

A Theory of the Origins of Coercive Enforcement by the State: Insights from Colonial Mexico

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Abstract

This paper contributes to our understanding of the factors that lead to the creation of a fiscal administration backed by centralized coercion through a historical and game theoretical analysis of colonial Mexico. In the model, the fiscal regime is endogenous: the ruler can choose to delegate the collection of revenue or to create a state administration. The essential trade-off is that the gains in efficiency under delegation come at a cost; collective objectives cannot be harmonized under delegation. The benefits others receive from someone's contribution can not be internalized under delegation. The presence of an external shock that creates the need to provide a public good—in my analysis a standing army due to a threat of conflict—can give rise to a coercive state administration which serves as a commitment device to overcome free riding. The analysis suggests that the enforcement mechanism used to collect revenue is endogenous to the excludable nature of the goods provided by the state.

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1 Introduction

States do not always have the administrative and monitoring capacity to directly collect tax revenue by means of centralized coercion.¹ Fiscal regimes vary across time and space not only in terms of tax rates and types of taxes, but also in terms of the means used by the state to collect revenue. States in medieval and early modern Europe relied on a mix of privatized (tax farming) and decentralized tax collection mechanisms to obtain revenue.² The process of bureaucratization and centralization of tax administration in Europe did not begin until the late seventeenth century.³ It took even longer for income taxation to be introduced as a regular levy: Britain first introduced it in the late eighteenth century, and other European countries followed in the nineteenth century. Further, it was not until after the World Wars that in most developed countries the share of direct taxation to total tax revenues rose above that of indirect taxation.⁴ Developing countries today, however, lag behind in terms of their administrative fiscal capacity.⁵

Nevertheless, that the state possesses an administrative fiscal capacity underlies most economic analysis. This is an important assumption because it is essential for the economist's justification of the role of the state as a provider of public goods. This paper takes the state's institutional capacity to extract resources as a fact to be explained rather than assumed. When and why will a ruler invest in the creation of a state administration backed by centralized coercion with the ability to monitor and collect revenue? What enforcement mechanism do alternative methods to obtain resources rely on and when do such methods become insufficient? Why would entrenched elites allow rulers to centralize coercion and increase their ability to tax? As Levi (1988, p. 96) argues: "A national tax system could not have been instituted without the consent of powerful constituents."

This paper provides answers to the questions above by analyzing the transformation of the fiscal administration in colonial Mexico during the eighteenth century. Mexican colonial history provides an interesting case study. Spain had colonies in most of the mainland territory of the Americas for almost 300 years. New Spain—comprising Mexico today—was a viceroyalty of Spain from 1535 until 1821. The crown's authority was accepted

¹Coercion is defined as the ability to alter someone's behavior using physical force or the threat of it.

²Tax farming was common in the pre-modern world. See Levi 1988 for a discussion of tax farming in Republican Rome; Bonney, ed 1995, for an in-depth discussion of state finance in pre-modern Europe.

³As Kiser and Kane (2001) show, centralization and partial bureaucratization is not observed in England until the late 1600s. Major reforms do not occur until 1780. In France, it is not until the last decade of the eighteenth century that a major transition takes place. See also Levi 1988, pp. 95-108.

⁴See Alt 1983, p. 190.

⁵See Tanzi and Pellechio 1997.

throughout the colonies yet there were no military forces (unlike Europe at the time). Revenue collection did not rely on a state administration with coercion, yet income was procured for both the Spanish crown and the colonial viceregal government. The Spanish Crown depended upon very few salaried officials to govern the empire in the Americas. Both the judicial and the fiscal bureaucracy were small.⁶ Apart from frontier patrols and port guards, there were no armed forces in the New Spanish territory. By the mid seventeenth century, however, a transition to a state administration backed by force started to take place, and a standing army was created in the colonies.

The paper first identifies the distinct enforcement mechanisms behind the alternative methods of revenue collection used by the Spanish crown: delegation of collection to private individuals and state administration. Further, a game theoretical analysis grounded on the historical evidence provides insight into the forces that lead to the creation of a coercive state administration for the collection of revenue. That delegation and state administration rely on different mechanisms to enforce compliance is key to the analysis. Under delegation, a ruler relies on private, direct exchanges based on mutual obligations, whereas with a state administration the ruler relies on monitoring and communications technology, and ultimately on centralized coercion. Delegation relies not on the ruler's ability to coerce, but on its ability to *exclude*. That is, by means of its regulatory authority, the ruler can selectively offer protection—privileges—to specific groups or individuals, while excluding others, and by so doing obtain revenue. Compliance with revenue collection rests on the threat of losing the privilege from which others were excluded and on the ruler's ability to identify the privileged. The ruler obtains revenue through a mechanism economists associate with 'private' transactions, and is thus able to save on the costs of creating a state administration.

The model, adapted from Segal (1999), studies the interaction between a ruler and distinct elite groups. In the model, the fiscal regime and the nature of the protection provided by the ruler are endogenous: the ruler can choose delegation or a state administration, and can choose to provide protection either as a private good, i.e. selectively, or as a public good. The basic trade-off captured by the model is that the gains in efficiency under delegated revenue collection come at a cost: collective objectives cannot be harmonized under delegation. That is, a state will face free-riding costs when faced with the need to increase revenue for the provision of a good whose benefits are non-excludable: the good will be under provided.

The results show that if the cost due to this free riding problem is sufficiently large, in

⁶Brading 1973, p. 399.

equilibrium the elite groups will acquiesce to a fiscal reform even though it entails giving the ruler greater capacity to tax. The creation of a state administration with centralized coercion serves as a device to commit contributors to pay. This result is conditional on the presence of an external shock that increases the return to providing a public good—in my analysis a standing army due to a threat of conflict. The elite groups consent to an increase in the “grabbing” hand of the state in order to ensure survival.

By contributing to our understanding of the mechanisms behind the collection of state revenues, the paper also sheds light on the changing role of the state as provider of public goods. The results suggest a link between the excludable nature of the goods provided by the state and the mechanism to enforce revenue collection. If the optimal provision of public goods needs to rely on coercive state administrations, such provision will be observed if both the state and powerful constituents benefit jointly.⁷

To test the model, I confront in section 4 the predictions of the model with colonial history. Historical evidence from colonial Mexico supports the theoretical predictions. The Seven Years’ War (1756-1763) changed the perception of both the elite groups and the crown about the British threat. This was the first European war with battles in colonial territory. In addition, Havana, Cuba, was taken by British troops in 1762. In fact, Cuba was the first location where the Spanish crown attempted both the organization of local armed forces and a fiscal reform. Evidence on the new role played by donations and loans to the crown supports the claim that the new fiscal and military measures opened the door to new forms of extraction by the state, and in particular to the eventual birth of universal taxation. Finally, the experience of the British colonies is illuminating. Britain emerged as the dominant power after the Seven Years’ War. In consequence, the previous French threat to the thirteen colonies was eliminated. In accordance with the theoretical predictions, the British crown’s attempt to introduce a coercive state administration failed: the elite groups—urban merchants and large planters—did not comply and the thirteen colonies declared independence in 1776.

That external conflicts have led to increases in the state’s capacity to extract resources is a major theme among historians, political scientists, and sociologists. As Tilly (1990, 1993) argues, the need to maintain and increase military establishments was the major impetus for the growth of European states’ administrative apparatuses. “Greater military

⁷The idea that rulers have obligations on behalf of the common good, and that protection should be provided non-selectively, does not start developing until the fourteenth century in Europe: it was an idea that had to be constructed. See Levi 1988, pp. 100-102. In accordance, this paper starts from the premise that the provision of collective goods by rulers—and thus the creation of the modern state—is a fact to be explained rather than assumed.

capacity required higher levels of taxation. Higher levels of taxation required a more extensive bureaucracy.”⁸ In addition, Kiser and Kane (2001) and others have argued that military conflicts allow bureaucratization by unifying a disparate population and thus sweeping away impediments to reform.⁹ However, the existing literature does not explain why the previous methods to obtain revenue were insufficient. This paper, by specifying the mechanism used to enforce payments without a state administration, is able to provide such explanation.

