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13

Early Modern Financial Development in the Iberian Peninsula

LEONOR FREIRE COSTA, SUSANA MÜNCH MIRANDA AND PILAR NOGUES-MARCO

13.1 Introduction

Monetary systems of early modern Europe were commodity–money systems composed mainly of gold and silver (Esteves & Nogues-Marco, 2021). The Iberian colonial expansion granted Europe access to precious metals, with acceptance as a means of payment, at a worldwide scale. The first major increase in Europe's stock of gold in the early modern period occurred between 1480 and 1560 through trade with the West African coast while, from the mid-sixteenth until the late eighteenth century, mines in South America became suppliers of an unprecedented quantity of gold and silver. In total, Iberian colonies produced nearly 85% of the world's silver, and more than 70% of the world's gold in the early modern period (TePaske, 2010; Costa et al., 2013).

The production of precious metals in their colonies impacted the financial systems of both Castile and Portugal. In this chapter we focus on the relationship between liquidity and financial development – including other relevant variables such as instruments and institutions – to examine the efficiency of the financial systems in Iberia. For this purpose, we first analyse the volume and the institutional structure of the remittances of precious metals. Second, we consider the relationship between remittances and their liquidity effects as well as the structures and instruments of financial markets. We start by looking into public credit to consider debt management and the cost of public debt service. Then we turn to the private credit market and focus on financial instruments and trends in interest rates to estimate the cost of private capital. Finally, we summarize our perspective on the main similarities and differences in the development of the financial systems of Castile and Portugal.

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13.2 Remittances

The Iberian colonial empires gave access to entirely new mining resources that pushed the supply of international means of payment and ultimately allowed the growth of long-distance trade (Flynn et al., 2003; Findlay & O'Rourke, 2007; Palma, 2020a). The quest for gold is one of the traditional explanations for Portugal's conquest of Ceuta in 1415 when Europe faced an increasing scarcity of metallic species. This military success, however, did not pave the way to Timbuktu and the gold mines in the more southerly Mali Empire. Only after the conquest of Tangier in 1436 did the Portuguese presence in the region provide intelligence on trans-Saharan trade routes to the sources of gold. From 1440 onwards, Portuguese maritime expeditions along the West African coast were designed to bypass the trans-Saharan ancestral routes in order to tap into Timbuktu's gold resources.

Investments in the exploration of the West African coast began to show profits in the 1480s. In the Portuguese *El Mina* fortress, commodities purchased in the military strongholds of North Africa (woollen textiles) or imported from Europe (copper and iron goods) were exchanged for gold dust. Once arrived in Lisbon, this gold was coined in the Lisbon Mint House, the main institution empowered to strike coins in Portugal since the foundation of the kingdom.[54] In addition to earlier African Coast gold, the Iberian Empires obtained precious metals from the American colonies. Mexico, Bolivia and Peru mainly produced silver, while gold was extracted in Brazil and Colombia and, to a lesser extent, in Mexico, Bolivia, Chile and Peru (TePaske, 2010; Costa et al., 2013).

The America discovery created the mirage of precious metals mining wealth as the measure of economic success in Spain (Bernal, 1999; Stein & Stein, 2000). The Castilian legislation forbade the free trade of gold and silver, so their legal exchange was regulated through the institution that administered colonial trade: The *Casa de Contratación* (House of Trade). Merchants had to register the private remittances as soon as their vessels tied up in Seville (or Cádiz from the early eighteenth century) and pay the import tax for both ingots and coins. Hamilton (1934), who used the official registers of the *Casa de Contratación*, firstly collected information about bullion inflows from the Americas to Spain.

Table 13.1 shows legal remittances of precious metals – both gold and silver – from American colonies to Spain for the period 1503–1660. Unfortunately, official registers have not been preserved after 1660. Similarly, Vogt (1979) collected quantities traded from the African West Coast to Portugal for the period 1487–1561. It is self-explanatory that the

[54] The Mint House of Porto closed in 1590. It resumed its functions between 1688 and 1721.

Table 13.1 *Decennial remittances to Spain and Portugal, 1487–1660*

	Spain					Portugal			
	Silver (tons)	Gold (tons)	Royal remittances (%)	Private remittances (%)	Total (thousand pieces of eight)	Royal remittances (tons)	Private remittances (tons)	Total Gold (tons)	Total Gold (thousand pieces of eight)
1487–1490						0.7	0.1	0.8	320.3
1491–1500						3.43	0.69	4.12	1,622.9
1501–1510		5.0	26.2	73.8	1,964.3	1.60	0.32	1.92	755.6
1511–1520		9.2	26.2	73.8	3,621.1	3.44	0.69	4.13	1,626.5
1521–1530	0.1	4.9	26.2	73.8	1,940.0	2.05	0.41	2.47	971.3
1531–1540	86.2	14.5	31.9	68.1	9,245.1	1.86	0.37	2.23	880.2
1541–1550	177.6	25.0	22.5	77.5	17,309.6	1.20	0.24	1.44	566.9
1551–1560	303.1	42.6	29.1	70.9	29,555.3	1.20	0.24	1.43	565.2
1561–1570	942.9	11.5	22.1	77.9	41,937.3	0.14	0.03	0.17	68.5
1571–1580	1,118.6	9.4	34.1	65.9	48,240.2				
1581–1590	2,103.0	12.1	29.3	70.7	88,026.7				
1591–1600	2,707.6	19.5	30.2	69.8	115,169.2				
1601–1610	2,213.6	11.8	27.0	73.0	92,330.3				

Table 13.1 *(cont.)*

	Spain					Portugal			
	Silver (tons)	Gold (tons)	Royal remittances (%)	Private remittances (%)	Total (thousand pieces of eight)	Royal remittances (tons)	Private remittances (tons)	Total Gold (tons)	Total Gold (thousand pieces of eight)
1611–1620	2,192.3	8.9	21.2	78.8	90,398.0				
1621–1630	2,145.3	3.9	18.3	81.7	85,971.8				
1631–1640	1,396.8	1.2	28.2	71.8	55,299.5				
1641–1650	1,056.4	1.5	24.7	75.3	42,244.3				
1651–1660	443.3	0.5	26.7	73.3	17,627.6				

Sources: for Spain, Hamilton (1934), Table 1 and Table 3. Hamilton (1934) provided data in *peso de mina* of 450 *maravedies*. We converted the data to pieces of eight of exchange of 272 *maravedies* of old silver and 512 *maravedies* of *vellon* (Kelly, 1835: 318). For Portugal, Vogt (1979: Appendix). To convert Portuguese gold from the physical quantities (tons) to a value comparable with Spanish precious metals, we convert tons to pieces of eight of exchange according to the following equivalences: the par rate of exchange between Portugal and Castile was one crusado of exchange (old crusado of 400 *réis*) equivalent to one ducat of exchange (375 *maravedies*) (Denzel, 1995: 141). Therefore, one piece of eight of exchange is equivalent to 272/375 crusados. The gross weight of the old crusado of 400 *réis* was equivalent to 3.5 grams, according to 'museu casa da moeda' (www.museucasadamoeda.pt). Fineness is 22 carats (Kelly, 1835: 210–211). We assume that the fineness of gold measured in tons is the same as gold coins.

minimal contribution of the African posts in supplying gold shortly after the expedition of Cortés, allowed the *Carrera de Indias* (Spanish trade with American colonies) to dominate in this regard.

