

# Refinancing short-term debt with a fixed monthly interest rate into funded *juros* under Philip II: the *asiento* with the Maluenda brothers

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## Abstract

Men of finance raised funds for loans, *asientos*, to Philip II by trading short-term financial instruments in credit markets and by selling long-term annuities, *juros*. These activities are illustrated by an *asiento* with the Maluenda brothers (13 July 1595), where short-term credit was secured by income from fleets from the Indies, and, for more than one half, converted into funded life annuities that were sold by the Maluendas. The new analysis of this *asiento* relies on its complete dossier in the archives of Simancas. Other examples of similar refinancing of *asientos* are presented.

Key words: *asientos*, *juros*, debt refinancing, methodology, archives, verification.

JEL classification: N01, N13, N23, N43.

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## I

Philip II was a shy man. The ruler of the dominant power of his time, he preferred to make decisions on written *consultas* rather than through discussions. In 1592, when he visited his archives that he had reorganized in the castle of Simancas, he shunned the festivities that had been prepared by the villagers, preferring to shut himself with the *legajos*<sup>3</sup> that are still there for us to read. The richness of this documentation on royal finances is unequaled for any ancient régime and commands utmost care and respect.

From the pre-modern age on, the public debt has been divided in two components, unfunded and funded. The first is short-term and financed by general revenues or the promise to be refinanced by funded debt. The latter is long-term, in perpetual or life-time annuities, and it is serviced by stable ear-marked revenues. In the empire of Philip II, the funded debt was in *juros* (most of them redeemable at par, either perpetuums or life-annuities) and the *asientos* can be considered to be a form of unfunded debt.<sup>4</sup>

Refinancing the short-term floating debt that accumulated during a war into long-term funded debt with a lower interest has been critical for all states' finances. England solved this problem during its "Financial Revolution" in the 18<sup>th</sup> century.<sup>5</sup> Under Philip II of Spain in the 16<sup>th</sup> century who ruled over a fragmented empire without centralized capital market or developed administration, an important contribution to the solution of the problem was found in the construction of the individual contracts of the *asientos*: an option enabled the underwriters to be repaid by selling, on behalf of the Crown, long-term *juros*.

We analyze this process in the textbook case of the *asiento* that was signed by the Maluenda brothers on 13 July 1595 to provide constant monthly cash payments in Lisbon for one year. An extraordinarily detailed documentation illustrates two central features. First, the contract is like a credit line (with the guarantee of the silver from the fleets of 1595 and 1596 from the Americas) with a fixed interest charge on the balance due, at the rate of one per cent per month. Under that one per cent rule, the rate of return of the contract, there is a great flexibility, like in a modern credit line, for the schedule of the repayments by the Crown. This flexibility is proven by the documentation of the contract. Second, an option enables the Maluenda brothers to be repaid, for two thirds of the credit part of the contract, by selling *juros* to be chosen in a menu that is set in the contract. The attachments to the contract in its *legajo* show that the Maluendas exercised the option with such diligence that their cumulative sales of the *juros* exceeded their net cash advances during the entire contract except for the last two months.

The *asientos* were signed with merchant-bankers, *hombres de negocios*. Most of them were from Genoa but they often resided in Castile and they had an intimate knowledge of the domestic

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<sup>3</sup> Pérez, *L'Espagne de Philippe II*, p. 77. About archives and Philip II, see Parker, *Felipe II*, p. 804.

<sup>4</sup> In the context of the empire of Philip II and of the critical role by Genoese bankers in the financial intermediation between markets in Castile and Europe, it is incorrect to consider *asientos* as foreign debt.

<sup>5</sup> Dickson, *The Financial Revolution*; Brewer, *The sinews*, Figure 4.9, p. 121.

fiscal affairs and of the financial markets in Spain and Europe. They provided the indispensable connections between the savers, in Castile and abroad, and the borrower, the Crown. The interruption of that connection for more than two years after the suspension of payments on *asientos* in 1575 had a severe impact on the commercial fairs and the Castilian economy and played an important role in the conflict between the Crown and the *Cortes*.<sup>6</sup>

The loan part of the *asientos*, net of the collaterals, never accounted for more than 10 per cent of the public debt, which at around 50-60 per cent of gross domestic product (GDP)<sup>7</sup>, was the first to reach a "modern" level. However, *asientos* have attracted more attention than *juros*, perhaps because of their easy access in the archives.<sup>8</sup> Despite the abundance of these studies, no one, except Lonchay, has presented the complete documentation for one contract.

The formal options for *juros* in the 1580s and 1590s had been preceded, before 1575 crisis, by the system of *juros de caución* or *juros de resguardo* that provided a collateral for some *asientos*.<sup>9</sup> The system had been instigated by the merchant banker, Rodrigo de Dueñas, in 1555.<sup>10</sup> *Juros de resguardo* could be sold before the maturity of the *asiento* under the condition that if the *asiento* were repaid, equivalent *juros* had to be returned.<sup>11</sup> But *juros* were funded by heterogeneous sources and merchant-bankers, using their expertise, could greatly benefit from arbitrage opportunities. The *juros de resguardo* have been considered in the recent literature<sup>12</sup>

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<sup>6</sup> For an introduction, see Álvarez-Nogal and Chamley, 'Debt policy'; Álvarez-Nogal and Chamley 'Philip II against the Cortes,' and the listed references. See more about the Cortes, and the conflict between the Cortes and the Crown in Jago, 'Habsburg Absolutism' and 'Philip II and the Cortes'; Fernández Albaladejo, 'Monarquía, Cortes' and 'Cities and the State'; Fortea, *Monarquía y Cortes*, and '¿Impuestos o servicios?'; Ruiz Martín, 'Las finanzas españolas'.

<sup>7</sup> The estimation is based on GDP data from Álvarez-Nogal and Prados de la Escosura 'Decline of Spain'; Álvarez-Nogal and Prados de la Escosura 'The Rise and Fall'; and debt data from Ulloa, *La Hacienda Real*, p. 845; Ruiz Martín 'Crédito y banca', p. 739; Carlos Morales, 'La Hacienda Real', p. 70.

<sup>8</sup> In 1907, Lonchay, 'Etude', presented an excellent study on *asientos* that were written in Flanders. Carande, *Carlos V y sus banqueros*, provided a first account of the *asientos* of Charles V in Castile. Braudel, *El Mediterráneo*, published a series of *asientos* using data collected by Castillo Pintado, who was the first to use in a systematic way the *legajos* that contain the contracts: Castillo Pintado, 'Dette Flottante'. In the early 1960s, Modesto Ulloa, *La Hacienda Real*, made an impressive effort to collect an enormous amount of information about the *Real Hacienda* (royal budget) of Philip II, studying its main revenues and analyzing contracts signed during his reign. In addition, he was the first to establish an annual series of the amounts of *asientos*. His work highlighted the importance of the documents that are preserved in the *Contadurías Generales* (hereafter CCGG) in the Archives of Simancas. This source is now well known to modern historians: Lapeyre, *Simón Ruiz et les Asiento*; Ruiz Martín, 'Las finanzas españolas'; Neri, *Uomini d'affari*. Canosa, *Banchieri Genovesi*, published a list of all the *asientos* signed by the Genoese between 1566 and 1610, using the *legajos* of the *Contadurías Generales*; Carlos Morales, *Felipe II*, and many other authors who have continued to work on the finances of Philip II and have explored it further. Sanz Ayán, *Los banqueros de Carlos II*, and Gelabert, *La Bolsa del rey*, analyzed the *asientos* of the 17<sup>th</sup> century, reconstructing the values of the contracts signed by Philip III, Philip IV and Charles II from the data provided by the *Contadurías Generales* section of the archives. Using the documents of the same section, Drelichman and Voth, 'Serial Defaults'; 'Lending to the Borrower' have constructed a database on more than 400 *asientos*.

