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

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In the fragmented geographical, fiscal, and financial state inherited by Philip II of Spain, while the public debt reached an unprecedented level (50–60 per cent of GDP), the critical refinancing of unfunded *asientos* into funded *juros* was operated by merchant-bankers who signed the *asientos*. This process is illustrated, using abundant archival documentation, by an *asiento* with the Maluenda brothers in 1595, which provided the Crown with steady monthly cash payments for a year with options to sell *juros* for two-thirds of the credit, and a monthly rate of 1 per cent on the interim balance. Other examples are provided.

From the premodern age on, the public debt has been divided into two parts: unfunded and funded. The first provides a buffer with a relatively short term between the shocks of expenditures and revenues for the government budget. The second is in long-term tradeable financial instruments and must be serviced by stable, earmarked taxes. Refinancing the short-term floating debt that accumulates during a war into long-term funded debt with lower interest has presented a critical challenge for the finances of all states. England solved this problem during its ‘financial revolution’ in the eighteenth century.¹

Under Philip II of Spain who, in the sixteenth century, ruled over a fragmented empire without a centralized capital market or a developed fiscal administration, the public debt reached the unprecedented level of 50 to 60 per cent of GDP.² More than 90 per cent of that debt was in funded *juros* (either perpetuums or life annuities, essentially redeemable at par).³ The short-term debt (about one to four years)⁴ was in *asientos* (contracts) with merchant bankers. Most of these came from Genoa but they often resided in Castile, and they had an intimate knowledge of

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¹ Dickson, *Financial revolution*.

² Estimation based on Spanish GDP data from Álvarez-Nogal and Prados de la Escosura ‘Decline of Spain’, eisdem, ‘Rise and fall’; and debt data from Ulloa, *La Hacienda Real*, p. 845; Ruiz Martín, ‘Crédito y banca’, p. 739; de Carlos Morales, ‘La Hacienda Real’, p. 70.

³ de Carlos Morales, *Felipe II*, p. 136; Ulloa, *La Hacienda Real*, p. 791. In the context of the empire of Philip II and of the critical role played by Genoese bankers in the financial intermediation both within Castile and in Europe, it is incorrect to consider *asientos* as foreign debt; see, for example, Conklin, ‘Theory of sovereign debt’.

⁴ Ulloa, *La Hacienda Real*; de Carlos Morales, *Felipe II*; Álvarez-Nogal and Chamley, ‘Debt policy’, tab. 2; Álvarez-Nogal and Chamley, ‘Equity short-term finance’; eisdem, ‘Philip II against the Cortes’. A few contracts had a term of more than five years; see, for example, Archivo General de Simancas (hereafter AGS), Contadurías

domestic fiscal affairs and of the financial markets in Spain and Europe. Dickson has emphasized the critical role of ‘money men’ in eighteenth-century England for the development of the public debt and its market.⁵ The money men of Philip II were the Genoese merchant bankers who provided the indispensable connections between savers, in Castile and abroad, and the Crown. The interruption of that connection, for more than two years after the suspension of payments on *asientos* in 1575, froze the credit market in Castile, stopped the main commercial fairs at Medina del Campo, and provided Philip II with the leverage to extract from the Cortes of Castile a large increase in the ordinary taxes that funded the *juros*.⁶

If unfunded debt accumulates because of repeated expenditure shocks, then it should be refinanced with funded debt, which is more secure and therefore less costly.⁷ The accumulation of unfunded debt was thus refinanced either wholesale, for the entire stock of *asientos*, after each financial crisis (in 1560, 1575, and 1597), or piecemeal, *asiento* by *asiento*. Two regimes can be distinguished here.

Before the 1575 crisis, *asientos* were partly collateralized in *juros* (*juros de caución* or *juros de resguardo*)⁸ that could be sold by the merchant bankers if the Crown did not repay in cash. Note that sales of *juros de resguardo* should not be viewed as failures by the Crown to repay the *asientos*,⁹ but as good management of the public debt. *Juros de resguardo* could be sold before the maturity of the *asiento* on the condition that if the *asiento* were repaid, equivalent *juros* had to be returned.¹⁰ However, *juros* were funded by heterogeneous sources, and merchant bankers, using their expertise, could greatly benefit from opportunities for arbitrage.¹¹

After the 1575 crisis, the *juros de resguardo* system, which had been exploited by the merchant bankers, was abolished. The vital function of refinancing the *asientos* was preserved: it was included explicitly in the contracts of the *asientos* by options to sell *juros*.¹²

On the expenditures side, especially after 1580, the Crown wanted stable streams of monthly cash for the army. Its revenues came from highly variable shipments of

Generales (hereafter CCGG), 86, *asiento* Pablo de Grimaldo, 1574. See also Ulloa, *La Hacienda Real*, p. 138. All these terms are much shorter than the terms of *juros* (perpetual or life-time annuities).

⁵ Dickson, *Financial revolution*.