Royal rights over trade and taxation respectively, determined the state's share of the amounts that flowed to the Iberian kingdoms. In the case of Portugal, the gold trade on the African Coast was a royal monopoly. The Crown bore the costs of the military and administrative staff in *El Mina* fortress and claimed all the profits. Monopoly rights may have been routinely handed out to private investors, but the overwhelming portion of the remittances from the African Coast was the property of the Portuguese Crown (83.3% of the total). The Crown's prominent role was a unique feature of this earlier stage of colonial expansion and was exclusive to the African gold trade, while bullion exports from the Americas to Spain had been mainly a private business since the inception of the *Carrera de Indias*. The extraction tax for precious metals was 20% (*quinto real* – royal fifth) in the sixteenth and seventeenth centuries, but was reduced to 10% (*diezmo real* – royal tenth) in the eighteenth century (in 1716 for Mexico and in 1735 for Peru) (Haring, 1939: 198). For the period 1503–1660 the percentages were, on average, 26.5% for royal remittances, and 73.5% for private remittances (Table 13.1).

Morineau (1985) questioned the quantities counted by Hamilton (1934) with the divergence in results originating from the different sources consulted. Hamilton used the official registers in the *Casa de Contratación*, whereas Morineau focused his research on Dutch mercantile gazettes, consular reports and merchants' correspondence. Later, Morineau's quantities for the eighteenth century were re-counted by García-Baquero (1996), using the data obtained from the vessels' registers. Counting accurate quantities is complex in the case of Spain, due to the high level of smuggling.

Table 13.2 reports South American remittances in the eighteenth century for Spain and Portugal. In the case of Spain, bullion regulations were intended to prevent bullion outflows. On the one hand, private remittances paid a high import tax (more than 7% for gold and 10% for silver in the eighteenth century) (Nogues-Marco, 2010: 81–82), while on the other hand, the export of precious metals from Spain was forbidden without a licence. Fraud emerged as an inevitable consequence of these bullion regulations because smuggling enabled exporters to ignore the export ban and importers to save the high import tax. In the eighteenth century, smuggling accounted for around 20% of the total precious metals imported from America (Table 13.2). The smuggling of gold and silver, commodities that were mainly the concern of private business, was led by a cartel of foreign merchants with diplomatic immunity and the necessary international connections to illegally extract and distribute the precious metals outside Spain (Nogues-Marco, 2010). Royal remittances were reduced during the

eighteenth century from 16% in the 1710s to only 7.5% in the 1770s. They represented, on average, 12% of the total precious metals legally imported to Spain (in comparison to the average share of 26.5% for the period 1503–1660), but the share is smaller if we consider the illegal trade of precious metals (Tables 13.1. and 13.2). Remittances experienced a significant reduction in absolute value during the seventeenth century (Tables 13.1 and 13.2). This was not due to a contraction in mining production in the Americas, but mainly to a dramatic decrease in the amount of precious metals sent to Castile (Yun-Casalilla, 2019: 369).

From the early 1700s up to 1780, Brazil became the main supplier to the world market (Table 13.2). By then, private business controlled an overwhelming share of Brazilian gold remittances, signalling that the Portuguese institutional framework for mining activities was similar to the Spanish one. The royal share of Brazilian gold stemmed from the collection of the one-fifth tax on the gold extracted, whose yield the Crown expected to be shipped to Portugal. In addition, the state levied a 1% *ad valorem* fee on private agents' shipped gold in order to pay for protection costs, which left representative data on the institutional structure of inflows from 1716 to 1808. Costa et al. (2013) calculated the quantities based on the official registers generated to control the import tax (1%). Although this documental source is based on official registers and thereby prone to distortion due to evasion, twenty-five annual observations between 1700 and 1760 point to amounts higher than those reported by the Dutch Gazettes used by Morineau (1985). For this reason, Morineau underestimated the inflows in the 1740s and 1760s, while conversely overestimating them in the 1730s (Table 13.2). In any event, data from Portuguese archives providing a complete series for the whole eighteenth century – which Morineau's series do not – ensure that gold remittances had a higher significance in the mid-eighteenth century than previously estimated. Additionally, this source permits us to conclude that private remittances hovered around 76% of the total (Table 13.2). In eighteenth-century Portugal, as in Spain, precious metals were commodities that were mainly the concern of private business.

Despite the high level of smuggling, Spain and Portugal were first-order receivers of precious metals. Either private or royal property, the overwhelming volume of remittances arrived already minted in coins of different denominations, thus causing silver and gold to be key inputs for producing commodity money in colonial mint houses. In the following sections, we will look further into the relationship between remittances, liquidity cycles, market structure and financial development in the Iberian Peninsula, and will consider both public and private credit markets.

Table 13.2 *Decennial remittances to Spain and Portugal, 1700–1800.*

	Spain						Portugal			
	Royal remittances (%)	Private remittances to Spain (%)	Total Spain (thousand pieces of eight)	Total Europe (including Spain) (thousand pieces of eight)	Silver Europe (including Spain) (thousand pieces of eight)	Gold Europe (including Spain) (thousand pieces of eight)	Royal remittances (%)	Private remittances (%)	Gold (tons)	Gold (thousand pieces of eight)
1701–1710			78,500	121,800	104,000	17,800				
1711–1720	16.3	83.7	65,200	102,000	86,900	15,100				
1721–1730	19.2	82.0	128,800	162,800	138,900	23,900	23.4	76.9	84.40	33,247
1731–1740	14.9	85.1	90,600	122,100	105,500	16,600	22.6	77.7	91.53	36,054
1741–1750	8.7	91.3	118,600	160,200	136,600	23,600	14.5	85.5	110.30	43,448
1751–1760	12.5	87.5	163,800	170,800	145,300	25,500	24.1	75.9	90.48	35,643
1761–1770	5.5	94.5	154,000	159,400	135,900	23,500	29.6	70.4	80.05	31,532
1771–1780	7.5	92.5	135,300	143,300	122,400	20,900	17.0	83.0	50.91	20,054
1781–1790			260,000	297,800	254,000	43,800	36.9	63.1	18.11	7,134
1791–1800			186,400	206,400	175,700	30,700	23.6	76.3	15.94	6,279

Sources: for Spain: quantities from Morineau (1985), Tables 70, 72 and 73. Morineau (1985) provided data in *piastres*, which is the name of the piece of eight of exchange in the French language, whose value is 272 *maravedies* of old silver and 512 *maravedies* of *vellon* (Kelly, 1835: 318). The proportion of royal remittances versus private remittances comes from García-Baquero (1985, Appendix). Data for Portugal is taken from Costa et al. (2013). For the conversion of Portuguese gold from the physical quantities (tons) to a monetary unit (pieces of eight of exchange), see Table 13.1.