<sup>9</sup> Ulloa, *La Hacienda Real*, pp. 778-79; Ruiz Martín, 'Las finanzas españolas', pp. 122-23; Carlos Morales, 'La Hacienda Real', p. 51; Carlos Morales, *Felipe II*, pp. 90-93, mentions *juros de comodidad*.

<sup>10</sup> Castillo Pintado 'Los juros de Castilla', p. 48, especially footnote 12. Ruiz Martín, 'Las finanzas españolas', p. 115.

<sup>11</sup> The *juros de caución* could not be sold before the maturity of the *asiento*.

<sup>12</sup> Doria mentions the sales of *juros de resguardo* by Genoese bankers to investors in Genoa. Doria, 'Un Quadriennio', pp. 161-62.

mainly as collaterals and permanent sales of them have been viewed as similar to failures by the Crown to repay the *asientos*.<sup>13</sup> But this was just good management of the public debt, namely the refinancing of short-term debt into less expensive funded debt. After the 1575 crisis, the refinancing function of the *juros de resguardo* was preserved and made explicit in the options to sell *juros*.<sup>14</sup> These options were first described, accurately, by Ulloa, indeed for the very same Maluenda contract that we analyse here.<sup>15</sup> Such options were standard in the contracts that were written in the 1590s. We briefly provide additional examples.

Most of the archival documentation that we use is not new (see footnote 5). It is in the *Contadurias Generales* where the contracts are put in stacks of loose sheets that are contained in boxes, *legajos*. Each *legajo* contains contracts of about the same year, ordered alphabetically by the names of the merchant-bankers. In each *legajo*, the documentation for an *asiento* is in two parts, first, the contract, second, its attachments that have been established by the royal accountants who monitored the implementation of the contract. Most of them were written before the final maturity of the contract.

The Maluenda contract is relatively simple. One can easily perceive the intentions of the contract through a careful reading. Such a reading of the text of the contract is therefore an integral part of the paper and, thanks to the archival bequest of Philip II, the translation of the contract is provided in the appendix.<sup>16</sup> The attachments are essential both for the interpretation of the *ex ante* contract and for the *ex post* review of its implementation. They are listed with a short description in Table 1. Anyone who held the Maluenda contract in the archives must have gone through the 47 sheets of the attachments in order to get to the next contract, which was also signed by the Maluenda brothers, two weeks later, on July 26, for 560,000 escudos in Flanders, and which plays a role in the implementation of the July 13 contract, as will be shown here.

Table 1

In Section II, we present the contract and highlight its structure in three tranches: first an upfront transfer of 75,000 ducats by the Crown; second, a tranche of 97,500 ducats, Tranche A, for the remaining disbursements of 1595, with a first claim on the fleet of 1595 and a monthly interest of 1 per cent on the running balance; third, a tranche of 177,000 ducats, Tranche B, for the disbursements of 1596 with a claim on the fleet of 1596, the same rate on the balance due, and an option to sell *juros*. This description can be verified by the reader of the contract that emphasizes the rigidity of the monthly disbursements in Lisbon and the flexibility of the repayments. All this is common sense. The Crown needed the regular cash to pay the army but it faced erratic

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<sup>13</sup> Castillo Pintado, ‘Los juros de Castilla’; Conklin, ‘The Theory of Sovereign Debt’, pp. 491-92.

<sup>14</sup> Toboso Sánchez, *La deuda pública*, pp. 132-33, mentions that *juros* continued to be used as payments for *asientos* after 1575.

<sup>15</sup> Ulloa, *La Hacienda Real*, p. 817.

<sup>16</sup> Álvarez-Nogal and Chamley ‘Equity short-term’. The copy of the contract, its transcription and complete translation, and a copy of the attachments, are on the web site <http://www.chamley.net/castile/>

revenues<sup>17</sup>. One of the purposes of the contract—not the only one—was the transformation from the latter to the former.

A golden rule for the contract is the fixed interest rate of one per cent per month on the balance due (no compound interest) and the detailed computations by the royal accountants are placed in the attachments to the contract. The contract makes clear, with examples, that the dates of the payments by the Crown cannot be fixed at the time of the signature. There is no “agreed-on cash flow”<sup>18</sup> for the payments by the Crown. What is fixed is the interest rate on the monthly balance. The total payments by the Crown, including the interests, depend on the running balance and the dates of the payments. We obviously do not attempt to compute the rate of return of the *asiento*. That would be as futile as computing a rate from the statements of a modern credit card when its rate is explicitly written in the contract. More importantly, to go from the cash payments to the computation of the rate is a *contre-sens* on the meaning of the contract. Because the documentation in the *legajo* is complete, we will discuss briefly the *ex post* return of the *asiento*.

In Section III, we analyze the options for *juros* that are extensively presented in the contract (pages 9-11)<sup>19</sup> and that apply to the tranche B. The sales, documented for each individual *juro*, proceeded at a pace so brisk that they were practically completed at the beginning of 1596. As they freed the claim on the 1596 fleet, it was decided, using the flexibility of contract, to shift some of the claim of Tranche A from the fleet of 1595 to the fleet of 1596. Of course, the interests would apply to the running balance. We have verified the computations of the accountants, which are exact up to the last maravedi (Section IV). The implementation thus confirms the interpretation of the line of credit with a fixed monthly rate and the flexibility of the payments by the Crown that is allowed in that line of credit. A debt of about 40,000 ducats was still outstanding when the third payment stop of Philip II took place in October 1595. The attachments show that it was eventually paid.

In Section V, we present evidence of similar options for other *asientos*. We conclude in the last section.

## II

The Maluenda brothers were successful merchants from Burgos who used their network in trade to develop financial activities. On 13 July 1595, they signed an *asiento* that committed them to deliver twelve monthly disbursements to the Crown in Lisbon.<sup>20</sup> Page 1 of the contract, in the appendix, is devoted to the obligations of the Maluendas: all disbursements were equal, except for the first one that was doubled. After administrative issues on page 2, most of the remaining 12 pages describe the obligations of the Crown for the repayments. The contract divides the disbursements of the bankers into three tranches that can be identified by the reader of the

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<sup>17</sup> These *mesadas* were described for Flanders by Lonchay, *Etude sur les emprunts*, p. 979.

<sup>18</sup> The expression is from DV (e.g. DV (2014), p. 173) who use it repeatedly because it is central in their method for the computation of *ex ante* returns to *asientos*, (DV, ‘Serial Defaults’). For an evaluation, see footnote 39.

<sup>19</sup> Unless specified otherwise, all page numbers refer to the contract.

<sup>20</sup> The contract is available on line, original (14 pages), transcription and English translation

contract. Table 2 provides a summary. Each tranche has a specific claim on reimbursements. The options for *juros* applies to the third tranche.

Table 2

First, the Crown has to make an immediate payment of 75,000 ducats for the first two disbursements in July and most of the third one in August (Page 3).<sup>21</sup> That is an upfront transfer and the contract emphasizes that no interest should be paid on it. This point is repeated in Attachment IV that provides a summary in four pages. Consequently, no interest will show up in the monitoring attachments, as discussed later. Apparently, the Crown needed immediate cash in Lisbon towards military expenditures. The mobilization of funds by the Maluendas would have delayed the disbursement. The Crown provided 75,000 ducats, in Madrid, from its own ‘coffers of the three keys’<sup>22</sup> to be transferred as soon as possible to Lisbon by the Maluenda brothers.

We now turn to the remaining 274,500 ducats that were financed by credit in what we call tranche A and tranche B.

Tranche A of 97,500 ducats<sup>23</sup> is not an invention from us but it is stated in the contract (‘And the other 97,500 ducats...’, page 3). It covers the next sequence of disbursements, from September to mid-December of the same year 1595. This tranche is guaranteed on the income from the fleet of 1595.<sup>24</sup> There is no specific date for the repayment. The expression *del primer dinero* (page 4), means a first claim and does not state a time immediately after the arrival of the fleet. The only date that is specified for the payment by the Crown is for the initial transfer on page 3 (‘*sin que en ello aya dilación ninguna*’). Page 4 explains in details how to compute the interests. For each individual disbursement in Lisbon, the interests have to be computed from the first of the day of that month ‘until the day or days in which they will be effectively paid.’

