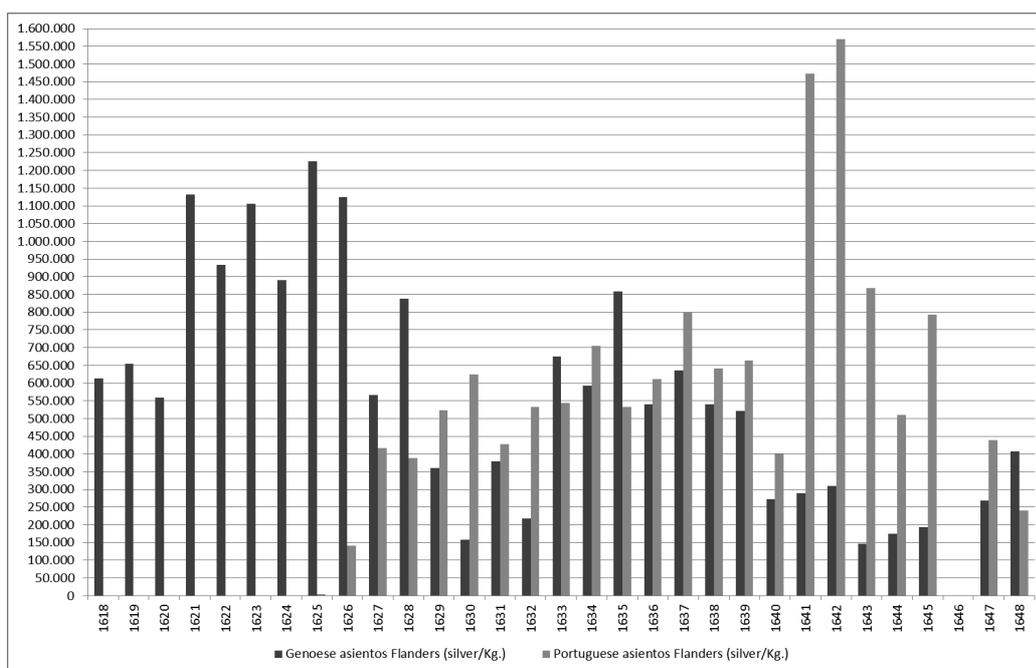
<sup>60</sup> P. Chaunu, 'Séville et la Belgique, 1555-1648', *Revue du Nord*, 42 (1960), pp. 259-292; G. Parker, *The Logistics of Spanish Victory and Defeat in the Low Countries' Wars*, Cambridge, 1972.

<sup>61</sup> The principal borrowers were: Ottavio Centurione, Stefano Spinola, Vincenzo Squarciafico and Antonio Balbi. See A. Marcos Martín, 'La Spagna e le Fiandre' cit., pp. 36-37.

<sup>62</sup> On the Portuguese bankers see: J. C. Boyajian, *The Portuguese Bankers and the International Payments Mechanism, 1626-1647*, Ph.D. dissertation, University of California, Berkeley, 1978; N. Bröens, *Monarquía y capital mercantil: Felipe IV y las redes comerciales portuguesas (1627-35)*, Madrid, 1989 and M. A. Ebben, *Zilver, brood en kogels voor de Koning. Kredietverlening door Portugese bankiers aan de Spaanse Kron, 1621-1665*, Leiden, 1996.

period 1641-1645 that the greatest exposure ever achieved by *conversos* bankers was registered (61%), while in 1647 (year of the second *quiebra* during the reign of Philip IV), this percentage dropped to 43%, before stabilising at about 29% in the following year. The net recovery of the Genoese is evident in the two year period of 1646-1648 with the signing of the *asiento* by the brothers Francesco Maria and Andrea Pichenotti in partnership with Alessandro Pallavicini<sup>63</sup>.

Chart 2 – Genoese and Portuguese *asientos* for Flanders (1621-1648)



Sources: A. Marcos Martín, “España y Flandes (1618-1648): la financiación de la guerra” cit., in Alcalá Zamora, J. and Belenguer E. (eds.), *Calderón de la Barca y la España del Barroco*, vol. II, Madrid, 2001, pp. 20; e 36.

However, let us take a step back and compare the values of silver arriving from the South American mines proposed by Álvarez Nogal (see Chart 1) with the amounts negotiated by the Iberian crown.

It is fundamental to note that in the period 1626-1630 the quantity of silver arriving from the colonies into Seville, including the part destined for private operators, did not reach even a fifth of that negotiated by the *Hacienda* of Madrid with the foreign bankers to support the war against the United Provinces. For the next five years, 1631-1635, the proportion actually grew by more than a tenth, while for the years 1641-1645 it was exceeded by a sixteenth. Therefore, one can affirm that the level of debt of the Hapsburgs was notably greater than the value of silver extracted from the colonies. However, by observing carefully the data for the arrivals from America and comparing

<sup>63</sup> A. Marcos Martín, ‘La Spagna e le Fiandre’ cit., p. 33; C. Álvarez Nogal, *Los banqueros de Felipe IV* cit., C. Sanz Ayán, ‘Presencia y fortuna de los hombres de negocios genoveses durante la crisis hispana de 1640’, *Hispania*, 65 (2005), pp. 91-114.

them with the estimates proposed by Morineau and de Vries we can see a clear discrepancy. What can we deduce from this? It is possible to present some considerations. Perhaps the values in the official records of the Spanish *Casa de la Contratación*, studied by Hamilton and Álvarez Nogal, underestimated the actual arrivals of precious metal into the European continent? This would suggest a widespread and deep-rooted activity of smuggling throughout the Seventeenth century, which would bring us closer to the estimates of de Vries and Morineau for the values of the *asientos* of the Spanish crown.

Another important step is to try to establish a percentage proportion between the silver retained in Europe and the values of the *asientos* contracted by the *Hacienda Real* in Madrid that were useful for meeting the costs in Flanders. If we consider the period 1621-1648, the Portuguese and Genoese bankers granted loans of a value equal to 37,095 tons of silver. Based on the estimates of de Vries who calculates that from 1600-1650, on average 160 tons were retained in Europe per year, over the course of twenty-seven years we reach an amount equal to 4,320 tons. We can deduce therefore that in the period 1621-1647 the silver retained in Europe represented only 11.65% of the value, expressed in silver, of the loans granted to the crown of Philip IV.