13.3 Public Credit: Debt Management and Creditworthiness

War expenditure was sustained in early modern Europe by the issuing of sovereign debt. In Spain, scholars have stressed the consequences of the Habsburgs' imperial policy on debt increase in the sixteenth and seventeenth centuries due to the intense war activity in Europe and overseas. By contrast, the Spanish Bourbon dynasty almost balanced their fiscal budgets and hardly issued any sovereign debt during the eighteenth century. It was not until the end of the eighteenth century that debt again increased significantly as a consequence of wars against England and France (Comín, 2016; see Figure 13.1).

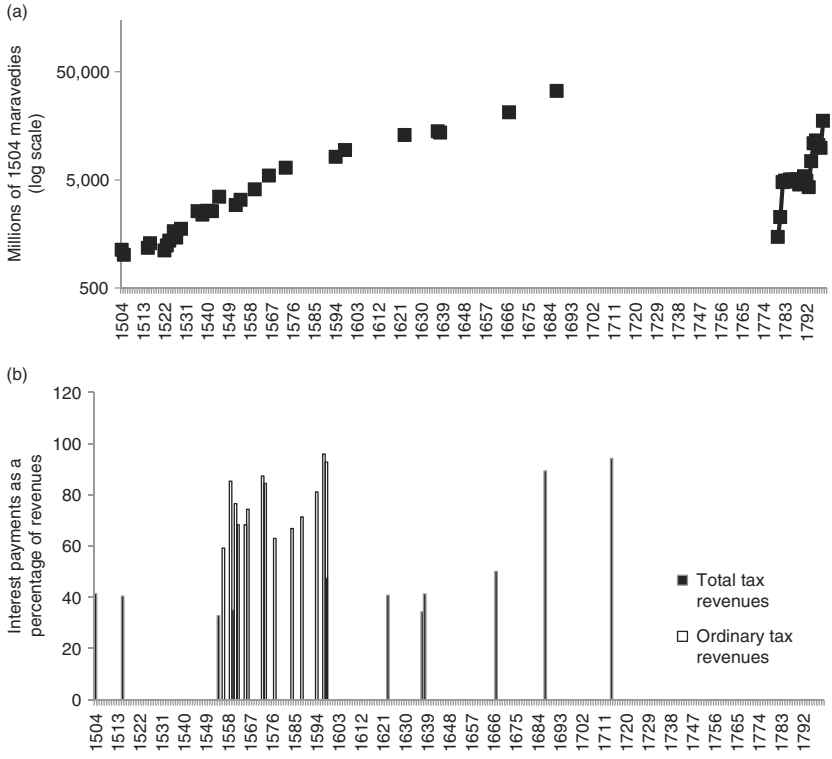

Figure 13.1 (a) Long-term debt, Castile, 1504–1800. (b) Interest payments to tax revenues (%), Castile.
Sources: Dominguez Ortiz (1960), Ruiz Martín (1968; 1990), Artola (1982), Toboso Sánchez (1987), Andrés Ucendo (1999) and Marcos (2006), compiled in Comín (2016, Graphs 7 and 9); and Álvarez-Nogal and Chamley (2014, Figure 2). Long-term debt for years 1714 and 1687 might be overestimated (see Álvarez-Nogal, 2009, Table 1.2, footnote b). Ordinary tax revenues were mainly direct taxes and sales taxes. Total tax revenues include public remittances of precious metals. Blanks mean missing data.

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Sovereign debt was funded by two debt instruments: *asientos* and *juros*. *Asientos* were short-term debt contracts between the Crown and private bankers, mainly German, Portuguese and Italian, with the Genoese being the main group that contracted *asientos* in the sixteenth and seventeenth centuries (Ruiz Martín, 1968; Carande, 1987). *Juros* were long-term bonds issued against a specific revenue stream and subscribed mainly by the Spanish (Toboso Sánchez, 1987; Álvarez-Nogal, 2009). Both instruments were related, as contracts with Genoese bankers introduced the practice of collateralizing *asientos* with *juros* in the sixteenth century, which the Genoese then sold in the secondary market (Ruiz Martín, 1968).

Spain defaulted on sovereign debt 13 times in the early modern period under the following: Philip II in 1557, 1560, 1575 and 1596, Philip III in 1607, Philip IV in 1627, 1647, 1652, 1660 and 1662, Charles II in 1688 and Philip V in 1727 and 1739 (see Artola, 1982 for a general overview). This sequence of defaults resulted from different financing problems that eventually led the monarchy to deal with difficulties in accessing long-term credit as the seventeenth century progressed. Starting with suspensions of payments and resettlements of *asientos*, there followed a period in which *juros* serviced by taxes negotiated in the *Cortes*, increasingly secured the loans provided by Genoese bankers, who made a profit from selling them in the secondary market. Thus, the most serious problems in financing the war arose when cuts and deferments affected the service of the *juros*, a situation that tended to worsen from 1620 onwards. The study of these developments has attracted the attention of a broad historiography interested in questioning the institutional framework affecting the credibility of sovereign debt.

In a sovereign debt system without third-party enforcement, Conklin (1998) argues that Philip II's Genoese lenders linked short-term debt (*asientos*) to international specie deliveries from Spain to the Low Countries in order to create a penalty as an enforcement mechanism. According to Drelichman and Voth (2011; 2014), the early defaults of Philip II appear not to have damaged the long-term lending relationship between the bankers and the Crown, because the losses sustained during defaults were more than compensated for by profits garnered in tranquil periods. The reconstruction of the fiscal accounts of Castile during the period 1556–1596 shows that Philip II's debts were sustainable. Silver remittances were used to fund short-term borrowing (*asientos*), but silver revenue was volatile because of the fluctuation in yields of American mines, as well as the challenges of shipping across the Atlantic. Sizable dips in remittances in the years preceding the default coincided with three of the four defaults of Philip's reign (Drelichman & Voth, 2010; 2014).

According to Drelichman and Voth (2010), defaults ultimately helped strengthen the fiscal powers of the State because Philip II used them as a negotiating device to raise relevant ordinary taxes, that is, mainly direct taxes (*servicios*) and sales taxes (*alcabalas*) that had to be authorized by the

representative assembly of Castilian municipalities (*Cortes*). The rise in taxes permitted the issuing of new *juros*, which were collateralized by specific taxes. As a consequence, in each default, short-term loans (*asientos*) were converted into long-term debt (*juros*) to repay *asientos* through a *juros* swap.

Álvarez-Nogal and Chamley (2014) argue that, indeed, the suspension of payments on the short-term debt (*asientos*) of Philip II were not caused by short-term liquidity crises, but happened when the interest payments of the long-term bonds (*juros*) had reached the ceiling of ordinary taxes (see Figure 13.1). The suspension of payments on *asientos* initiated the negotiations between the Crown and municipalities represented in the *Cortes* to raise the tax ceiling that then permitted the new issuing of *juros* to refinance *asientos*.