There is no agreed date for the payments on that tranche by the Crown. The contract gives flexibility to the Crown under the condition that the interest should be paid. Page 5 provides an example that is optimistic: should the Crown happen to make early payments and run a negative debt balance with the Maluendas, then they would have to pay 1 per cent per month to the Crown. The task of computing the interests was assigned to the royal accountants in Seville (page 5). The minute details and the tedious illustrations in the contract emphasize a central feature: it is a credit line with a one per cent monthly charge on the balance due. This

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<sup>21</sup> By contract, the first disbursement by the Maluendas, nominally for June, had to be made no later than 21 July. The effective payments by the Crown ran from 11 July to 11 September (Archivo General de Simancas, hereafter AGS, Contaduría Mayor de Cuentas, hereafter CMC, 3<sup>a</sup> epoca, leg. 32. *Cargo* and Audit, 23 December 1617). The time interval is indicative of the payment delays and their uncertainties. These delays may have been related to the method of transfer through letters of exchanges. They may also explain why, in the contract and in the computations by the accounts, the balances for interest rates are always calculated from the first day of the month of the disbursement, as illustrated by the examples provided in the contract.

<sup>22</sup> The three keys are for security, as the two keys for launching intercontinental missiles.

<sup>23</sup> The numbers 97,500 and 177,000 may have been chosen because 177,000 is a round number: accountants used *maravedis* more often than ducats and 177,000 ducats is exactly equal to 66 million *maravedis* plus one thousand ducats. 177,000 is also roughly equal to the total disbursements that are scheduled for 1596.

<sup>24</sup> The fleet is a convoy that brings the silver from the Americas in the Fall, usually in September or October.

interpretation of the contract is perfectly confirmed by the numerical computations of the accountants in the reports that will be discussed below.

One should note that on page 4, the interest charge is justified by the borrowing costs that will have to be incurred in the credit market.<sup>25</sup> The word '*cambio*', from the Latin *mutuari* means credit. The contract thus explicitly acknowledges that for this particular *asiento*, the Maluendas may raise funds on the credit market. The same sentence is repeated for the interests on Tranche B. In addition, a license frees the Maluendas from any legal constraints on the interest rates of the credit market (page 13).

A fixed fee of 2 per cent is added to the interests on Tranche A (page 5). That is remarkably low compared to the apparently efficient US market where a 7 per cent fee is the norm for IPOs up to 250 million dollars.<sup>26</sup>

Tranche B, which pays for the remaining disbursements from the end of December 1595 to June 1596, is introduced on page 6 ('And the 177,000,...'). There are two clauses. The first repeats, *verbatim*, the conditions for tranche A, replacing the 1595 fleet by the next one, in 1596. The second part, which is central in this paper, adds an option to sell *juros* for up to the entire tranche, from a menu that is described in Table 3 (pages 9-12).

Table 3

The life annuities had to be sold before the last disbursement, at the end of June 1596, and earned interest from the first of January 1597, on. The Maluendas were obliged to provide trimestral reports on the sales of *juros* (page 11), which indeed will be found in the attachments next to the contract. The annuities should be funded by revenues chosen by the Maluendas (page 9). Since the quality of an annuity depended on its source of funding, the exercise of the option required good and detailed information on the sources of revenues of the Crown.

### III

Soon after the contract was signed, the Maluendas started to exercise the option for the *juros*. They eventually sold *juros* for the entire tranche B of 177,000 ducats, and the main part of them before disbursing any money for that tranche. The *juros* started to receive interest from the Crown only in January 1597. From the Crown's point of view, the interest on tranche B ran from the date of disbursements by the Maluendas (at the beginning of the relevant month) until the end of 1596. The computations of the accountants are placed in Attachment IX and are summarized in Table 4. For example, the disbursement of 15,693 ducats in December 1595 (see the summary

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<sup>25</sup> 'para suplir a los daños de los cambios que a de padecer.'

<sup>26</sup> Chen and Ritter, 'The Seven Percent Solution', Abrahamson et al, 'Why don't US Issuers.'

of the contract in Table 2) earns an interest of 1 per cent for 13 months,<sup>27</sup> which is 2,040 ducats (Column 5 of Table 5). Following this method for the other disbursements, the total of interests was 17,364 ducats. When the fee of 3,540 ducats (2 per cent of 177,000 ducats)<sup>28</sup> is included, the total comes to 20,904 ducats.

Table 4

The trimestral sales reports (page 10 of the contract) are the attachments X, XI, and XII, dated 8 October 1595, 12 January and 13 April 1596. They present for each *juro* the date of the sale, the type of the *juro*, its face value, the heads on whom the rent is written and the collector of the rent if he is a different person. The sales proceeded rapidly. Figure 1 presents the cumulative amounts for each month. At the end of 1595 when Tranche B started, it had been almost entirely pre-financed by the sales of *juros*.

Figure 1

After the third report, a principal of 7,528 ducats remained on the balance of Tranche B, plus the interests and fee that were computed by the accountants in Table 4. The remaining balance on the principal was covered by two *juros*, and the interests were paid through the sales of three *juros*.<sup>29</sup> These last sales, presented in Table 5, validate the computations of the accountants in Table 4. The payment of the exact amount of the interests is proven by the sales of the last three *juros* in Table 5.

Table 5

To whom did the bankers sell *juros* and which type of *juro*? The complete list of *juros* is presented in the Appendix II. Consider again the menu of the options that were offered in the contract (Table 3). The annuities on two lives are clearly the best ones: for a significant reduction of the risk of an early death, they cost barely more than the annuities on one life, and they are much cheaper than the perpetuums. Indeed, 70 of the 74 *juros*, 95 per cent of the capital, were for annuities with two lives.<sup>30</sup>

The principals of the *juros* range from 416 to 16,000 ducats with more than 60 per cent above 1,000 ducats, a large sum at that time (a soldier could earn one ducat per week).<sup>31</sup> The 74 *juros* were sold to 35 Castilians and to 39 foreigners. Foreigners bought 56 per cent of the total value of the *juros*: on average, they bought *juros* of higher value. These foreigners were mostly

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<sup>27</sup> Recall that the interest has to be computed from the beginning of the month (page 4).

<sup>28</sup> See page 7 of the contract, Appendix I.

<sup>29</sup> These are reported in the audits of CMC that were done in 1606 (AGS, CMC 3<sup>a</sup> época).

<sup>30</sup> AGS, CCGG, leg. 92-1. Asiento, 13 July 1595 and AGS, CMC 3<sup>a</sup> época, leg. 32. *Cargo*.

<sup>31</sup> Porreño, *Recueil des actions*, Thompson, 'El soldado del Imperio', p. 34, footnote 46.



Genoese's and other Italians<sup>32</sup>. By their family connections and the amounts of their investments, they must have had good information on the returns of the *juros*.

Figure 2

Many families bought more than one *juro* on different heads in their families. For example, Joan Francisqui bought six *juros* that he placed on the head of all his children in various combinations. He remained the *de facto* beneficiary of these rents and the diversification reduced risks. Joan Imbrea followed the same strategy.

Table 6

## IV

Tranche A was supposed to be paid from the income of the 1595 fleet. That fleet, commanded by Luis Alfonso Flores, arrived on 17 September, according to a report from the *Casa de Contratación* in Seville.<sup>33</sup> By that date, the Maluenda brothers and the Crown knew that the sales of *juros* were going well. In the first trimestral report, on 8 October, *juros* had been sold for 92,085 ducats, more than half of tranche B. In January 1596, most of tranche B had been financed by *juros* thus releasing the first claim on 1596 fleet. Part of the financing of tranche A was shifted from the 1595 fleet to the 1596 fleet. This shift was possible because of the flexibility in the principle of the contract as a credit line with the fixed interest on the balance due. One needed to adjust only the interest payments. Tranche A was divided into two sub-tranches, A1 and A2, to be paid from the fleets of 1595 and 1596, respectively. The first covered the disbursements until the end of October 1595 (net of the initial transfer of 75,000 ducats), while the second, covered the rest of the tranche.