This paper therefore, in contrast to the above literature, provides a specific channel that explains why territorial threats can lead to increases in fiscal capacity. The analysis shows that the public good nature of the provision of territorial protection is the driving force of the transition. Given that the elite agree that protection in the form of a standing army is necessary, they will acquiesce to a fiscal transition because a state administration serves as a device to commit them to pay.¹⁰

Threats of conflict have also been linked to the transition to democratic political institutions. Although not directly addressing democratic transitions, this paper is related to this literature. Acemoglu and Robinson (2001, 2005) and Ticchy and Vindigni (2006) argue that a democratic political transition comes about as a way to commit to future redistribution: to avoid revolutions or in exchange for military duties, respectively. These authors define democracy as a regime in which the poor choose the tax rate. In that sense, their papers—like this one—are about fiscal institutions. But this paper further allows for the choice of revenue collection mechanism: delegation versus state administration. Greif (1998, 2006) highlights the importance of external military threats in shaping the internal organization of the state. This paper is in line with that research and specifically studies the state’s administrative capacity to collect revenue.

To the extent that, as many argue, institutions matter for economic development, this paper, by studying how state institutions evolve, is a step towards understanding the impact of state institutions on development.¹¹ The state’s capacity to enforce contracts

⁸Cited in Krasner 1984, p. 239. See also Weber 1922 and Skocpol 1979.

⁹See also Herbst 2000 and Huntington 1968.

¹⁰Besley and Persson 2007 is the only paper in the economics literature, to my knowledge, also arguing that: “the significance of war and military spending in state capacity building comes from the fact that it is an archetypical public good” (p. 2). However, their analysis only incorporates quantitative changes in fiscal capacity, as opposed to qualitative, which is the emphasis of this paper. Hoffman and Rosenthal 1997 and Rosenthal 1998 study analytically the relationship between warfare and the fiscal system but differ from this paper in that they do not seek to explain transitions between fiscal regimes but only the impact of regimes on the number of wars fought.

¹¹Growth and development economists have documented the positive impact on development of, among others, human capital, international integration, capital accumulation, and resource endowments. Yet, the

and the mechanisms to constrain rulers matter for economic development.¹² This paper contributes to the discussion by shedding light on the factors leading to the emergence of effective state administrations with the capacity to monitor and coerce. Once coercive institutions are in place they need not be restricted to the collection of revenue.

2 Justifying the modeling approach

Before proceeding with the presentation of the model, I discuss and provide historical justification for some key modeling assumptions and choices. I first discuss the starting assumption about the role of the ruler as a focal point in the provision of protection. Next, I explain the mechanisms behind the alternative fiscal regimes, choice variables for the ruler in the theoretical analysis. Finally, I provide historical justification for both of the above relying on evidence from colonial Mexico.

2.1 Role of the ruler

The key assumption underlying the analysis is that the ruler is a focal point in the provision of protection. Following Lane (1958), the ruler has a monopoly on the violence-controlling industry within some territorial limits. That is, the ruler faces no competition from other protection-producing enterprises. If, however, there is a threat from a ruler from another territorial unit, then the monopoly is at stake.¹³ Note, however, that the ruler need not centralize the instruments of coercion. In many instances, rulers have outsourced the provision of protection to local magnates. What matters for my analysis is that it is common knowledge that the ruler is the only one with the authority to regulate the use of coercion, i.e., other members of society can legitimately coerce others in the ruler's name.

The ruler organizes the provision of different types of protection. The classical example is military protection but there are others as well. Through the administration of justice rulers have traditionally offered internal protection; against robbers for instance. Furthermore, and important for our study, this authority has granted rulers the ability to regulate entry to economic activities and to give privileges to certain groups (or to itself). For example, the crown in colonial Mexico only granted the right to trade, and provided

inability of these factors on their own to explain sustained economic development has also been acknowledged: Barro 1998, Acemoglu et al. 2002, and Rodrik et al. 2004.

¹²Greif et al., 1994, show that state enforcement is necessary to sustain larger markets. Further, optimal investment choices rely on the state's ability to protect property rights non-selectively: see Haber et al. 2003. See also North 1981, North and Weingast 1989, Greif 2006, and North, Wallis and Weingast 2006.

¹³In the model that follows this is the case when an external threat is faced.

protection to cross the Atlantic, to merchants members of the merchant guild. Rulers can, therefore, choose to use their monopoly of protection in a selective fashion.

2.2 Mechanisms to collect revenue

A monopoly on protection gives the ruler means to obtain revenue. Traditionally, rulers have obtained revenue by selling private goods and services—henceforth fee-for-service—and through direct and indirect taxation. Examples of fee-for-service are the granting of licenses and certificates, and state monopolies (in New Spain the most important were the minting of silver, and the mercury and tobacco monopolies). Direct taxes are those imposed on property, income or people (e.g. the tribute and Church tithe in New Spain); indirect taxes are those imposed on economic transactions, mostly trade, for example customs and sales taxes (called *almojarifazgo* and *alcabala* in New Spain, respectively).

Rulers, however, do not always create a *state administration* with salaried officials part of a bureaucratic administration to collect the revenue from either fee for service or taxation. Alternatively, rulers can *delegate* the collection of fee for service revenue and of taxes when they contract it out to others. When delegating revenue collection, states have historically contracted with private groups or individuals, or with local authorities. A private individual or group that contracts with a ruler to pay a fixed sum in exchange for the right to collect taxes is called a tax farmer.¹⁴ The use of local authorities distinguishes from a state administration in that, even if their appointment is a result of a central state decision, they do not receive fixed salaries. Instead, their incomes are a proportion of the resources collected, a fraction of which was transferred to the central ruler (in the same manner as with tax farming).¹⁵

Delegation and state administration rely on different mechanisms to enforce compliance. Under delegation, a ruler relies on private, direct exchanges based on mutual obligations, whereas with a state administration the ruler relies on monitoring and communications technology, and ultimately on centralized coercion. Delegation rests on the ruler being a monopolist in the provision of protection. This gives rulers the ability to use their authority to benefit some and *exclude* others from, for example, entry to economic activities. Resources will be transferred to the ruler to ensure the privileges are not offered to another individual. A state administration, in contrast, rests on the ruler's ability to monitor and

¹⁴See Kiser (1994) for a discussion of the differences between tax farming and a bureaucratic state administration. Section 2.3 discusses the use of tax farming for the collection of trade taxes in New Spain.

¹⁵See Bonney, ed (1995, pp. 72-73), for evidence on local collection of direct taxes in Feudal Europe; see also Kiser and Linton (2001, p. 188) and Kiser and Schneider (1994). For evidence on tax collection at the hands of local authorities in colonial Mexico, see section 2.3.

coerce.

Next, I provide historical evidence for the role of the crown in colonial Mexico and give specificity to what I call a delegated mechanism for revenue collection. To understand the mechanisms behind revenue collection it is necessary to study the functioning of each tax category in detail. I analyze how the revenue from each tax was collected, what excludable privilege the ruler offered in exchange for payments, and which were the relevant decision makers. I will focus on the major sources of tax revenue at the time: mining, trade (*almojarifazgo* and *alcabala*), and church tithe.¹⁶

2.3 Royal authority and no coercive administration

The following subsections (succinctly) describe the relationship between the Spanish crown and colonial society *before* the fiscal reforms that began in 1752. I describe the major tax categories at the time and the mechanisms used by the crown through the colonial government to collect revenue before the reforms, showing that the crown did not rely on coercion to enforce compliance with revenue collection.

2.3.1 Evidence on the role of the ruler

In spite of the lack of a centrally controlled coercive administration during this period in Spanish America, the regulatory authority of the crown was accepted: the crown functioned as a focal point in the provision of protection.¹⁷ The Crown, via the viceroy and the Ministry of the Indies (*Consejo de Indias*), recognized landholders, settled disputes, and organized economic life in the New World.¹⁸ The Crown was able to “take gradual advantage of its regulatory position within the system and of its near monopoly of high

¹⁶The *tributo*, a head tax obtained from Indian communities, was also an important source of revenue. This arrangement, however, existed since pre-Colombian times: the crown maintained the pre-Colombian administrative system through which payments were contracted. Before 1560, tribute was collected by means of the caciques and Indian governors. Later, the collection of the tax was contracted with the local justice authorities (*corregidores* and *alcaldes mayores*), or with ‘executors’ sent by the crown. See Sánchez-Bella 1990, pp. 207-208.

¹⁷By authority I mean the ability to coordinate as defined and modeled in Arias, 2007. In that paper, I seek to disentangle the power of (legitimate) rulers derived from their ability to coordinate social actors from the power acquired through coercion.

¹⁸The viceroy represented the royal person, and hence was the king’s *alter ego*. He enjoyed the attributes of governor, captain-general, and functioned as president of the *audiencia*. The Ministry theoretically exercised complete administrative authority over the colonies. The viceroy, who resided in the American territory, had some degree of autonomous authority but was subjected to the Ministry and in charge of executing their resolutions.

patronage because the colonists, in addition to having an engrained loyalty reinforced by culture and status aspirations, needed the crown for prestige, titles, legitimacy, offices, and other emoluments” (Macleod 1987, p. 318). In the colony, local power depended upon the crown’s authority.