Interest rates on long-term debt decreased in the long run, mainly during the sixteenth century (see Figure 13.2). Indeed, in the sixteenth century and at least until the mid-seventeenth century, Castile's interest rate on the nominal value of public debt was lower than that of the English or Dutch debt, and at the same level as debt issued by the reputable city-republics of Italy (Yun and Ramos, 2012: 20–25; Yun-Casalilla, 2019: 169). According to Álvarez-Nogal (2009), there was a growing demand for long-term bonds until the 1620s, which permitted the government to reduce the interest rate on the nominal value from 10% in the early sixteenth century to 5% in 1625. The most relevant type of *juros* – *juros al quitar* – had an embedded option that gave the Crown the legal right to redeem the *juro* at any time. This feature was used to reduce *de facto* the interest rate on the nominal value by increasing the principal (an operation known as '*crecimiento*') (Álvarez-Nogal, 2009; Álvarez-Nogal & Chamley, 2014; 2018). But *juros* depreciated from the 1560s (although mainly after the 1620s) as a consequence of excessive issuing, default and restructuring, as well as subsequent seizures and delays in the payment of interest. Forced loans to the Crown such as the expropriation of private remittances in exchange for *juros* were used to fund public expenditures (Toboso Sánchez, 1987). The demand for *juros* plunged in the seventeenth century and they were redeemed from 1685 onwards, and more intensely from 1748 (Toboso Sánchez, 1987).

Interest rates on the nominal value, however, are not the proper measure of the cost of capital because debt depreciated, that is, it was traded at a lower value than the nominal value of the bond. Therefore, some evidence on yields is needed. Here two problems arise. On the one hand, the calculation of the yield is complicated because *juros* were financial derivatives that contained embedded options, meaning that the Crown could redeem the bond at any time. Despite the existence of embedded options and other clauses, financial scholars accept the use of the ratio between the interest rate and the market value of the bond as a reasonable approximation of the yields for bonds issued at a very long maturity (Mauro et al., 2006). On the other hand, the sovereign debt of early modern Spain traded in decentralized markets. As a consequence,

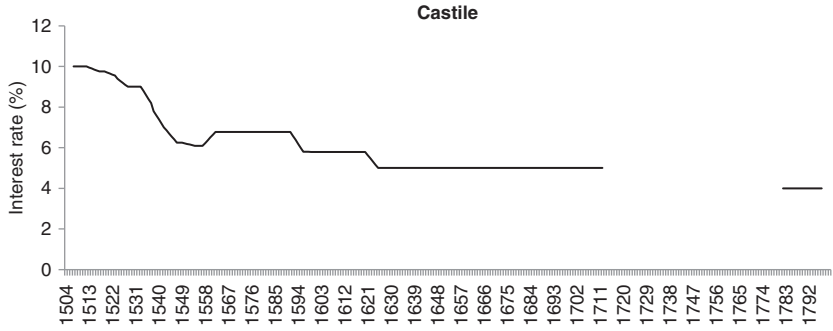

Figure 13.2 Interest rates on the nominal value of long-term bonds (*juros*) (%), Castile. Source: Dominguez Ortiz (1960), Ruiz Martín (1968; 1990), Artola (1982), Toboso Sánchez (1987) and Marcos (2006), compiled in Comín (2016, Graph 10). Blanks indicate missing data.

information about market values is elusive and we have only anecdotal evidence. For instance, Toboso Sánchez (1987: 147–148) has documented that the market value of *juros* depreciated by one-third after the default of 1575; the yield was 10.17% for an interest rate of 6.78% on the nominal value (Figure 13.2). The market value of *juros* depreciated again during the crisis of 1590s and in that instance, the average depreciation was 18.7% (in 1594), so the yield was around 7.6% for an interest rate of 6.2% on the nominal value (Figure 13.2). Similarly, Álvarez Vázquez (1987: 265–267) finds that the yield of *juros* bought by the Cathedral of Zamora at the end of the seventeenth century was between 8% and 9% for the years 1663–1676 and 9% on average for the years 1675–1704, while the interest rate at the time was 5% on the nominal value (Figure 13.2). Yield of *juros* is consistent with the effective interest rates paid for other kind of public investment: the primary sales on credit of venal offices in Castile paid in average an interest rate of 7.875% (average for the period 1543–1710 for the limited sample of primary sales on credit) (Gómez-Blanco, 2021: 172) Unfortunately, empirical evidence on yields is scarce, and more research is needed to extract robust conclusions.

In the case of the Aragon Crown, the limited evidence on effective interest rates shows a higher cost of public capital than in Castile. Short-term fiscal deficits in Catalonia were funded with *asientos* and with credit operations that used bills of exchange. In the case of *asientos*, local private agents charged high interest rates of a minimum of 12% per year (or more in some cases) in 1581 (Hernández, 2003: 201–204). Bill-of-exchange credit operations used change-and-rechange operations between Barcelona and Lyon to fund *de facto* local credit in Barcelona. These operations permitted the circumvention of usury laws and charged high interest rates that fluctuated between 10% per year (in 1582)

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and 21% per year (in 1585) (Hernández, 1997: 71; 2003: 201–204) (see Nogues-Marco, 2018: 10 on the concept of change-and-rechange).

At the end of the eighteenth century, Spanish debt was traded in the Amsterdam stock market. Tomz (2007: 42–45) reports a yield of 6.1% on Spanish sovereign debt in July 1771 and 5.4% in October 1783, while the interest rate for Castilian holders of domestic *juros* was 4% on the nominal value (Figure 13.2). Additionally, we observe that the yield was higher for Spain than for any other European country in the Amsterdam stock market at the end of the eighteenth century.[55] However, the yield of the Spanish debt traded in Amsterdam decreased from 5.4% to 4% between 1783 and 1793. Through a policy of regular payments of the interest rates and punctual amortization, the Spanish government signalled its creditworthiness in the Amsterdam capital market, which decreased yields (Tomz, 2007: 46).

Like the *juro al quitar* in Spain, the Dutch *losrenten* and the French *rentes*, the Portuguese *padrão de juro* was a redeemable long-term bond, with annual payments earmarked to a specific fiscal income. It was fully transferable and negotiable in secondary markets, as a whole or in fractions. While the first *juros* were issued in the early 1500s, the stock of long-term debt increased consistently from the 1540s onwards and at a faster pace when Portugal was ruled by Spanish Habsburg kings (1580–1640). The latter phase of outstanding debt growth took place, nevertheless, under a slow erosion of the credibility of *juros*. Routine deferments and suspensions first, followed by cuts in the annuity payments, as happened regularly in the 1630s, dried up the market for these securities. As the financial stress increased, the government routinely tapped into the financial resources of the towns. Forced loans from the Lisbon municipality, for example, were backed up by *padrões de juro*, while the municipality sold annuities earmarked to local taxes to meet the required loans (Gomes, 1883, 201–206, 307–311; Hespanha, 1993, 224–225).

Funded public debt slowly regained credibility in the framework of the restoration of the Portuguese monarchy. To restore creditors' trust, the government refrained from issuing new debt and sought to punctually service payments on the old *juros*. Short-term loans tided over regular budget deficits during the Restoration War, while creditors faced the consequences of monetary measures taken by the government. Debasements decreased the real value of the outstanding debt until 1688 (Costa & Miranda, 2023).

