

Revenue collection contracts in the municipality of Coimbra (Portugal): the role of transaction costs and risk in contract choice (1557-1836)

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ABSTRACT: *This study aims to analyse revenue collection contracts in the municipality of Coimbra (Portugal), from 1557 to 1836. It will focus on examining the role of transaction costs and risk in contract selection. It is documented that from the sixteenth century to the early nineteenth century, the municipality of Coimbra used three types of contracts with private contractors, namely fixed-price, salary, and sharing contracts, although most were of the fixed-price type. The central question explored here is the influence of transaction costs and risk on the decision-making process for indirect collection contracts. The findings indicate that the municipality aimed to minimize both transaction costs and risk, leading mainly to the use of fixed-price contracts. In this arrangement, the agents (revenue contractors) bore responsibility for both the risk and the costs associated with the collection process. From 1739 onwards, the municipality shifted to direct rather than indirect collection methods, introducing additional constraints. (CODIGOS JEL: D86; N23; N83; N93)*

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1. Introduction

Contracts have been very important throughout history as a means of regulating human activities, particularly within the economy (Dyck and Wruck, 1998, pp. 266–267; Barnett, 2003; Bolton and Dewatripont, 2004; Roppo, 2009; Azevedo, 2019). This article aims to analyse contracts for the collection of municipal revenues in Coimbra (Portugal) between 1557 and 1836. These contracts (for indirect collection, under a monopoly) were documents signed by the city council and private contractors, who collected the revenues on behalf of the municipality. In other words, these individuals were not part of the municipality's salaried staff and the contract therefore involved delegating competencies, power, and obligations. Studies on contracts in historical contexts are important because they always involve a negotiated exchange between two parties, in which each agrees to perform a delegated task (Berman, 1983, p. 432).

This article contributes to the discussion on revenue collection mechanisms. The inability to collect revenue was a common issue in various types of organizations throughout Early Modern Europe. In France, for instance, taxes were collected for the Crown by private contractors (White, 2004). The use of private individuals for revenue collection was also very popular with the Spanish monarchy. The need arose from the government's inability to collect its own revenues (Pérez Álvarez, 1999; Campos Lucena, 2009, p. 168).

Throughout the Early Modern period it was also common for Spanish municipalities to use private contractors for revenue collection. These contractors paid a fixed amount to the municipality, covered the collection expenses, and profited from everything they collected above the agreed amount (López Nevot, 1995, p. 797; González Beltrán, 1999; Campos Lucena, 2009, p. 173; Bernardo Ares, 2015). Since it was difficult to control the contractors involved in this process and they often exploited the population by collecting more than they should, the system was changed to direct collection (using municipal officials) in the eighteenth century (Campos Lucena, 2009, pp. 174–175).

This system was also the norm in Portugal during the Early Modern period, as Portuguese organisations, in particular the very large ones, were unable or unwilling to collect all their income. Indirect collection was used by the nobility (Monteiro, 2003), the religious houses (Neto, 2018), the state (Pedreira, 1992, 1996) and the University of Coimbra (Fonseca, 1995; Neto, 1998). The business of contracting out the revenues of these organisations was considered very lucrative and therefore attractive for private individuals (White, 2004, pp. 648–655; Machado, 2005, p. 169; Salvado, 2019, pp. 144–145).

Municipalities also followed this trend. The practice of contractualising the revenues of municipalities was already in place in the fifteenth century in Porto (Gonçalves, 1987, p. 48). In the sixteenth and seventeenth centuries it was well established in important municipalities, such as those of Porto and Coimbra (Silva, 1985; Barbosa, Moutinho and Silva, 2022), and by the eighteenth century it was the main collection model for virtually all municipalities (Soares 1984, 96; Mota 1990, 117; Capela 1995, 202–203, 217; Ribeiro 1998, 212; Fernandes 1999, 65–66; Fonseca 2002, 359; Barbosa 2017, 196–200).

Eduardo Mota argues that the problem lay in the absence of any efficient bureaucratic mechanism for collecting both royal taxes and municipal revenues. The solution was to delegate this responsibility: in the second half of the eighteenth century, this practice was still the norm in the municipality of Gouveia (Mota, 1990, pp. 101–120).

Teresa Fonseca has analysed indirect collection in the municipality of Évora (1750-1820), emphasizing both the perspective of the city council and that of the contractor, who would be motivated by the prospect of significant profits. In some cases, powerful business groups monopolized the contracting process. However, not all bidders for municipal contracts were wealthy businesspeople. In the author's opinion, local industry and trade were prosperous enough to accumulate sufficient capital to invest in these contracts, which typically represented a parallel activity to the contractor's main occupation (Fonseca, 2002, p. 375).

The same author also states that the interest shown by both wealthy and poor contractors confirms the profitability of this business. However, it also affected the financial resources of municipalities during the *Ancien Regime*, since contractors absorbed an important part of the revenue (Fonseca, 2002, p. 375).

This research aims to contribute to the literature on history and economics by presenting a case study that involves a systematic analysis of contracts used over several centuries. Given the similarities between Portuguese municipalities, it helps to provide an understanding of Portuguese municipal institutions. Furthermore, although some studies have analysed the collection mechanisms (albeit briefly), the contracts operating within indirect collection have not been thoroughly analysed. Finally, it aims to contribute to the literature by examining the possible connections between contract structure, risk management, agents and contract choice.

It is known that at the end of the eighteenth and the beginning of the nineteenth centuries Coimbra city council used three types of contracts with private contractors: fixed-price, salary and sharing contracts (Barbosa, 2019, 2020). The central question addressed in this study concerns the role of transaction costs and risk in the choice between direct and indirect collection and in contract choice. It also aims to explore why the municipality needed to use private revenue contractors, whether the configuration of the contracts remained stable or varied over time, and the most important factors that determined the contract.

The municipality of Coimbra was selected due to the abundance of empirical evidence of municipal contracts, and the fact that the three types of contracts were used, which was not common practice in many city councils, thus allowing for comparisons between the different contract types. The analysis therefore focuses on municipal revenue contract farming.

The study is situated within the theoretical framework of new economic institutionalism, focusing in particular on contract and agency theories. It aims to address a gap in historiography, given that there is limited research on transaction costs and risk¹, especially with regard to public organizations during the Early Modern period. Revenue collection processes are often overlooked and there are even fewer systematic analyses of contracts. This study therefore seeks to examine the reasons behind the choice of contracts utilized by the municipality of Coimbra and their defining characteristics.

The study shifts the focus from typical contract studies, such as those involving firm management and agriculture, to explore contracts that enabled private contractors to collect municipal revenues (Huang, 1973; Stiglitz, 1974; Hsiao, 1975; Reid, 1975; Allen and Lueck, 1992, 1999; Kiser, 1994; Miller, 2005; Fehr, Klein and Schmidt, 2007; Andrés Ucendo and Limberger, 2012, pp. 2–3; Yun-Casalilla and O'Brien, 2012, p. 45; Kiser and Levi, 2015; Monson and Scheidel, 2015; Alfani and Tullio, 2019, p. 34). Emphasizing the significance of contracts, transaction costs, and risk-incentive balance, it argues that these factors crucially influence contract selection.

There may have been various reasons for delegating collection duties, including leveraging increasing returns associated with the division of labour, the time constraints or inability of the principal, and other forms of bounded rationality when facing complex problems (Laffont and Martimort, 2001, p. 37). However, based on the contract clauses, it may be assumed that the primary drivers are risk and transaction costs. Contract theory extensively addresses the structuring of contracts to mitigate risk in the face of challenges to incentive (Rees, 1985, p. 3; Allen and Lueck, 1999, p. 704; Brosseau and Glachant, 2002). Nevertheless, while transaction costs often take precedence, risk can also be a decisive factor in contract selection (Stead, 2004). In our view, the preference for fixed-amount contracts extends beyond this, representing a transfer of risk from the principal to the agent.

Contracts entail significant execution expenses and encompass numerous transaction costs, which are pivotal aspects of contract dynamics. While contract definition aids in mitigating these costs, they remain a crucial consideration (Williamson, 1981, p. 572). Transaction costs include negotiation, information gathering, measurement, supervision, enforcement, and political action, influencing individual responses to economic shifts (Libecap, 1986, p. 228; Furubotn and Richter, 2005, p. 36). In the specific case examined here, transaction costs primarily pertain to contract enforcement expenses. The city council anticipated these costs, resulting in a preference for the fixed-price contract, which effectively transferred these expenses to the agent.