This regulatory authority gave the crown the ability to exclude. Through regulation, the crown granted rights and privileges to certain economic groups. The ability to, for instance, give exclusive access to economic activities allowed the crown to create rents, and obtain revenue by doing so. The following subsections describe the strong link between the granting of privileges (what in the model is called ‘private protection’) and the sources of revenue for the Spanish crown.

2.3.2 Fiscal history

During the beginnings of the Spanish settlement, the Spanish crown sought to establish a centralized and homogeneous fiscal administration (Royal Treasury). In contrast to the system in Spain, that relied mostly on *arrendamientos* (tax farming), the king sought to base colonial fiscal organization predominantly on direct control and administration by royal officials.¹⁹ Early on, however, the royal authorities resorted to decentralized mechanisms of revenue collection and to private contracting. Furthermore, the seventeenth century saw a decline of the royal administrative stronghold in New Spain. Coupled with fiscal pressures in the peninsula resulting from the expiration of the truce with the Netherlands in 1621, the mining industry in New Spain experienced a fall in production in the 1630s. The dramatic weakening of Spain during those decades loosened the administrative ties between metropolitan Spain and the Indies.²⁰ During the period 1640-1753 private individuals were able to purchase from the crown many posts previously reserved to appointed royal officials. Also, this was the period in which the merchant guild took over the collection of excise taxes. Finally, in 1753 the crown began a restructuring of the means to collect revenue, and a standing army was created. This paper studies this transition and mostly concerns the period: 1640-1800.

Mining

The silver production process was organized in three distinct stages: extraction of the ore from the earth, refining or separation of the silver from the base metal (by smelting or

¹⁹Sánchez-Bella 1990, pp. 71-72.

²⁰Elliot 1987, pp. 105-107.

amalgamation), and minting or the conversion of silver into coin.²¹ At each stage of the process the crown was involved and was able to obtain resources. The crown was involved in the refining stage through its monopoly on the sale of mercury (and gunpowder later in the eighteenth century), a necessary input in the process of separating silver from the ore. Once the silver was put in bars, a 10 per cent tax on all silver (mining tithe) had to be paid to obtain the seal necessary for the bars to be accepted at the *Casa de Moneda* (Royal Mint) in Mexico City for coinage, where additional service charges were imposed.

Mercury was obtained from three mines in the world: the Idria (now Idrija) mines in present day Slovenia, the Almadén mines in Spain, and the Huancavélica mine in Peru. The crown entrusted the distribution of mercury in New Spain to treasury officials and provincial *cajas* were set up in all the chief mining camps. Mercury was provided in bulk and on credit, every six months, to refiners, miners and their merchant backers. The recipient had to pay into the treasury “a quantity of silver exactly proportional to his allocation of mercury.”²²

After refining, all silver cast into bar had to be presented at the nearest *Casa de Fundición* (Assay Office). Here silver was melted, weighted and assayed, and labeled accordingly. The fiscal rights, a 1 per cent for assay, and the cost of mercury supplied on credit were all deducted, and a royal seal was put on each silver bar as evidence that the tax was paid.²³ The assay office was closely linked to the treasury authorities. The presence of treasury officials was required at the time of assay,²⁴ and the *plateros* in charge of the assaying received the office as a grace from the king, or purchased it (in the seventeenth century).

To be coined, silver had to be taken to the royal mint in Mexico City. There, 69 rls. were cut from every mark of silver, of which 65 rls. were returned to the owner.²⁵ The royal mint would not receive unmarked silver bars, indicating that the fiscal rights were not paid, and the bars would be subject to confiscation and the owner liable to the death penalty.²⁶ At the *Casa de Fundición* and at the royal mint in Mexico City royal treasury officials were in charge of collection until the mid seventeenth century, when the crown decided to rent the mint out to private individuals.²⁷ From then on, until the mid eighteenth century, a group of merchants took over the management of the mint and arranged for the silver's

²¹By law practically all silver had to be minted. See Brading 1971, pp. 130-131.

²²Brading 1971, p. 141.

²³Sánchez-Bella 1990, pp. 231-235.

²⁴The Assay Office opened only fixed times a year, generally twice. See Sánchez-Bella 1990, p. 229.

²⁵Brading 1971, p. 143.

²⁶Sánchez-Bella 1990, p. 231.

²⁷Bakewell 1971, pp. 212-215.

final assay and smelting into bar. They also frequently rented the machinery and plant of the mint itself.²⁸

Note that in all three stages of the silver production process a private transaction between the the tax payer and the collector of taxes (either royal treasury officials or private contractors) took place: the crown was able to obtain resources by means of its control over and nature of the mining industry. To be able to mine one needed mercury, which was officially provided by the crown. Also, silver could not be traded in powder but had to be melted and 'labeled', which were done by the crown at specific locations. Finally, there was a unique facility where minting took place: the *Casa de Moneda* in Mexico City.

Commerce and Church tithe

*“Nada preocupó tan alta y fijamente la atención del gobierno español como el arreglo y seguridad del comercio de la metrópoli con sus colonias en la América, y quizá ni el ramo de guerra fue objeto de tan prolija legislación...”*²⁹ Riva-Palacio (1888-1889, p. 495).

The income of Spanish merchants depended upon the authority exercised by the crown in terms of foreign policy: trade was restricted to certain ports and undertaken only by members of the merchant guild. Since the first years of settlement, the Crown granted the *Consulado* of Cádiz a monopoly on American commerce. In 1594 the first American merchant guild, the *Consulado* of Mexico City, was created resembling its counterpart in Spain, the *Consulado* of Cádiz. The crown also literally provided protection but in a private fashion. Fleets were sent in convoys protected by royal naval forces. The entry of non-Spanish fleets to colonial ports was prohibited and enforced by the crown through royal officials and forces at sea and in the ports. To facilitate enforcement, ships could only come in and out of one port on each side of the Atlantic and the Pacific. Seville, later substituted by Cádiz, functioned as the unique port in Spain through which trade with the American empire transpired; the corresponding port in the viceroyalty of New Spain was Veracruz. Acapulco and Manila were the respective ports on the Pacific side. Through trade policy, and by protecting the fleets at sea from piracy and the ports from foreign merchants, the Crown could impact the income of specific groups.

Taxes were imposed on a variety of commercial transactions. There were two broad

²⁸Brading 1971, pp. 170-172.

²⁹“No other matter obtained such high and fixed attention from the Spanish government as the arrangement and security of trade between metropolitan Spain and its American colonies did, and perhaps not even the subject of war underwent such prolific legislation...”

categories: internal and external custom duties and sales taxes. In 1530, the crown ordered renting out the collection of custom duties (*almojarifazgo*) to private individuals.³⁰ However, according to Sánchez-Bella (1990, pp. 238-239) before the end of the century royal officials took charge of the evaluation of merchandise and the collection of duties at the ports. There were only two ports through which merchandise could enter or exit New Spain: Veracruz for Atlantic commerce, and Acapulco for Pacific trade. Also, the crown tried to impose fees on internal trade by placing customs houses on the royal highways and ordering trade to transit along specific routes.³¹ Clearly, the use of natural and mercantilist trade bottlenecks helped surmount the crown's administrative and technological inability to tax systematically.

The sales taxes (*alcabalas*) and the church tithe, however, were more difficult to collect. The tithe was paid by practically all the New Spanish population. Collection of these taxes clearly requires a larger administration and more information: there were no natural bottlenecks to facilitate their collection. Not surprisingly the collection of these two taxes was contracted to two of the largest private organizations of the period until the mid eighteenth century. The crown offered the best bidder (usually regional clerics) to take charge of the collection of the tithe;³² the merchant guild (*consulado*) of Mexico City was in charge of the collection of the excise tax at the major trade areas in New Spain: Mexico City and Veracruz. Both the church and the *consulado* were granted explicit privileges by the crown. The Church enjoyed a monopoly on souls; the merchants guild protection at sea by means of convoys and the monopoly right over trade between Spain and its colonial territories.

The following detailed discussion of the evolution of the sales tax in Mexico City shows how the crown's contracting out of revenue collection worked in practice. This particular tax and location were chosen because of their importance as a source of royal revenue.³³ In 1575 the *alcabala* of 2 per cent went into effect in New Spain. The *alcabala* was a tax "on the first and successive sales"³⁴ of goods in the colonies. Early on the collection of this tax was *encabezado*, that is, contracted with local town officials. Because of its nature, taxing the sale of goods required a more comprehensive knowledge of the local economies

³⁰Riva-Palacio 1888-1889, p. 697.

