Standardizing the fiscal state: cabal tax farming as an Intermediate Institution in early-modern England and France

Noel D., Johnson and Mark, Koyama

George Mason University, George Mason University

31 July 2012

Standardizing the Fiscal State: Cabal Tax Farming as an Intermediate Institution in Early-Modern England and France*

Noel D. Johnson† and Mark Koyama ‡
George Mason University

This Version: 31 July 2012

Abstract

How did modern and centralized fiscal institutions emerge? We develop a model that explains (i) why pre-industrial states relied on private individuals to collect taxes; (ii) why after 1600 both England and France moved from competitive methods for collecting revenues to allocating the right to collect taxes to a small group of financiers—a intermediate institution that we call cabal tax farming—-and (iii) why this centralization led to investments in fiscal capacity and increased fiscal standardization. We provide detailed historical evidence that supports our prediction that rulers abandoned the competitive allocation of tax rights in favor of cabal tax farming in order to gain access to inside credit and that this transition was accompanied by investments in standardization. Finally (iv) we show why this intermediate institution proved to be self-undermining in England where it was quickly replaced by direct collection, but lasted in France until the French Revolution.

Key words: State Capacity, Standardization, Tax Farming, France, England, Transaction Costs

JEL classification: N23, N44, H11, K00, D02

*We would like to thank Douglas Allen and Alexandra Mislin for reading an early draft and providing comments. All remaining mistakes are the responsibility of the Authors.

†Assistant Professor. njohnsoL@gmu.edu
‡Assistant Professor. mkoyama2@gmu.edu

'It is common ground, therefore, that the Renaissance monarchies of England and France shared important characteristics. But by 1714 they were so different from one another that one might almost call them mirror-images. Herein lies a most profound paradox'.

S.E. Finer (1999, 1308)

1 Introduction

A growing literature looks at the rise of fiscal institutions that constitute a modern tax state.[1] However, political scientist Charles Tilly has observed that scholars of state formation face a selection issue. Economists and political scientists study the institutions that have survived. Tilly raises the possibility that institutions that did not survived to the modern era may have been more than '...the fading features of the old regime, but the *intermediate institutions* which were crucial to the emergence of the states we know'. Hence, studies that focus exclusively on the emergence of modern institutions '...will tend to misrepresent the developmental process' (Tilly, 1975, 48).

This paper argues that the intermediate institution of cabal tax farming, which was marked by allocating tax rights to monopsonistic cabals of financiers rather than using competitive markets, was crucial for the rise of the modern state as it encouraged investment in fiscal capacity. Our investigation focuses on the development of two prototypical modern states: England and France during the early modern period (1500–1700). Both of these polities adopted cabal tax farming and both saw dramatic increases in the size of the centralized state and in fiscal capacity in the period before the industrial revolution. In England the intermediate institution of cabal tax farming soon gave way to direct collection and the rise a fiscal bureaucratic state, whereas in France it persisted until the French Revolution. By studying this institutional divergence we shed new light on the rise of the modern fiscal and financial institutions which were vital in laying the foundations for the industrial revolution.

We develop a model and analytical narrative that explains (i) why, before 1700, European states relied on markets to perform many functions, including tax collection; (ii) why early-modern states moved from decentralized, market-based, methods for collecting revenues towards more centralized and eventually more bureaucratic fiscal institutions; (iii) why this centralization also encouraged investments in fiscal capacity and the standardization of laws and weights and measures; and (iv) why this intermediate institution proved to be self-undermining in the long run.

Our analysis is driven by the two main types of transaction costs facing any early modern ruler.[2]

[1] See for example Tilly (1990); Bonney (1999); Ertman (1997); Bonney (1995); Chanda and Putterman (2007); Besley and Persson (2009, 2011); Kiser and Kane (2001); Dincecco (2009, 2011); Fukuyama (2011); O'Brien (2011); Dincecco (2011); Karaman and Pamuk (2011); Johnson and Koyama (2011); Gennaioli and Voth (2011).