The Crown used income from the fleet of 1595, for two *asientos* with the Maluendas, the one that is analyzed here, and another one that was signed two weeks later, on 26 July. The payments were made in installments, starting on 13 December 1595. In order to follow the terms of the contract that the interest should be computed 'until the day or days in which they will be effectively paid', the accountants followed the correct procedure of taking the mean date in Table 7, weighted by the amount of the payment for each date. The result of the computation, up to the third decimal, is 25 January. Using this date as the last day for all balances, the accountants reported their results in Attachment VIII, on 7 June 1596 (Table 8). We verified that there is not a single error in their computations.

Table 7

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<sup>32</sup> About investors in *juros* see Thompson, 'Juros, juristas'; Álvarez-Nogal, *Oferta y demanda*, pp. 86-97.

<sup>33</sup> For the dates of the fleets, see Lorenzo Sanz, *Comercio de España*, vol. II, pp. 532-36.

The total of 61,899.8 ducats was charged on 227,812.47 ducats paid from the first fleet (Table 8). The remainder (165,912.65 of the 227,812.47 ducats) was paid for the second *asiento* of 26 July. Note that a very small amount of 161.90 ducats was omitted from the October disbursement, for unknown reasons. It will be included in Tranche A2 (Table 9). The accountants were meticulous.

Table 8

After the last payment for Tranche A1 on February 1596, the only balance due was Tranche A2 with a principal of 38,237.7 (= 97,500-59,263). In the same 7 June 1596 report, one finds provisions for the interest to be paid on that tranche. These provisions are not a commitment to pay but they are forecasts of the interests that have to be computed by the standard method. Table 9 presents a summary of these provisions.

Table 9

Columns 3 and 4 imply an anticipated date for repayment is 31 October 1596, shortly after the expected arrival of the second fleet. The total amount due on 31 October would be 42,716.3 ducats. This is just a scenario for the accountants. The repayments could be made later, as they had been for Tranche A1.

The 1596 fleet arrived in October.<sup>34</sup> On 26 October 1596, the Maluenda brothers signed another *asiento* for 165,000 ducats.<sup>35</sup> On 29 November 1596, Philip II decreed the suspension of payments to all *asientos*.<sup>36</sup> The income from the fleet stayed in Seville and was not used for any payment to bankers. That did not affect Tranche B since it had been entirely repaid through *juros* before the end of June 1596. There remained only a debt of about 43,000 ducats in Tranche A2 (Table 9). According to the attachment IV in the *legajo*, on 14 November 1597, the Maluendas presented the Crown with a bill for 37,380 ducats of principal and interests, which was paid by the Crown through refinancing of *juros* (*crecimientos*) and sales of new *juros*. The Maluenda *asiento* was fully repaid.<sup>37</sup>

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<sup>34</sup> In June, the fleet of Nueva España, led by Pedro Menéndez Márquez was in La Habana and cast away in mid-July. It arrived at the same time as the fleet from the Tierra Firme, under the command of Francisco de Eraso. Ibid., vol. II, pp. 532-36.

<sup>35</sup> AGS, CCGG, leg. 92.

<sup>36</sup> The decision had been taken a few weeks before and during the previous months the Crown had secretly issued individual orders to stop payments. AGS, Consejo y Juntas de Hacienda, leg. 358, and Carlos Morales, *Felipe II*, pp. 286-89. Sanz Ayán, 'Procedimientos', pp. 25-26.

<sup>37</sup> In 1606, the CMC audited all the transactions related to the *asiento*. A summary report was put in Attachment VI: the Maluendas had disbursed only 339,079 ducats instead of the 349,500 in the contract, a shortfall of 10,420 ducats. All the transactions had to be reexamined by the CMC. At the end, on that particular *asiento*, the Crown did not owe to the Maluendas: they owed to the Crown. As an epilogue, at the death of Francisco the Maluenda, the accounts had to be settled for Pedro. In the archives of Simancas, we found the related documentation. After the revision of the accounts of all the *asientos* that had been signed by the two brothers, the accountants of the Crown discovered that the company of the Maluenda brothers owed to the Crown 37,333 ducats and ordered the payment of that debt. The

## V

The exercise of the option for *juros* had a spectacular impact on the credit position of the Maluenda brothers with respect to the Crown. It just reversed the position until the last two disbursements in May and June 1596 ! In Figure 1, the cumulative amounts of the sales of the *juros* exceeds the cumulative cash disbursements of the Maluendas net of the cash payments by the Crown in each month of the contract up to May 1596. The Maluenda brothers had no risk exposure for most of the payments in the contract. On the contrary, they may have used the option to raise cash to cover the disbursements in Lisbon and as smart people of business, they may have collected funds at low cost for an investment with a higher return: we do not know the terms of the payments for the buyers (by installments of upfront cash), but even if dividends on sold *juros* were paid in anticipation, the rate of these *juros* was well below the 12 per cent annual rate that was charged to the Crown. We can understand that the Maluendas were eager to exercise the option and to sell the *juros* as fast as possible.

Options for *juros* are found in other *asientos* of that period. Here, there is space for only three examples, but there are many more.<sup>38</sup> On 16 March 1589, one of the largest *asientos* ever was signed by Agustín Spínola for 2.5 million escudos, to be delivered in Flanders. The contractual payments of the Crown to Spínola amounted to 2,810,666 ducats, to be collected from the fleet, contributions for the Crusade, sales of offices and claims to a number of revenues. Up to 500,000 ducats of these claims could be returned to the Crown in exchange for selling *juros*.<sup>39</sup>

On 3 April 1591, Tomás Fiesco signed an *asiento* for 300,000 Italian escudos at 57 pattards, the currency for the pay the army of Flanders (page 1 of that contract). The first disbursement was set at 61,500 escudos for April 1591, to be followed by 9 monthly disbursements of 26,500 escudos until January 1592 in places like Dunkirk, Besançon, Chambery, etc... (page 2). The contract converts the disbursements in escudos into a debt by the Crown of 340,000 ducats. As in

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brothers went to court. As of 1624, when the revision took place, no payment had been made. As mentioned in the document, a number of the Maluenda brothers' *asientos* were settled together. By that time, the *asiento* of 13 July 1595 had been long settled. (AGS, Consejo and Juntas de Hacienda, leg. 606).

<sup>38</sup> Other examples include the *asientos* of Agustín Spínola for 1,000,000 ducats in Italy on 2 February 1587 (AGS, CCGG, leg. 88), Baltasar Lomelín and Agustín Spínola for 600,000 escudos in Flanders on 15 August 1588 (AGS, CCGG, leg. 88), Baltasar Lomelín for 1,183,000 escudos and 132,000 ducats on 12 May 1587 (AGS, CCGG, leg. 88), Agustín Spínola for 1,000,000 ducats in Madrid and Seville (AGS, CCGG, leg. 89-1), Julio Spínola for 120,000 ducats in Madrid and Seville on 29 May 1590 (AGS, CCGG, leg. 89-2).