³¹Macleod 1987, p. 340.

³²Riva-Palacio 1888-1889, pp. 695-696.

³³The *alcabala* collected in Mexico City and its vicinity comprised in 1761-1766 half of the total receipts from this tax in the entire kingdom, and made up one-fifth of all crown revenues in New Spain. See Smith 1948.

³⁴Smith 1948, p. 3.

and thus surveys and listing of merchants were undertaken in the major towns.³⁵ By 1644 the merchant guild (*consulado*) in Mexico directly contracted with the crown to collect the sales tax. However, the practice by many town officials of subcontracting with the merchants was already in place by then.

Importers and wholesale merchants organized in 1594 the first American merchant guild, the *Consulado* of Mexico City, resembling its counterpart in Spain, the *Consulado* of Cádiz. In response to a proposal by the *Consulado* and the *Cabildo* of Mexico (municipal council), the Crown agreed to grant tax farms to the municipal corporations for the collection of the royal *alcabala*. A contract would be negotiated at a certain price detailing the duration of the contract and the area of the tax district. The crown argued that the farm of the sales tax would eliminate “the perjuries and frauds and other wiles,” and reduce the costs of collection, “which are frequently more burdensome and detrimental than the tax itself.”³⁶ The contract was initially negotiated with the City of Mexico, but since the early years the municipality subcontracted with the guild for the collection of part of the tax. In 1644 the City was forced to subrogate its contract to the *Consulado*; in 1647, the *Consulado* obtained the fourth contract on its own name.

From then on, and until 1753, the *Consulado* was granted all farm contracts.³⁷ Contracts were granted through an informal first price auction mechanism. In all cases there were contenders to the *Consulado* for the farm contract. It seems, however, that the *Consulado* had more bargaining power as time went on. The contract price was negotiated between the two parties. According to Smith (1948) the price was mainly determined by the area of the tax district, the tax rate, the competition for the contract, and the conditions of trade and monetary value of taxable transactions. On January 1, 1754, the viceroy handed over to treasury officials the administration of the sales tax of Mexico City.³⁸

The evidence above demonstrates that the crown did not need to invest in a coercive state administration to collect sales taxes. Instead, the crown contracted with the merchants who paid a fixed sum in exchange for the right to collect the tax. Further, the crown granted the colonial merchants unique access to the Spanish and colonial ports, and thus a monopoly on European trade with Spanish America. Since the merchants were organized in an identifiable body, the *Consulado*, the threat of punishment by taking away the merchants’ privileges was enough to enforce the transfer of resources to the crown.

³⁵Macleod 1987, p. 341.

³⁶Cited in Smith 1948, p. 4.

³⁷There was one exception: from 1677-1693 the crown took control of the treasury. I am not sure why this is the case, but it seems they still depended a lot on the *Consulado* for the collection of the tax. It is possibly related to the confrontations that were taking place in South America.

³⁸Smith 1948, p. 23.

3 The Model

Consider a complete information game in which a ruler, R , interacts with a set of N elite groups denoted by $i = 1, \dots, N$ (with a slight abuse of notation, N will refer to both the set and the number of elite groups). The key assumption is that what distinguishes the ruler is its monopoly on the provision of protection. The ruler can grant private parties (or herself) exclusive rights to certain economic activities, and thus to a flow of rents.³⁹

The ruler can provide a good, that I call protection, by offering each group a combination (x_i, τ_i) , where x_i is the level of protection offered in exchange for tax payment τ_i . Because of the ruler's ability to exclude, the protection profile $x = (x_1, \dots, x_i, \dots, x_N)$ can be provided as a private or a public good, and hence can be excludable or non-excludable.⁴⁰ That is, if protection is provided as a private good, different levels of protection can be offered to different elite groups, who will exclusively benefit from such protection. I henceforth call this *private protection*. If, on the other hand, protection is provided as a public good –henceforth *public protection*– all elite groups receive the same level of protection and no group can be excluded from the benefits of the protection offered. Therefore, if protection is public, $x_i = x^m$ for all $i \in N$, where m stands for military force: the provision of a standing army by the state is the public protection subject matter of this paper. Let $c(x)$ be the ruler's cost of providing profile x of protection, a continuous and increasing function. For a given offer profile (x, τ) , the ruler's net revenue is tax revenue net of protection costs: $\sum_i \tau_i - c(x)$.

The ruler has an additional instrument at her disposal: the ruler can choose to invest in a state administration backed by centralized coercion to collect the proceeds from protection τ_i .⁴¹ Let E be the (sunk) investment cost of coercive enforcement. Alternatively, the ruler can delegate the collection of revenue to the elite groups, who would then undergo the

³⁹This assumption is justified in the previous section.

⁴⁰By definition, public goods in addition to being non-excludable exhibit non-rivalry. That is, given the good or service is provided, the cost of provision does not increase with more people benefitting from it, and the benefit to contributors does not decrease from more people enjoying the good. Protection in the form of a standing army, which is the public good to which our historical narrative makes reference to, has both characteristics but non-excludability is sufficient for the argument we make here. Non-rivalry would only make the effect stronger.

⁴¹I abstract from the potential complementarity between the creation of a central army and a state administration with coercive enforcement. My intuition is that endogenizing this could lead to irreversibility in the transition to state-administered revenue collection. That is, given the investment in a standing army, a transition from coercive enforcement back to delegation will generally not be observed. The analysis here attempts instead to model the negotiation between ruler and elite groups before a far-fetched investment in coercive enforcement is undertaken.

cost of enforcing collection. Let e_i be the cost paid by elite group i if collecting revenue. There are therefore two alternative fiscal regimes: delegation or state administration.

The elite groups decide whether to accept or reject the fiscal regime and combination of taxes and protection offered. Since there is no coercive mechanism under delegation, a rejection by the elite groups entails opting out and not paying taxes or receiving protection. Investing in a state administration with coercion allows the ruler to dispose of this participation constraint by paying cost E . However, when the ruler proposes a transition to state administration the elite groups can reject the proposal. If at least one elite group rejects, delegation of revenue collection stays in place.⁴² In accordance with the historical case under study, I assume the ruler starts off with no coercive enforcement.

The decisions of the ruler and the elite groups are not isolated from the rest of the population or external actors: there is the potential for exogenously created conflict. The threat of conflict could be driven by international or internal forces, what matters is that the threats of conflict are symmetrically perceived by the elite groups and the ruler. At the beginning of the game the state of the world, s , is revealed. The country either faces a threat of conflict, $s = W$, or enjoys peace, $s = P$. The state of the world determines the return from the provision of public versus private protection. In particular, public protection –a standing army– is necessary to overcome conflict. The time line for the one-period interaction between the players is as follows:

1. The state of international relations is observed by all players.
2. The ruler chooses the fiscal regime and makes (publicly observable) offers (x_i, τ_i) to each i .
3. The elite choose whether to accept or reject the ruler's proposal.
4. The ruler provides protection. Income is realized.

All income accrues to the elite groups.⁴³ The income elite group i obtains, $y_i(x, s)$, depends on the protection profile provided by the ruler and the state of the world. If there

⁴²This assumption can be relaxed by requiring only a subset of the groups to accept. Nothing qualitatively relevant is gained by adding this.

⁴³Taxes are paid after the provision of protection. This implies the elite groups face a commitment problem: at the last stage there is no incentive for the elite to pay taxes ex-post. How can the ruler enforce tax payments under a non-coercive enforcement mechanism? The ruler provides protection to identifiable and organized groups, the merchant guild say. This allows the groups and the ruler to punish each other in case of deviations: the ruler would be able to punish non-payment by withholding private protection tomorrow. Including infinite periods in the game to incorporate this does not add any additional insights. The analysis here seeks to emphasize the commitment problem due to free riding rather than due

is a conflict, the income of all elite groups is threatened symmetrically and public protection is necessary to overcome conflict. Otherwise, the groups face only threats specific to their individual incomes. Formally, for $\theta = P(s = W)$, the ex-ante income of individual i is:

$$y_i(x, s) = (1 - \theta)y_i(x) + \theta y_i(x^m)$$

In particular, if the probability of conflict is zero, $\theta = 0$, the protection offered affects each elite group's income through the continuous and concave function $y_i(x)$, where x can be private or public protection. If $\theta = 1$, however, income depends only on the level of public protection, $y_i(x^m)$. When protection is provided as a private good, elite group i can be excluded from the private protection offered to $j \neq i$, and thus $y_i(x) = y_i(x_i)$ is independent of the actions taken by $j \neq i$. For instance, if i rejects his offer i 's reservation utility $y_i(x_1, \dots, 0, \dots, x_N) = y_i(0)$ is independent of (x_j, τ_j) . This is not the case when protection is public. In that case, all i are benefitted with public protection level x^m . If player i chooses not to accept the ruler's offer (x_i, τ_i) and contributes nothing to protection, he still benefits from the public protection provided: $y_i(0, x_{-i}) = y(x_{-i}^m)$, where x_{-i}^m is the level of public protection provided by the ruler given that i is not contributing and everybody else is. If no standing army (public protection) is provided and there is a conflict, income is zero: $y_i(0; W) = 0$. The elite groups' payoff is: $y_i(x, s) - \tau_i - e_i$, for each $i \in N$.