It is also important to remember the chronology of European history: the continent had been devastated by the Thirty Years' War (1618-1648), a struggle that involved the armies of Madrid on many fronts which required a considerable economic effort. The costs sustained by the Hapsburg crown, in the interminable Eighty Years' war against the rebellion of the United Provinces, also influenced the market in precious metals. In fact, because the network used by the economic operators for the redistribution of Spanish silver had to be based on a new route, the silver needed to pay the troops was transported to Flanders thanks to the intervention of the English Royal Navy. This new mechanism of distribution was made possible by the peace of 1630 between the Hapsburgs and the Stuarts, and this same maritime route was further exploited by the Lusitanian financial operators after the declaration of independence from Spain in 1640. Looking at Chart 2, we can clearly see that from 1640 the Portuguese bankers established themselves in the market of loans to the Spanish crown, right at the moment that the London Mint also entered as protagonists in the silver trade.

Therefore, these two dates, 1630 and 1640, must be considered as fundamental for the correct interpretation of the mechanisms for the distribution of silver during the first half of the Seventeenth century. To sum up, the 1630s record the entrance of the Lusitanian bankers into the system of the Spanish *asientos* and the subsequent opening of a new Atlantic route with its epicentre in London, whilst the 1640s saw the growing dominance of the Lusitanian bankers in the market of the Castilian public debt even after the end of the Iberian union, proof of the fact that their financial activity was not influenced in any way by politics.

The enormous amount of money related to the loans granted to the Hapsburg crown of Madrid was governed by an articulated financial mechanism: the Genoese exchange fairs. This type of clearing house *ante litteram* saw the almost unchallenged control of the Genoese financial operators in the period between the second half of the Sixteenth century and the end of the Seventeenth

century. In contrast, for their Lusitanian colleagues, the archival documents do not seem to give them a large role. The court bankers had to guarantee the delivery of capital, at monthly rates, to various European cities. Not only did they have to respect a precise timetable, but they also had to conclude various accounting operations necessary for the proper functioning of this complicated credit market. Dealing with places that were often very distant from each other and with financial areas that were completely autonomous and separate, certainly the most complicated aspect was the exchange between the different currencies. The exchange fairs offered an efficient system for transferring precious metals all over Europe. At “Bisenzone”<sup>64</sup> the Genoese bankers raised money for these loans from a variety of sources, reducing the risks of lending and funding the king’s long term obligations through short term loans<sup>65</sup>. The main factor behind the Genoese exchange fairs was, more than International commerce, the huge volumes of transactions generated by the Spanish crown’s public debt and the financial speculations made by the most influential European financial operators (particularly the Genoese and Florentines). The exchange fairs of Novi created an efficient financial network under Genoese control and facilitated arbitrage among the other northern Italian exchange fairs. In fact, in 1621, the Genoese bankers decided to transfer the seat of the fair to Novi, under the jurisdiction of the Republic of Genoa. This act marked the beginning of a series of splits within the bankers operating in the Italian fairs. In the first decades of the Seventeenth century the history of the exchange fairs is characterised by the simultaneous existence of different credit markets (Piacenza, Verona and Bolzano). In the case of the European credit market and in particular the Spanish *asientos*, the exchange fairs were not the only means of redistributing silver. The classic historiography has not paid sufficient attention to the role of the mints that were directly linked to the interests of the bankers of Philip IV. Therefore, the objective of the next section is to examine more deeply the nature of the relationship between the activity of the mints in question and the flow of silver generated by the market of the *asientos* of Madrid.

#### **4. The silver of the *asientos* and the mints of Lisbon, Genoa and London**

I propose to observe the effects of the redistribution of silver, measuring the levels of production of the mints of Lisbon, Genoa and London. If the initial hypothesis of this essay is correct, that is, if there is a direct relationship between the silver generated by the Spanish *asientos* and the activity of some of the European mints, then the levels of production of the mints of Genoa and Lisbon must have been conditioned by the participation of the Ligurian and Lusitanian *banqueros* in the loans made to Philip IV. The case of the Royal Mint of London is different, its level of production of silver coins, at least in the years 1630-1650, was influenced by the change in the way that

---

<sup>64</sup> “Bisenzone” is a toponym, from the French town of *Besançon* where the fairs were celebrated in the sixteenth century, and also frequently used in the seventeenth century.

<sup>65</sup> A. Castillo Pintado, ‘Los juros de Castilla. Apogeo y fin de un instrumento de crédito’, *Hispania*, 23 (1963), pp. 43-70.

precious metal was redistributed, linked to the payment of the Spanish troops involved in the battle of Flanders. The first proposal of collaboration between the Hapsburg bankers and the English crown occurred in 1622 thanks to the mediation of the influential merchant Lionel Cranfield, future first Earl of Middlesex<sup>66</sup>. Although the agreement was never formally concluded, it is likely that some shipments of silver in bars were actually made. However, in the final years of the decade, the conditions of open hostility between the two countries prevented the agreement from being finalised. It was not until the Cottington Agreement of 1630 and the new atmosphere of constructive collaboration between the two crowns that we see (already in 1632) a notable growth in the quantity of precious metal sent to the London Mint<sup>67</sup>. The normal route used by the Spanish *Hacienda Real* for sending money to the troops went from the Italian port of Genoa, to Milan, across the Valtellina Valley up to the Rhine Valley in Germany, before finally arriving in Brussels, the capital of the Spanish Netherlands. The war against France, from 1635, produced a very delicate military situation: the French troops, year by year, conquered and closed the most important Alpine passes and the “Spanish Road” became vulnerable. Peace with England in 1630 offered the Genoese and Portuguese bankers a very profitable alternative: sending silver to the English ports of Dover, Plymouth and Portsmouth from the Atlantic Spanish ports of Corunna, San Sebastián and Bilbao<sup>68</sup>. But why not send it directly to Dunkirk or some other secure port on the Flemish coast<sup>69</sup>? Because, in the “Cottington Agreement”, the English Crown obtained a huge amount of silver that was to be sent to England in order to supply the Royal Mint in London and to coin new silver coins<sup>70</sup>. The transport of the silver on the Spanish ships would be guaranteed by an armed escort consisting of a group of galleons from the English Royal Navy<sup>71</sup>. In return, the English crown would claim that two thirds of the Spanish silver was sent to the Royal Mint in London<sup>72</sup>. The remaining third was to be sent quickly to the Spanish administration of the troops fighting in Flanders. The precious metal bound for the army in Flanders was shipped under guard to the port of Dunkirk without paying tax on it, except for the freightage for the carriage. If the Spanish *asentistas* preferred to use a galleon of

---

<sup>66</sup> C. E. Challis, *A New History of the Royal Mint*, Cambridge, 1992, pp. 316-317.

<sup>67</sup> Ashton R., *The Crown and the money market, 1603-1640*, Oxford, 1960, Ashton R., *The City and the Court, 1603-1643*, Cambridge, 1979 and Challis, C. E., *Currency and the Economy in Tudor and Early Stuart England*, London, 1989.