⁶ For an introduction, see Álvarez-Nogal and Chamley, ‘Debt policy’; eisdem, ‘Philip II against the Cortes’, and the listed references. For more about the Cortes, and the conflict between the Cortes and the Crown, see Jago, ‘Habsburg absolutism’; idem, ‘Philip II and the Cortes’; Fernández Albaladejo, ‘Monarquía’; idem, ‘Cities and the state’; Fortea Pérez, *Monarquía y Cortes*; idem, ‘Impuestos o servicios?’; Ruiz Martín, ‘Las finanzas españolas’.

⁷ The funded debt, when redeemable, can also be refinanced at a lower rate. For an analysis of the refinancing of the entire stock of the funded debt in eighteenth-century England, see Chamley, ‘Interest reductions’. In Spain such refinancing of the entire stock of the funded debt was not possible because the cost of the debt was lowered through an augmentation of the capital (*crecimiento*).

⁸ *Caución* and *resguardo* were the terms used in the credit contracts to refer to the long-term public debt titles used as collateral for the Crown’s payments described in the contract. Ulloa, *La Hacienda Real*, pp. 778–9; Ruiz Martín, ‘Las finanzas españolas’, pp. 122–3; de Carlos Morales, ‘La Hacienda Real’, p. 51. de Carlos Morales, *Felipe II*, pp. 90–3, mentions *juros de comodidad*. The loan part of the *asientos*, net of the collaterals, never accounted for more than 10% of the public debt. The system had been instigated by the merchant banker, Rodrigo de Dueñas, in 1555. See Castillo Pintado, ‘Los juros de Castilla’, p. 48, esp. n. 12; Ruiz Martín, ‘Las finanzas españolas’, p. 115.

⁹ Castillo Pintado, ‘Los juros de Castilla’; Conklin, ‘Theory of sovereign debt’, pp. 491–2.

¹⁰ The *juros de caución* could not be sold before the maturity of the *asiento*.

¹¹ Doria, ‘Un quadriennio’, pp. 161–2, mentions the sales of *juros de resguardo* by Genoese bankers to investors in Genoa.

¹² Toboso Sánchez, *La deuda pública*, pp. 132–3, mentions that *juros* continued to be used as payments for *asientos* after 1575.

silver from the Americas and from a multitude of taxes, dues, and sales throughout its fragmented empire. *Asientos* provided the instruments for the transformation across places and times, of these scattered and variable incomes into steady flows of cash. Hence, in addition to *financial intermediation* inside and outside Spain,¹³ *asientos* were a vehicle for *fiscal transformation*: they delivered fixed monthly cash payments, *mesadas*, for about a year, in a particular place, and they provided the Crown with some flexibility for repayments from various revenues. The balance due was computed monthly for the interest, and an option was included to substitute the sales of *juros* for cash repayments.

Asientos have attracted more attention than *juros*, perhaps because they are easy to access in the archives. Yet, despite the abundance of these studies, no one, except Lonchay, has presented the complete documentation (contract and attachments) for one contract.¹⁴ In this article we analyse an *asiento* that was signed by the Maluenda brothers on 13 July 1595. It is a textbook case of the process of intermediation and refinancing into funded debt, and it is complemented by a remarkable quantity of documentation in the archives. We also show that other *asientos* presented the same option for refinancing.

In the Maluenda contract, the terms for the disbursements by the merchant bankers are short and simple. In addition to an initial transfer, equal payments are to be made each month in Lisbon for one year. The essential part of the contract describes the repayments by the Crown. In this regard, the contract has two main features. First, it provides credit with a fixed interest charge on the balance due, at the rate of 1 per cent per month, and a guarantee on the silver from the fleets of 1595 and 1596. Under that 1 per cent rule, the contract, like in a modern credit line, allows great flexibility in the schedule of repayments by the Crown. Second, an option enables the Maluenda brothers to be repaid for two-thirds of the credit part of the contract (net of a transfer at the start of the contract) by selling *juros*, to be chosen from a menu that is set out in the contract. The attachments to the contract 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 central rule—the fixed interest rate of 1 per cent per month on the balance due (with no compound interest)—is followed in the meticulous computations

¹³ See Álvarez-Nogal and Chamley, 'Debt policy'.

¹⁴ 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, *La Méditerranée*, 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, Ulloa, *La Hacienda Real*, made an impressive effort to collect an enormous amount of information about the *Real Hacienda* (Royal Finances) of Philip II, studying its main revenues and analysing 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 AGS, CCGG. This source is now well known to modern historians: Lapeyre, *Simón Ruiz*; 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; de Carlos Morales, *Felipe II*, and many other authors who have continued to work on the finances of Philip II and have explored them further. Sanz Ayán, *Los banqueros de Carlos II*, and Gelabert, *La Bolsa del rey*, analysed the *asientos* of the seventeenth 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 from the same section, Drelichman and Voth ('Serial defaults'; *Lending to the borrower*, p. 100) have constructed a database on more than 400 *asientos*.

by the royal accountants that are placed in the attachments next to the contract. The text of the contract itself makes it perfectly clear, and emphasizes through examples, that the dates of the payments by the Crown cannot be fixed at the time of signature. There are no 'agreed cash flows'¹⁵ 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 interest, 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, going from the cash payments to the computation of the rate is a reversal of one of the fundamental purposes of the contract, which is the transformation of a set of dispersed and uncertain revenues into a steady flow of revenue for army pay. The same purpose can be seen in other *asientos* of the 1590s. Because the documentation in the *legajo* is complete, we will discuss briefly the ex post return of the *asiento*.