<sup>39</sup> "If Agustín Spínola wishes to receive up to 500,000 ducats in principal of *juros* at the rate of 14 at the full price, he should receive them, in one or many times upon his request. These should be placed on any *alcabala* or other revenues of these kingdoms, at his choice, under the same conditions that have been used for the sales of *juros* at 14. In exchange, he should return an equal amount of payment orders (*consignaciones*) that he may have received. Each time that he will require a part of the said 500,000 ducats for a *juro* at 14, he should benefit from the *juro* from the day of maturity of the payment orders that are exchanged, and he should be given the *cedulas* and necessary papers for this transaction" (page 10 of the contract). AGS, Consejo and Juntas de Hacienda, leg. 1709. Copy of *asiento* Agustín Spínola, 16 March 1589.

the Maluenda *asiento*, most of the contract is about the payments of these 340,000 ducats. Since the contract included a down payment by the Crown of 99,733 ducats, the credit part was only for 240,000 ducats. The contract includes two options that are similar to those in the Maluenda contract, for 100,000 and 64,000 ducats, respectively. The attachments to the contract show that Tomás Fiesco reduced his claim on revenues from the fleet by the amount of 39,870 because of the sales of *juros*.

The third example is the contract that Agustín Spinola and Nicolao de Negro signed two weeks after the Maluenda contract, on 26 July 1595.<sup>40</sup> It specified 13 monthly disbursements of 75,000 escudos starting in September 1595, with a last disbursement of 25,000 escudos in October 1596. At the exchange rate of 408 mrs per escudo, the principal of the debt by the Crown was equal to 1,088,000 ducats, a high amount.

The contract included two options to sell *juros*. The first, for 100,000 ducats, enabled the merchant-bankers to sell *juros* on one life at 14 per cent, two lives at 12 per cent, redeemable perpetuals at 7.14 or 5 per cent under the same conditions as in the Maluenda contract. The second option, of 166,666 ducats, allowed the sale of perpetuals at 7.14 and 5 per cent. The attachments show that the bankers started to sell *juros* immediately after the signature of the contract.

## VI

The Maluenda contract is a textbook contract with an abundant documentation that confirms the interpretation of the flexibility for the Crown's payments subject to a fixed monthly rate of one percent on the balance due, as in a modern credit line.

The analysis of the contract and its attachments demonstrates that the understanding of the finances of Philip II requires a careful reading of a number of contracts and of their attachments in the *Contadurías Generales* section of the archives of Simancas. This is especially true because the terms of the payments are not detailed in many contracts. That will take time.<sup>41</sup>

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<sup>40</sup> AGS, CCGG, leg. 92. Asiento Agustín Spinola y Nicolas de Negro, 26 July 1595.

<sup>41</sup> In their 2011 founding article, Drelichman and Voth (hereafter DV) have made the Maluenda contract the centerpiece for their methodology. They repeat their analysis, with minor alterations, in their 2014 book. Since they have already published on line a critique of the discussion paper version of the present article, we should add a few comments. DV claim to have transcribed every clause of more than 400 contracts (Drelichman and Voth, 'Serial Defaults', p. 4). For the Maluenda *asiento*, they commit two serious errors in reading the contract. In addition, they speculate on its implementation and because they have neglected the attachments next to the contract in the same *legajo*, they are completely off the mark. We should stress that except for a few minor details, our source is the same *legajo* of the CCGG that contains the contract and its attachments.

An important task for DV is the computation of their measure of a rate of return on the contract. 'Using the MIRR is attractive because of the nature of *asiento* contracts. The cash flow of many *asientos* turned from positive to negative and back several times over the lifetime of a loan. Our sample contract with the Maluenda brothers is a case in point' (Drelichman and Voth, 'Serial Defaults', p. 6). 'We need to reconstruct the cash flows they generated to estimate the rates of return for each contract' (Drelichman and Voth, 'Serial Defaults', p. 4).

In this exercise, the most serious error is to turn the contract on its head. There is no agreed cash flow for the payments by the Crown. Such agreements would be against one of the major purposes of the contract for the Crown,

The expertise of the merchant-bankers proved to be essential for one of the most interesting features of the contracts, the option to convert part of the *asiento* into *juros*. Such routine conversions, delegated to private agents, took place well before the state conversion in 18<sup>th</sup> century England.

In addition, the contracts repeatedly acknowledge the financial intermediation of the merchant-bankers who raise funds in the credit markets in order to finance the *asientos*. The texts of many contracts show that the *asientos* transformed for the Crown multiple and dispersed sources of revenues, in this pre-modern stage, into one steady stream of cash at specified places. In this transformation, the merchant-bankers' were experts in the details of the public finance of the Crown and in the markets for the long-term debt. In future research, we will provide additional evidence and analysis.

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which is the transformation of a set of dispersed and uncertain revenues into a steady flow for army pay. If there is one *asiento* where one should not compute a rate of return from cash flows that are assumed in the contract, it is the Maluenda *asiento*. The rate of return is written in the contract, repeatedly, with numerous examples and confirmed by the computations of the accountants. The eventual total payments depended on their timing and the interests that were due. For example, contrary to the assumption of DV, the contract does not state that the Crown should pay at the arrival of the fleet, and the attachments prove that both parties expected the payments by the Crown to follow the arrival of the fleet with an interest that was computed between a set date (like a date for a credit card payment) and the actual payments by the Crown.

One should note that some cash flows are not reported as in the contract. For example, the 75,000 ducats which they report for November 95 was in fact a transfer at the signature of the contract in July. The error affects the share of the loan in the contract.

The central issue of the options (accurately reported already by Ulloa) is dismissed by DV. Neglecting the pathbreaking work of Ulloa (1977) who accurately reported the menu of options, they state the option included only lifetime *juros* 'with a maximum rate of 7.14 per cent' (Drelichman and Voth, 'Serial Defaults', p. 5). It would not be rational to buy lifetime annuities that provided the same return as perpetuals, and the rates on lifetime annuities were indeed higher.

The omission of the options (covering three full pages of the contract) has serious consequences for the discussion by DV of the *ex post* rate of return in the contract (Table 4 in 'Serial Defaults', p. 7, repeated in Table 15 in p. 179 of the book). After the last disbursement in June 1595, the debt of the Crown was about 40,000 ducats (Figure 3) because of the exercise of the option. They state that 'the final payment of the contract [177,000 ducats plus an adjustment for interest and fees] did not take place' (p. 179 in the book). Consequently, they present a negative *ex post* rate of return (Table 4 in the book, p. 179). We showed that the 177,000 ducats had been fully paid by the exercise of the options, five months before the arrival of the fleet, and that the Maluenda contract was fully repaid.

## APPENDIX

The contract<sup>42</sup>

<p>p. 1</p>	<p>By my command, it is mutually agreed with Francisco and Pedro de Maluenda [FPM], residents in this Court on 349,500 ducats which at 375 mrs per ducat, amount to 131,062,500 mrs that will be provided for me in the city of Lisbon in my Realm of Portugal, the following.</p>
<p>13 payments by the Maluendas in Lisbon from July 95 to June 96.</p>	<p>First, the said FPM will pay in the city of Lisbon 349,500 ducats to whom I would order in Castilian reales or in other cash currency of the same value, ... in thirteen payments, 26,886 ducats for the first payment in 8 days after the presentation of the bill [see on page 2] (<i>a ocho días letra vista</i>), and the 12 other payments have to be equal to 26,884.5 ducats, the first at the end of July, the second at the end of August, the third at the end of September,..... and the twelfth and the rest at the end of June of 1596, all terms of the said year of 1596.</p>

## P. 2 administrative provisions

<p>p. 3</p> <p>Transfer of 75,000 ducats for the first three disbursements.</p>	<p>The said 131,062,500 mrs [349,500 ducats] have to be paid to FPM or to anyone empowered by them in this way:</p> <p>The 75,000 ducats, which amount to 28,125,000 mrs then in cash (<i>luego en reales de contado</i>) from my coffers of the three keys, such that in this there should be no delay whatsoever (<i>sin que en ello aya dilación ninguna</i>). These have to serve for the 10,082,250 mrs of the first payment in eight days after the presentation of the bill (<i>a ocho</i></p>
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<sup>42</sup> Archivo General Simancas (AGS), CCGG, leg. 92-1. Asiento, 13 July 1595. The left column provides short summaries and page marks. Paragraphs have been added and all numbers have been converted in ducats to facilitate the reading of the contract. Words in parentheses and italics are added to the English translation for accuracy. The transcription of the contract, copies of the contract and of the attachments are available at "<http://www.chamley.net/castile>".