<sup>68</sup> For the port of Dover see: J. S. Kepler, 'Fiscal Aspects of the English Carrying Trade during the Thirty Yeras' War', *Economic History Review*, 25/2 (1972), pp. 261-283; J. S. Kepler, *The Exchange of Christendom. The international entrepôt at Dover, 1622-1651*, Leicester, 1976.

<sup>69</sup> Alcalá-Zamora y Queipo de Llano J., *España, Flandes y Mar del Norte (1618-1639). La última ofensiva europea de los Austrias madrileños*, Madrid, 1975.

<sup>70</sup> R. Ashton, *The Crown and the money market, 1603-1640*, Oxford, 1960 and R. Ashton, *The City and the Court, 1603-1643*, Cambridge, 1979.

<sup>71</sup> Of course, their principal fear was an attack by the mighty Dutch Navy.

<sup>72</sup> On the English Royal Mint the best work is: C. E. Challis, *A New History of the Royal Mint* cit. See also: J. Craig, *The Mint. A history of the London Mint from A.D. 287 to 1948*, Cambridge, 1953, A. Feavearyear, *The Pound Sterling: A History of English Money*, Oxford, 1963 and J. D. Gould, 'The Royal Mint in the Early Seventeenth Century', *Economic History Review*, 5/2 (1952), pp. 240-248.

the Royal Navy then they would have been charged an extra 1%<sup>73</sup>. The *entrepôt* of Dover in particular, benefited from the English neutrality in the Thirty Years' War<sup>74</sup>. In addition, the records of the coining of silver at the Royal Mint confirm the massive imports of this precious metal to the advantage of the London monetary market<sup>75</sup>.

It is also important to remember that after 1638, after the Spanish had lost the town of Breisach, that the "Spanish Road" was closed and the "English Road" became vital, but for the Spanish bankers the temptation to change path again, easily returning to the old traditional "Genoese Road", must have been very strong. The English Crown, who had guessed what the true intentions of the Portuguese and Genoese financiers were, reduced the demand for silver to only a third, but imposed a 2% tax on the silver carried by the English vessels.

In the case of the Mint of Genoa we must recall that the *asientos* signed by the Italian bankers involved many layers of Ligurian society. The money borrowed to the crown of Madrid came from an articulated network of lenders comprising both the most wealthy capitalists of the city, representatives of shipping and maritime insurance, as well as modest savers from different social strata. The Genoese investors claimed an increasing amount of reimbursements and their agents in Madrid had to pay them back in silver (bullion and coins). The precious metal was delivered from the principal Spanish ports of the Mediterranean coast (Barcelona, Cartagena, Dénia and Alicante) to the port of Genoa. Very often the Genoese bankers used a public armed fleet ("*convogli*"), which the Republic of Genoa sent twice a year to the Iberian ports. In some unusual cases, often linked to war or problems in the international credit market, the Genoese operators also used private galleys to bring the silver to the shores of Liguria<sup>76</sup>. Thanks to some recently opened private Genoese archives<sup>77</sup>, some evidence for the important flow of silver towards the Republic of Genoa can be found in the historical data on the production of silver coins by its Public Mint. The data collected by Felloni<sup>78</sup> and Meroni<sup>79</sup> in their seminal works are presented in the following chart:

---

<sup>73</sup> H. Taylor, "Trade, Neutrality, and the 'English Road', 1630-1642", *Economic History Review*, 25/2 (1972), pp. 236-260. In 1636 this tax reached 1,50% and the bankers quarrelled a lot about this imposition. The mechanisms of this new silver trade are clearly explained in a *consulta* (session of the Spanish State Council) dated 7 December 1637. It was stated that ten boxes of silver have been shipped in La Coruña and that "el conde de Oñate y Villamediana" was already in the port of Corruna bound to England "*en los galeones ingleses*". Archivo General de Simancas (AGS), *Estado*, legajo (leg.) 2052, doc. 316, consulta del Consejo de Estado (Madrid), 07.12.1637.

<sup>74</sup> The brokers trading in silver in London were: John de la Barr, Burlamacchi, Sir William Courteen, Peter and Samuel Fortrey, John Massingberd (agent of the East India Company) and Peter Ricaut.

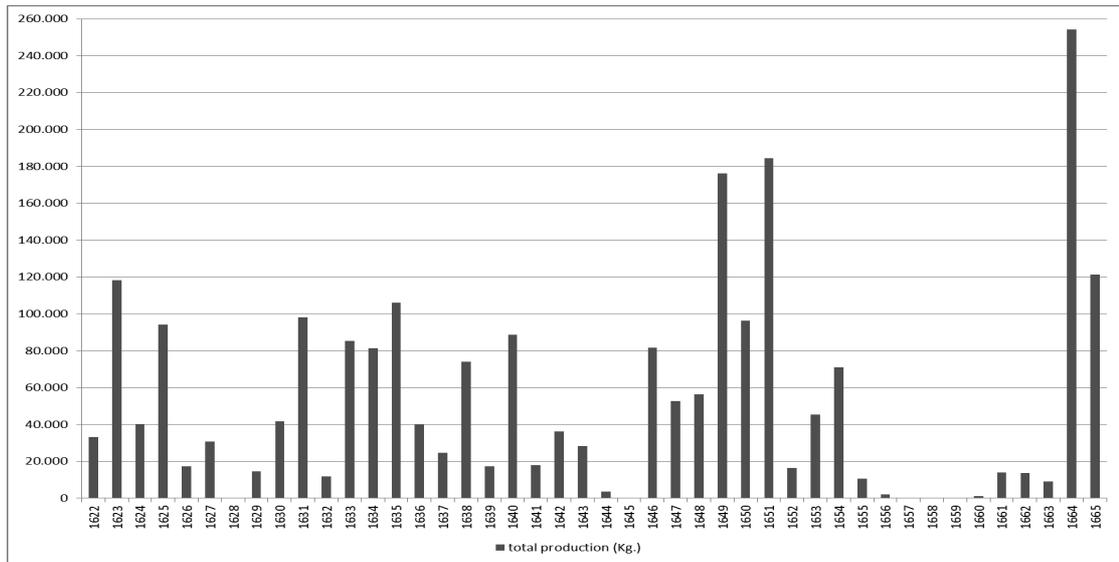
<sup>75</sup> The data for the outputs of the English Royal Mint during the seventeenth century can be found in: N. Mayhew, 'Silver in England (1600-1800): Coinage outputs and bullion exports from the records of the London Tower Mint and the London Company of Goldsmiths', in J. H. Munro (ed.), *Money in the Pre-Industrial World: Bullion, debasements and coin substitutes*, London, 2012, pp. 97-110 and C. E. Challis, *A New History of the Royal Mint* cit.