In agency relationships it is usually impossible for either the principal or the agent to ensure that the agent consistently makes decisions that reflect the principal's interests. Consequently, both parties normally incur positive control and bonding costs (Jensen and Meckling, 1976, pp. 308–309; Eisenhardt, 1989, p. 58). We would argue that in municipal contracts, higher agent risk accentuates the importance of bonding costs. As a result, fixed-amount contracts tend to present elaborate bonding provisions, while share contracts make only brief reference to them, and salary contracts may not require them at all.

In order to address these questions, the study is organized as follows: the first section, aims to provide an overview of the municipality of Coimbra in the Early Modern age, while the second section details the three types of contracts used by the Coimbra city council for revenue collection, and the third section analyses the contracts in the light of the new institutional economics literature.

2. Municipal finances in Early Modern Coimbra: contracts, revenue, and financial challenges.

Municipalities were important in the administration of the Portuguese territory, due to the decentralisation of the country, the lack of any administrative and bureaucratic structure, and the limited means of communication and transport. Given all these constraints, the central power was forced to delegate many responsibilities to the municipalities (Magalhães, 1994, 2011; Monteiro, 1996). Hence, before analysing the contract, it is important to understand the nature of the organization within which they operated.

Portuguese historiography has identified the main duties of municipalities. Firstly, they had to provide first-instance justice via a judge elected by the Crown (or locally elected, in smaller municipalities), and collect royal and municipal taxes. In addition, the organisation of the militia, specifically the election of officers (captains and sergeants) is mentioned as one of the most important functions (Magalhães, 1994; Monteiro 1996; Magalhães 2011). The supply of essential products and control of economic activities was another key responsibility, resulting in a policy of economic interventionism that saw the local authorities become involved in economic life, by preventing the free circulation of goods and fixing prices and wages. They also regulated artisanal and agricultural life by creating laws (Magalhães, 1994; Monteiro 1996; Magalhães 2011) (Vidigal, 1989, p. 71).

Municipal revenues in the Early Modern era could vary, depending on factors such as the size of the municipality, its population, and its economic activities. These incomes could come from fines (for non-compliance with municipal laws), rural and urban properties, fees and taxes (on commerce and consumption), sales permits, rights (tolls, passage, stoppage, etc.) and contributions from smaller municipalities from its hinterland (Soares, 1984; Mota, 1990; Rodrigues, 1992; Capela, 1995; Fonseca, 2002; Barbosa, 2019, 2020).

All aspects of municipal power were dependent on contracts, including contracts for the supply of the city, for the collection of royal taxes, and for the appointment of military officers. This study aims to analyse a particular type of contract associated with the collection of municipal revenues, which could be gathered either by direct collection, using municipal officers, or by indirect collection (via private collectors). The contracts defined a set of rules and responsibilities that were essential to the work. The indirect collection mechanism was the preferred model in Portuguese municipalities (Table 1) and although not much is known about the subject, most municipalities used a fixed-price model. The contract for the collection of municipal revenues is therefore the central focus of the historiographic discussion in this article and is analysed in the light of the contributions from the new institutional economics.

One of the most important institutional aspects concerns the contracts between the municipality and the private parties that collected its revenues. These contracts were vital because they relieved the municipality of the responsibility and expense of collecting revenues and enabled the private parties to earn extra income (Soares, 2004a). Their importance is also re-

flected in the total revenue collected through this indirect collection mechanism: as a general rule, indirect collection always represented more than half of the municipality's total revenue (Barbosa, 2019, 2020).

TABLE 1. Indirect collection share in Portuguese municipalities

Municipality	Period	Indirect collection share (%)
Viseu	1770-1778	98.22
Alter do Chão	1775-1797	96.16
Gouveia	1780-1799	86.00
Penafiel	1782-1820	84.77
Viana do Castelo	1740-1770	89.18
Évora	1750-1820	81.00
Vila Nova de Cerveira	1786-1831	74.60
Coimbra	1557-1836	62.00
Lisbon	1779-1831	42.50

SOURCES: (Barbosa, 2023b).

More specifically, throughout the Early Modern period most of the revenue of the municipality of Coimbra consisted of fines (mainly incurred by merchants, livestock breeders, and farmers) for contravening municipal laws. The most important sources of revenue also included fees for the inspection of weights and measures (to avoid mistakes or corruption), rural and urban property (mainly shops), licences required by vendors, and consumption taxes.

TABLE 2. Coimbra City Council Revenues, 1557-1836

Revenues	%
Fines	66.31
Fees	9.56
Other	7.18
Property	8.51
Licences	4.92
Taxes on consumption	3.53
Total	100

SOURCE: Arquivo Histórico Municipal de Coimbra [AHMC] (Coimbra Municipal Historical Archive), Livros de Receita e Despesa (Revenue and expenditure books), 1557-1836.

Approximately half of the total revenue collected by the indirect method corresponded to fines (Table 2), which were more difficult to collect due to opposition from the people (Barbosa, 2020), and fees for the inspection of weights and measures.

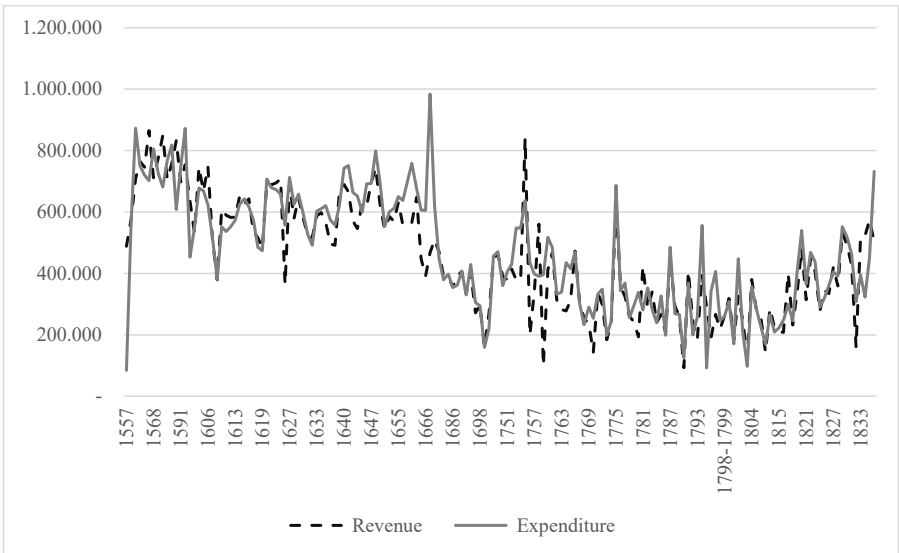
TABLE 3. Coimbra City Council Indirect Collection Revenue, 1557-1836

Revenue	%
Fines on commerce	49.25
Fines on livestock grazing	25.78
Fees	15.58
Taxes on consumption	5.75
Other	3.65
Total	100

SOURCE: AHMC, *Livros de Receita e Despesa*, 1557-1836.

Municipal revenue and expenditure underwent long (but not continuous) decline that ended in the post-Napoleonic War period (Figure 1). The post-war period led to a financial recovery, but it never reached the heights of the sixteenth century. The situation was only reversed with the reforms introduced by liberalism in the late 1830s.

FIGURE 1. Real revenue and expenditure, 1557-1836 (in Portuguese réis of 1660)²

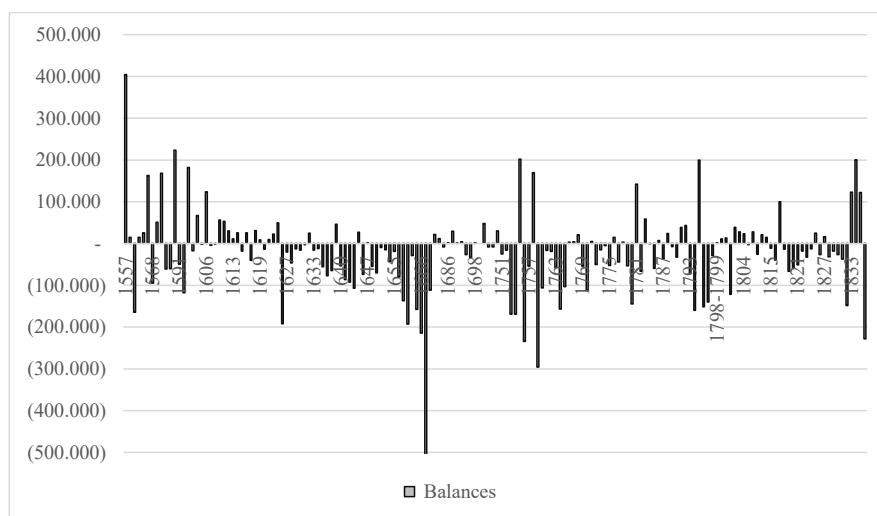


SOURCE: AHMC, *Livros de Receita e Despesa*, 1557-1836.