A final comment before undertaking the equilibrium analysis. We assume that offers are publicly observable under both fiscal regimes. This implicitly assumes that the ruler can commit to the offers made. That is, the ruler cannot privately renegotiate the protection offered with an elite group after the others have accepted the offer. Allowing for private offers turns out to not affect the qualitative results of our analysis. What matters here is not observability but the ruler's ability to enforce revenue collection. Assuming public offers makes the exposition more clear.⁴⁴

3.1 Equilibria

I solve for the pure strategies subgame perfect Nash equilibria (SPNE) of the game. The ruler makes the offer and thus we are solving for the ruler's preferred equilibrium. There

to timing. Thus, and for ease of exposition, we assume the elite can commit to pay in this one-period game. See Fudenberg and Tirole 1991, ch. 9

⁴⁴The analysis here draws on Segal 1999. In that paper, the nature of the externality problem in contracting depends on whether the ruler can commit to publicly observable bilateral offers or not. This turns out to be important in some applications and thus it is emphasized by Segal. In our analysis, however, both public and private offers yield inefficient outcomes in the presence of externalities: non-observability is not essential. More on this in section 3.1.

may be however multiple equilibria depending on the weight given to the utility of each player. In particular, we could allow the elite groups to move first and make the offer. The qualitative results of the analysis are preserved when the elite groups coordinate on their preferred equilibrium (see Segal 2003).⁴⁵

The following equilibrium analysis relies on the solution to two basic optimization problems, one for each fiscal regime. I outline them here but will further discuss them in the analysis. Recall that when there is no coercive mechanism in place, the elite groups can choose to opt out and reject the offer. Thus, under delegation, to ensure compliance the ruler needs to take into account the participation constraints of the elite groups. The ruler's problem when choosing the combination of taxes and level of private protection is to maximize net revenue $\sum_i \tau_i - c(x)$ subject to the set of participation constraints below for all $i \in N$; the first one if providing private protection, the second one if protection is public:

$$y_i(x) - \tau_i - e_i \geq y_i(0), \quad (1)$$

$$y_i(x^m) - \tau_i - e_i \geq y_i(x_{-i}^m). \quad (2)$$

Investing in a state administration with coercion allows the ruler to dispose of these participation constraints by paying cost E . However, when the ruler proposes a transition to state administration the elite groups can reject the proposal. The ruler's problem is then:

$$\max_{x \in \mathbb{R}^N} \sum_{i=1}^N \tau_i - c(x) - E \quad (3)$$

$$\text{subject to } y_i(x) - \tau_i \geq y_i(\hat{x}) - \hat{\tau}_i - e_i, \quad \text{for all } i \in N,$$

where $(\hat{x}, \hat{\tau})$ refers to the equilibrium offer under delegation.

The ruler can always offer no protection and demand no tax payments. In such a case, the elite would obtain their outside option. Thus, without loss of generality we restrict attention to equilibria in which the ruler provides protection. Note that the continuity and concavity assumptions on $y_i(x)$ guarantee the existence of equilibria. The game is analyzed first under peace times.

Peace: Protection provision and fiscal regime

This section gives the conditions under which the ruler would rather use her ability to exclude, and thus provide private protection, to enforce the collection of revenue rather

⁴⁵During colonial times, in practice, for a given tax rate announced under a tax farm, a contract price was negotiated between the contenders to the farm and the Spanish crown through an informal first price auction. See section 2 for a discussion on the factors that affected the pricing of the contract.

than invest in a state administration with coercion. The conditions outlined here depend on the lack of a threat of conflict. When there is a threat of conflict, the return from providing public protection increases and that influences the choice of fiscal regime. The next section addresses the transition to a state administration when a threat of conflict is faced.

A strategy profile (x, τ) constitutes a Nash equilibrium in which the elite groups accept the ruler's offer under delegated revenue collection if and only if the participation constraints in (1) are satisfied. The right hand side of the constraint represents the income elite group i would obtain if rejecting his offer while all other groups accept their offers. A rejection entails obtaining no private protection: income falls to $y_i(0)$. Note that player i 's reservation income does not depend on the offers made to other elite groups or on the actions taken by these groups since protection is excludable. In the ruler's preferred SPNE all the constraints bind, otherwise the ruler has an incentive to increase taxes. Therefore, the set of revenue-maximizing private protection \hat{x} solves:

$$\hat{x} \in \arg \max_{x \in \mathbb{R}^N} \sum_{i=1}^N y_i(x) - c(x) - \sum_{i=1}^N (y_i(0) + e_i) \quad (4)$$

Since the elites' reservation income does not depend on the actions taken by other elite groups, the ruler maximizes total surplus when maximizing her own revenue and an efficient outcome is implemented.

If instead the ruler chose to propose a transition to revenue collection by means of a centralized administration with coercive enforcement, the ruler's problem would be as in (3). It is clear by comparing the programs under each fiscal regime that the equilibrium choice of private protection is the same in both regimes, while the tax rate is higher under state administration.

The following proposition shows that if the provision of private protection is profitable, and enforcement by means of delegation is more efficient than through a state administration, the ruler in equilibrium relies on her ability to exclude rather than on coercion to obtain revenue.

Proposition 1. *If $E > \sum_i e_i$ and the revenue-maximizing level of private protection for the ruler satisfies the following condition:*

$$\sum_{i=1}^N (y_i(\hat{x}) - y_i(0) - e_i) \geq c(\hat{x})$$

the unique SPE when no threats of conflict are present is as follows:

- The ruler proposes delegation to the elite groups, and offers private protection profile \hat{x} and taxes $\hat{\tau}_i = y_i(\hat{x}) - y_i(0) - e_i$.
- Elite group i accepts the offer and pays taxes if $\hat{\tau}_i^* \leq y_i(\hat{x}) - y_i(0) - e_i$.

Proof. The inequality is the participation constraint for the ruler: otherwise, no protection is offered. The choice of fiscal regime comes from comparing the objective functions at the optimal level of private protection under each regime: if $E > \sum_i e_i$ delegation is preferred. The binding participation constraints for each i determine the tax rate profile. \square

The above result is contingent on higher (sunk) enforcement costs of a state administration. This can be justified. The need to monitor and coerce not only the tax collector but also the tax payer when taxes are collected by a state administration implies an efficiency gain when contracting out. Using locals with insider knowledge of the economic transaction being taxed, or with information about the locals' capital and property implies that 'out sourcing' enforcement saves on monitoring and information costs.⁴⁶

This subsection shows that under no threats of conflict the provision of private protection allows the ruler to rely on the elite groups for the collection of revenue rather than investing on coercive enforcement. When protection is excludable the ruler can distribute rents and levy taxes precisely because of the excludable nature of protection. Interestingly, this result shows that the ruler is not always better off by choosing coercive enforcement institutions to enforce the collection of revenue.

Transition to state administration: threat of conflict

As mentioned above, the state of the world determines the return from the provision of public versus private protection. In particular, public protection a standing army is necessary to overcome conflict. Thus, in what follows we look for the equilibria in which public protection is provided by the ruler.⁴⁷

For future reference, let x^* denote the (optimal) level of public protection that maximizes the ex post payoff of the N elite groups and the ruler:

$$x^* \in \arg \max_{x \in \mathbb{R}^N} \sum_{i=1}^N y_i(x) - c(x). \quad (5)$$

⁴⁶Kiser (1994) emphasizes this trade-off in his discussion regarding the efficiency of state administration versus tax farming: 'out sourcing' saves on enforcement costs but requires the ruler to provide information rents.

⁴⁷If the probability of winning at a zero provision of soldiers were positive, there could be instances at which the ruler would not provide a regular army during war times.

The analysis below shows that the ruler will not be able to commit to provide an army of size x^* under delegation of revenue collection. Furthermore, I show the conditions under which both the ruler and the elite groups are better off with a reform of the fiscal system: a transition to revenue collection by a state administration with coercion is observed in equilibrium.