By the late seventeenth century, new rules regarding the payment of *juros* strengthened the confidence of royal investors, while some marginal operations, including an attempt to introduce tontines, enabled the state to sell

[55] July 1771 and October 1783, respectively: Austria 3.8% and 3.5%; France 4% and 3.9%; Saxony 4% and 4.9%; Danzig 4.9% and 5%; Denmark 4% (both dates); Leipzig 4.2% and 3.5%; Brunswick Luneburg 5.1% and 4.9%; Mecklenburg 5% and 4%; Sweden 5% and 4.1%; and Russia 5.1% and 4.2%.

some new *juros* at 4.5% (Gomes, 1883: 46, 72–73, 79). The vast majority (71%) of *padrões de juro*, however, paid 5% interest, with the rest still paying 6.25%, therefore allowing us to estimate the debt stock at some 3,767 million *réis* in 1680 (Costa & Miranda, 2023). This long-term debt grew further to fund Portugal's participation in the War of the Spanish Succession (1701–1714), when 1,102 million *réis* (35 tons of silver) were raised through the issuance of *juros* at 5% and 6.25%, partly to consolidate short-term loans supplied by English merchants who had ensured military provisioning. From the 1750s and up to the early 1790s, new *padrões* were issued first at 4% and then at 3.5%, in both cases at a rate lower than the legal ceiling – 5% – set on private interest rates in 1757 (Gomes, 1883: 78–79; 321; Costa et al., 2018a).

Hence, throughout three centuries, the issued interest rates on *juros* trended downward from 8% to 3.5%. This trend can partially be attributed to interest payment reductions that became standard practice after 1563 when the first operation was set in motion. These debt management operations qualify as voluntary since bondholders were given the option to reject the reduction and cash the payment of the principal at par. Consequently, these campaigns placed concomitantly new *juros* in the market at a lower rate, as this was key to ensure the liquidity to pay off any holders of old annuities who rejected the reduction (Gomes, 1883, pp. 220–21, 314–316). The last refinancing episode occurred in 1743. Starting with the expressed aim to reduce the last bonds that still yielded 6.25%, the operation further included the consolidation of short-term debt and the redemption and reselling of 5% *juros*. It resulted in the

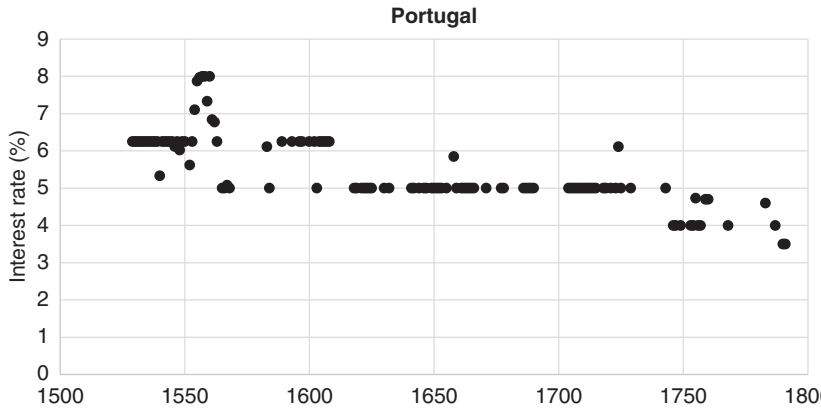

Figure 13.3 Interest rates on the nominal value of long-term bonds (*juros*) (%) (weighted average), Portugal.
Source: Costa, L. Freire, DEBT.PT – Sovereign debt and private credit in Portugal (Dívida Soberana e Crédito Privado em Portugal 1668–1797), https://debt.pt (accessed 11 March 2022).

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transference of approximately 5,000 million *réis* of debt to a single ecclesiastical institution, the patriarchal church (*Sé Patriarcal*) (Azevedo, 1973: 374–375).

The relative weight of debt service on state revenues tended to decrease throughout the seventeenth and eighteenth centuries, before weighting more heavily under the Napoleonic Wars (Table 13.3). While indirect taxes, mostly the excise and custom duties, backed the interest rate payment of *juros* during most of the early modern period, by the eighteenth century the government started to earmark new *juros* on specific colonial resources. Taking 1760 as a benchmark, approximately 24% refer to tax streams provided by the colonial empire, including the 1% tax on gold shipment, the monopoly on Brazilian dyewood trade, the transference of tax surpluses from Brazil through the jurisdiction of the Overseas Council, and customs duties on Brazilian tobacco and Asian imports.[56] A similar pattern can be found in the *padrões de juro* belonging to the *Misericórdia*, a lay brotherhood that was the wealthiest welfare institution in Portugal and its empire (Sá, 1997; Abreu, 2016). The branch of the brotherhood in Lisbon, a major lender to the state in the 1700s,

Table 13.3 *Consolidated debt in Portugal, 1607–1812.*

	Crown's revenues (million *réis*)	interest payments (million *réis*)	Debt service on total revenues (%)
1607	1,302	206	15.8
1625	1,173	179	15.3
1641(*)	1,612	180	11.2
1680	1,671	195	11.7
1766	6,138	518	8.4
1802	9,511	1,113	11.7
1812	8,121	2,285	28.1

* Without revenues from the empire.
Sources: Falcão (1859); Dias (1985); Silveira (1987); Thomaz (1988); Hespanha (1994); Biblioteca da Ajuda, cód. 51-VI-19. Interest payments in 1641, 1680 and 1766: dataset from Costa, L. Freire, DEBT.PT – Sovereign debt and private credit in Portugal (Dívida Soberana e Crédito Privado em Portugal 1668–1797), https://debt.pt (accessed 11 March 2022).

[56] DEBT.PT- Sovereign debt and private credit in Portugal (Dívida Soberana e Crédito Privado em Portugal 1668–1797) (www.debt.pt).

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held 195.5 million *réis* in *juros*, whose payment was mostly assigned to taxes managed by the Overseas Council (50 million *réis*), and to the tobacco monopoly and Lisbon's custom house, the country's major hub for colonial trade (72.4 million *réis*). Finally, in the late eighteenth century, when new perpetuities were sold at 3.5% interest on the nominal value, the *Misericórdia* bought *padrões de juro*. Allegedly, this investment was less uncertain compared to real estate, which required expenditure for refurbishing and additional costs for monitoring and finding new tenants (Rodrigues, L., 2019a). The empire allowed a gradual trade-off with creditors, whereby higher interest rates were foregone in favour of secure payments at a lower interest rate.

Although prices and yields are difficult to find without a thorough research on notarial deeds, the full property rights assigned to investors promoted the secondary market of *juros*. The *Misericórdia* invested idle money from its coffers by buying *padrões de juro* at par from other creditors. Moreover, *padrões de juro* were used as collateral for private credit obligations (Costa et al., 2018b). We may argue that such a low-risk instrument captured the savings of a range of wealthy people and institutions unaware of options with higher returns. For that reason, when the state endorsed the foundation of joint stock companies, it was stated that the possession of shares was as safe as the ownership of *padrões de juro* (Marcos, 1997: 184, 189). Overall, with the exception of the early and mid-seventeenth century, *padrões de juro* remained credible until 1797, when the Portuguese state issued bearer bonds for the first time.