No delay.	<i>días letra vista</i> ), and for the 10,081,687.5 mrs of the payment at the end of this July, and for the 7,961,062.5 mrs that have to be paid at the end of August, in the said amount of 10,081,687.5 mrs because the 2,120,625 mrs remaining in the said payment at the end of August have to be paid in the manner that will be declared below, and on these said 28,125,000 mrs there should be applied neither interest nor commission, nor cost nor any other charge whatsoever because for their use, I order them to be paid in anticipation.
No interest.	

	And the other 97,500 ducats that amount to 36,562,500 mrs have
<p>p. 4</p> <p>Tranche A</p> <p>(97,500 ducats)</p> <p>First claim on the 95 fleet</p> <p>Computation interest (Table 1),</p> <p>on 5,655 ducats,</p> <p>on 26,884.5 ducats,</p> <p>on 26,884.5 ducats,</p> <p>on 26,884.5 ducats,</p> <p>on 11,191.5 ducats.</p>	<p>to be paid in reales de contado or escudos of gold or in silver bars, to their choice, in the city of Seville with a first claim (<i>del primer dinero</i>) on the gold or silver that will come for me from any part of the Indies in fleets, squadrons, ship or vessel after the date of this asiento with in addition, the interest on the said 36,562,500 mrs at the rate of one per cent per month to compensate for the costs of the exchanges (<i>los daños de los cambios</i>) that have to be incurred.</p> <p>The said interest has to be determined and counted from the following days in this manner. On the 2,120,625 mrs from the first of August of this year of 95, for the rest of what is paid at the end of the said month of August, and on 10,081,687.5 mrs from the first of September, and on the other 10,081,687.5 mrs from the first of October and on the other 10,081,687.5 mrs from the first of November and on the 4,196,812.5 mrs in completion of the said 36,562,500 mrs [97,500 ducats] from the first of December, all these terms of this year of 1595, until the day or days in which they will be effectively paid and what the said interests amount to have to be paid together with the principal.</p>

<p>p. 5</p> <p>2% fee.</p>	In addition, there will be paid 731,250 mrs that are two percent of the said 36,562,500 mrs that I give as a one time favor in addition of the said interests for the costs, brokerage fees and commissions that may be incurred without a request for an account of these.
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<p>Royal accountants' reports</p> <p>Order for payment.</p> <p>In case the Crown pays earlier, the Maluendas should pay 1% interest.</p> <p>Example to clarify the previous point.</p>	<p>The determination of the said interest will be done, I order, by my officials in the <i>Casa de Contratación</i> of the Indies in the said city of Seville.</p> <p>Towards this, FPM will be given an order (<i>cédula</i>) from me that they should be paid, without excuse nor delay whatsoever, the said 36,562,500 mrs [97,500 ducats] of the principal and the interests of these and the 731,250 mrs in this paragraph.</p> <p>However, it is understood that in the case where the 36,562,500 mrs of the principal are paid before the terms by which they have to be paid according to this asiento, they have to be discounted for the anticipation at the rate of one percent per month from the day or days in which they are paid until the day or days in which they have to be paid in Lisbon to take into account the interest of the month in which they have be made in anticipation and in addition the two percent for the costs, brokerage and commissions such that these have always to be received.</p> <p>For example, if they [FPM] are paid at the beginning of August and they pay at the end of September they have to reduce one percent from what they ought to have at the beginning of September which is when they would have to pay for this month what they have received in anticipation. And, respectively, if for the other months they receive an anticipated payment, the accounts have to done in the same manner.</p>
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<p>p. 6</p> <p>Tranche B (177,000 ducats).</p>	<p>And the 177,000 that amount to 66,365,000 mrs have to be paid in reales or escudos of gold or in silver bars, to their choice, in the city of Seville as a first claim (<i>del primer dinero</i>) on the gold or silver that will come for me from any part of the Indies in fleets, squadrons, ship or vessel in the coming year of 1596 and thenceforward (<i>y de allí adelante</i>)<sup>43</sup> in addition with the interest on the said 66,365,000 mrs at the rate of one per cent per month to compensate for the costs of the</p>
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<sup>43</sup> The expression refers to any fleet that may come after 1596 or later, in the case of no fleet in 1596.



<p>Same terms as Tranche A with a first claim on 96 fleet.</p> <p>Computation of interest (repeats the terms in Tranche A).</p>	<p>exchanges that have to be incurred.</p> <p>The said interest has to be determined and computed from the following days in this manner. On the 5,884,865 mrs from the first of December of this year of 95, which is the rest that is paid at the end of the said month of December and on 10,081,687.5 mrs from the first of January of the coming year of 1596, and on other 10,081,687.5 from the first of February ... [sequence of monthly payments]</p>
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<p>p.7</p> <p>Continuation of the previous.</p> <p>2% fee.</p>	<p>... and the other 10,081,687.5 that remain in completion of the said 66,365,000 mrs, from the first of June of the said year of 1596 until the day or days in which they will be effectively paid, and the amounts of the said interests have to be acquitted and paid together with the principal.</p> <p>In addition there will be paid 1,327,500 mrs that are two percent of the said 66,365,000 mrs that I give as a one time favor in addition of the said interests for the costs, brokerage fees and commissions that may be incurred without a request for an account of these.</p>
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<p>p.8</p> <p>Repeat of page 5 for Tranche B.</p> <p>Currency export license</p>	<p>The determination of the said interest will be done, I order, by my officials in the <i>Casa de Contratación</i> of the Indies in the said city of Seville. Towards this, FPM will be given an order (cédula) from me that they should be paid, without excuse nor delay whatsoever, the said 66,365,000 mrs [177,000 ducats] of the principal and the interests of these and the 1,327,500 mrs in this paragraph.</p> <p>...</p>
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<p>p.9</p> <p>Option for juros for</p>	<p>Item. It is given to FPM from now on the option (<i>facultad</i>) to sell on the account (<i>tomar y vender a quanta</i>) of the said 66,365,000 mrs [177,000 ducats] and the interests thereof which have to be paid on the fleet of 96, an equal amount of annuities on one life (<i>juros de por una</i></p>
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<p>177,000 ducats (Tranche B).</p> <p>Menu of juros in the option.</p>	<p><i>vida</i>) at 7,000 per thousand, and on two lives at 8,000 per thousand and at 14,000 per thousand at its full price and at 20,000 per thousand counted at the rate of 16,000 per thousand and alcabalas [description of the alcabalas option, which eventually was not used] and to place the said juros on any revenues and alcabalas of their choice in my Realms, on their own head or on the heads of the persons whom they will name or any empowered person by them or by the named persons for example, foreigners, ecclesiastics and lay people, to benefit from the said juros and alcabalas from January 1 of the coming year of 1597. Of the maravedis that they [FPM] intend to sell in the said juros and alcabalas, I command that they write the sales acts in the usual form in</p>
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<p>p.10</p> <p>Option for juros (continued)</p> <p>Obligation to report the sales of juros.</p>	<p>order for the accountants of my <i>Contaduría Mayor de Hacienda</i> to allocate the privileges in accordance with the sales acts, with the provision that for the <i>juros de por vida</i> they should have the time to name the lives from now on until the end of the month of June in the coming year of 1596.</p> <p>...</p> <p>In order to know the juros that are being sold, FPM are obliged to give to the Accounting Office of the juros (<i>Contaduría de la Razón</i>), a declaration, signed by them and under oath, after each period of</p>
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<p>p.11</p> <p>Deduction of the juros from Tranche B.</p> <p>p.12</p>	<p>three months, of the juros that they have sold. In this way, the amounts will be deduced from the cédula that will be given to them for the said 66,375,000 mrs and the amounts they will receive, with the interest, will be reduced accordingly. The said juros have to be attributed under the same conditions as for other asientos with other men of business.</p> <p>... [Special treatment of some juros (which were not issued)]</p>
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<p>p.13</p> <p>Exemption from any law</p>	<p>I hereby give grace and exemption to FPM on all the interests and gratifications on what is contained in this asiento so that they legally can charge because of loans, costs and interests that they will have to incur in financial operations (<i>traer a cambio</i>) on the said 349,500</p>
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<p>regarding the interest rate.</p> <p>p.14</p>	<p>ducats and for the immobilization of their funds until the settlements that are given through this asiento, in order to make it more legally clear, I declare as non applicable any law or pragmatic of these Realms that would be against this contract and what is related to this asiento.</p> <p>... Guarantee against exchange rate changes.</p> <p>Formal conclusion</p>
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## TABLES AND FIGURES