As far as balances are concerned (Figure 2), of the 166 samples available, 39% were positive balances, 60% were negative balances and 1% were neither positive nor negative. However, if the consolidated balances are taken into account (which include the profits carried over from previous years and used to pay off expenses), the results show 49% positive balances, 49%

negative balances and 2% zero balances. This demonstrates a tight and difficult management strategy, which nevertheless prevented the municipality from incurring major debts. There were periods with more positive balances, such as between 1557 and 1625, and others with more negative balances, such as between 1627 and 1663.

FIGURE 2. City council balances, 1557-1836 (in Portuguese *réis* of 1660)



SOURCE: AHMC, *Livros de Receita e Despesa*, 1557-1836.

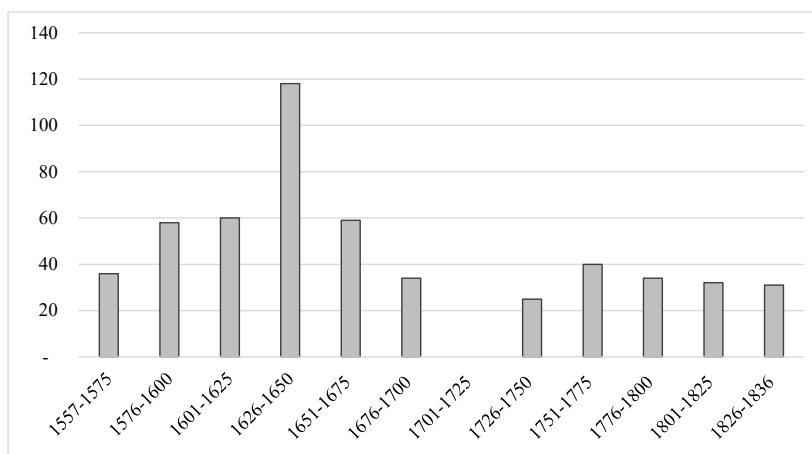
The prolonged decline of the municipalities, most evident from the mid seventeenth century onwards, stemmed from a combination of conjunctural and structural factors. Among the conjunctural causes, the higher taxes imposed by the Crown since 1640 played a pivotal role. War-induced taxes, such as the *décima* on income and property, were introduced, together with increases in existing taxes, including the *sisa* on commercial transactions. A new local tax, the *usual*, further burdened the populace, affecting the consumption of essential goods such as wine, meat, fish, and salt. These tax increases met resistance, impeding payments and complicating the contractors' tasks. The latter part of the seventeenth century witnessed a citywide financial crisis due to currency shortages, which disrupted the credit market, escalated debts, and increased bankruptcies, profoundly affecting the municipal contract market (Soares, 2004b, pp. 241–249; Barbosa, 2023b).

Structural factors also contributed significantly to the municipal decline. In particular, collusion between tax contractors and municipal officials, which influenced contract auctions, intensified from the mid-seventeenth century onwards. Concurrently, contractors engaged in abuses of power, by imposing excessive fines, while *almoçaria* judges overlooked these transgressions and were complicit in the wrongdoing. By the early eighteenth century,

oversight by the municipal council increased, following the establishment of an economic court to rule on offences, thus exercising control over the streets of the city. This regulatory intervention reduced the value of the contracts, as potential contractors sought less municipal interference. In addition, the collection of fines by private contractors dwindled over time. In 1739, the primary contract for *almotaçaria* fines on commerce was restricted to the city, with fines in the hinterland collected by local council judges, who forwarded the funds to Coimbra after local adjudication (Soares, 2004b, p. 102; Barbosa, 2023b).

Significantly, this shift away from outsourcing to private individuals in favour of using local judges, thus marking a transition from indirect to direct revenue collection mechanisms, began in 1739, a pivotal year for the municipality. The *Pacto Fidalgo*, established in this year, saw the local aristocracy transfer the municipal financial challenges to the ‘lower’ classes, particularly merchants, literate people, and professionals associated with contract farming. Leveraging the existing legislation, they consolidated their power in the municipal council, barring individuals from other sectors of society from being appointed to senior positions such as alderman (Soares, 2004b; Ribeiro, 2012). Reducing the scope of revenue collection and employing local judges for revenue collection, in particular fines, featured prominently in their agenda (Soares, 2004c, p. 109). Consequently, direct collection increased without a commensurate rise in municipal human resources (Figure 3). In additionally, real municipal salaries declined significantly throughout the eighteenth and early nineteenth centuries (Barbosa, 2023b).

FIGURE 3. Employees (city council officers and others) paid by the city council of Coimbra, 1557-1836



Source: AHMC, *Livros de Receita e Despesa*, 1557-1836

SOURCE: AHMC, *Livros de Receita e Despesa*, 1557-1836

The recover of revenue only became possible in the early nineteenth century. During this period, there was an increase in the number of fixed-price contracts, and share contracts (the means by which many fines were collected at the time) were introduced with a 33% share of the output allocated to the collector. In both cases, the municipality used outsourcing. Hence, it once again opted for more efficient types of contract, which had an impact on its revenue (Barbosa, 2023b).

Based on the limited information available, we know that these businesses could provide very high incomes. In the case of the leasing of customs duties in Bahia, in Brazil (1739-1741), studied by João Salvado (Salvado, 2019, pp. 144–145), the gross balance for investors was 35.7%. In France, some sources on tax collection contracts analysed by Eugene White reveal variable balances of between 5% and 25% (White, 2004, pp. 648–655). The case studied by Margarida Machado, concerning a commercial trading house responsible for collecting tithes in the Azores, Portugal, demonstrates profits ranging from 21% to 52.8% (Machado, 2005, p. 169).

In Portugal, the accounts of the royal tax farmers for the *real de água* (a tax on the consumption of meat and wine) in Coimbra, between 1790 and 1793 show that the gross profit of the tax farmers accounted for 34% of the total collected. After deducting operational costs and other expenses, their net balance was 27% (Barbosa, 2023a, p. 138).

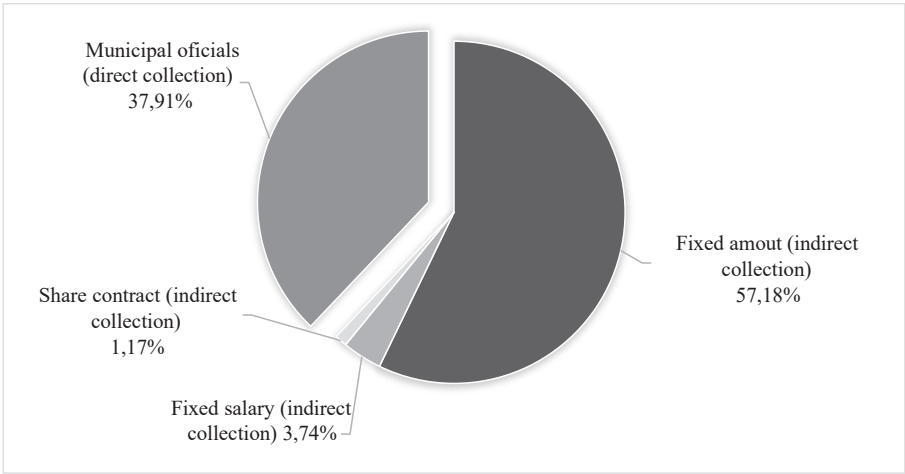
Having analysed the organizational and financial context for this study, the following section will examine the composition of the contracts, and in particular the conditions attached to them.

3. Revenue collection contracts in the municipality of Coimbra (late sixteenth to early nineteenth century).

Throughout the Early Modern era, both indirect (with fixed-price, salary, or share contracts) and direct collection (based on municipal officers) were used simultaneously for municipal revenues in Coimbra (Figure 4). Regardless of the collection method, three types of contracts could be used: fixed-price contracts, profit-sharing contracts, and fixed-salary contracts. Typically, direct collection was carried out by salaried officials, while indirect collection mainly involved fixed-price contracts. In some specific cases, indirect collection also included salaried and profit-sharing contracts.