<sup>76</sup> For the Genoese '*convoglio* system' see: L. Lo Basso, *Uomini da remo. Galee e galeotti del Mediterraneo in età moderna*, Milano, 2003 and G. Calcagno, 'La navigazione convogliata a Genova nella seconda metà del Seicento', *Miscellanea Storica Ligure*, 3/1 (1971), pp. 265-392. For example, a letter from the *Corregidor* of Cartagena – don Francisco Antonio de Alarcón – records the loading onto Genoese galleys of silver illegally exported by many Genoese merchants and bankers from the port of Alicante (AGS, *Estado*, leg. 2066, letter to the State Council – 13 August 1643).

<sup>77</sup> Some Genoese private archives of particular interest: Archivio Sauli, Archivio Durazzo, Archivio Pallavicini (all collected in the Archivio Durazzo Giustiniani, Genova).

<sup>78</sup> G. Felloni, 'Profilo economico delle monete genovesi dal 1139 al 1814', in G. Pesce G. – Felloni G. (eds.), *Le monete genovesi: storia, arte ed economia nelle monete di Genova dal 1139 al 1814*, Genova, 1975, pp. 191-358.

Chart 3 –Mint of Genoa (1621-1665): Silver outputs (kg)



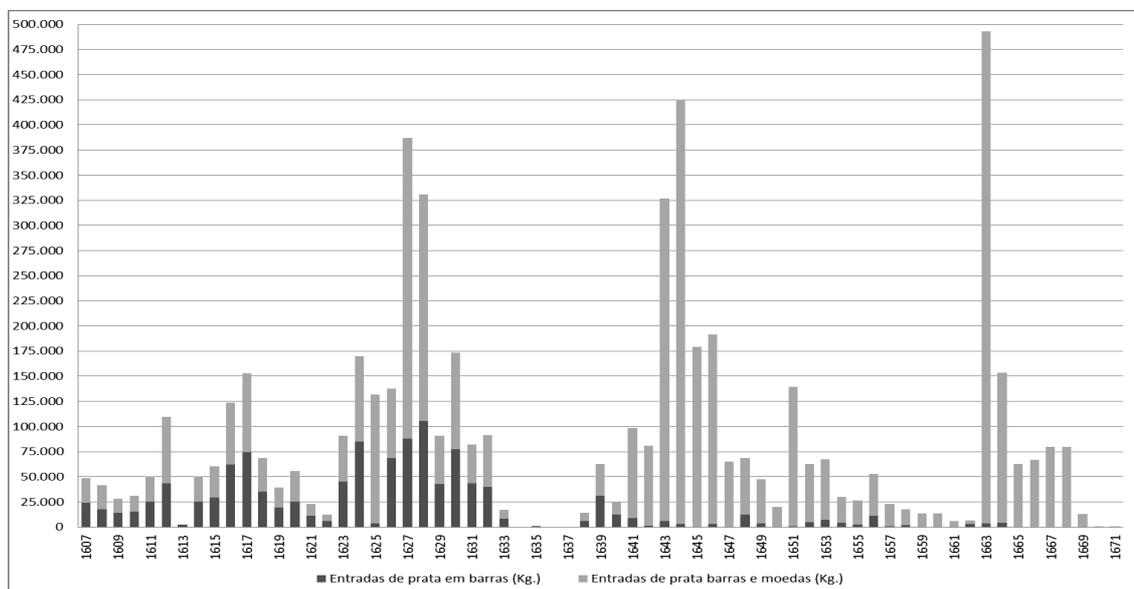
Sources: G. Felloni, *Profilo economico delle monete genovesi*, cit. pp. 320-322; U. Meroni, *I "Libri delle uscite delle monete" della Zecca di Genova*, cit., pp. 56-106.

In order to better understand the activity of the Genoese mint in the years 1622-1648, it is necessary to subdivide it into three distinct periods. In the period 1622-1625, moment in which the Portuguese bankers were absent from the market of the *asientos*, we observe that the average production of silver coins was 71.498 kg, while in the following period (1626-1640), years in which there was a growing participation of the Portuguese bankers, the yearly average reduced to 52.294 kg. The dominance of the Portuguese operators in the years 1641-1648 is further confirmed by the observation of the collapse in the production of the Genoese Mint to 34.617 kg, just as there is also a contraction in the Genoese loans in these very same years (see Appendix B).

Looking at the data for the production of the Mint in Lisbon, we would expect to see the same direct relationship between the money received in repayment by the Genoese bankers and their national Mint. This logic is however proven wrong by the data in Chart 4. From an observation of the years 1626-1640 we can deduce that the average production of the mint in Lisbon was equal to 35.012 kg.

<sup>79</sup> U. Meroni, *I "Libri delle uscite delle monete" della Zecca di Genova, dal 1589 al 1640*, Mantova, 1957.

Chart 4 - Mint of Lisbon (1607-1665): silver bullion (*entradas de prata em barras*) vs. silver bullion & coins (*entradas de prata barras e moedas*) in kg.



Sources: Arquivo da Casa da Moeda (Lisboa), *Receita e Despesa*, livros 862-955 (years 1607-1665); F. Mauro, *Portugal, o Brasil e o Atlântico (1570-1670)*, Lisboa, 1989, p. 182. No evidence for the years 1634 and 1637. No bullion entries for the years 1636 and 1650.

The Portuguese *Casa da Moeda* only partially exploited the participation of the Lusitanian *banqueros* in the *asientos* of Madrid. If we examine the series of the silver inputs (“*entradas de prata em barras*” - silver ingots) only for the period 1628-1629 there are recorded copious arrivals of silver ingots linked to the financial activity of the *conversos* in the Spanish capital. Everything seems to suggest that this peak in the deliveries of silver to Lisbon is perhaps linked to the activity of the new Portuguese India Company, which in these very years was accumulating capital to organise their Asian business<sup>80</sup>. In particular, the average for the years 1630-1640 fell to 20.013 kg, only to fall again to 4.269 kg in the 1640s (1641-1648). This suggests that the Forties, in as far as it coincides with the period of greatest involvement of the Portuguese bankers in the Spanish public debt, did not record large arrivals of silver in bars (ingots) in Lisbon, but, as Chart 4 shows, the main part of the production depended on the massive operation of melting and re-coining the Spanish silver money that was still legally in circulation in the Portuguese monetary circuit even after the *Restauração* of 1640. There is no need either to forget that Spanish silver was the main commodity for exchange in the trade of slaves from South America, in which the Portuguese were the undisputed leaders until