Table 1 Attachments to the contract

### **Attachments at the time of the contract (July 1595)**

- I. Letter of exchange signed by Francisco and Pedro de Maluenda, Madrid, 12 July 1595. Such a letter is attached to most asientos. It is mentioned on page 2 of the contract (2 pages).
- II. *Obligación*: notary document of the banker that accepted the clauses of the asiento, Madrid, 15 July 1595 (3 pages).
- III. *Cargo y data*: specifies the payment obligations of the banker (*cargo*) and of the king (*data*). Such a document is written at about the same time as the contract (2 pages)<sup>44</sup>.
- IV. *Quenta*: summary of the asiento. In this important document, the central part of the pages summarizes the asiento. In the margins, notes written by the royal accountants refer to documents dated 27 May 1598, and between 1595 and 1596 (4 pages).

### **Attachments monitoring the contract (July 1595-October 1606)**

- V. Export licenses for silver (probably in July 1595) (2 pages)<sup>45</sup>.
- VI. Certificates of the *Contadores Mayores de Cuentas*, 13 and 19 October 1606 (3 pages).
- VII. Copies of the licenses for the exportation of silver and gold, expanding on V (8 pages).
- VIII. First account of interest payments, 7 June 1596 (7 pages).
- IX. Second account of interest payments, 22 February 1596. By date, it precedes Attachment IV but in the file, it is between Attachments VIII and X (3 pages).
- X. First report on the sales of juros, 8 October 1595 (7 pages).
- XI. Second report on the sales of juros, 12 January 1596 (2 pages).
- XII. Third report on the sales of juros, 13 April 1596 (4 pages).

Source: AGS, CCGG, leg. 92. Asiento, 13 July 1595. Roman numbers are ours.

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<sup>44</sup> Attachment III explains the modalities of the payments in Lisbon. Gerónimo de Aranda was to receive 235,370 ducats for the total of 13 months. He was in charge of the disbursement in the kingdom of Portugal for the troops in Lisbon and the castle of its region. 94,293 ducats were to go to Martín Ruiz de Lariz, in charge of military disbursement in the islands of the Tercera and in the Acores. Finally, 19,837 ducats were allotted to Martín Gomez de Valdivieso, who was the payer in the island of Madera. Attachment III provides also information on the use of the Lisbon funds. For example some funds were sent to the islands by letter of credit, others in cash.

<sup>45</sup> More than a formal document, it contains notes on the implementation by the royal accountants on 19 October 1609 and 11 December 1614. Attachment VII expands on that document

Table 2 The structure of the Maluenda asiento (in ducats)

Date of disbursement	Principal		Interest	Date of payment by the Crown	Additions
07/95	26,886	Transfer	None	To be paid immediately  (July 1595)	
	26,884.5 <sup>46</sup>				
08/95	21,229.5				
Total	75,000				

08/95	5,655	Tranche A	1 percent per month on the balance due	Fleet of 95  (December 95- January 96)	Fee (2%):  1,950
09/95	26,884.5				
10/95	26,884.5				
11/95	26,884.5				
12/95	11,191.5				
Total	97,500				

12/95	15,693	Tranche B	1 percent per month on the balance due	Fleet of 96  (December 96- January 97)	Fee: 3,540
01/96	26,884.5				+ Option to liquidate part or all of Tranche B by selling juro
02/96	26,884.5				on 1 or 2 lives, perpetuals, or
03/96	26,884.5				<i>alcabalas</i>
04/96	26,884.5				
05/96	26,884.5				
06/96	26,884.5				
total	177,000				
Total	349,500				

Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595.

<sup>46</sup> There is no division of a ducat into 100 units of a smaller denomination. The contracts refer either to half ducat or to maravedis (mrs). One ducat is worth 375 maravedis. When some accounting documents report only maravedis, we convert them in ducats, with decimals.

Table 3 Menu of allowed *juros* for the option

Type of annuity	Nominal price for a rent of 1,000	Effective price for a rent of 1,000	Effective rate (%)
Annuities on one life	7,000	7,000	14.29
Annuities on two lives	8,000	8,000	12.5
Perpetuals	14,000	14,000	7.14
Perpetuals <sup>47</sup>	20,000	16,000	6.25
Sales of alcabalas <sup>48</sup>	30,000	30,000	3.33

Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595.

Table 4 Computation of interests payments and fees on Tranche B

1	2	3	4	5
From	Principal	Until	Months	Interest
12/01/1595	15,693	12/31/1596	13	2,040
01/01/1596	26,885	12/31/1596	12	3,226
02/01/1596	26,885	12/31/1596	11	2,957
03/01/1596	26,885	12/31/1596	10	2,688
04/01/1596	26,885	12/31/1596	9	2,420
05/01/1596	26,885	12/31/1596	8	2,151
06/01/1596	26,885	12/31/1596	7	1,882
			Total interest	17,364
			Fee	3,540
Totals	177,000			20,904

Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595. Attachment IX, 22 February 1596.

<sup>47</sup> For the perpetuals with a price of 20,000 and an annual income of 1,000, that nominal price is reduced to 16,000. The contract makes sure that any official who would later monitor the sales of *juros* should be aware of the clause (page 11).

<sup>48</sup> The conditions for the sales of alcabalas are written on page 12 of the contract. No such sale will take place, the other options being more advantageous.

Table 5: final sales of *juros* for the principal, interests and fee of Tranche B

Date (96)	Beneficiaries	Heads	Principal
	Total sales of <i>juros</i> in April 1596 (after the third report)		169,472
05/05	Joan Antonio de Alcázar and don Luis de Alcázar	2	3.528
05/05	Rodrigo Suarez and doña Constanza Suarez	2	4.000
	Total of the sales for the principal		177,000
26/06	Miguel de Corella and his wife doña Ana María Laynez	2	433
05/07	Leonor Dalvo and don Melchor de Alcazar	2	12.000
05/07	Joan Antonio del Alcazar and don Luis de Alcazar	2	8.472
	Total of the last three <i>juros</i>		20,905

Source: AGS, CMC 3<sup>a</sup> epoca, leg. 32 . *Cargo*

Table 6 *Juros* purchased by Joan Francisqui and Joan Imbrea

Annual income	Nominal owner	Principal	Rate
66.6	Sor Clara de Francisqui y Juan Pedro de Francisqui	533	12.5
66.6	Sor Julia y sor Clara de Francisqui	533	12.5
66.6	Juan Pedro de Francisqui y sor Julia de Francisqui	533	12.5
213.3	Sor Angela Benedita y Hortensia de Francisqui	1,707	12.5
213.3	Hortensia de Francisqui y Monaca de Francisqui	1,707	12.5
213.3	Monaca de Francisqui y sor Angela Benedita	1,707	12.5
200	Vicencio y Thomas Imbrea	1,600	12.5
200	Thomas y Antonio Imbrea	1,600	12.5
200	Antonio y Vicenzio Imbrea	1,600	12.5

Source: AGS, CCGG, leg. 92. Asiento, 13 July 1595, Attachment XII.