If the ruler chooses to delegate the collection of revenue, play constitutes a SPNE in which the elite groups accept the offer if and only if the participation constraints in (2) hold. I rewrite each i 's constraint below:

$$y_i(x^m) - \tau_i - e_i \geq y_i(x_{-i}^m).$$

The right hand side of the inequality represents the expected income for elite group i if it does not contribute with the financing of the army given that all other groups accept their offers and contribute. This is the case because, as mentioned, public protection does not allow the ruler to exclude non-contributors from the benefits of protection. The difference $x^m - x_{-i}^m > 0$ represents the reduction in army size if player i rejects his offer and does not contribute, given that all other elite groups are contributing to the provision of the army.

All participation constraints must bind at the SPNE preferred by the ruler. Otherwise, the ruler could increase revenues by increasing taxes and the constraints would still hold. Thus, the ruler's profile of revenue-maximizing public protection can be written as follows:

$$\hat{x}^m \in \arg \max_{x^m \in \mathbb{R}^N} \sum y_i(x^m) - c(x^m) - \sum y_i(x_{-i}^m) \quad (6)$$

The problem in (6) differs from the surplus maximizing program (5) by its last term. This is due to the fact that the expected reservation income of the elite depends on the decisions made by others. Even if the offer is rejected by elite group i , they will benefit from the provision of the army because of its non-excludable nature. Using the terminology in Segal (1999), externalities on non-contributors are present.⁴⁸ The following result follows from applying Proposition 2 in Segal (1999).

⁴⁸This is due to the fact that offers are publicly observable. When that is the case, the reservation utility for i is given by the expected income given that everyone else accepts the offer, and inefficiencies arise when there are externalities on non-contributors. If, on the other hand, offers were private, reservation utility would depend on the agents' beliefs about offers extended to other agents; the ruler's choice would need to be a best response to those beliefs. Inefficiencies would arise then because of externalities at the efficient army size. In fact, if the principal cannot commit, an inefficient outcome can be obtained even if externalities on non-contributors are absent: the inefficiency is due to the lack of commitment on the part of the principal. See Segal 1999. Since both public and privately observed offers yield externalities in this paper's setup, we chose to use public offers for ease of exposition.

Lemma 1. *Given that externalities are positive on non-contributors, the equilibrium level of public protection under delegated revenue collection will be less than optimal: $\hat{x}^m \leq x^*$.*

The analysis of the delegated regime can be thought of as private provision of public protection (voluntary contributions). Each elite group does not internalize the benefit others receive from his contribution to the army. Taking this into account, the ruler has an incentive to provide a smaller army than optimal. The socially efficient level of protection can not be achieved by means of delegated revenue collection: the elite groups cannot commit to pay. Using the economics lexicon, the positive externality present in the provision of public protection gives raise to a free rider problem. The cost (income loss) due to this free rider problem is captured by the increase in income that would result from a larger army size if the elite groups could commit to pay:

$$y(x^*) - y(\hat{x}^m).$$

If the elite groups were able to coordinate among themselves and commit to pay, $\hat{x}^m = x^o$ and there would be no cost from the free riding problem. If, at the other extreme, the ruler interacts with every elite group, but the elite groups interact only with the ruler, and each group is infinitesimally small, the free rider cost will be as large as possible: $\hat{x}^m = 0$.

The combination of tax and protection offered must yield a higher (expected) income to the elite than that obtained under delegation for them to comply. Let $\hat{\tau}$ denote the equilibrium tax profile under a farm. The ruler's problem if attempting state-administered revenue collection is:

$$\begin{aligned} & \max_{x^m \in \mathbb{R}^N, \tau \in \mathbb{R}^N} \sum \tau_i - c(x^m) - E \\ & \text{subject to } y_i(x^m) - \tau_i \geq y_i(\hat{x}^m) - \hat{\tau}_i - e_i, \quad \text{for all } i \in N. \end{aligned}$$

Proposition 2 shows that if the cost from the free rider problem is large the elite groups will acquiesce to a fiscal reform even though it will entail giving the ruler greater capacity to tax.⁴⁹ If the benefit from increased income due to a higher level of public protection compensates for the increase in tax collection costs under a state administration, we observe in equilibrium a fiscal reform and the creation of an optimally sized army. The revenue collected by the ruler will be higher relative to delegation because of the internalization of the externality from providing public protection under a state administration.

Proposition 2. *Let x_{-i}^m represent the army size if player i rejects his offer and does not contribute, given that all other elite groups are contributing to the provision of the army.*

⁴⁹Acquiescence: the act of implying consent by remaining silent.

If the following inequality holds:

$$y(x^*) - y(\hat{x}^m) \geq c(x^*) - c(\hat{x}^m) + E,$$

at the SPE when a conflict is faced we observe a change in the fiscal regime and the creation of an army as follows:

- The ruler proposes a transition to coercive enforcement, provides public protection x_i^* for all i , and taxes $\tau_i^* = y(x^*) - y(x_{-i}^m)$ to each i .
- Elite group i complies if $\tau_i^* \leq y(x^*) - y(x_{-i}^m)$.

Otherwise, a smaller army financed through delegation is provided:

$$\hat{x}^m, \text{ and } \hat{\tau}^i = y(\hat{x}^m) - y(x_{-i}^m) - e_i.$$

Proof. The inequality gives the condition under which state administration is preferred over delegation when providing public protection. It is derived by comparing the objective of the ruler at each regime. Note that by Lemma 1 and since both y and c are increasing functions, $y(x^*) > y(\hat{x}^m)$ and $c(x^*) > c(\hat{x}^m)$. The tax rate profiles are obtained from the binding participation constraints of the elite groups. \square

A state-administered revenue collection system allows the colonial elite groups to commit to contribute to an increase in the level of military protection by the crown. If the benefit from overcoming the income cost due to free riding under delegation outweighs the costs of state administration, the ruler invests in a technology that commits the agents to pay taxes when they would not do so voluntarily. Such a reform yields a Pareto improvement: both the ruler and the elite groups are better off by the investment on coercive enforcement.

The above result is conditional on an additional exogenous parameter. The specification here implicitly assumes that if conflict is not overcome—the war is lost, say, due to a lack of a standing army— all players get zero income. That is, the outside option for the elite groups in the presence of a threat of war gives a sufficiently low reservation utility, otherwise the elite groups would prefer to opt out and not receive protection from the ruler in the first place. In particular, for the case of Mexico, the analysis requires the existing elite groups' belief that if the British took over the country their privileges would be lost. For example, for the merchants a negative war outcome implied losing, or in the best case sharing, their monopoly on trade. Alternatively, the elite groups could arguably opt for independence

from the crown. The analysis therefore also relies on the expectation of a lower utility outcome if independence.⁵⁰

The analysis shows that a successful transition to a coercive state administration hinges on a changed perception about the state of the world. In particular, on the existence of a (perceived) threat of conflict. A state of conflict increases the return of public protection by jointly affecting all players' payoff. The benefits of all parties are aligned and thus they are willing to cooperate. Besides, it makes the offer to both invest in coercive enforcement and provide protection as a public good credible on the part of the ruler. Even if there is agreement on the need to provide public protection, it is not until the ruler and the powerful elites have stakes on its provision that they can agree on increasing the level of public protection by means of a state administration with coercive enforcement. The question becomes how to finance public protection, rather than whether to invest on it.

3.2 Discussion

I abstracted above from an additional factor that can affect the cost due to the free riding problem: the size of the army that needs to be provided for a given size of the external (or internal) threat of conflict. Arguably, the benefit from overcoming conflict depends not only on the size of the domestic army but also on that of the opposing forces. For a given level of public protection, if the size of the opposing army increases, $y_i(x_m)$ falls. To keep the increase in income constant, a higher level of public protection would need to be provided. However, if the function exhibits decreasing returns, for a larger number of soldiers, the less one more soldiers contributes, and the higher the incentive to free ride on others will be. That is, the free riding problem can increase because of the size of the threat independently of the degree of cooperation among the elite groups.

Also, a comment on the irreversibility of centralized state revenue collection systems is in order. The analysis above suggests that when the threat subsides a transition back to delegated revenue collection would be observed. In fact, we rarely observe governments switching back to tax farming or decentralized revenue collection once a state administration with coercion has been created. The theoretical analysis can incorporate this by including more periods and emphasizing the sunk-cost nature of the investment in state enforcement. Once the ruler has borne the investment cost, even if the threat of conflict disappears, we would observe irreversibility, all else constant.

⁵⁰Interestingly, they did opt for independence later (1810). This could be due to the dramatically reduced strength of the Spanish crown. According to our analysis here, they did not believe the crown could indeed provide the protection offered.