13.4 Private Credit: The Efficiency of Capital Markets

The credit market in the Iberian Peninsula evolved despite the vagaries of an embryonic banking system. At the outset of the early modern period, banks played a significant role in private markets in Spain, contrary to what happened in Portugal, which had not any form of financial intermediation based on banks.

In the late Middle Ages, the 'primitive bank of deposit' developed in Spain as well as in other European commercial centres such as Genoa, Venice, Florence and Bruges (Usher, 1934; 1943; De Roover, 1948; 1968; Mueller, 1977). Within the Crown of Aragon, these banks originated in Barcelona, Valencia, Girona, Zaragoza and Calatayud between the thirteenth and the fifteenth centuries (Sánchez Sarto, 1934; Ruiz Martín, 1970). In Castile, these institutions, which had already existed in the fifteenth century, expanded during the sixteenth century in the main commercial centres, such as Burgos, Valladolid, Toledo, Segovia, Granada, Madrid and Seville, because of the inflow of American precious metals (Ruiz Martín, 1970; Carande, 1987, book 1; Tinoco Rubiales, 1988). Castilian primitive banks of deposit needed municipal authorization for establishment as well as bankers' personal assets and third-party guarantees as

proof of solvency. Despite being known as 'public banks' they nevertheless were private banks whose accounting books were public documents that served as the legal registers of banking activity (Tinoco Rubiales, 1979: 112). The primitive bank of deposit executed the functions of exchange, deposit, *giro* and credit.

Banking activity developed without a proper regulatory framework; as a consequence, bankruptcies were recurrent. On the one hand, bank runs were frequent and permeated the banking system in the absence of modern protective mechanisms such as deposit insurance or the intervention of a lender of last resort. On the other hand, banks invested in high risk and non-diversified activities, such as large-scale investment in sovereign debt as well as commercial and financial activities related to trade with American colonies (Basas, 1964; Ruiz Martín, 1970; Tinoco Rubiales, 1988). From the end of the sixteenth century to the early seventeenth century, the primitive bank of deposit became extinct, as bankruptcies had caused their closure (Lorenzo Sanz, 1979: 155–168). From then on, private merchant-bankers funded credit from their own resources, but no institution centralized *giro* activities until the creation of the *Real Giro* in 1752 and, later, the Banco de San Carlos in 1782 (Tedde de Lorca, 1988).

In sixteenth-century Castile, the primitive bank of deposit paid an interest rate of 7–7.5% for deposits and usury laws established a maximum legal interest rate for credit of 10% (Ruiz Martín, 1970: 24; Martín-Aceña & Nogues-Marco, 2013: 145). This legal ceiling was the same as England had at that time, although the effective interest rate there was *de facto* between 15 and 20% (Flandreau et al., 2009a: 171–172). In the case of Castile, Álvarez-Nogal (2017: 541) has documented an example of a prominent primitive bank of deposit that formally charged an interest rate of 6.67–7.14% on loans, which implies a net interest spread – the difference between borrowing and lending rates – near zero or even negative, inconsistent with the prevalent high-risk of banking activity. As is evident from studies of other European centres such as Italy and France that were also regulated by maximum legal interest rates for credit, it is probable that simple devices camouflaged the effective interest rate, where, for example, a banker might record a debt larger than the sum actually paid to the borrower (Nogues-Marco, 2018). As a result of usury regulations on interest rates, effective interest rates are usually unknown, except for those exceptional cases where private records registered the 'true' loan. Therefore, the interest rates registered in official records are only a biased measure of the cost of capital.

To address the efficiency of private capital markets, we should focus on bills of exchange. They constitute the benchmark to calculate private interest rates because this instrument circumvented usury regulations, as the interest rate was hidden in the exchange rate at maturity (Flandreau et al., 2009a). The bill-of-exchange was an instrument developed to transfer money and provide

credit between distant centres in pre-industrial Europe. Braudel (1992, vol. II: 248) described the boundaries of commercial finance as a 'Bell Jar' within early modern capitalism that connected European commercial centres. These connections can be tracked through bill-of-exchange quotations registered in the financial and commercial press as well as merchants' correspondence (Flandreau et al., 2009b). In addition, they facilitate the calculation of the interest rates embedded in exchange rates. For Cádiz in the eighteenth century, Nogues-Marco (2011: 65–92) estimated that the hidden interest rates of bills of exchange averaged 8.79% for the period 1729–1788 (see Figure 13.4). This estimate is consistent with the very scarce direct evidence available in primary sources. For instance, according to the archive of the Banco de San Carlos, the discount rate in Cádiz in 1786 was 8% (Tedde de Lorca, 1988: 131). Cádiz's interest rate was above that of the main financial markets in the eighteenth century (1720–1789): Amsterdam averaged an interest rate of 3.92%, London 3.8% and Paris 4.59% (Flandreau et al., 2009a; 2009b). According to the available empirical evidence, the efficiency of private capital markets in Spain was far below that of the core European financial centres.

Outside the bill-of-exchange credit system that connected national and international merchant-bankers, notarized mortgage-backed loans provided domestic credit in the different kingdoms of Spain. Long-term loans were supported by the credit instrument *censos consignativos*. The debtor of the *censo* obliged himself to pay a rent from certain specified properties in return for a sum of money. Sometimes he promised to pay in perpetuity, sometimes for the life of the creditor, and, most commonly, until he redeemed the *censo* by repaying at any time in one lump sum, the capital value of the loan (*censo consignativo al quitar*) (Álvarez Vázquez, 1987: 221–223; Fiestas Loza, 1993: 582). The interest rates of

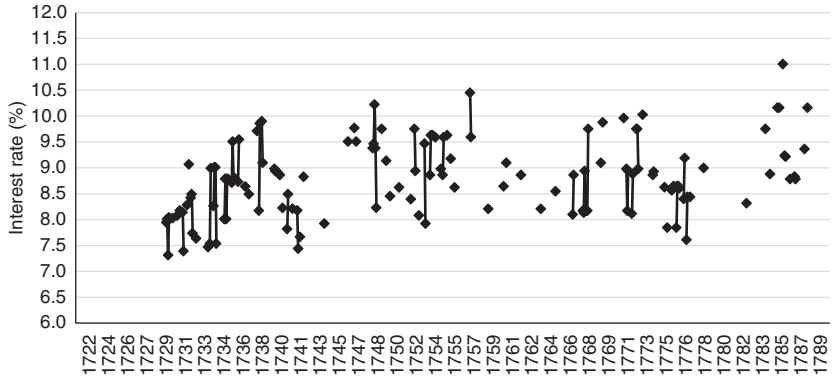

Figure 13.4 Commercial annual interest rates (%), Cádiz, 1729–1789.
Source: Nogues-Marco (2011: 65–92). Outliers have been removed.