<sup>80</sup> On the new Portuguese India Company see: A. R. Disney, ‘The First Portuguese India Company, 1628-1633’, *Economic History Review*, 30/2 (1977), pp. 242-258; A. R. Disney, *Twilight of the Pepper Empire: Portuguese Trade in Southwest India in the Early Seventeenth Century*. Cambridge, 1978, pp. 71-148; C. R. Silva, ‘The Portuguese East India Company 1628-1633’, *Luso-Brazilian Review*, 11/2 (1974), pp. 152-205; E. de Sousa Barros, *Negócios de Tanta Importância: O Conselho Ultramarino e a Disputa pela Condução da Guerra no Atlântico e no Índico (1643-1661)*. Lisboa, 2008, pp. 60-65 and J.C. Boyajian, *Portuguese Bankers at the Court of Spain* cit., pp. 128-145.

the start of the Eighteenth century. We must also remember that another area for the supply of white metal was the area of Rio de la Plata<sup>81</sup>, the port of Buenos Aires<sup>82</sup>, where the sporadic checks made by the Spanish authority favoured a boom in smuggling<sup>83</sup>. In addition, south Brazil, throughout the Eighteenth century, represented an excellent area for trading in legal and illegal goods, of which silver made up the most relevant part in the trade between the two Iberian mercantile communities. It is necessary to note that, after the political split of the Restoration of 1640, the Portuguese financial operators resident in the Spanish capital do not seem to have been influenced at all by the new political climate in Lisbon, indeed, their professional relationship with the crown of Philip IV seems to have been reinforced. Not even family bonds seem to have played a decisive role in the economic choices of the court *banqueros*. Lisbon, seen through the data of the production of its mint<sup>84</sup>, seems to be an economic reality totally free from the choices of the powerful *conversos* of the Spanish capital. The data collected therefore shows that the Mint of Lisbon did not supply the silver in the circuit of the Spanish *asientos*, as we would have thought, but it is plausible to suppose that the precious metal needed to feed the Portuguese monetary circuit came mainly from the participation of the Portuguese in trade linked to the Spanish colonies in South America.

The third mint that I intend to examine is that of London. As has been shown, the increase in Portuguese loans to the Spanish Crown does not seem to have had any repercussions for the activity of the Mint of Lisbon, but it certainly changed, for at least twenty years (1630-1650), the geography and dynamics of the process of redistribution of Iberian silver within the Atlantic area. In fact, after the peace of 1630 London transformed into one of the most active market for the Spanish silver, in strong competition with that of Genoa. But, unlike in the case of Genoa where the arrivals of precious metals were the responsibility of the Genoese operators, almost like a monopoly regime, in the case of the English mint it seems that the shipments were dominated by the Lusitanian bankers, especially in the period 1640-1647 when the Portuguese *asientos* represented the primary source of finance for the crown of Philip IV. The following chart presents the data for the production of silver money coined in the London Mint:

---

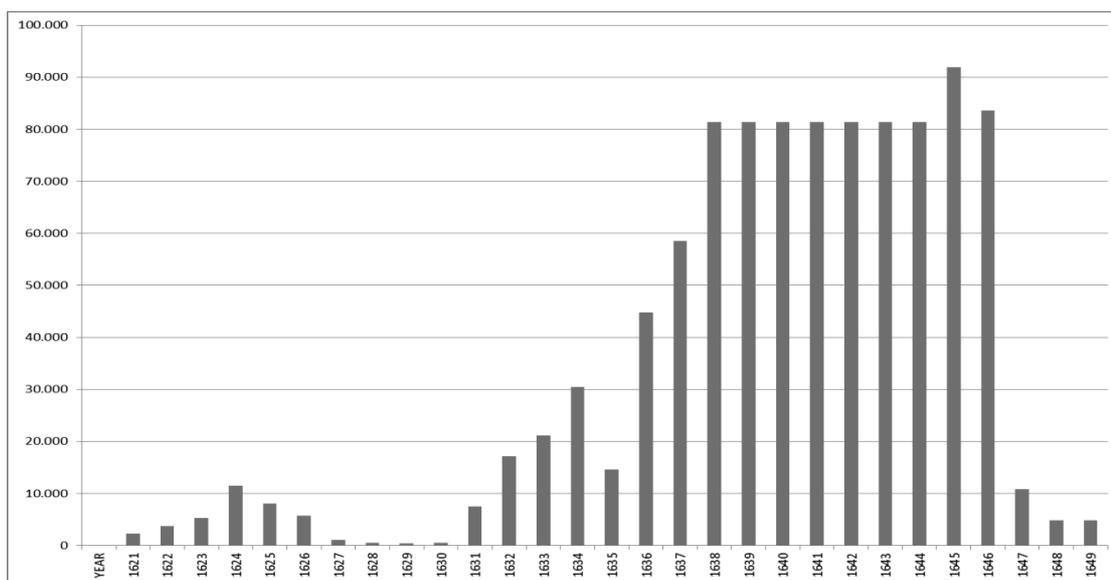
<sup>81</sup> On the presence of the Portuguese in that area see: A. Canabrava, *O Comércio Português no Rio da Prata, 1580-1640*, Belo Horizonte, 1984, M. da G. M. Ventura, *Portugueses no Peru ao tempo da União Ibérica: mobilidade, cumplicidades e vivências*, Lisboa, 2005 and L. F. Alencastro, *O Trato dos viventes. Formação do Brasil no Atlântico Sul*, São Paulo, 2000.

<sup>82</sup> Remember that the role of the colony of Sacramento became fundamental for the supply of silver by Portugal only from the end of the 1640s.

<sup>83</sup> Z. Moutoukias, *Contrabando y control colonial en el siglo XVII*, Buenos Aires, 1988.

<sup>84</sup> Arquivo da Casa da Moeda (Lisbon), *Receita e Despesa*, livros 862-955 (years 1607-1665).

Chart 5 – London Mint (1621-65): Silver outputs (kg)<sup>85</sup>



Sources: N. Mayhew, *Silver in England* cit. pp. 106-108; C. E. Challis, *A New History of the Royal Mint*, cit., pp. 320-321.

One can therefore suggest that the “English Road” (according to the definition by Harland Taylor), functioned until 1648 (see Chart 5), in which year the Peace of Westphalia was signed, that allowed Spain to finally realise the old project of buying white metal on the market of Amsterdam at the expense of English mediation. Furthermore, this trade in Spanish silver with the Royal Mint seems to have been impeded by the changed geo-political European scene. Indeed, the English Navigation Act of 1651, responsible for the Anglo-Dutch wars (1652-1654, 1665-1667 and 1672-1674), radically changed the balance of forces in the English Channel.

## 5. The activity of the Mints of Genoa, Lisbon and London and the Spanish silver

Finally, it is interesting to observe the correlation between the *asientos* signed in support of the war in Flanders and the levels of production of the mints of Lisbon, London and Genoa).

<sup>85</sup> For the production of silver coins by the London Mint (1639-1645) it is calculated according to an annual average because the available official data were not collected over the same calendar year.