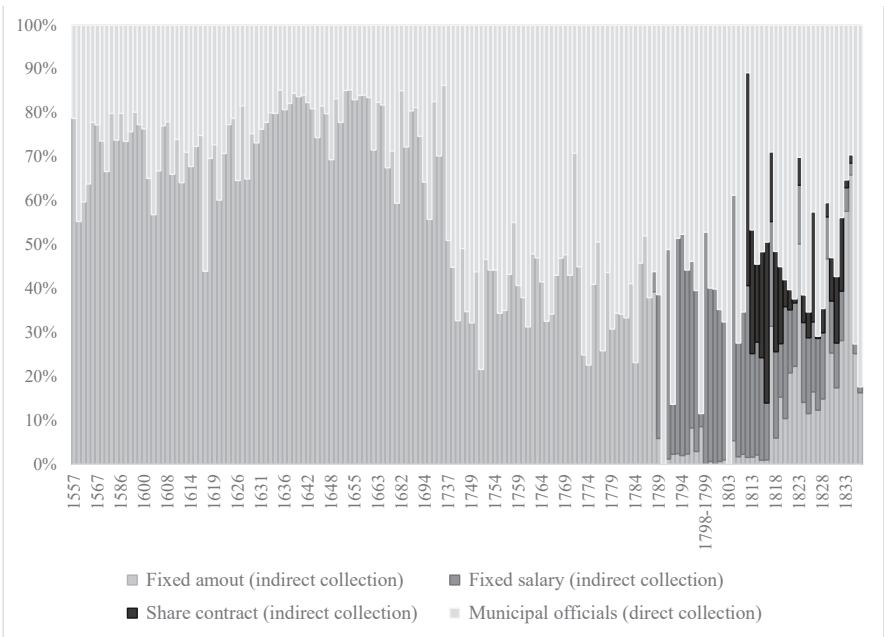
As previously mentioned, and shown in the graph below, the municipality began to make great use of direct collection from 1739 onwards, a situation that lasted almost until the end of the period under analysis. However, starting in the 1790s, a wider range of contracts began to emerge, such as those involving salaried private contractors and, from 1812 onwards, share contracts (also involving private contractors). In 1818, fixed-amount contracts were also revived (Barbosa, 2023b).

FIGURE 4. Percentage of total revenue collected by type of collection and contract, 1575-1836



SOURCE: AHMC, *Livros de Notas; Livros de Arrematações (1575-1836)* (Notebooks; Auction Books).

FIGURE 5. Coimbra city council collection methods and contracts, 1557-1836



SOURCE: AHMC, *Livros de Receita e Despesa, 1557-1836*

The contracts that will be analysed correspond to documents used by the municipality of Coimbra to regulate the transfer of competencies for the collection of municipal revenue. The transfer, to some extent, removed this responsibility from the municipality and delegated it to a private individual, or group of individuals (indirect collection)³. The contract, as analysed here and as preserved in the Coimbra Municipal Historical Archive records, could correspond to a set of documents and procedures that had to be carried out to make this transfer of responsibilities possible.

3.1 The fixed-price contract.

The most common type of contract used for indirect collection was the fixed-price model⁴, in which the contractor paid a fixed price to the city council and profited from everything he collected above that amount. The contractor was chosen by means of an auction: the bidder that offered the highest price would sign the contract. The process began with notification of the opening of the bidding period, which would be announced in the city by the municipal town porter. The interested parties would then submit their bids, which was a standard practice in an auction (Barbosa, 2019).

The contract could include the following documents: the *autos de lanço* (documents containing the bids); *autos de arrematação* (documents proving that an individual or group had won the auction for the collection of the lease); *autos de obrigação e fiança* (a document in which the winner of the auction, his partners and guarantors presented a declaration specifying all the properties that constituted the collateral and the contractors agreed to the conditions and promised to comply with them); and the *autos de quita* (documents drawn up at the end of the contract to prove that the contractor had complied with the conditions and had been discharged by the municipality).

The contract began with a record of the date and place where it was signed (normally at the Town Hall Registry or the clerk's house). It then stated the name of the contracted party and its partners and/or guarantors, followed by the duration of the contract (usually one or two years), the amount to be paid per year (which had to be in cash), and whether an *ordinária* existed or not (extra payments, sometimes in kind, such as offering wax to the council or bed sheets for royal officers staying in Coimbra for some time). It also stipulated the number of instalments in which the contract would be paid and the deadlines were set (varying between two or four times a year). The following are the conditions of the contract, based on analysis of several contracts (as previously noted, contracts were remarkably stable over time), which may provide a better understanding of the nature.

1. Revenue should be collected in the same way as in the previous contract and with the same conditions⁵.
2. Contractors must make direct payments to the city treasurer (some contracts mention paying at the Town Hall) within the stipulated deadlines.
3. No losses (collections below the contracted value were the contractor's responsibility).

4. All expenses associated with collection (salaries, travels, bureaucracy, taxes, etc.) are borne by the contractor.
5. The contractor cannot cease collecting until the contract ends.
6. If the contractor fails to pay the agreed instalments, the contract will immediately be removed by the city council and handed over to another person; any collection losses during this transfer period will be covered by confiscation of the contractor's assets.
7. Contractors cannot offer, sell, transfer, or trade... the contract or any part of it, especially to those in debt to the municipality; if they do, they will pay a fine of 500 *cruzados* - 200 000 *réis* (half to the city council and half to their accuser).
8. Contractors are obliged to accept the authority of the city judge, recognizing him as the exclusive jurisdiction in all their conflicts. Contractors must accept the judge as the confiscator of debtor's assets (and, in his absence, the alderman).
9. (Eighteenth and nineteenth-century change:) contractors cannot allege any 'ordinary, or extraordinary, usual, or unusual justification' for any loss incurred during the contract. Contractors renounce every single justification and declare themselves solely responsible for any losses.
10. Contractors cannot present any kind of privileges, laws, rights, or justifications (regardless of their nature even if originating from the Crown) that would prevent them from complying with the provisions of the contract or that could hinder confiscation.

This is followed by another important aspect of the contract, namely the presentation of the guarantors, and the assets that constitute the collateral and belong to the contractor, its partners, and guarantors. The collateral did not have to be declared at the time of the auction or on signing the contract. However, the contractor had to do so within a short period of time, otherwise the contract would be withdrawn. The rules relating to collateral were the following:

11. The value of the collateral must be equal or superior to that of the price of the contract.
12. All movable and immovable assets that the contractors might acquire in the future must also be pledged in case of need.
13. The assets must belong to the contracting parties (not third parties) and must be "free" (i.e. they cannot be included in other contracts as collateral, nor be subject to confiscation processes).
14. Contractors are required to reveal all the assets in case of confiscation.

In the event of default, the contractor, partners, and guarantors were subject to confiscation procedures. The costs associated with the process were the responsibility of the contractors. Each person involved in the confiscation would pay 300 *réis* per day.

The contract ended with the contractor, partners, and guarantors swearing before witnesses that they accepted the contract of their own free will, declaring that they considered it to be 'fair and reasonable'.

3.2 Share and salary contracts

The share contract was a simpler document. Although the initial structure was the same in terms of the information provided, such as the date and location. The major difference lay in the description of the payment, in which the municipality stated that it had ‘arbitrated’ a share of whatever it collected. For example, a 1703 contract stated that this percentage would be 25% for the contractor⁶. The contract also provided some information about the way in which the contractors should collect the revenues. In this specific case, it regulated the collection of fines, meaning that the contractors had to open conviction proceedings and other legal procedures against offenders, presenting proof of all the fines to the city council. They had to name the assets of that would be seized, if necessary, and verbally announce the days on which the seized property would be sold at public auction. Share contracts did not have the same conditions as the fixed-price contract. However, they stated that the contractor, partners, and guarantors were obliged to pledge all their assets to cover any losses that the city council might incur.

With respect to the fixed-salary contracts, these were not recorded in the city council’s archives. They were essentially verbal agreements and one of the few known clauses stated that the contractors would receive a salary set by the municipality and had to submit accounts at the end of the year (Soares 2004b, III:104; JL dos S. Barbosa 2020, 118–119, 127).

4. Transaction costs, risk, and incentive in Coimbra municipal contracts.

The first aspect to highlight regarding the analysis of contracts is that they were based on a principal-agent model. The principal (the city council) delegated a task (the collection of part of its revenues) to certain agents (the contractors, which involved the delegation of some authority and responsibilities, Jensen and Meckling, 1976, pp. 308–309).