4 Confronting the theory with colonial history

The model presented in the previous section sheds light on the forces driving the simultaneous creation of a standing army and fiscal administration during the Bourbon era. First, the analysis explains the timing of the reforms. According to proposition 2, the success of a fiscal transition hinges on a changed perception of the threat of conflict. The historical account in section 4.1 supports this prediction. I provide evidence of the change in international relations among the major European powers with territories in the Americas during the mid eighteenth century. Great Britain emerged as the dominant power; France lost all of its mainland territory in the Americas to the British; the Spanish feared a similar attempt on the part of the British on their Colonial territory. In addition, higher insecurity in the roads and towns, and threats of internal (Indian) uprisings are documented in that section. I also discuss the experience of the British colonies which provides a contrasting scenario.

This paper contributes to our understanding of the enforcement mechanisms behind the different revenue collection methods used by rulers, and relates such mechanisms to the nature of the goods and services states provide. In section 4.2, I demonstrate how through the reforms the crown shifted away from revenue collection based on ‘private’ exchange to rely instead on salaried officials and a coercive administration. Moreover, the provision of a public good, a standing army, took now precedence. Section 4.2 also includes a discussion on the new role played by *donativos* (donations) and loans, a revenue category that increased in importance during the period. This discussion provides support for the claim that the new fiscal and military measures undertaken were a first step towards the evolution to states with central administrations and a monopoly on coercion, and to the eventual birth of universal taxation.

4.1 Threat of conflict

“Foreign methods might not have appeared so attractive had not foreign power become so threatening.” Brading 1971, p. 26.

Once the period of initial settlement was past, the Spanish empire in the Americas faced “remarkably few external or internal challenges” (Brading, 1973, p. 406). For the maintenance of order within the territory, the crown relied upon the audiencias and mostly the Church.⁵¹ The threats faced at sea, primarily from the French and English, originated mostly from merchants seeking to better their trading positions. Accordingly, the only

⁵¹See Brading 1973 and Knight 2002.

forces that the crown depended upon in New Spain for its defense were *guarniciones* (troops protecting a specific place) and *presidios* (frontier military fortresses). These were mostly located in the northern border, Veracruz, and other strategic locations. These troops, in particular those at the ports, can be considered private protection –using the terminology of the above theoretical analysis– since one of their primary goals was to implement Spanish trade policy and thus benefit the merchants. Furthermore, and in contrast to Europe, there was no attempt to mobilize the landowning class for military or administrative service.⁵²

As was mentioned in section 2.3, there was a weakening of the colonial administration at the end of the seventeenth century. It was the period when many public posts were sold to the highest bidder, which not surprisingly led to disorder in public affairs and increased autonomy from the viceregal center, Mexico City, and Spain. All this was coupled with an increase in the Indian population and higher insecurity in the roads and towns: “...caminos y pueblos se plagaron de ladrones.”⁵³ Since the early eighteenth century Indian groups revolted in the northern parts of the country, particularly in Nuevo Leon.⁵⁴ At the same time, the southern regions faced continuous attacks from English pirates.⁵⁵

It was not until August 1762 that the Spanish colonies faced a serious state of alarm: Havana, Cuba, was taken by British troops during the Seven Years’ War (1756-1763). The creation of a regular army and the organization of militias was never a priority for the king until after the Seven Years’ War when a standing army was created.⁵⁶ In 1762 Juan de Villalba arrived in New Spain at the head of two regiments sent from Europe with the task of raising a reserve army of militia (Brading, 1987, p. 123). The army created was composed of the permanent troops and the civic and state militias. Lorenzo de Zavala (1918, I:XLII) estimates that in 1810 there were 7,083 men in the permanent troops, 3,604 in the presidial (frontier) troops and 18,804 in the provincial militias. The permanent forces were directly linked to the central government, were more professional and had a majority of *peninsulares*.⁵⁷ Local militias were mostly composed of creoles.

An important additional turning point was the expulsion of the Jesuits in 1767. Within the church, it was the Jesuit missions that mostly negotiated peace when Indian conflicts erupted. The expulsion thus led to many revolts, which threatened the life and property of European Spaniards (Brading, 1971, p. 27). The suppression of these revolts was supported

⁵²See Brading 1973 for more on the role played by landowners in the Spanish colonies: quite different from the European conception.

⁵³Riva-Palacio 1888-1889, p. 758: “roads and towns were plagued with robbers.”

⁵⁴Riva-Palacio 1888-1889, p. 760.

⁵⁵Riva-Palacio 1888-1889, pp. 637-641.

⁵⁶Gutiérrez-Santos 1961 gives a detailed account of colonial military history.

⁵⁷The Spaniards residing in New Spain were called *peninsulares*.

by Villalbas troops and apprehensive creole miners and landowners. As Archer (1977, p. 120) notes, colonial elites, both creole as well as peninsular, shared the crown's concern for social control. This is in accordance with our analysis: the elites acquiesce to coercion-based rule under a threat of conflict.

Seven Years' War (1756-1763)

The Seven Years' War changed the perception of both the colonial elites and the Spanish crown regarding Great Britain's warring intentions. The Spanish empire faced threats at sea from the English in the Americas since practically the launching of their colonial empire. These threats, however, sought to surmount the blockage on foreign trade imposed by the Spanish crown, never to challenge mainland possession. The events that transpired during the Seven Years' War, I argue, changed this perception.

In 1756, France declared war on Great Britain. This was the beginning of the French-Indian War, which later escalated into the Seven Years' War. For the first time in European history, battles occurred in colonial territory. There was fighting in India, North America, Europe, the Caribbean isles, the Philippines and coastal Africa. By the autumn of 1760, all French territory in mainland America had become British. An agreement made in August 1761 between the Bourbon kings of Spain and France, the Family Compact, brought Spain into the war. Britain attempts to attack the Spanish empire from the sea. In August of 1762, the British Royal Navy captures Havana, Cuba. The war ends following the truce signed at the Treaty of Paris on February 10, 1763. Spain rescued Havana (and Manila) from the British by offering Florida in exchange.

These events allow us to conjecture that not only the crown but also the elite changed their perception of the British menace. France lost all of its mainland territory in America to the British. If this was not enough for the Spanish to second guess the intentions of the British, a direct attack was mounted by the British fleet in Havana, Cuba, an important port for transatlantic trade. Even if a treaty had been signed, the Spanish realized the vulnerable position of their colonial empire. Spain's distant and ill-protected American colonies were vulnerable to their imperial rival, Britain, not only by sea, but also by land: the great expanses of the northern New Spain lay vulnerable to foreign advance.⁵⁸

That the colonial elite was also conscious of their own vulnerability can be best exemplified with the events and reforms that transpired in Cuba following the war. As our model would have predicted, Cuba was the first location where Spain attempted both the

⁵⁸Knight 2002.

organization of local armed forces and a fiscal reform.⁵⁹ In the negotiations that took place between the Spanish authorities and the local creole elite it is clear that “The central issue that confronted the Havana patricians... was not whether, but how they should arrive at an acceptable means to fund the cost of defense.”⁶⁰

Heterogeneity: failed transitions

The Bourbon reforms were not the first attempt of the Spanish crown to increase revenue and change colonial fiscal organization. In 1626 the Spanish crown attempted to increase revenue through the creation of the Union of Arms with the goal of sharing the burdens of defense in mainland Europe with the colony. A fixed annual contribution was demanded from each and every part of the monarchy. As our theoretical analysis would have predicted, the Colonial elite resisted the fiscal reforms and the Union of Arms had little success in raising the expected amounts. There was no imminent threat to the presence of the Spanish crown in mainland America to align the interest of all parties, which, according to our analysis, could have potentially triggered a fiscal reform.⁶¹

Two increments in the sales tax, however, were achieved a few years later: a 2-percent increment in 1632, and a further increase to 6 percent in 1639. The objective of these two increases was to finance a special fleet to protect the Caribbean; the fleet came indeed in operation in 1640. Notably, the fleet was financed through increases in the sales tax, the collection of most of which was at the hands of the merchant guild of Mexico City. The fleet’s main function was to escort transatlantic convoys (Brading, 1987). Hence the success in obtaining the increase in taxes: through the fleet the crown was providing the merchants with private protection, and the optimal amount of such protection had increased. (Arguably because of the increase in foreign piracy threats and/or naval technology.)