<sup>87</sup> No evidence for the years: 1634 and 1637. No bullion inputs for the years 1636 and 1650.

Table 7 – 1621-1648: Asientos for Flanders (Genoese and Portuguese) and entries of silver into the Mints %

| Periods | Asientos for Flanders (Kg.) |           |            | Entries of silver into the mints (%) compared to the value of the <i>asientos</i> |        |        |
|---------|-----------------------------|-----------|------------|---|--------|--------|
|         | Total                       | Genoese   | Portuguese | Lisbon <sup>87</sup>  | London | Genoa  |
| 1621-30 | 10.428.948                  | 8.333.104 | 2.095.844  | 5,11 %  | 0,37 % | 3,74 % |
| 1631-40 | 11.090.340                  | 5.233.432 | 5.856.908  | 1,29 %  | 3,22 % | 5,66 % |
| 1641-48 | 7.683.708                   | 1.787.963 | 5.895.745  | 0,44 %  | 7,72 % | 2,78 % |

Sources: A. Marcos Martín, "España y Flandes (1618-1648): la financiación de la guerra" cit.??

In conclusion, from the data presented here (Table 7), we can deduce that the Mint of Lisbon, right in the decade of maximum financial power of the Portuguese bankers in relation to the Spanish Treasury (1631-1640), was the less important buyer of American precious metal. The tendency of the Portuguese Mint to not buy silver coming from Madrid continued in a more evident way during the next decade, when London imposed itself as the "best client" of the *banqueros* of Philip IV. With regard to the Royal Mint, in the period 1641-1648, London added to the peak in acquisitions of Spanish precious metal, a fact that reinforces the hypothesis of a growing dependence on the financial circuit of the Portuguese. The Mint of Lisbon, by contrast, did not exploit the opportunity to acquire silver bullion from their compatriots resident in the Spanish capital, trade that instead fed the English Mint. In the period 1621-1640, we presume that 6.40% of silver negotiated through the *asientos* - destined to fund the war in Flanders - could therefore have been acquired by the *Casa da Moeda* in Lisbon, while 9.40% could have been destined for the Genoese mint, which reveals a peculiar chronology in the control of trade in precious metal over a crucial twenty year period in European history.

One last hypothesis: if we compare the values of the *asientos* signed by Portuguese and Genoese bankers with the levels of production of the single mints, what can we observe? In the case of Lisbon in the years 1621-1630, the mint bought silver of a value equal to 25.47% of the metal contracted to the Portuguese bankers. This percentage reduced by 2.44% in the period 1631-1640 and by 0.58% in the years 1641-1648. In the case of Genoa the percentage of silver purchased by its mint, in respect to that dealt with by Genoese financiers resident in Madrid, was 4.68% (1621-1630), then growing to 12% (1631-1640) and ending up at 11.97% in the years 1641-1648. For the trade in Spanish silver, once more, this data confirms the chronology proposed in this article.

## 6. Conclusion

The central question posed in this article is whether the silver distributed through the mechanism of the Spanish *asientos* is relevant for the activity of the mints analysed here. We can affirm, in conclusion, how it is necessary to distinguish between two different situations. In the case of the mints of Genoa and London a strong link has emerged between the financial circuit controlled

by the Genoese and Portuguese bankers. However, in the case of Lisbon a positive correlation has been found in the balance of Portuguese trade in respect to its relationship with Spain and its colonies in South America. Therefore, it is thanks to that positive balance of trade that Lisbon was able to obtain a large part of the silver needed to support its own monetary market.

In short, the Mints of Genoa and London utilised more efficiently the silver market derived from the Spanish *asientos* in respect to the Portuguese mint. This suggests that beyond a new climate of collaboration between the Iberian and British authorities, facilitated by the peace of 1630, and the silver trade coordinated by Portuguese bankers; also the extensive network of the Sephardic community in Antwerp and Amsterdam collaborated with the business community of London.

In the case of Lisbon, if we exclude the three years from 1626-1628, there does not seem to have been great cooperation between its mint and the group of Lusitanian bankers involved in financing Philip IV. Nor during the years of the union of the crowns of Spain and Portugal did the administrators of the mint show interest in attracting silver from Madrid, which makes it logical to suggest that the mint price paid by the *Casa de Moeda* of Lisbon was perhaps less than that agreed by the Lusitanian bankers with the Royal Mint. But why did the ingots of Spanish silver not interest the Portuguese mint? In other words, are we facing a short-sighted political choice on the part of the Lisbon administrators who were unable to attract the precious metal into their own coffers? On the contrary, the Portuguese Mint was not intended to pay a higher price for the silver offered by the *banqueros* of Madrid, because there was already a sufficient amount of silver available on the domestic market to the economic operators. In fact, we note that throughout the 1640s, the level of production of white coins was very steady (see Chart 4). Therefore, we can hypothesise that in those years there existed in the monetary circuit of Lisbon a notable quantity of silver that did not consist of ingots coming from the *Hacienda Real* in Madrid, but rather from the activity of melting down and recasting Spanish coins already present in the Portuguese territory<sup>88</sup>.

---

<sup>88</sup> For the legislation linked to the activity of the Casa da Moeda di Lisbona see: Teixeira de Aragão, *Descrição Geral e Histórica das moedas cunhadas em nome dos Reis, Regentes e Governadores de Portugal*, Lisboa, 1877.