The careful reading of the contract is an integral part of this article, both to ascertain the correct numbers and, perhaps more importantly, to perceive the purpose of the contract. To this effect, we provide the reader with full access to our translation of the contract (online appendix S1).¹⁶ Most of the archival documentation about credit contracts is well known and has already been used by other researchers (see footnote 14). 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 from 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, which were written by the royal accountants who monitored the implementation of the contract. Most of the attachments were written before the final maturity of the contract. For the Maluenda contract, the attachments (47 pages), which are important both for the interpretation of the ex ante contract and for the ex post review of its implementation, are sandwiched in the same *legajo* between the present contract and the next one, which was also signed with the Maluenda brothers, on 26 July, for 560,000 escudos in Flanders.¹⁷ The attachments also show that the second contract plays a role in the implementation of the first one. These attachments are listed in table 1.

The rest of this article is structured as follows. In section I, 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

¹⁵ The expression is from Drelichman and Voth, 'Serial defaults', tab. 2, p. 5, where they use the Maluenda contract as a centrepiece for the presentation of their methodology in computing an ex ante rate of return on more than 400 contracts: 'We need to reconstruct the cash flows they generated to estimate the rates of return for each contract' (ibid., p. 4); 'our sample contract with the Maluenda brothers is a case in point' (ibid., p. 6). See also their book, *Lending to the borrower* (2014 edition), pp. 174–9. For a detailed comparison with our work, see Álvarez-Nogal and Chamley, 'Equity short-term finance'.

¹⁶ Álvarez-Nogal and Chamley, 'Equity short-term finance'. A copy of the contract, a transcript and complete translation of it, and a copy of the attachments are available at C. Chamley, 'Asientos and public finance in Castile under Philip II', <http://www.chamley.net/castile/>.

¹⁷ The term 'escudo' was used for some coins in different countries at that time. There were also Spanish escudos. When a contract does not specify the type of escudo, we use the generic term. An Italian escudo at 57 pattards was exchanged for about 5% less than a ducat; Lapeyre, *Una familia*, tabs. XV and XVI, pp. 499–500.

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. A letter of this nature is attached to most *asientos*. It is mentioned on page 2 of the contract (2 pages).
- II. *Obligación*: notarial 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*). Documents like these were written at about the same time as the contract (2 pages).^a
- IV. *Quenta*: summary of the *asiento*. The main part of this important document 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–Oct. 1606)

- V. Export licenses for silver (date unknown, probably July 1595) (2 pages).^b
 - VI. Certificates of the *Contadores Mayores de Cuentas* (accountants of the CMC), 13 and 19 Oct. 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 Feb. 1596. By date, this document 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 Oct. 1595 (7 pages).
 - XI. Second report on the sales of *juros*, 12 Jan. 1596 (2 pages).
 - XII. Third report on the sales of *juros*, 13 April 1596 (4 pages).
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Notes: The Roman numerals are our own addition.

a Attachment III explains the modalities of the payments in Lisbon. Gerónimo de Aranda was to receive 235,370 ducats for a total of 13 months. He was in charge of the disbursement of this sum in the kingdom of Portugal for the troops in Lisbon and the castle and its region. Martín Ruiz de Lariz, who was in charge of military disbursement in the island of Terceira in the Azores, was to receive 94,293 ducats. Finally, 19,837 ducats were allotted to Martín Gomez de Valdivieso, who was in charge of paying the soldiers on the island of Madeira. 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.

b Attachment V contains notes on the implementation of the export licences described in the contract by the royal accountants on 19 Oct. 1609 and 11 Dec. 1614. Attachment VII expands on that document.

Source: AGS, CCGG, leg. 92, *asiento*, 13 July 1595.

a monthly interest of 1 per cent on the running balance; and third, a tranche of 177,000 ducats, tranche B, for the disbursements of 1596 with a claim on the fleet of 1596, with the same interest rate on the balance due, and an option to sell *juros*. A modern reader can recognize in this contract a structure that combines the rigidity of the monthly disbursements in Lisbon and the flexibility of the repayments. The Crown needed the regular cash to pay the army but it faced erratic revenues.¹⁸ One of the purposes of the contract—though not the only one—was the transformation of variable cash inflows into a steady outflow.

In section II, we analyse the options for *juros* that are extensively presented on pages 9–11 of the contract,¹⁹ and that apply to 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 the contract, to shift some of the claim of tranche A from the fleet of 1595 to the fleet of 1596. Of course, interest would be charged on the running balance. We have verified the computations of the accountants, which are exact up to the last *maravedí*²⁰ (section III). 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 for that line of credit. A

¹⁸ These *mesadas* were described for Flanders by Lonchay, 'Etude', p. 979.