Table 7 Cash payments by the Crown from the 1595 fleet

Date of payment	Amount
12/13/1595	12,693.33
12/29/1595	18,133.33
01/12/1596	36,266.67
01/19/1596	18,133.33
01/25/1596	25,477.33
01/27/1596	24,213.33
02/01/1596	5,440.00
02/08/1596	5,440.00
02/09/1596	2,133.33
02/10/1596	33,186.81
02/15/1596	5,333.33
02/16/1596	6,400.00
02/19/1596	1,813.33
02/22/1596	33,148.35
TOTAL	227,812.47
To first asiento (13/07/1595) Lisbon	61,899.82
To second asiento (26/07/1595) Flanders	165,912.65

Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595. Attachment VIII, 7 June 1596.



Table 8 Actual payments for Tranche A1 (first part of 97,500 ducats)

1	2		3	4	5	6
Transaction	Amount	Mean date*	Months	Days	Interest	principal and interest
08/01/95	5,655.00	01/25/1596	5	25	328.40	
09/01/95	26,884.50	01/25/1596	4	25	1,292.20	
10/01/95	26,723.60	01/25/1596	3	25	1,017.20	
Total	59,263.10				2,637.70	61,899.80

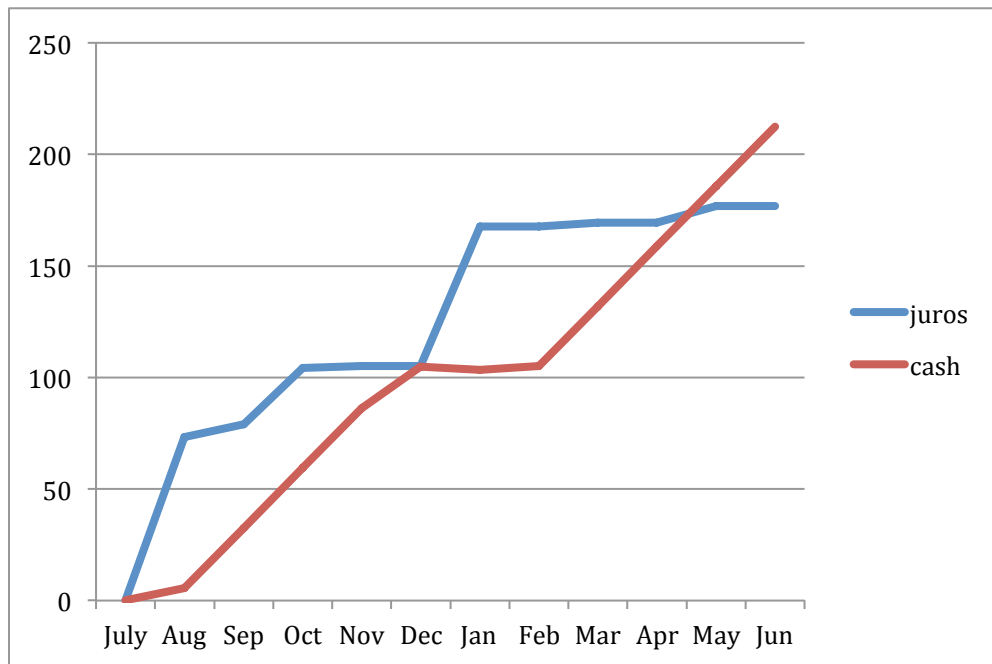
Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595. Attachment VIII, 7 June 1596.

Table 9 Payments due on Tranche A2  
(provisions on payments to be made after the 1596 fleet)

1	2		3	4	5	6
Disbursement date	Amount	Payment date (anticipated)	Months	Days	Interest	Principal and interest
10/01/95	161.90	10/31/1596	13	0	21.00	
11/01/95	26,884.50	10/31/1596	12	0	3,226.10	
12/01/95	11,191.50	10/31/1596	11	0	1,231.10	
Total	38,237.90				4,478.30	42,716.30

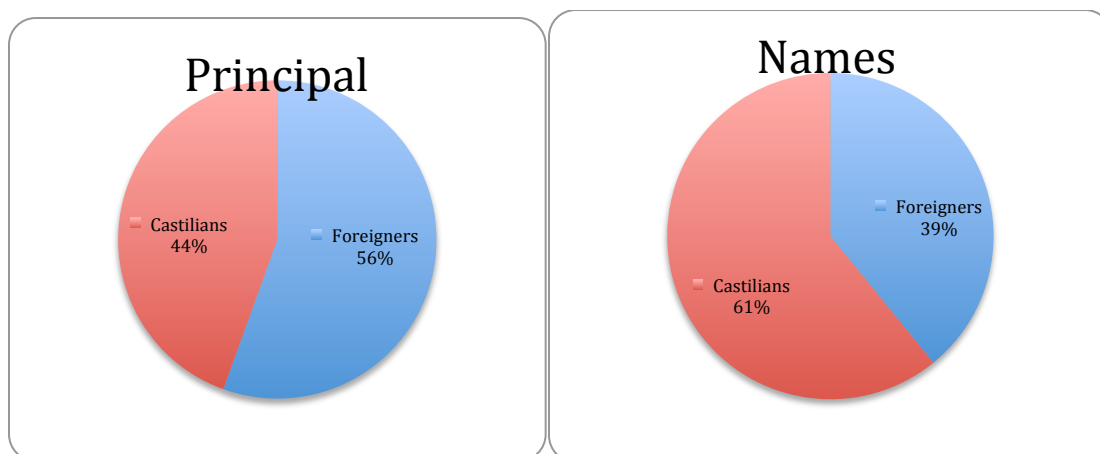
Source: AGS, CCGG, leg. 92-1. Asiento, 13 July 1595. Attachment VIII, 7 June 1596.

Figure 1 Sales of *juros* and net cash disbursements by the Maluendas



Source: AGS, CCGG, leg. 92-1. Attachments X, XI and XII. AGS, CMC 3 época, leg. 32. *Cargo*

Figure 2



Source: AGS, CMC 3 época, leg. 32. *Cargo*

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Figure 5

Page 2 of the first interests report (Attachment VIII)

<u>Aberiguacion y qda yntereses</u>	<u>Yntereses</u>
En el 21 de diciembre de 1570 año de 20 suuieron de Sauer 10 qd m <sup>te</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 20 qd q <sup>ue</sup> son e y. meses montan d <sup>ni</sup> 10 - e e y: a la dho racion de Uno Por ciento al mes	d <sup>ni</sup> 10. e e y
En el 21 de enero de 1571 año de 21 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 21 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	19 qd q <sup>ue</sup> son e y
En el 21 de febrero de 1571 año de 22 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 22 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	19 qd q <sup>ue</sup> son e y
En el 21 de marzo de 1571 año de 23 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 23 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	19 qd q <sup>ue</sup> son e y
En el 21 de abril de 1571 año de 24 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 24 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	d <sup>ni</sup> 10 y 1/2 m <sup>te</sup> lee
En el 21 de mayo de 1571 año de 25 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 25 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	d <sup>ni</sup> 10 y 1/2 m <sup>te</sup> lee
En el 21 de junio de 1571 año de 26 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 26 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	d <sup>ni</sup> 10 y 1/2 m <sup>te</sup> lee
En el 21 de julio de 1571 año de 27 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 27 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	19 qd q <sup>ue</sup> son e y
En el 21 de agosto de 1571 año de 28 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 28 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	19 qd q <sup>ue</sup> son e y
En el 21 de septiembre de 1571 año de 29 suuieron de Sauer e q <sup>ue</sup> lee y 1/2 m <sup>te</sup> lee: y los ynt <sup>es</sup> de los des de el dho dia hasta fin de dho 29 qd q <sup>ue</sup> son e y meses montan al dho racion de 10 qd q <sup>ue</sup> son e y: a la dho racion de Uno Por ciento al mes	

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