Appendix A - Loans to the Spanish Crown (1618-1648)<sup>89</sup>

| Years        | Asientos (total)(Kg.) | Asientos Flanders(Kg.) | Genoese asientos for Flanders (Kg.) | Genoese asientos (%) | Portuguese asientos for Flanders (Kg.) | Portugueses asientos (%) |
|--------------|-----------------------|------------------------|-------------------------------------|----------------------|--|--------------------------|
| 1618         | 1.852.372             | 612.972                |                                     | 100,00               |  |                          |
| 1619         | 1.611.305             | 655.245                |                                     | 100,00               |  |                          |
| 1620         | 1.316.198             | 559.425                |                                     | 100,00               |  |                          |
| 1621         | 2.165.249             | 1.131.296              | 1.131.296                           | 100,00               |  |                          |
| 1622         | 1.663.478             | 933.549                | 933.549                             | 100,00               |  |                          |
| 1623         | 2.559.687             | 1.282.308              | 1.106.167                           | 86,26                |  |                          |
| 1624         | 2.912.319             | 1.188.953              | 889.513                             | 74,81                |  |                          |
| 1625         | 2.917.603             | 1.316.127              | 1.225.943                           | 93,15                | 4.227                                  | 0,32                     |
| 1626         | 2.846.443             | 1.370.379              | 1.123.781                           | 82,01                | 140.913                                | 10,28                    |
| 1627         | 2.317.608             | 1.069.529              | 565.766                             | 52,90                | 415.693                                | 38,87                    |
| 1628         | 2.415.626             | 1.225.943              | 838.432                             | 68,39                | 387.511                                | 31,61                    |
| 1629         | 2.146.855             | 1.129.278              | 360.129                             | 31,89                | 522.551                                | 46,27                    |
| 1630         | 1.571.326             | 784.781                | 158.527                             | 20,20                | 624.949                                | 79,63                    |
| 1631         | 2.446.471             | 1.348.703              | 378.954                             | 28,10                | 427.877                                | 31,73                    |
| 1632         | 1.837.838             | 1.217.965              | 218.325                             | 17,93                | 533.003                                | 43,76                    |
| 1633         | 3.623.551             | 1.905.341              | 675.229                             | 35,44                | 544.326                                | 28,57                    |
| 1634         | 3.063.181             | 1.805.848              | 592.285                             | 32,80                | 704.989                                | 39,04                    |
| 1635         | 3.728.506             | 1.765.566              | 858.727                             | 48,64                | 532.143                                | 30,14                    |
| 1636         | 2.662.039             | 1.363.753              | 540.516                             | 39,63                | 610.949                                | 44,80                    |
| 1637         | 3.371.508             | 1.899.368              | 635.754                             | 33,47                | 799.443                                | 42,09                    |
| 1638         | 3.305.986             | 1.393.139              | 539.387                             | 38,72                | 641.464                                | 46,04                    |
| 1639         | 3.631.859             | 1.500.938              | 522.083                             | 34,78                | 663.700                                | 44,22                    |
| 1640         | 2.919.321             | 1.156.845              | 272.173                             | 23,53                | 399.012                                | 34,49                    |
| 1641         | 3.981.374             | 2.494.740              | 288.871                             | 11,58                | 1.473.610                              | 59,07                    |
| 1642         | 5.100.518             | 2.218.719              | 309.022                             | 13,93                | 1.570.587                              | 70,79                    |
| 1643         | 2.967.901             | 1.562.519              | 146.479                             | 9,37                 | 868.312                                | 55,57                    |
| 1644         | 2.673.185             | 956.007                | 174.028                             | 18,20                | 509.665                                | 53,31                    |
| 1645         | 2.654.654             | 1.216.079              | 193.797                             | 15,94                | 793.799                                | 65,28                    |
| 1646         |                       |                        | -                                   |                      | -                                      |                          |
| 1647         | 2.898.917             | 1.004.172              | 268.527                             | 26,74                | 439.164                                | 43,73                    |
| 1648         | 2.345.710             | 853.580                | 407.239                             | 47,71                | 240.609                                | 28,19                    |
| <b>Total</b> | <b>81.508.590</b>     | <b>38.923.071</b>      | <b>17.182.141</b>                   |                      | <b>13.848.497</b>                      |                          |

Source: A. Marcos Martín, "España y Flandes (1618-1648): la financiación de la guerra" cit., pp. 20; 36.

<sup>89</sup> With regard to the *asientos* destined for Flanders we still need to clarify the amounts presented by Marcos Martín, differentiating them from those published by Geoffrey Parker.

Appendix B – Mints of Lisbon, London and Genoa (1621-1650): Silver outputs (Kg.)

| Years | Lisbon Mint<br>Silver outputs<br>(from ingots & coins)<br>(Kg.) | London Mint<br>Silver outputs<br>(Kg.) | Genoa Mint<br>Silver<br>outputs<br>(Kg.) |
|-------|---|--|--|
| 1621  | 11.680  | 33                                     |  |
| 1622  | 6.379   | 2.311                                  | 33.168                                   |
| 1623  | 45.434  | 3.778                                  | 118.376                                  |
| 1624  | 84.840  | 5.270                                  | 40.242                                   |
| 1625  | 128.270   | 11.527                                 | 94.208                                   |
| 1626  | 69.183  | 8.055                                  | 17.276                                   |
| 1627  | 299.106   | 5.740                                  | 30.727                                   |
| 1628  | 225.081   | 1.105                                  |  |
| 1629  | 48.004  | 538                                    | 14.458                                   |
| 1630  | 96.168  | 404                                    | 41.754                                   |
| 1631  | 38.481  | 562                                    | 98.130                                   |
| 1632  | 51.606  | 7.522                                  | 11.898                                   |
| 1633  | 8.628   | 17.151                                 | 85.321                                   |
| 1634  |   | 21.125                                 | 81.512                                   |
| 1635  | 620   | 30.413                                 | 105.951                                  |
| 1636  |   | 14.644                                 | 40.017                                   |
| 1637  |   | 44.735                                 | 24.799                                   |
| 1638  | 8.008   | 58.481                                 | 74.205                                   |
| 1639  | 31.322  | 81.333                                 | 17.417                                   |
| 1640  | 12.712  | 81.333                                 | 88.655                                   |
| 1641  | 89.778  | 81.333                                 | 17.929                                   |
| 1642  | 79.557  | 81.333                                 | 36.158                                   |
| 1643  | 320.798   | 81.333                                 | 28.287                                   |
| 1644  | 421.893   | 81.333                                 | 3.500                                    |
| 1645  | 179.400   | 81.333                                 | 121                                      |
| 1646  | 188.973   | 91.959                                 | 18.814                                   |
| 1647  | 64.975  | 83.652                                 | 52.632                                   |
| 1648  | 56.267  | 10.845                                 | 56.493                                   |
| 1649  | 43.573  | 4.787                                  | 176.291                                  |
| 1650  | 20.197  | 4.787                                  | 96.169                                   |

Sources: G. Felloni, *Profilo economico delle monete genovesi* cit., pp. 320-322 and U. Meroni, *I "Libri delle uscite delle monete" della Zecca di Genova* cit., pp. 56-106 (GENOA); N. Mayhew, *Silver in England* cit., pp. 106-108 and C. E. Challis, *A New History of the Royal Mint* cit., pp. 320-321 (LONDON); Arquivo da Casa da Moeda (Lisboa), *Receita e Despesa*, livros 862-955 (years 1607-1665), and F. Mauro, *Portugal, o Brasil e o Atlântico (1570-1670)*, Lisboa, 1989, p. 182 (LISBOA)