¹⁹ Unless specified otherwise, all page numbers refer to the contract.

²⁰ Castilian unit of account used by the accounts. One ducat = 375 *maravedís*.

debt of about 40,000 ducats was still outstanding when the third suspension of payments by Philip II took place in November 1596. The attachments show that it was eventually paid.

In section IV, we present evidence of similar options for other *asientos*. The last section offers some conclusions.

I

The Maluenda brothers were successful merchants from Burgos, an important urban centre in the northern part of the country, who used their trade network to develop financial activities. On 13 July 1595, they signed an *asiento* that committed them to delivering 12 monthly disbursements to the Crown in Lisbon. Page 1 of the contract (see online appendix S1) is devoted to the obligations of the Maluendas: all disbursements were equal, except for the first one, which was double. After administrative issues on page 2, most of the remaining 12 pages describe the Crown's obligations for the repayments. The contract divides the disbursements of the bankers into three tranches that can be identified by the reader of the contract. Table 2 provides a summary. Each tranche has a specific claim on reimbursements. The options for *juros* apply to the third tranche.

First, the Crown had to make an immediate payment of 75,000 ducats for the first two disbursements in July and most of the third one in August (contract page 3).²¹ That is an upfront transfer and the contract emphasizes that no interest should be paid on it. This point is repeated in attachment IV, which provides a four-page summary. Consequently, no interest will show up in the monitoring attachments, as discussed later. Apparently, the Crown needed immediate cash in Lisbon for 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',²² 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,²³ is stated in the contract ('And the other 97,500 ducats . . .', contract 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 1595.²⁴ There is no specific date for repayment. On page 4 of the contract, the expression *del primer dinero* means a first claim and does not state a time immediately after the arrival of the fleet. The only date that

²¹ 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 Sept.; AGS, Contaduría Mayor de Cuentas (hereafter CMC) 3^a época, leg. 32, *cargo* and audit, 23 Dec. 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 exchange. 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.

²² The three keys are for security, similar to the two keys required for launching intercontinental missiles.

²³ 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 are exactly equal to 66 million *maravedis* plus 1,000 ducats. The number 177,000 is also roughly equal to the total disbursements that were scheduled for 1596.

²⁴ The fleet was a convoy that brought the silver from the Americas in the autumn, usually in Sept. or Oct.

Table 2. *The structure of the Maluenda asiento (ducats)*

<i>Date of disbursement</i>	<i>Principal</i>		<i>Interest</i>	<i>Date of payment by the Crown</i>	<i>Additions</i>
July 1595	26,886	Transfer	None	To be paid immediately (July 1595)	
	26,884.5 ^a				
Aug. 1595	21,229.5				
Total	75,000				
Aug. 1595	5,655	Tranche A	1% per month on the balance due	Fleet of 1595 (Dec. 1595–Jan. 1596)	Fee (2%): 1,950
Sept. 1595	26,884.5				
Oct. 1595	26,884.5				
Nov. 1595	26,884.5				
Dec. 1595	11,191.5				
Total	97,500				
Dec. 1595	15,693	Tranche B	1% per month on the balance due	Fleet of 1596 (Dec. 1596–Jan. 1597)	Fee: 3,540 + option to liquidate part or all of tranche B by selling <i>juros</i> on one or two lives, perpetuals, or <i>alcabalas</i>
Jan. 1596	26,884.5				
Feb. 1596	26,884.5				
March 1596	26,884.5				
April 1596	26,884.5				
May 1596	26,884.5				
June 1596	26,884.5				
Total	177,000				
Total	349,500				

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

Source: As for tab. 1.

is specified for the payment by the Crown is for the initial transfer on page 3 of the contract (*‘sin que en ello aya dilación ninguna’*).²⁵ Page 4 of the contract explains in detail how to compute the interest. For each individual disbursement in Lisbon, the interest has to be computed from the first day of that month ‘until the day or days on which they will be effectively paid’.

There is no agreed date for the payments on this by the Crown. The contract gives flexibility to the Crown, on the condition that the interest should be paid. Page 5 of the contract provides an optimistic example: 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 interest was assigned to the royal accountants in Seville (contract page 5). The

²⁵ ‘without in this matter any delay whatsoever’.

minute details and the tedious illustrations in the contract emphasize a central feature: it is a credit line with a 1 per cent monthly charge on the balance due. This 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 of the contract, and also later for tranche B, the interest charge is justified by the borrowing costs that will have to be incurred in the credit market.²⁶ Here, as in many other *asientos*, the credit market is described by the word *cambio*. There is no foreign currency in the Maluenda contract. All payments by the Crown and the Maluendas are in Castilian ducats. The meaning of *cambio* here is close to ‘exchange’ in the letter of exchange. Individuals could make deposits with bankers through letters of exchange that were due in commercial fairs. Such credit could be rolled over from fair to fair. One could also write a letter for a fair in a different location, followed by a reverse letter to the same location. The interest ceiling could easily be avoided. In many *asientos*, contrary to the title of the paper by Bell et al.,²⁷ *tomar a cambio* has the same meaning as *mutuari*, the Latin term for lending. The contract thus explicitly acknowledges that for this particular *asiento*, the Maluendas could raise funds on the credit market.