It is assumed that this specific principal-agent model has some particularities: the principal is risk averse (due to its nature as a public organization); the agent’s effort is not fully observable; the principal could not avoid its duties; the collection of revenue could be carried out by the principal but it preferred, for long periods of time, to delegate most of this responsibility to the agent; the product of the collection was variable, depending on the effort of the agent but also on exogenous forces, such as crises. On the basis of these assumptions, we will endeavour to understand what each of the contracts had to offer for the city council and the agent. The fact that the municipality was a public organization and, as previously noted, always had difficulties in balancing its accounts makes it risk averse. In the following pages, the contracts will be examined in greater detail.

The first contract under analysis is a fixed-price contract, a type of contract that establishes an amount to be paid annually by the agent to the principal, with the agent profiting from

whatever he collects above this amount.

The contractor selection process mirrored an English auction, in which the highest bid secures the contract (Klemperer, 2004, p. 12; Milgrom, 2004, p. 11). Auctions operate under explicit rules to determine prices based on participant bids, aiming either to maximize the price or evaluate products with ambiguous values. Given the uncertain nature of revenues such as fines collected by the municipality, auctions probably aimed to establish prices that were difficult to determine in advance. With limited human resources and specific roles, the municipality was likely to face a high information asymmetry with regard to the contractors (Myerson, 1981; Milgrom and Weber, 1982; McAfee and McMillan, 1986, 1987; Milgrom, 1989, 2004).

The auction allowed various agents (in this case, private contractors) to submit bids for performing a service, thus creating competition and increasing the likelihood that the winner would be the one most capable of providing the service or, in other words, the one who was most efficient (Myerson, 1981; Milgrom and Weber, 1982; McAfee and McMillan, 1986, 1987; Milgrom, 1989, 2004).

The competition in the auction was affected by incomplete information, emotions, competitiveness, ambition, personal preferences, the preferences of others, the intrinsic qualities of the auctioned item or service, and misjudgement of the value of the auctioned item that could raise the value of the contract (McAfee and McMillan, 1987, pp. 704–707; Milgrom, 1989, pp. 3–6).

Competition for the contract was therefore crucial to establishing the price. There is little information available on auctions, but it is known that competition was not very high in the late eighteenth century. In the contract for agriculture fines in the hinterland of Coimbra, it was common to have only one bidder for several years. The challenging situation and the difficulties involved in collection discouraged contractors. Moreover, the incentives that had existed in the past were no longer present (Barbosa, 2020, p. 117).

It is important to ascertain whether contractors were willing to sign new contracts after the first one (assuming that they had the opportunity) and the data on contractors who signed second contracts is significant. The following table indicates how many contracts were signed by the contractors. The contracts under analysis are *almotaçaria* (mostly trade-related fines), *guarda do campo* (agricultural fines in the hinterland), and *medidagem de Condeixa* (fees for the circulation of animals and carriages).

In the first case, 70% of the contractors signed only one contract and 30% more than two. In the second example, nearly 79% of the contractors signed only one contract, and 21% more than two. In the third example, involving fees, 60% signed only one contract, while 40% signed in two or more.

It can therefore be seen that it was not very common to repeat a contract, particularly in the case of fines. Given the relatively low competition for these revenues, it would appear that the incentives for contractors were not attractive enough, due to the difficulties in undertaking the task. From this information, it can be inferred that contracts were not highly competitive and the fact that the majority of contractors did not renew their contracts suggests that

the business may not have been very profitable.

TABLE 5. Number of contracts signed by each agent

<i>Almotaçaria (1608-1777)</i>	No.	%
1 contract	26	70.3
2 contracts	8	21.6
3 contracts	2	5.4
5 contracts	1	2.7
Total	37	100
<i>Guarda do campo (1610-1787)</i>	No.	%
1 contract	41	78.85
2 contracts	7	13.46
3 contracts	1	1.92
4 contracts	2	3.85
6 contracts	1	1.92
Total	52	100
<i>Medidagem de Condeixa (1750-1775)</i>	No.	%
1 contract	15	60
2 contracts	6	24
3 contracts	1	4
5 contracts	1	4
6 contracts	1	4
10 contracts	1	4
Total	25	100

SOURCE: AHMC, *Notas*, 1610-1800.

Moving on to the analysis of the contract clauses, it can be seen that most of the clauses presented in the previous section are related to both risk and transaction costs. We assume that these two factors cannot be separated in this case. Regarding risk, it must be highlighted that the principal retains a fixed price and the agent bears all the risk, if the principal was risk-neutral, they would bear all the risk, but this is not the case (Rees, 1985, p. 7).

A fixed-price contract can be issued on a performance specification basis, with the agent submitting a single sum for all the work. Payments can be made on a calendar basis or when certain targets are achieved. The fixed-price contract is suitable when the project performance specifications are clear and for projects of a repetitive nature, which was the case here. The contractor assumes all risks associated with the changes in amounts or conditions (Wamuziri and Seywright, 2005, p. 1176). With the 'no losses' policy, the principal delegates all the responsibility and risks associated with collection to the agent.

In fixed-price contracts the agents are selected by auction and the contract awarded, in most cases, to the bidder with the offer that is most financially advantageous for the principal. In this case, the agent needs to present secure collateral and guarantors, but also expertise⁷. If there are no changes, the agent pays the principal the fixed price, regardless of the total costs incurred by the agent in performing the service. If these costs prove to be higher than the agreed fixed price, the agent is responsible for the risk of incurring losses (Wamuziri and Seywright, 2005, p. 1176).

In this contract, the agent is limited by termination date, which cannot occur before the end of the agreed time, on pain of confiscation of assets. This ensures that they will continue trying to collect as much as possible, even in very unfavourable situations, because they have assumed the risk (Sappington, 1991, p. 50). External disturbances that may influence the results cannot be used as an argument, a potential major problem is avoided by a clause that removes the possibility of the agent providing any justification (Furubotn and Richter, 2005, p. 27).

It is important to highlight the clauses relating to privileges and submission to the authority of the city council judge. The municipality wanted to guarantee that the contractors could not use any type of benefit that could jeopardise the viability of the contract. Moreover, in terms of conflict resolution, the agent was subject to municipal authority in the figure of its judge. Among the control mechanisms available to the municipality was the work of its officials, particularly the *juizes de almotaçaria* (judges responsible for local law enforcement) (Loureiro, 1942; Barbosa, 2019). As previously mentioned, in the late seventeenth and early eighteenth centuries there was a specific court for overseeing the actions of contractors (Soares, 2004b, p. 102). However, there is no information available on the actual effectiveness of these mechanisms.

Clauses related to collateral are also important from a risk perspective. Although several clauses allocate the risk to the agent, there was one type of risk that would never disappear: the agent's bankruptcy. To protect against this, the contract provides for the submission of guarantors and collateral, which act as a bidding cost. In other words, in the event of any default, the principal has a set of assets that can be seized for later sale. In a well-executed bankruptcy case, the outcome of the bankruptcy would be the same as the outcome if the contract had been performed, that is, the proceeds of the bankruptcy would be equal to the contract price (Hart, 1995, pp. 157–159).

Moreover, there are also transaction costs associated with the process of seizing the collateral. The contract provides for the elimination of some of these costs by presenting guarantors, the nature of the collateral, its location, its value, etc. The debtor was also liable for all costs associated with the execution of the pledge. This was the method chosen by principal to safeguard itself from the maximum risk, namely the risk of bankruptcy.

The fixed-price system did not require the same supervision as the other forms of contract. The city council simply needed to ensure that the contractor delivered the appropriate share of the output. Under Clause 4, the agent is responsible for all costs associated with collection, which eliminates the vast majority of transaction costs on the principal's side (Stiglitz, 1974,

p. 249; Furubotn and Richter, 2005, p. 54). In other words, in a fixed-price contract, the agent is motivated to reduce costs to the lowest practicable level and maximise profit (Allen and Lueck, 1992, p. 402; Wamuziri and Seywright, 2005, p. 1177). Based on the information provided, we believe that the contractors would necessarily be risk neutral, by accepting a type of contract in which they assumed all the risks associated with collection. If they had been risk averse, the result would be a shared contract (Stiglitz, 1974; Rees, 1985; Holmstrom and Milgrom, 1991; White, 2004).