# GABINETE DE HISTÓRIA ECONÓMICA E SOCIAL

## Documentos de trabalho

- 1 Ana Bela Nunes e Nuno Valério - Contribuição para a história do futebol em Portugal.
- 2 Ana Bela Nunes - Control and regulation in the Portuguese economy (1945-1973).
- 3 Carlos Bastien - The advent of modern economics in Portugal.
- 4 Nuno Valério - Um indicador da evolução dos preços em Portugal nos séculos 16 a 19.
- 5 Nuno Valério - Indicadores de acessibilidade e competitividade do espectáculo do futebol.
- 6 Carlos Bastien - Friedrich List and Oliveira Marreca: some odd coincidences.
- 7 Nuno Valério - A imagem do “brasileiro” na obra literária de Júlio Dinis.
- 8 Ana Bela Nunes - A globalização numa perspectiva histórica.
- 9 João Carlos Graça - José Frederico Laranjo e a teoria social.
- 10 Maria Manuela Rocha - Crédito privado em perspectiva comparada (séculos XVII - XIX).
- 11 Maria Manuela Rocha - Viver a crédito: práticas de empréstimo no consumo individual e na venda a retalho (Lisboa, séculos XVIII e XIX).
- 12 Nuno Valério - Recent developments on Portuguese retrospective national accounts.
- 13 Amélia Branco - O contributo das florestas para o crescimento económico português: o papel do Plano de Povoamento Florestal (1938-68).
- 14 Ana Bela Nunes e Nuno Valério – Three paths to capitalism: an agenda for research.
- 15 Ana Bela Nunes e Nuno Valério – Five ways out of depression: 19/20<sup>th</sup> century experience and 21<sup>st</sup> century prospects.
- 16 Carlos Bastien - A divisão da história do pensamento económico português em períodos.
- 17 Nuno Valério – Séries meteorológicas para o território português.
- 18 Eugénia Mata e Nuno Valério – Indicadores físicos da produção das indústrias transformadoras em Portugal.
- 19 Carlos Bastien – A obra económica de Armando Castro.
- 20 Rita Martins de Sousa - Moeda e estado: políticas monetárias e determinantes da procura (1688-1797).
- 21 Leonor Freire Costa, Maria Manuela Rocha e Rita Martins de Sousa – A circulação do ouro do Brasil: o direito do 1%
- 22 Ana Bela Nunes, Carlos Bastien e Nuno Valério - Nationalizations and de-nationalizations in Portugal (19<sup>th</sup> and 20<sup>th</sup> Centuries): a historical assessment.
- 23 Ana Bela Nunes, Nuno Valério e Rita Martins de Sousa - The long-run behaviour of the income velocity of money in Portugal: 1854-1992
- 24 Ana Bela Nunes e Nuno Valério – Ecology *versus* market capitalism: a threat for the 21<sup>st</sup> century?
- 25 Nuno Valério – The Portuguese capital market during World War II
- 26 Carlos Bastien e Cecília Campos - António Oliveira Marreca: um economista no parlamento
- 27 Ana Bela Nunes, Carlos Bastien e Nuno Valério - Privatization and transnationalization in Portugal (1980-2005)
- 28 Amélia Dias e Francisco M. Parejo Moruno - O comércio externo corticeiro na Península Ibérica no

período de 1930 a 1974 - Uma perspectiva comparada

- 29 Nuno Valério – Quanto vale o mar na economia portuguesa ?
- 30 Nuno Valério - Technical University of Lisbon: 75 Years of History
- 31 Ana Bela Nunes, Carlos Bastien e Nuno Valério - The Rise of Portuguese Multinational Enterprises (1980-2005)
- 32 Carlos Bastien e Rita Martins de Sousa - Para a história do pensamento monetário em Portugal no século XIX
- 33 Ana Bela Nunes - Tomás Cabreira: um economista político num país de 'finanças avariadas'
- 34 Nuno Valério - Avaliação do produto interno bruto de Portugal
- 35 José A. Pereirinha, Manuela Arcanjo e Daniel F. Carolo - Prestações sociais no corporativismo português: a política de apoio à família no período do Estado Novo
- 36 José A. Pereirinha e Daniel F. Carolo - A construção do Estado-providência em Portugal: evolução da despesa social de 1935 a 2003
- 37 Amélia Branco e Francisco M. Parejo - La creación de una ventaja competitiva en la industria corchera portuguesa: la contribución de un distrito industrial
- 38 António Goucha Soares – Portugal: an incomplete Europeanization
- 39 António Goucha Soares – O Tratado de Roma: A “reliquia” da construção europeia
- 40 Leonor Freire Costa - Fiscal innovations in early modern States: which war did really matter in the Portuguese case?
- 41 Ana Bela Nunes, Carlos Bastien, Nuno Valério, Rita Martins de Sousa, Sandra Domingos Costa - Banking in the Portuguese Colonial Empire (1864-1975)
- 42 Leonor Freire Costa, Maria Manuela Rocha e Rita Martins de Sousa - Brazilian gold in the eighteenth century: a reassessment
- 43 Amélia Branco e Francisco M. Parejo - O comércio externo corticeiro na Península Ibérica no período de 1930 a 1974 - Uma perspectiva comparada
- 44 Ana Bela Nunes - The International Monetary Fund's stand-by arrangements with Portugal. An *ex-ante* application of the Washington Consensus
- 45 Ana Bela Nunes, Miguel St. Aubyn, Nuno Valério, Rita Martins de Sousa - The determinants of the behaviour of the income velocity of money in Portugal 1891-1998: an econometric approach
- 46 Carlos Bastien - O Instituto Superior de Ciências Económicas e Financeiras e o Corporativismo (1934-1974)
- 47 Amélia Branco, Nuno Valério, Rita Martins de Sousa - Echoes from the past: Portuguese stabilizations of the 1890s and 1920s
- 48 Carlos Bastien - Bento de Jesus Caraça e a integração europeia
- 49 João Carlos Graça e Teresa Nunes - O Estado Liberal, o desenvolvimento económico e a crise dos anos 90 do século XIX: João Crisóstomo de Abreu e Sousa e José Frederico Laranjo
- 50 Ana Bela Nunes - Crises e ciclos no pensamento económico português na primeira metade do século XX
- 51 Leonor Freire Costa, Maria Manuela Rocha - Notarial activity and credit demand in Lisbon during the 18th century
- 52 Leonor Freire Costa, Maria Manuela Rocha - Money supply and the credit market in early modern economies: the case of eighteenth-century Lisbon
- 53 Amélia Branco, Francisco Parejo, João Carlos Lopes, José Francisco - Determinants of success and failure in internationalisation of the cork business: a tale of two Iberian Family Firms

- 54 Claudio Marsilio - *"Which way to turn?"* - The destinations of the Spanish silver (1621-1650)  
London, Lisbon, or Genoa?
- 55 Ana Bela Nunes - The Portuguese economy in the 1980s: structural change and  
short-term upheavals



Rua Miguel Lupi, 20  
1249-078 Lisboa  
Tel. +351 213 925 974  
E-mail: ghes@iseg.utl.pt