The clear recognition of fund-raising through *cambios* provided justification for the interest in the contract. In addition, the contract included a license that freed the Maluendas from any legal constraints on the interest rates of the credit market (contract page 13).

A fixed fee of 2 per cent is added to the interest on tranche A (contract p. 5). This is remarkably low compared to the apparently efficient US market of today, where a 7 per cent fee is the norm for initial public offerings up to 250 million dollars.²⁸

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 with the next one, in 1596. The second part, which is central to this article, adds the option of selling *juros* for up to the entire tranche, from a menu that is set out in table 3 (contract pages 9–12).

The life annuities had to be sold before the last disbursement, at the end of June 1596, and earned interest from 1 January 1597 onwards. The Maluendas were obliged to provide quarterly reports on the sales of *juros* (contract page 11), which can be found in the attachments next to the contract. The annuities were to be funded by revenues chosen by the Maluendas (contract page 9). Since the quality of an annuity depended on its source of funding, the exercise of the option required high-quality, detailed information on the sources of Crown revenues.

II

Soon after the contract was signed, the Maluendas started to exercise the *juros* option. They eventually sold *juros* for the entire 177,000 ducats of tranche B,

²⁶ ‘para suplir a los daños de los cambios que a de padecer’ (‘to alleviate the costs that have to be incurred from the exchange’).

²⁷ Bell, Brooks, and Moore, ‘Cambium non est mutuum’. The article focuses on foreign exchange.

²⁸ Chen and Ritter, ‘Seven percent solution’; Abrahamson, Jenkinson, and Jones, ‘US issuers’.

Table 3. *Types of juros that could be sold by the bankers as an option*

<i>Type of annuity</i>	<i>Nominal price for a rent of 1,000</i>	<i>Effective price for a rent of 1,000</i>	<i>Effective rate (%)</i>
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 ^a	20,000	16,000	6.25
Sales of <i>alcabalas</i> ^b	30,000	30,000	3.33

Notes: a For the perpetuals with a price of 20,000 and an annual income of 1,000, the nominal price is reduced to 16,000. The contract emphasizes that any official who would later monitor the sales of *juros* should be aware of the clause (p. 11).

b The conditions for the sales of *alcabalas* are written on p. 12 of the contract. No such sale took place, since the other options were more advantageous.

Source: As for tab. 1.

Table 4. *Computation of interest payments and fees for tranche B (ducats)*

<i>1 From</i>	<i>2 Principal</i>	<i>3 Until</i>	<i>4 Months</i>	<i>5 Interest</i>
1 Dec. 1595	15,693	31 Dec. 1596	13	2,040
1 Jan. 1596	26,885	31 Dec. 1596	12	3,226
1 Feb. 1596	26,885	31 Dec. 1596	11	2,957
1 March 1596	26,885	31 Dec. 1596	10	2,688
1 April 1596	26,885	31 Dec. 1596	9	2,420
1 May 1596	26,885	31 Dec. 1596	8	2,151
1 June 1596	26,885	31 Dec. 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 Feb. 1596.

most of which were sold before any money was disbursed 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 disbursement by the Maluendas (at the beginning of the relevant month) until the end of 1596. The computations of the accountants are provided in attachment IX and are summarized in table 4. For example, the disbursement of 15,693 ducats in December 1595 (see the summary of the contract in table 2) earns interest of 1 per cent for 13 months,²⁹ which is 2,040 ducats (column 5 of table 5). Following this method for the other disbursements, the total interest was 17,364 ducats. When the fee of 3,540 ducats (2 per cent of 177,000 ducats)³⁰ is included, the total comes to 20,904 ducats.

The quarterly sales reports (page 10 of the contract) are attachments X, XI, and XII, dated 8 October 1595, and 12 January and 13 April 1596, respectively. They present for each *juro* the date of the sale, the type of *juro*, its face value, the heads

²⁹ Recall that the interest has to be computed from the beginning of the month (as mentioned above in the paragraph that includes n. 15).

³⁰ See p. 7 of the contract.

Table 5. *Final sales of juros for the principal, interest, and fee for tranche B*

Date (1596)	Beneficiaries	Heads	Principal (ducats)
	Total sales of <i>juros</i> in April 1596 (after the third report)		169,472
5 May	Joan Antonio de Alcázar and Don Luis de Alcázar	2	3,528
5 May	Rodrigo Suarez and Doña Constanza Suarez	2	4,000
	Total sales for the principal		177,000
26 June	Miguel de Corella and his wife Doña Ana Maria Laynez	2	433
5 July	Leonor Dalvo and Don Melchor de Alcazar	2	12,000
5 July	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 3ª época, leg. 32, cargo.