In sum, most of the clauses refer to transaction costs but also risk-related concerns and, in my opinion, the two factors explain the same phenomenon. The fact that risk is so important is indicative of the municipality's great concern to ensure the best collection with the least possible exposure. Therefore, this model reinforces the idea that the municipality was risk averse and the agent risk neutral.

Share contracts determine the profits for each party. The distinctive feature of a share contract is the continuing incentive for both principal and agent to maximise efficient collection (Reid, 1975, p. 437), thus requiring greater intervention from the principal. The greater the profit from the agent's service, the more both parties earn according to the established quota. As the agent earns a smaller percentage of the total, he uses fewer inputs (especially effort), which in some situations could mean worse results. Moreover, in share contracts, the output has to be measured and divided, which implies more monitoring costs (Allen and Lueck, 1992, p. 402) and, in the case of a fine collection contract, means accounting for its total. The higher the sharing costs, the less preference there will be for sharing contracts, hence these contracts are more attractive when the sharing costs are lower (Allen and Lueck, 1992, pp. 405–409). The municipality therefore began using officials (such as the *juizes da almotaçaria*) to supervise the work of the revenue collectors (Soares, 2004b, p. 11). Essentially, this contract requires greater monitoring costs and, ultimately, greater transaction costs.

In addition, with this contract, there is no control over the result. It is more important to control the behaviour of the agent, which was more difficult, given that contractors collected in the municipality and in the hinterland. One of the methods used by the municipality to monitor performance was the requirement for proof of fines, as stipulated in the contract. In other words, the agent had to present a set of documents that legitimised and proved his action. The 'ultimate risk' of the agent's bankruptcy was also present and was covered by the bidding costs (collateral and guarantors). There are fewer details available for the bidding costs, perhaps because this contract was rarer or because the city council felt the risk of bankruptcy was lower.

This type of contract was used on several occasions, even though it was not the preferred choice. Considering that the agent was risk neutral and the principal risk averse, this contract would not be so common, which means that some risk averse agents may have been motivated to participate in the business through the inclusion of profit-sharing contracts.

Salary contracts were verbal agreements. One of the few known clauses stated that the contractors would receive a salary decided by the municipality and had to submit their accounts at the end of the year (Soares, 2004b, p. 104; Barbosa, 2020, pp. 118–119, 127). In the case of

this contract, we can only evaluate its ‘silences’. As the transaction costs and risk are practically all on the principal’s side, there is no need for a written contract and, for this reason there are also no guarantors or collateral.

In sum, the analysis of the literature seems to indicate a strong inclination towards the following assumptions. Firstly, fixed-salary contracts are safer for the agents because they represent fewer risks for them, yet offer fewer incentives for the same reason, i.e. even if they make a lot of effort, their profit will still be the same. In salary contracts, the agents have fewer or no costs, whereas fixed-price contracts imply the opposite: the agents face a higher risk (because they must pay a fixed annual amount to the principal), but also a higher incentive (anything they earn above this amount is their profit), and, in this case, the inherent costs (in particular, the transaction costs) are transferred to the agents. Moreover, in both types of contract, the positioning of the principal is always opposite to that of the agents (when the risk or costs of one increases, that of the other decreases - someone always has to bear the risk and costs). Finally, sharing contracts are a compromise between the two previous types of contract, as long as the principal and the agent have the same attitude towards risk (risk and product sharing is defined by the quota that determines the percentage of each party) (Huang, 1973; Stiglitz, 1974; Hsiao, 1975; Rees, 1985; Holmstrom and Milgrom, 1991; Sappington, 1991; Brosseau and Glachant, 2002; Miller, 2005; Wamuziri and Seywright, 2005).

TABLE 6. Risk, incentive, and costs in municipal contracts

Type of contract	Agent risk	Incentives for the agent	Costs for the agent	Risk for the principal	Costs for the principal
Fixed-salary	Lower	Lower	Lower	Higher	Higher
Share	Shared	Shared	Shared	Shared	Shared
Fixed-price	Higher	Higher	Higher	Lower	Lower

SOURCE: See text.

In this study it becomes evident that despite high transaction costs and the genuine inability of the municipalities to create an efficient revenue collection structure (López Nevot, 1995, p. 797; Campos Lucena, 2009, p. 173), the contract clauses also reveal that risk was a serious issue. The municipality of Coimbra attempted direct collection, which did not work as planned, not only because the direct collection system was not the most efficient method but also because the bureaucratic structure was not reinforced.

The high number of clauses associated with risk indicates that this was an important aspect for the principal, hence the reference to as many eventualities as possible. In general, the literature has focused more on transaction costs and risk in a relationship between a risk-neutral principal and a risk-averse agent. However, in this case, we have a different scenario since the principal is risk-averse (as it is a public organization) and has always struggled to balance its accounts.

With the risk moving to the agent, their main incentive was the ability to collect more and make a greater profit. In other words, the product of their collection would, to some extent, be greater, depending on the effort they put into it. In fact, the product of the observed action depends not only on the effort of the agent, but also on risk factors that are beyond the agent's control. As risk-averse agents demand compensation for risk exposure, principals offer them a higher payoff to compensate for exposure to risk (Dohmen, Non, and Stolp, 2021, 1). However, in this case the agent is risk neutral, hence he accepts the clause that transfers all the responsibility for what may go wrong in the collection to him. If the final product meets the agent's expectations the incentive has a positive correlation with the risk. If there is a negative correlation, the agent will not accept this type of contract, preferring one with greater risk sharing.

One of the major concerns of the authorities was controlling the collection process carried out by private individuals, particularly with regard to corruption (González Beltrán, 1999; Bernardo Ares, 2015). The difficulty in monitoring led to the use of fixed-amount contracts and assessment of the final contract outcome. The collateral provided by the contractor served as an additional safeguard for the municipalities (Jensen and Meckling, 1976, pp. 308–309; Eisenhardt, 1989, p. 58).

In the second half of the seventeenth century tax collection became increasingly challenging due to the difficult economic situation. The population resisted tax collection and the municipality implemented more stringent monitoring mechanisms for tax contractors. The balance between incentives and risks was disrupted. This was detrimental for the municipality since the monitoring costs increased while the value of the contracts decreased. The subsequent shift towards direct tax collection aimed to reverse this situation and improve the municipality's finances, as the tax contractors were blamed for the declining revenues (Barbosa, 2023b).

Despite some early success with this change (as Figure 1 shows, there is an increase in revenue following the change), the solution presented by the municipal council failed, since the proposed solution for the crisis (the replacement of collection mechanisms) further exacerbated the situation in the long term by replacing a more efficient collection mechanism with a less efficient one (Williamson, 1981, p. 572; Libecap, 1986, p. 228; Kiser, 1994; White, 2004; Furubotn and Richter, 2005, p. 36; Kiser and Levi, 2015; Monson and Scheidel, 2015; Alfani and Tullio, 2019; Barbosa, 2023b). The turn of the nineteenth century brought new types of contracts for indirect tax collection, together with a revival of fixed-price contracts, leading to a recovery of revenue (Barbosa, 2023b).

In our view, indirect revenue collection did not necessarily mean that the municipality would have fewer resources at its disposal, as stated by some authors (Fonseca, 2002, p. 375). The evidence for Coimbra shows that, although the 'crisis' in municipal finances had various origins, the choice of the direct collection mechanism rather than indirect collection did not solve the problem and probably exacerbated it. This situation was the result of replacing a more efficient collection mechanism with a less efficient one.

5. Conclusion

In the Early Modern age Portuguese municipalities grappled with administrative challenges due to insufficient revenue for necessary expenditures. Revenue collection processes were pivotal to municipal organization, given the prevailing limitations. Most municipalities favoured indirect collection via private individuals over direct collection through municipal officials due to the inadequate bureaucracy and administration, and high costs.

This paper argues that transaction costs and risk heavily influenced fixed-price contract selection under indirect collection. Municipalities, as public institutions providing services with limited revenues, tended to be risk-averse. Conversely, revenue contractors, in accepting high-risk fixed-price contracts, exhibited risk neutrality.

Fixed-price contracts, characterized by detailed clauses addressing risk and transaction costs, also included provisions related to bidding costs. Conversely, share and salary contracts were less detailed, as the city council bore more of the risk and costs. Opting for fixed-price contracts served as the 'optimal' solution for risk-averse city councils, shifting risk and costs onto the agent while minimizing monitoring costs and incentivizing greater collection efforts. Thus, fixed-price contracts emerged as the preferred choice, due to the lower transaction costs and risk.