Following the British emergence as a dominant power, both the Spanish and the British crowns undertook fiscal, political, and economic reforms in their Colonial territories. As shown above, the Spanish Crown managed to preserve political stability while increasing colonial revenues remarkably for almost forty years. British failure, on the other hand, was notorious: in 1776 the thirteen British colonies in America declared their independence. According to the analysis here, a threat of conflict is a necessary condition for elite groups to comply with fiscal and military reforms. British success in the Seven Years’ War in fact *eliminated* the previous threat from France, and Spain was not strong enough militarily to be considered an eminent threat. Thus, the introduction of a centralized fiscal system

⁵⁹See Kuethe and Inglis 1996.

⁶⁰Ibid, p. 125.

⁶¹Elliot 1987.

at the hands of the British crown would not solve an externality problem whose solution would benefit the elite, and the reforms failed.

4.2 Transition to coercive taxation in New Spain

During the decade of the 1760s, with the Gálvez visitation (1765-71), a transformation of the entire structure of colonial government went underway. The primary emphasis of the reforms was upon increasing revenue collection.⁶² To attain this, an attack was mounted on two fronts. On the one hand, policies that sought to increase colonial income were implemented.⁶³ On the other, a reorganization of the methods of government took place: colonial administration was expanded and militarized. This section documents how the administrative changes impacted the enforcement mechanism of the tax categories analyzed above.

The first major fiscal change occurred in 1754: the contract with the Consulado was terminated and the collection of the sales tax of Mexico City entrusted to salaried officials. In 1765, the tobacco monopoly at the hands of the state was established. Old institutions like the treasury and the court of audit took on the new role of directly collecting taxes and not merely receiving tax collected under farm contracts. By 1776, salaried excise directors in charge of collecting all taxes on sales were appointed in 24 leading towns:⁶⁴ “all the leading towns were blessed with a local director and accountant of excise, assisted by a band of guards.”⁶⁵ According to Brading (1973, p. 403), the number of well-paid permanent offices in the colonial bureaucracy quadrupled.

After 1776 the practice of farming out revenue collection to private individuals or institutions in the mayor colonial towns was terminated.⁶⁶ The treasury, in the fifteen years after the termination of the contract with the merchant guild in Mexico City, managed to obtain at a rate of 6 percent more than the contract price the guild would have paid at an 8 percent rate. From 1761-1770 the sales tax yielded 175,000 pesos yearly in additional revenue.⁶⁷ In the period from 1765-1782 the New Spanish gross budget increased from 6 to 19.5 million pesos.

At the same time a fairly rapid and efficient royal postal service was organized through-

⁶²Brading 1973, p. 403.

⁶³This reform programme was based on a manuscript in circulation since 1743 elaborated by Campillo and Cossío: *Nuevo sistema de gobierno económico para la América*. Brading 1987, p. 122.

⁶⁴Brading 1971, pp. 51-52.

⁶⁵Brading, 1987, pp. 130-131.

⁶⁶In some outlying districts private individuals continued to be in charge of the collection of taxes. Administrative costs were too high relative to what was collected. See Fonseca and Urrutia 1791, p. 101-18.

⁶⁷Smith 1948, p. 35.

out the empire. This brought an end to the former freedom of action that distance and bad communications allowed.⁶⁸ The large distances and hilly terrain of New Spain provide additional evidence in favor of the high enforcement costs of a state administration. The distance between the ports and Mexico City is large, not to mention the difficult access due to the mountains. Mexico City is located in a valley at 2400 meters above sea level. In addition, the most important mining centers were situated in the northern part of the territory, some even further away than the ports.⁶⁹

The mediating role of the church declined as the army, both regulars and militias, grew in size and influence. Before the reforms, the local clergy played a vital role in the maintenance of order in the colonies. Now, military power was deployed on the streets not only against rebels but also bandits and common criminals. Furthermore, military men became viceroys and top officials: five of the twelve intendants were military officers.⁷⁰ The church was also formerly a key player regarding the collection of taxes. Attempts were made as well to regulate the collection of tithes. The Jesuits were expelled in 1767, and thereafter church wealth was expropriated and royal authority was emphasized as being above that of the church.⁷¹

The new trade policies, I argue, give further evidence of the reduced reliance on private protection to collect taxes. The commercial monopoly exercised by the import houses in Mexico city was abolished in 1778 (Decree of *Comercio Libre*). Free flow of trade was now allowed between the chief ports of the Spanish peninsula and the American possessions. Through the creation of a finance bank the regime attempted to free the productive sectors from the former reliance upon merchant credit, specially mining. Benefits from the increase in trade that resulted from these policies could now be obtained by the crown through its reformed fiscal system.

***Donativos* and Loans**

Royal extraction of resources from the population in the form of *donativos* (donations) started in Spain under Philip II, king of Spain from 1556 until 1598. *Donativos* from the colonial subjects, however, became more frequent under the rule of Philip IV (1621-1665).

⁶⁸Brading 1971, p. 34.

⁶⁹The British invasion of Rio de la Plata, present day Argentina, exemplifies the importance of territorial characteristics in exacerbating the free rider problem. In 1806 British troops attempted to take possession of Buenos Aires. The locals, however, forced the British to withdraw without the need of a Spanish military intervention. Rio de la Plata did not face the geographical hindrance of New Spain and was a much smaller vicerealty. That, arguably, facilitated the cooperation of the local elite.

⁷⁰Knight 2002, p. 261.

⁷¹Brading 1987, p. 125.

These requests were required of specific corporations: the merchant guilds in Mexico and Lima, and the Church. In some cases they even fell on the Indian communities. The first cry for help from the Spanish king directed specifically to the Mexican Consulado occurred in 1622. The crown was going through a period of scarcity mostly because of the Thirty Years War taking place in mainland Europe. The royal authorities asked for voluntary contributions and loans to help strengthen the fortifications in Havana, Puerto Rico and the mainland ports, and create the Armada de Barvolento. Loans and donations came mostly from the merchant guild. Again, in the period 1700-1715 a large number of *donativos* were requested to finance the War of Succession. In 1703 the king demands donations from the clergy in New Spain and imposes an extraordinary tax on public ministers. A further request was made during Fuenclara's term as viceroy (1742-1745). Support came again mostly from the merchant guild and ecclesiastical contributions.⁷²

Noticeably, this demands for money so far were addressed to specific and identifiable groups: the church, the merchant guild, public officials. After the administrative and military reforms of the 1760s decade, however, the nature of the *donativos* changed. In order to increase tax revenues to finance the war between Great Britain and Spain (1779-1783), a *donativo gracioso* was now requested by Charles III from all his subjects in August 1780. The universal and obligatory nature of these taxes must be emphasized: there were no exceptions. The authorities were able to collect the contributions (in three years time) given the new coercive nature of its centralized fiscal administration.⁷³ The analysis of the contributions in Marichal (1999, p. 108) shows that in large measure they came from the popular classes. This shows how the change in tax enforcement opened the door for new forms of extraction by the state; in this case, the birth of universal taxation.

The administrative changes also increased the king's ability to borrow. Forced and voluntary loans played an important role in the financing of the Spanish conflicts in the late eighteenth century.⁷⁴ Arguably, the perceived ability to pay of the state was strengthened once it demonstrated its capacity to tax by means of a centralized, coercive fiscal administration.

5 Conclusion

“Where benefits are not earmarked, ‘somebody else should pay’ is always a powerful motivation in tax policy.” Alt (1983, p. 194).

⁷²Marichal 1999, pp. 104-105, Riva-Palacio 1888-1889, p. 790.

⁷³Marichal 1999, pp. 106-11, Riva-Palacio 1888-1889, pp. 855-60.

⁷⁴See Marichal 1999, pp. 111-120 and Klein (1998).

The main implications from this paper do not only concern colonial Mexico but can tell us something about the evolution of the state at other times and places. States relying on granting and protecting excludable benefits to obtain resources can transition to state administered revenue collection under perceived threats of conflict. Two things are key: that the threat makes the provision of a public good necessary and that it affects in a symmetric fashion the constituents involved in the transition to a state administration. The new fiscal regime allows them to commit to pay for the financing of the good.

In general, any external shock that increases the return to the provision of a public good for a broad constituency should have a similar impact. That is, it can bring about qualitative changes to the fiscal regime. An interesting challenge for this paper is to further confront the results not only with fiscal transitions under conditions of war or threat of war in other times and places, but to propose similar shocks that would increase the returns to other public goods. For instance, what prompted the move towards state-provided education? Can the results here speak to the transition to public provision of health care?

Evidently there are risks associated with the creation of states with centralized coercion. Whereas a revenue collection mechanism not relying on state-administered coercion provides the benefited groups with means to constrain the state, coercive enforcement requires alternative political responses to guard against state expropriation. This suggests an inquiry on the link between the fiscal transition analyzed here and the creation of democratic institutions and other mechanisms to put checks on the state an interesting venue for future research.

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