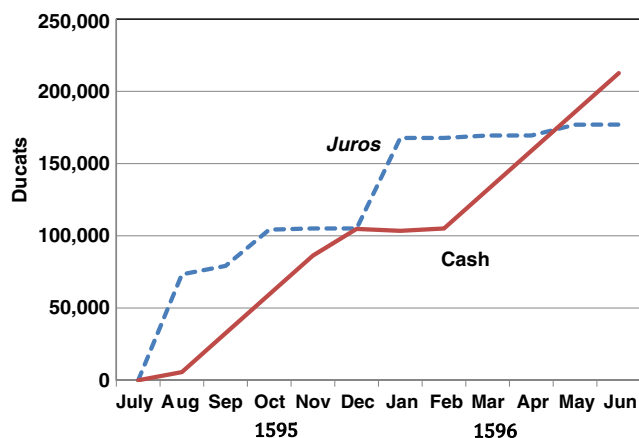


Figure 1. *Sales of juros and net cash disbursements by the Maluendas (ducats)*
 [Colour figure can be viewed at wileyonlinelibrary.com]

Sources: AGS, CCGG, leg. 92-1, attachments X, XI, and XII; AGS, CMC 45, 3ª época, leg. 32, cargo.

on whom the rent is written, and the collector of the rent.³¹ 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*.

After the third report, a principal of 7,528 ducats remained on the balance of tranche B, plus the interest and fee that were computed by the accountants, shown in table 4. The remaining balance on the principal was covered by two *juros*, and the interest was paid through the sales of three *juros*.³² These last sales, presented in table 5, validate the computations of the accountants in table 4. The payment of the exact amount of interest is proven by the sales of the last three *juros* in table 5.

To whom did the bankers sell *juros* and under what terms? The complete list of *juros* is presented in online appendices S3 and S4. Consider again the menu of options that were offered in the contract (table 3). The annuities on two lives are

³¹ Life annuities could be written contingent on the survival of one person, or one of two people, who could be different from the person who collected the annual rent.

³² These are reported in the audits of the CMC that were carried out in 1606; AGS, CMC 3ª época.

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

<i>Annual income (ducats)</i>	<i>Nominal owner</i>	<i>Principal (ducats)</i>	<i>Rate (%)</i>
66.6	Sor Clara de Francisqui and Juan Pedro de Francisqui	533	12.5
66.6	Sor Julia and Sor Clara de Francisqui	533	12.5
66.6	Juan Pedro de Francisqui and Sor Julia de Francisqui	533	12.5
213.3	Sor Angela Benedita and Hortensia de Francisqui	1,707	12.5
213.3	Hortensia de Francisqui and Monaca de Francisqui	1,707	12.5
213.3	Monaca de Francisqui and Sor Angela Benedita	1,707	12.5
200	Vicencio and Thomas Imbrea	1,600	12.5
200	Thomas and Antonio Imbrea	1,600	12.5
200	Antonio and Vicencio Imbrea	1,600	12.5

Source: AGS, CCGG, leg. 92, *asiento*, 13 July 1595, attachment XII.

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 perpetuals. Indeed, 70 of the 74 *juros*, 95 per cent of the capital, were for annuities on two lives.³³

The capital values of the *juros* range from 416 to 16,000 ducats, with more than 60 per cent being more than 1,000 ducats, a large sum at that time (a soldier could earn one ducat per week).³⁴ The 74 *juros* were sold to 35 Castilians and to 39 foreigners. Foreigners bought 35 per cent of the total value of the *juros*: on average, they bought *juros* of lower value (see online appendix S2). These foreigners were mostly Genoese and other Italians.³⁵ Their family connections and the amounts of their investments suggest that they must have had good information on the returns of the *juros*.

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 heads of six 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).

III

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.³⁶ By that date, the Maluenda brothers and the Crown knew that the sales of *juros* were going well. In the first quarterly 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 the 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 fixed interest on the balance due. Only the interest payments needed to be adjusted. Tranche A was

³³ AGS, CCGG, leg. 92-1, *asiento*, 13 July 1595; AGS, CMC 3ª época, leg. 32, *cargo*.

³⁴ Porreño, *Recueil des actions*; Thompson, 'El soldado del Imperio', p. 34, n. 46.

³⁵ On investors in *juros*, see Thompson, 'Juros'; Álvarez-Nogal, *Oferta y demanda*, pp. 86–97.

³⁶ For the dates of the fleets, see Lorenzo Sanz, *Comercio de España*, vol. II, pp. 532–6.