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censos consignativos decreased from 7.1% to 4% between 1570 and 1698 (Yun-Casalilla, 1987: 237; 352–356). In the early eighteenth century, the rate was limited by the usury laws to a maximum of 3% in Castile and 5% in Aragon (Milhaud, 2018: 87). However, this interest rate is not comparable with that of plain financial instruments because *censos consignativos* were financial derivatives; the opportunity for the debtor to redeem the *censo* at any time implies the existence of embedded options, which does not facilitate a simple yield calculation (see Nogues-Marco & Vam Malle-Sabouret, 2007).

Similarly, short-term credit known as obligation contracts – whose maturity was usually less than a year – were registered by notaries and usually collateralized by mortgages. Peña-Mir (2016) has documented obligation contracts at the end of the eighteenth century (1779–1792) as being oriented to fund agrarian activities in Málaga (Andalusia). Notarized registers do not document the payment of interests for these loans, although indirect evidence declares its existence. There were similar occurrences in France, where notaries hid the interest rates of obligations because usury laws had established a ban on interest for such financial instruments until the time of the French Revolution (Hoffman et al., 2000: 14–16).

In Portugal, a variety of institutions supplied credit to private debtors, but there is no evidence of primitive banks of deposit. Our survey on private credit thus relies on bilateral contracts, notarized or recorded in probate inventories, as well as on the credit activities of the *Misericórdia*. Given its charitable purpose, this lay brotherhood was often bequeathed substantial legacies. The frequent use of these funds to provide public and private credit makes it an illustrative case with which to examine the credit business.

Both probate inventories and notarial deeds show the common use of short-term obligations (IOUs) with different maturities (usually one year) albeit often including a prorogation clause. Explicit indication of the rate of interest was common and occurred alongside the request for assets or sources of income as collateral. The former seems to be a unique feature of the Portuguese notarized credit with this information being available in any deed. A recent study was able to extract a market interest rate from bilateral contracts, after expunging the idiosyncratic variables (Costa et al., 2018a). It shows a downward trend, with interest rates falling from 6.25% to 5% between 1715 and 1755, the year of the Lisbon earthquake (see Figure 13.5). The wording of thousands of obligations drawn up by notaries in Lisbon attests to the widespread use of Brazilian gold as cash that was channelled to credit activities. Indeed, injections of cash could have had an endowment effect (the prospect of a future increase in income) on raising interest rates, but they were also a source of liquidity supply in a credit market, which reduced interest rates. The liquidity effect, rather than the substantial improvements in enforcement mechanisms through recourse to law courts, explains the downward

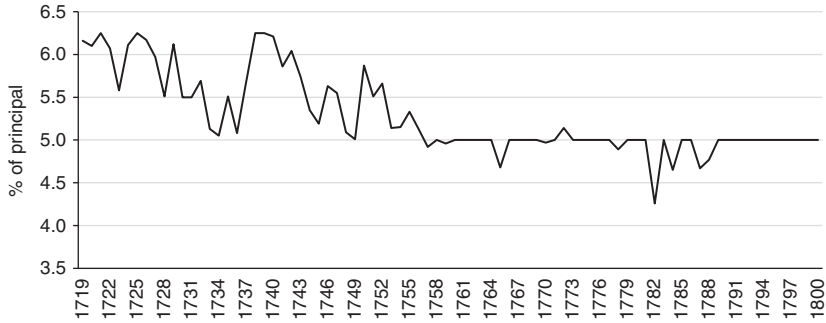

Figure 13.5 Annual market interest rates (%) – short-term obligations, Lisbon, 1719–1800. Source: Costa et al. (2018a: 1161–1164).

trend in interest rates until 1757, as will be further illustrated by the *Misericórdia*'s problems in dealing with private credit through legal actions.

As far as the use of notarized credit is concerned, yet another feature differentiates the case study of Lisbon. While the participation of the nobility and professionals is a remarkable feature of notarized credit in Paris, as Hoffman et al. (2000) noted, in Lisbon it reports a significant participation by craftsmen and, although less so, by labourers. This suggests that the level of wealth needed for this trade was not critically high. Indeed, a great deal of retail distribution relied on selling on credit, which also explains the common use of informal notes of IOU listed in probate inventories.

The *Misericórdia*, on the other hand, displays distinct credit relationships with regard to the social rank of debtors as well as to the maturity of loans supplied. The Lisbon branch of the brotherhood is known to have met the demands of the aristocracy, thus corresponding with studies that have already noted the high level of indebtedness of that social group in the Iberian kingdoms (Yun-Casalilla, 2019). As in Spain, in the sixteenth and seventeenth centuries, aristocrats tended to find credit by issuing *censos consignativos* (Abadía Irache, 1998; Yun-Casalilla, 2002) with interest assigned to rents from real estate or seigneurial rights. This practice became less frequent in Portugal, during the century, thus resulting in that social group depending increasingly on credit from the *Misericórdia*. Some in-depth studies illuminate the problems caused by the biased credit relationships of the *Misericórdia* and have shown that judicial rulings determining the seizure of assets given by aristocrats as collateral were not effectively enforced, either because of the courts' lack of coercive means or because judges were reluctant to contend with a social group that enhanced the institution's prestige. The state intervened and interdicted the *Misericórdia* from lending to private borrowers in 1775, which in turn reinforced the institution's option of applying its liquidity in

public credit or in short-term obligations to other social groups (Rodrigues, 2019b).

The working of the credit market in Portugal was affected by the 1755 earthquake, which created conditions for a new legal framework. The event was followed by the imposition of a 5% legal cap on interest rates, which put an end to a legal loophole. The legislation, however, explicitly excluded the bottomry loans used in the Cape of Good Hope route. The ruler's aim may have been to steer funds to Asian endeavours, rather than avoiding a steep rise of interest rates after a demand shock by virtue of the earthquake, which eventually also affected public credit (Costa et al., 2018a; 2018b).

The destruction of wealth caused by the earthquake had a variety of impacts on lenders and borrowers. For survivors, it offered the chance of returns, but also potentially involved high risk given the destruction of collateral, which possibly made 5% too low an interest rate and caused credit rationing. The state's intervention could have made supply more stringent and slowed down the pace of reconstruction. But it is also likely that the legal cap was close to the equilibrium interest rate; demand might have fallen due to the reduced wealth of borrowers. However, the high level of physical capital depletion was not matched by a loss in money wealth in the form of gold coins, mostly for two reasons. On the one hand, a great deal of the private remittances that had arrived in the most recent Brazilian fleets was still stored in the Mint House where 1% tax on remittances was collected. On the other hand, remittances did not stop in subsequent years. Hence, the liquidity effect attributed to gold influxes may have mitigated the impact of the legal cap after the earthquake. At the same time, in 1757 and 1763, the state sponsored the foundation of chartered companies to deal with the north and north-eastern regions of Brazil for 20 years. The stock market experienced outstanding periods of vitality in 1766–1767 and again in 1775 (Costa et al., 2019). In addition to the consequences of the earthquake, new investment options may have changed the landscape of the credit market in Portugal in the second half of the eighteenth century.