The shift from indirect to direct collection post-1739 was both a political manoeuvre within the municipality and an attempt to address its financial crisis. This transition aimed to enhance municipal control over resources by retaining most of the proceeds from collection. However, the shift was not successful, indicating the lower efficiency of the direct collection model. Subsequent changes in the early nineteenth century helped bolster revenue once more, challenging the notion that indirect collection necessarily resulted in fewer resources due to revenue sharing with private contractors. The increased efficiency associated with indirect collection could offset such losses.

Significantly, contract terms remained largely stable throughout the Early Modern age, with only one late eighteenth century addition concerning justifications for non-payment, probably reflecting financial strain during this period. Contractors encountered collection difficulties, making it challenging for them to adhere to payment by instalments.

This study offers a novel perspective by highlighting the centrality of risk in the relationship between a risk-averse principal and a risk-neutral agent. The research contributes both to the literature on NIE and the historiography of local government. In NIE, the focus has primarily been on modern and contemporary history, with a prevailing assumption of a risk-neutral principal and a risk-averse agent. However, this study presents a different dynamic: a principal-agent relationship involving a risk-averse public organization and a risk-neutral private contractor with a rent-seeking mentality. Moreover, the study addresses a gap in the historiography of Early Modern times by introducing the neglected topic of municipal contracts, thereby enhancing our understanding of municipal institutions during this period.

Archive Sources

Arquivo Histórico Municipal de Coimbra [AHMC] (Coimbra Municipal Historical Archive):

- *Livros de Receita e Despesa* (Revenue and Expense Books), 1557-1836
- *Livros de Notas* (Notebooks), 1575-1836
- *Livros de Arrematações* (Auction Books), 1575-1836

Bibliography

- ALFANI, G. and TULLIO, M.D. 2019. *The Lion's Share: Inequality and the Rise of the Fiscal State in Preindustrial Europe*. Cambridge: Cambridge University Press.
- ALLEN, D. and LUECK, D. 1992. Contract Choice in Modern Agriculture: Cash Rent versus Cropshare. *The Journal of Law & Economics* 35(2): 397–426.
- ALLEN, D.W. and LUECK, D. 1999. The Role of Risk in Contract Choice. *The Journal of Law, Economics, and Organisation* 15(3): 704–736.
- ANDRÉS UCENDO, J.I. and LIMBERGER, M. 2012. *Taxation and Debt in the Early Modern City*. London: Pickering & Chatto.
- AZEVEDO, Á.V. 2019. *Teoria geral dos contratos*. 4th edn. São Paulo: Saraiva Educação.
- BARBOSA, J.L. dos S. 2017. As receitas e despesas da Câmara de Penafiel: a importância das rendas nas finanças municipais (1782-1820). *História: Revista da Faculdade de Letras da Universidade do Porto* 7(2): 190–215.
- BARBOSA, J.L. 2019. *As finanças da Câmara Municipal de Coimbra (1601-1660)*. Coimbra: Palimage.
- BARBOSA, J.L. 2020. As finanças da Câmara Municipal de Coimbra nos finais do Antigo Regime (1762-1820) [I]: as receitas. *Revista Portuguesa de História* 51: 107–149.
- BARBOSA, J.L. 2023a. A arrecadação e gestão do real de água em Coimbra, 1772-1836. *Ler História* 82: 123–145.
- BARBOSA, J.L. 2023b. Municipal finances and institutions in Portugal: the case of Coimbra city council (1557-1836). *Revista de Historia Economica - Journal of Iberian and Latin American Economic History* 41(3): 441–447.
- BARBOSA, J.L., MOUTINHO, V.F. and SILVA, P.M. 2022. Examining the relationships between revenues and their components and expenditures and their components using Markov-Switching regressions. Evidence from the municipality of Coimbra (1557–1836). *Accounting History Review*, 1–31.
- BARNETT, R.E. 2003. *Contracts: Cases and Doctrine*. Boston: Aspen Publishers.
- BERMAN, H.J. 1983. Urban Law - II. *History of European Ideas* 4(4): 421–444.
- BERNARDO ARES, J.M. de. 2015. Las haciendas locales y la hacienda central en la corona de Castilla a finales del xvii (Austrias) y principios del xviii (Borbones). *MAGALLÁNICA, Revista de Historia Moderna*, 2 / 3 (Varia): 206–225.

- BOLTON, P. and DEWATRIPONT, M. 2004. *Contract Theory*. London: The MIT Press.
- BROSSEAU, E., and GLACHANT, J.-M. 2002. *The economics of contracts: theories and applications*. New York: Cambridge University Press.
- CAMPOS LUCENA, M.S. 2009. La política fiscal y la contabilidad municipal en España: instrumentos de control de los recursos locales: 1745-1899. *Innovar. Revista de Ciencias Administrativas y Sociales* 19(34): 167–186.
- CAPELA, J.V. 1995. *O minho e os seus municípios: estudos económico-administrativos sobre o município português nos horizontes da Reforma Liberal*. Braga: Universidade do Minho.
- DOHMEN, T., NON, A. and STOLP, T. 2021. Reference Points and the Tradeoff between Risk and Incentives. *Journal of Economic Behavior & Organization* 192: 813–831.
- DYCK, I., J.A. and WRUCK, K.H. 1998. Organization structure, contract design and government ownership: A clinical analysis of German privatization. *Journal of Corporate Finance* 4: 265–299.
- EISENHARDT, K.M. 1989. Agency Theory: An Assessment and Review. *Academy of Management Review* 14(1): 57–74.
- FEHR, E., KLEIN, A. and SCHMIDT, K.M. 2007. Fairness and Contract Design. *Econometrica* 75(1): 121–154.
- FERNANDES, P.J. 1999. *As faces de Proteu: elites urbanas e o poder municipal em Lisboa dos finais do século XVIII a 1851*. Lisboa: Câmara Municipal de Lisboa.
- FONSECA, F.T. da. 1995. *A Universidade de Coimbra 1700-1771: estudo social e económico*. Coimbra: Por Ordem da Universidade.
- FONSECA, T. 2002. *Absolutismo e municipalismo: Évora. 1750-1820*. Lisboa: Colibri.
- FURUBOTN, E. and RICHTER, R. 2005. *Institutions and Economic Theory*. 2nd edn. Ann Arbor: The University of Michigan Press.
- GONÇALVES, I. 1987. *As finanças municipais do Porto na segunda metade do século XV*. Porto: Arquivo Histórico - Câmara Municipal do Porto.
- GONZÁLEZ BELTRÁN, J.M. 1999. Haciendas municipales en la Edad Moderna. Funciones y usos. En *V Reunión Científica – Asociación Española de Historia Moderna, Tomo II: La administración Municipal en la Edad Moderna*. Jose Manuel de Bernardo Ares. Cádiz: Servicio de Publicaciones de la Universidad de Cádiz, 191–216.
- GREIF, A. 2006. *Institutions and the Path to the Modern Economy: Lessons from Medieval Trade*. Cambridge: Cambridge University Press.
- HART, O. 1995. *Firms, Contracts, and Financial Structure*. Oxford: Clarendon Press.
- HOLMSTROM, B. and MILGROM, P. 1991. Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. En *Journal of Law, Economics, & Organization. Papers from the Conference on the New Science of Organization*, 24–52.
- HSHIAO, J.C. 1975. The Theory of Share Tenancy Revisited. *Journal of Political Economy* 83(5): 1023–1032.
- HUANG, Y. 1973. Risk, Entrepreneurship, and Tenancy. *Journal of Political Economy* 81(5): 1241–1244.
- JENSEN, M.C. and MECKLING, W.H. 1976. Theory of the firm: managerial behavior, agency