Table 7. *Cash payments by the Crown from the 1595 fleet (ducats)*

<i>Date of payment</i>	<i>Amount</i>
13 Dec. 1595	12,693.33
29 Dec. 1595	18,133.33
12 Jan. 1596	36,266.67
19 Jan. 1596	18,133.33
25 Jan. 1596	25,477.33
27 Jan. 1596	24,213.33
1 Feb. 1596	5,440.00
8 Feb. 1596	5,440.00
9 Feb. 1596	2,133.33
10 Feb. 1596	33,186.81
15 Feb. 1596	5,333.33
16 Feb. 1596	6,400.00
19 Feb. 1596	1,813.33
22 Feb. 1596	33,148.35
TOTAL	227,812.47
To first <i>asiento</i> (13 July 1595) Lisbon	61,899.82
To second <i>asiento</i> (26 July 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 (the first sub-tranche of 97,500 ducats)*

<i>1</i> <i>Transaction</i>	<i>2</i> <i>Amount</i>	<i>Mean date*</i>	<i>3</i> <i>Months</i>	<i>4</i> <i>Days</i>	<i>5</i> <i>Interest</i>	<i>6</i> <i>Principal and interest</i>
1 Aug. 1595	5,655.00	25 Jan. 1596	5	25	328.40	
1 Sept. 1595	26,884.50	25 Jan. 1596	4	25	1,292.20	
1 Oct. 1595	26,723.60	25 Jan. 1596	3	25	1,017.20	
Total	59,263.10				2,637.70	61,899.80

Source: As for tab. 7.

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 analysed here, and another one that was signed two weeks later, on 26 July. The payments were made in instalments, starting on 13 December 1595. In order to follow the terms of the contract which stated that the interest should be computed ‘until the day or days on 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.

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

Table 9. *Payments due on tranche A2 (provisions for payments to be made after the 1596 fleet)*

1 Disbursement date	2 Amount	3 Payment date (anticipated)	4 Months	5 Days	6 Interest	7 Principal and interest
1 Oct. 1595	161.90	31 Oct. 1596	13	0	21.00	
1 Nov. 1595	26,884.50	31 Oct. 1596	12	0	3,226.10	
1 Dec. 1595	11,191.50	31 Oct. 1596	11	0	1,231.10	
Total	38,237.90				4,478.30	42,716.30

Source: As for tab. 7.

ducats was omitted from the October disbursement, for unknown reasons. It will be included in tranche A2 (table 9).

After the last payment for tranche A1 in February 1596, the only balance due was tranche A2, with a principal of 38,237.7 (=97,500–59,263). The same 7 June 1596 report includes provisions for the interest to be paid on that tranche. These provisions are not a commitment to pay, but they are forecasts of the interest payments that have to be computed by the standard method. Table 9 presents a summary of these provisions. Columns 3 and 4 imply that the 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 theoretical scenario for the accountants. The repayments could be made later, as they had been for tranche A1.

The 1596 fleet arrived in October.³⁷ On 26 October 1596, the Maluenda brothers signed another *asiento* for 165,000 ducats.³⁸ On 29 November 1596, Philip II decreed the suspension of payments to all *asientos*.³⁹ How did this decree affect our *asiento*? The income from the fleet stayed in Seville and was not used for any payment to bankers. This suspension did not affect the *asiento* because tranche B, on the income of that fleet, had been entirely repaid through *juros* before the end of June 1596. However, 42,716.3 ducats from tranche A had been shifted to the fleet of 1596 (tranche A2 in table 9).

Recall that royal accountants added notes to the attachments to the contract. On 27 May 1598, after the *Medio General*⁴⁰ published the terms of settlement for the *asientos*, a note was added to attachment IV according to which, on 14 November 1597, the Maluendas had presented the Crown with a total bill of 37,380 ducats for the remaining balance.⁴¹ We do not know why this amount was short of the

³⁷ 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. 532–6.

³⁸ AGS, CCGG, leg. 92.

³⁹ 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; de Carlos Morales, *Felipe II*, pp. 286–9; Sanz Ayán, 'Procedimientos', pp. 25–6.

⁴⁰ *Medio General* (General Solution) is the technical expression for the agreement between the king and the bankers that cancelled the *decreto* and the suspension of payments to the bankers.

⁴¹ 'In the certification that was given on 27 May 1598, by Luis de Alarcón and Juan de Gamboa, accountants in charge of the liquidation of the accounts of the *asientos* taken by men of business (*hombres de negocios*) included in the *decreto* of 29 November 1596, it appears that from the sworn statements that the named Maluendas presented for the liquidation of their *asientos*, they declared to the Royal Finances of His Majesty that the principal and

Table 10. *Final revision of the accounts by the Contaduría Mayor de Cuentas*

	Ducats
Principal due	339,079
Interest due	28,903
Total due	367,982
Paid by the Crown	372,184
Balance (14 Oct. 1597)	(4,202)

Source: AGS, CMC 3ª época, leg. 32.

42,716.3 ducats in tranche A2.⁴² It is possible that the Crown had made a payment after the last accountants' report. Given the lack of other documents, we should trust the claim that is made by the creditor for the fulfilment of the contract. The debt of 37,380 ducats was paid by the Crown through refinancing of *juros* (*crecimientos*) and sales of new *juros*.⁴³ At that date, the Maluenda *asiento* could be considered fully repaid.

However, in 1606, the Contaduría Mayor de Cuentas (CMC; the equivalent of the National Audit Office in the UK or the Cour des Comptes in France today) audited all the transactions related to the *asiento*. A summary report was included 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 re-examined by the CMC and they re-estimated the total interest at 28,903 ducats. They also established that the Crown had paid a total of 372,184 ducats. Table 10 summarizes the revision.