Despite the 5% legal cap, institutions increasingly sought to invest funds in short-term maturities. The church, hospitals and lay brotherhoods, such as *Misericórdias*, resorted to credit obligations more often than to *censos consignativos*, making the preference for the former the most significant change we observed in the long run in urban markets (Abreu, 1990: 57–58; Rocha, 1996: 190; Rodrigues, 2013; 2019a). This change in Portugal seems to have occurred earlier than in Aragon, where 73% of the income of the ecclesiastical institutions was still generated by *censos* in the mid-eighteenth century (Milhaud, 2018). In Portugal, as also found for other areas of the Iberian Peninsula (Yun-Casalilla, 1987: 357; Grafe, 2012: 223), the nominal interest rates of this credit instrument could have been below the legal ceilings, reaching 3%. Once the *censos* underwent a declining trend (Figure 13.6), 5% legal cap applied to short-term obligations seems to allow better remuneration.

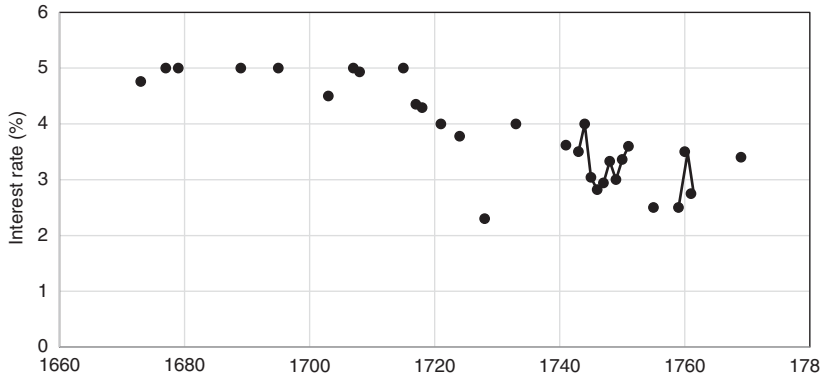

Figure 13.6 Interest rates at issuance (%): private perpetuities in Portugal.
Source: Rodrigues (2021).

A major institutional change in the working of credit markets was tried in the early 1800s when the state sought the foundation of a public bank as a joint-stock enterprise. It faced resistance from the greatest merchant-financiers of the kingdom who did not foresee any benefit in setting up a specialized banking institution (Cardoso, 1997). By that time, Portugal's financial system was still based on institutions that had already existed in the sixteenth century. If financial development can be assessed through interest rates' trends, such an institutional resilience did not have critical consequences, considering that interest rates of long-term maturities declined in Portugal as elsewhere, and the legal cap after the earthquake did not have long-term consequences in credit rationing. In any event, much research is needed for a full understanding of the financial hindrances the kingdom experienced when the royal court fled to Brazil in 1808.

13.5 Conclusions

This chapter has focused on early modern financial development in the Iberian Peninsula. The access to precious metals – gold and silver – was the major common denominator of the Iberian colonial experience. Remittances were not only a royal affair, but, primarily, a private business. For this reason, we have considered the relationship between liquidity and financial development by examining both public and private credit markets. Our approach has the advantage of considering a more complete scope of financial development contrary to traditional historiography that has generally considered *either* the public *or* the private credit market. At the same time, this approach has also highlighted the limits of our knowledge on the topic, and we hope this piece of research will encourage further study.

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When analysing the development of public credit in the long run, the first common feature between Castile and Portugal is that both kingdoms used the same financial instruments. Public debt resorted to short-term credit in the form of contracts with syndicates of merchant-financiers (*asientos* for Castile and *assentos* for Portugal), and to long-term credit based largely on perpetuities (*juros al quitar* and *padrões de juro*, respectively). In the case of Castile, the debt service of *juros* was paid over a tax stream on ordinary taxes (excluding public remittances of precious metals), but *asientos* might be paid with public remittances of precious metals or converted to *juros*. It is difficult to disentangle the role precious metals played in the development of public credit from the Crown's bargaining power (*vis-à-vis* that of municipalities) to raise the tax ceiling that permitted the increased issuance of *juros*. In the case of Portugal, the debt service of the new *juros* issued in the eighteenth century was increasingly paid over a tax levied on gold remittances (1% tax), denoting the growing importance of the Brazilian colonial economy in collateralizing public debt. In any case, we know that the ratio of debt-to-tax revenues was much lower in Portugal than in the Habsburgs' Castile.

Another common feature of public credit development in Portugal and Castile is that both kingdoms experienced a long-term reduction of the interest rates on the nominal value of long-term bonds. Liquidity might have played a role. Other variables, such as the long-term reduction of transaction costs and investors' perception of default risk or financial repression, probably also contributed to market performance. More research is needed on the explanatory variables of the capital market development. The strategy we have followed to approach market development has been to consider the yields instead of the interest rates on the nominal value, as yields take into account market value.

Unfortunately, however, yields are elusive because public debt was traded in decentralized markets. In the case of Portugal, no information about yields is available so far. There is not enough data on market prices of *juros* in the Portuguese secondary market to have a consistent picture of the evolution of yields. The indications about transactions between private investors point to sales at par. In the case of Castile, anecdotal evidence shows a yield of 7.4–9% at the end of the sixteenth century and 8–9% at the end of the seventeenth century, which indicates a sustained investors' perception of country risk consistent with defaults, despite the reduction of interest rates on the nominal value. Similarly, yields on European sovereign debt traded in Amsterdam in 1771 and 1783 show that Spain had the highest yield; the country risk counteracted the potentially positive effects of liquidity in reducing the cost of public debt, although yields on Spanish debt decreased at the end of the eighteenth century as a result of an improvement in creditworthiness.

When analysing the development of private credit in the long run, there is a higher degree of complexity. Interest rates in the market of long-term

maturities (*censos consignativos*) show a long-term downward trend and the legal ceilings seem to have adjusted to it. But usury laws established a maximum legal interest rate for credit that makes the measurement of private credit efficiency difficult. Simple devices camouflaged the effective interest rates in Spain, which means that the interest rates registered in official records are only a biased measure of the cost of capital.

The case of Portugal is different because usury laws did not affect the private credit market until 1757. Notarized credit explicitly indicated an interest rate, before and after the enactment of the regulation that established a 5% ceiling. Short-term obligations show a downward trend in the eighteenth century that is interpreted as the result of the increase in liquidity caused by the remittances of Brazilian gold. The earthquake, however, may have changed the credit market landscape in Portugal, and the 5% ceiling possibly caused credit rationing in the following decade. In the case of Spain, notarized credit did not document the payment of interests, although indirect evidence declares the existence of such. To measure the efficiency of the Spanish private credit market, we have focused on bills of exchange instead of notarized credit. Bills of exchange constitute the benchmark for the calculation of private interest rates because this instrument circumvented usury regulations with the interest rate hidden in the exchange rate at maturity. The hidden interest rate embedded in exchange rates for eighteenth-century Cádiz was above the interest rates of the main financial markets at that time, which indicates that the efficiency of the private capital market in Spain was far below that of the core European financial centres.

The divergent path of the evolution of private and public credit, on the one hand, and of the markets for long and short-term maturities, on the other hand, suggest that the capital market was still much segmented.