- costs and ownership structure. *Journal of Financial Economics* 3: 305–360.
- KISER, E. 1994. Markets and Hierarchies in Early Modern Tax Systems: a Principal-Agent Analysis. *Politics & Society* 22(3): 284–315.
- KISER, E. and LEVI, M. 2015. Interpreting the comparative history of fiscal regimes. En *Fiscal Regimes and the Political Economy of Premodern States*. MONSON, A., and SCHEIDEL, W. Cambridge: Cambridge University Press, 557–571.
- KLEMPERER, P. 2004. *Auctions Theory and Practice*-Princeton University Press. Princeton: Princeton University Press.
- LAFFONT, J.-J., and MARTIMORT, D. 2001. *The Theory of Incentives I: The Principal-Agent Model*. Princeton: Princeton University Press.
- LIBECAP, G.D. 1986. Property Rights in Economic History: Implications for Research. *Explorations in Economic History* 23, 227–252.
- LÓPEZ NEVOT, J.A. 1995. La hacienda municipal de Granada (1492-1600). *Anuario de historia del derecho español* 65: 749–808.
- LOUREIRO, J.P. 1942. *Administração coimbrã no século XVI*. Coimbra: Edição da Biblioteca Municipal.
- MACHADO, M.M. de M.V. do R. 2005. *Uma fortuna do Antigo Regime: a casa comercial de Nicolau Maria Raposo de Amaral*. Cascais: Patrimonia.
- MAGALHÃES, J.R. 1994. As estruturas sociais de enquadramento da economia portuguesa de Antigo Regime: os concelhos. *Revista Notas Económicas* 4: 30–47.
- MAGALHÃES, J.R. 2011. *Concelhos e organização municipal na época moderna: Miunças 1*. Coimbra: Imprensa da Universidade de Coimbra.
- McAFEE, R.P. and McMILLAN, J. 1986. Auctions with a Stochastic Number of Bidders. *Journal of Economic Theory* 43: 1–19.
- McAFEE, R.P. and McMILLAN, J. 1987. Auctions and Bidding. *Journal of Economic Literature* 25 (2): 699–738.
- MILGROM, P. 1989. Auctions and Bidding: A Primer. *Journal of Economic Perspectives* 3(3): 3–22.
- MILGROM, P. 2004. *Putting auction theory to work*-Cambridge University Press. Cambridge: Cambridge University Press.
- MILGROM, P. R., and WEBER, R.J. 1982. A Theory of Auctions and Competitive Bidding. *Econometrica*, 50 (5): 1089–1122.
- MILLER, G. J. 2005. The political evolution of principal-agent models. *Annual Review of Political Science*, 8(1): 203–225.
- MONSON, A., and SCHEIDEL, W. 2015. *Fiscal Regimes and the Political Economy of Premodern States*. Cambridge: Cambridge University Press.
- MONTEIRO, N.G. 1996. As câmaras no equilíbrio dos poderes: funções sociais e dinâmicas locais', in *História dos municípios e do poder local: dos finais da Idade Média à União Europeia*. César Oliveira. Lisboa: Temas e Debates, 121–136.
- MONTEIRO, N. G. 2003. *O crepúsculo dos grandes: a casa e o património da aristocracia em Portugal: 1750-1832*. 2ª. Lisboa: Imprensa Nacional-Casa da Moeda.

- MOTA, E. 1990. *Administração municipal de Gouveia em finais de setecentos*. Gouveia: Gaude-la.
- MYERSON, R. B. 1981. Auction Design. *Mathematics of Operations Research*, 6(1): 58–73.
- NETO, M. S. 1998. As Finanças da Universidade de Coimbra. 1770-1834. in *Pre-print*.
- NETO, M. S. 2018. *Terra e Conflito: Região de Coimbra (1700-1834)*. 2ª. Coimbra: Palimage.
- OGILVIE, S. 2011. *Institutions and European Trade Merchant Guilds, 1000–1800*. Cambridge: Cambridge University Press.
- PALMA, N., and REIS, J. 2019. From Convergence to Divergence: Portuguese Economic Growth, 1527–1850. *The Journal of Economic History* 79(2): 477–506.
- PEDREIRA, J.M. 1992. Os negociantes de Lisboa na segunda metade do século XVIII: padrões de recrutamento e percursos sociais', *Análise Social*, XXVII(116–117): 407–440.
- PEDREIRA, J.M. 1996. Tratos e contratos actividades, interesses e orientações dos investimentos dos negociantes da praça de Lisboa (1755-1822). *Análise Social*, XXXI(136–137): 355–379.
- PÉREZ ÁLVAREZ, M.J. 1999. Economías y haciendas concejiles en la montaña leonesa: El modelo de los concejos mayores y menores y de las mancomunidades durante el siglo XVIII. En *V Reunión Científica Asociación Española de Historia Moderna, Tomo II: La Administración Municipal en la Edad Moderna*. José Manuel de Bernardo Ares. Cádiz: Servicio de Publicaciones de la Universidad de Cádiz, 265–273.
- REES, R. 1985. The theory of principal and agent. Part I, *Bulletin of Economic Research* 37(1): 3–26.
- REID, J. 1975. Sharecropping in History and Theory. *Agricultural History* 49(2): 426–440.
- RIBEIRO, A.I. 2012. *Nobreza e governança: Identidades e perfis sociais (Coimbra, 1777-1820)*. Tese de doutoramento. Faculdade de Letras da Universidade de Coimbra.
- RIBEIRO, T.C. 1998. *O município de Alter do Chão nos finais do séc. XVIII*. Coimbra: Palimage.
- RODRIGUES, L.N. 1992. Um século de finanças municipais: Caldas da Rainha (1720-1820). *Penélope*, (7): 49–69.
- ROPPO, E. 2009. *O contrato*. Coimbra: Almedina.
- SALVADO, J.P. 2019. The Rise and Fall of a Lisbon Family Business, 1710–1773: The Case of the House of Torres. *Itinerario* 43(1): 146–172.
- SAPPINGTON, D.E.M. 1991. Incentives in Principal-Agent Relationships. *Journal of Economic Perspectives* 5(2): 45–66.
- SILVA, F.R. da. 1985. *O porto e o seu termo (1580-1640). Os homens, as instituições e o poder*. Tese de doutoramento. Faculdade de Letras da Universidade do Porto.
- SOARES, S.C. 1984. Aspectos da política municipal pombalina: a Câmara de Viseu no reinado de D. José. *Revista Portuguesa de História*, (XXI): 21–117.
- SOARES, S.C. 2004a. *O município de Coimbra da Restauração ao Pombalismo* (3 vol). Coimbra: Centro de História da Sociedade e da Cultura.
- SOARES, S.C. 2004b. *O município de Coimbra da Restauração ao Pombalismo*. Coimbra: Centro de História da Sociedade e da Cultura.
- SOARES, S.C. 2004c. *O município de Coimbra da Restauração ao Pombalismo*. Coimbra: Cen-

tro de História da Sociedade e da Cultura.

- STEAD, D.R. 2004. Risk and Risk Management in English Agriculture, c. 1750-1850. *The Economic History Review* 57(2): 334–361.
- STIGLITZ, J.E. 1974. Incentives and Risk Sharing in Sharecropping. *Review of Economic Studies* 41(2): 219–255.
- VIDIGAL, L. 1989. *O municipalismo em Portugal no século XVIII*. Lisboa: Livros Horizonte.
- WAMUZIRI, S. and SEYWRIGHT, A. 2005. Risk sharing and effective incentives in collaborative procurement. In *21st Annual ARCOM Conference, 7-9 September 2005, SOAS, University of London*. Khosrowshahi, F. London: Association of Researchers in Construction Management, 1175–1184.
- WHITE, E.N. 2004. From Privatized to Government-Administered Tax Collection: Tax Farming in Eighteenth-Century France. *The Economic History Review* 57(4): 636–663.
- WILLIAMSON, O.E. 1981. The Economics of Organization: The Transaction Cost Approach. *American Journal of Sociology* 87(3): 548–557.
- YUN-CASALILLA, B., and O'BRIEN, P.K. 2012. *The Rise of Fiscal States: A Global History 1500–1914*. Cambridge: Cambridge University Press.

Notas

- 1 Especially in the history of merchants (GREIF, 2006; OGILVIE, 2011).
- 2 For deflation purposes, the consumer price index of Palma and Reis, 2019, was used, index 100=1660.
- 3 Since direct collection was primarily carried out using salaried labour, it will not be analysed in this article.
- 4 The standard contract is presented here, which, in fact, changed very little during the period under analysis and always maintained a very stable structure.
- 5 This clause meant that the practices and procedures remained the same as those in the previous contracts. It also meant that if any of the usual conditions were omitted (which is not the case in the example presented here), they would remain effective by force of tradition and customary procedures. It is implied that this is a monopoly contract: only the contractor and his partners could perform this service.
- 6 In the early nineteenth century, the administrators appointed by the council to collect the fines earned 33% of the total collection. Coimbra Municipal Historical Archive, *Receitas e Despesas*, (1815-1834), fls. 8, 12, 17, 24, 30, 42, 48, 53.
- 7 As previously stated, during the seventeenth century most contractors were craftsmen (potters, carpenters, shoemakers, etc.) and merchants (BARBOSA, 2019, pp. 112–113).