For that particular *asiento*, the ultimate debt was due not from the Crown but from the Maluendas. Later revision of accounts of all *asientos* signed by the Maluendas confirmed that this *asiento* was fully settled.⁴⁴

IV

The exercise of the *juros* option had a spectacular impact on the credit position of the Maluenda brothers with respect to the Crown. It reversed the debt position of the bankers until the last two disbursements in May and June 1596. As shown in

interest until 14 November 1597 amounted to 37,380 ducats for the principal and interest from the *asiento* of 349,500 ducats. In conformity of the settlement of the Medio General that was taken after the *decreto*, and after consultation with His Majesty, it was ordered to pay to these men of business the amounts put in their sworn statements with a quarter in escrow before the liquidation of the accounts. These payments are ordered by two *cédulas* from His Majesty on 16 June 1598 for the quantity of 37,380 ducats to be paid by the Tesorero General, one-third in *crecimientos* of *juros de por vida* at 14,000 and the other two-thirds in new *juros* at 20,000, with a quarter put into escrow⁷.

⁴² Some payments on tranche A2 may have occurred after 7 June 1595.

⁴³ AGS, CCGG, 92, *asiento*, 13 July 1595, attachment IV, *Quenta*: summary of the *asiento*. In the margins, notes written by the royal accountants refer to documents dated 27 May 1598.

⁴⁴ As an epilogue, at the death of Francisco de Maluenda in 1624, the accounts had to be settled for Pedro. We found the related documentation in the AGS. 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 Maluenda brothers' company owed the Crown 37,333 ducats (14 million mrs) and ordered the payment of that debt. The brothers went to court. As of 1624, when the revision took place, no payment had been made. The document settled a number of the *asientos* of the Maluenda brothers by consolidation. By that time, the *asiento* of 13 July 1595 had been long settled. AGS, Consejo and Juntas de Hacienda, leg. 606.

figure 1, the cumulative amount 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. As smart businesspeople, they may have collected funds at a low cost for an investment with a higher return: we do not know the terms of the payments for the buyers (by instalments 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 why 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.⁴⁵ 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*.⁴⁶

On 3 April 1591, Tomás Fiesco signed an *asiento* for 300,000 Italian escudos at 57 pattards, the currency in which the army of Flanders was paid (page 1 of that contract). The first disbursement was set at 61,500 escudos in April 1591, to be followed by nine monthly disbursements of 26,500 escudos until January 1592 in places including Dunkirk, Besançon, and Chambery (contract page 2). The contract converts the disbursements in escudos into a debt by the Crown of 340,000 ducats. As in the Maluenda *asiento*, most of the contract concerns the payment of these 340,000 ducats. Since the contract included a down payment of 99,733 ducats by the Crown, 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 Fiesco reduced his claim on revenues from the fleet by the amount of 39,870 ducats because of the sales of *juros*.

The third example is the contract that Agustín Spínola and Nicolao de Negro signed two weeks after the Maluenda contract, on 26 July 1595.⁴⁷ It specified 13 monthly disbursements of 75,000 escudos, starting in September 1595, with a final disbursement of 25,000 escudos in October 1596. At the exchange rate of

⁴⁵ Other examples include the *asientos* of Agustín Spínola for 1,000,000 ducats in Italy on 2 Feb. 1587 (AGS, CCGG, leg. 88); Baltasar Lomelín and Agustín Spínola for 600,000 escudos in Flanders on 15 Aug. 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); and Julio Spínola for 120,000 ducats in Madrid and Seville on 29 May 1590 (AGS, CCGG, leg. 89-2).

⁴⁶ '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' (p. 10 of the contract); AGS, Consejo and Juntas de Hacienda, leg. 1709, copy of *asiento* Agustín Spínola, 16 March 1589.

⁴⁷ AGS, CCGG, leg. 92, *asiento* Agustín Spínola and Nicolas de Negro, 26 July 1595.

408 *maravedis* per escudo, the principal of the debt by the Crown was equal to 1,088,000 ducats, a large 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, and redeemable perpetuals at 7.14 or 5 per cent under the same conditions as in the Maluenda contract. The second option, for 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 signing of the contract.

V

The Maluenda contract is a textbook example of a contract with abundant documentation that confirms the interpretation of the flexibility of the Crown's payments, subject to a fixed monthly rate of 1 per cent on the balance due, as we would expect in the case of a modern line of credit. We strongly recommend inspection of the original documentation (the translation and transcription of the contract) that is provided in online appendix S1.

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 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.

The expertise of the merchant bankers proved to be essential for one of the most interesting features of the contracts, namely, the option to convert part of the *asiento* into *juros*. Such routine conversions, delegated to private agents, took place well before the state carried out such conversions in eighteenth-century England.

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

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

- S1. The contract
- S2. Shares of *juros*
- S3. *Juros* sold by the Maluendas for the principal of tranche B (177,000 ducats)
- S4. *Juros* sold to pay the interest of tranche B (177,000) and the 2% fees