[2] We follow the literature in defining transaction costs as the costs of establishing and maintaining property

The first transaction cost was that of collecting taxes in economies that were highly heterogenous and fragmented. High costs to monitoring government agents meant there was embezzlement and corruption. The main response to corruption was privatization combined with market-based mechanisms, such as competitive auctions, to allocate tax rights. Tax collection was farmed out to private individuals who bid competitively for their positions, paying a fixed fee or rent to the king and were, in return, the residual claimants on whatever was collected.[3]

The second type of transaction cost was that early modern monarchs could not credibly commit to repay debts that they incurred. This restricted their ability to borrow money and made them dependent on personal, or inside, finance. Whereas many city states had developed sophisticated forms of borrowing and public finance during the late middle ages, as late as 1650, the rulers of the major territorial state of Europe like England and France remained reliant on short-term loans from moneylenders, merchants and tax collectors.[4]

A number of papers study the use of tax farming to overcome the costs of tax collection in the pre-industrial world (see Bonney, 1979; Goldsmith, 1987; Kiser and Schneider, 1994; Kiser and Linton, 2001; Maurer and Gomberg, 2004; White, 2004; Allen, 2005, 2012; Johnson, 2006*a*,*b*; Coşgel and Miceli, 2009; Balla and Johnson, 2009), and there is an extensive literature on how monarchs in early modern Europe struggled to secure access to credit (see North and Weingast, 1989; Root, 1989; Epstein, 2000; Drelichman and Voth, 2011*a*; Stasavage, 2011). However, this is the first paper to build a model that shows how these two processes were interconnected.

Our model shows that when credit is less important to the ruler, states use competitive markets to allocate fiscal rights, especially when the costs of collection are high. In this equilibrium, the king has little incentive to invest in increases in state capacity that directly lower the cost of tax collection. Markets do that job for the crown. However, if the ability of the king to borrow from outside sources of finance is limited, then as access to credit becomes more important there is a strong incentive to abandon competitive tax farming since the decentralized institutions which minimize the cost of collecting taxes are incapable of supporting large amounts of inside lending. Hence the model explains why states might move away from competitive allocation of fiscal rights towards monopsonistic allocation, or, cabal finance.

The move from competitive markets to monopsony grants means that rulers no longer benefit

rights (Allen, 2000). We are building on the work of economics in the Law and Economics and New Institutional Economics tradition who have demonstrated that transaction costs matter because they determine the importance of institutional and organizational form (see Coase, 1960; North and Thomas, 1973; North, 1981, 1990; Barzel, 1997, 1989; Nye, 2008; Drobak and Nye, 1997).

[3] See Aylmer (1961); Prestwich (1966); Thomas (1983); Peck (1993); Allen (2012).

[4] See Stasavage (2010, 2011) for an analysis of why city states were able to issue public debt while territorial states were not. See Voth and Drelichmann for analysis of the relationship between the Spanish monarch Phillip II and his Genoese creditors (Drelichman and Voth, 2011*b*,*a*). See Epstein (2000) on the financial backwardness of early modern England.

from the information revelation properties of market mechanisms. Under monopsony tax farming, therefore, governments have a greater incentive to lower the transaction costs of directly monitoring the performance of its agents than they do under decentralized, competitive, tax farming. This requires investment in fiscal capacity, and in particular, in investments that reduce the cost of tax collection such as the standardization of laws, regulations, and weights and measures.

Nevertheless, the relationship between the king and the cabal of tax farmers a fragile one. The model shows how it can break down, and why such a breakdown is more likely in an economy with less heterogeneity and more standardized laws, taxes, and regulations. In this case, the crown may eventually find it least costly to collect taxes through direct collection, thus putting the state on the road to the eventual creation of a tax bureaucracy.

This framework helps explain why cabal tax farming was an equilibrium in England for a much shorter period than in France, where it lasted until the French Revolution. Part of this was due to historical happenstance, but a large amount of the explanation is due to the fact that England was simply a more homogenous political entity than France in the sixteenth century (Heckscher, 1955; Hoffman, 1994). This made the intermediate institution of cabal farming less stable in England as it lowered the opportunity cost of defaulting on the tax farmers. Hence, when the switch to cabal finance occurred, the next step to the tax bureaucracy that constituted the 'sinews of power' of the English state in the eighteenth century, was relatively smooth (Brewer, 1988). Our analysis thus helps to explain why England was further along in its fiscal and financial revolutions than France by the end of the seventeenth century and sheds light on the reasons why England was the first country to develop modern institutions and undergo the Industrial Revolution.[5]

2 French and English Tax Systems in 1500

In 1500 England and France were two of largest and most powerful European states. Yet their tax systems were undeveloped and neither monarchy had access to credit or financing at low or reliable rates of interest. The king was supposed to live off his own estate in both countries, raising taxes only when confronted by extraordinary circumstances such as invasions. In practice, however, permanent tax systems were established before 1500. The differences between these systems resulted from long-standing geographical and historical factors which meant that England had a much more centralized fiscal system than France before 1500 (Fryde, 1991).

[5] There is a large literature on England's Financial Revolution (see Dickson, 1967; Tomlinson, 1979; North and Weingast, 1989; Rosevere, 1991; Hart, 1991; Carruthers, 1996; Quinn, 2001; Stasavage, 2002; Sussman and Yafeh, 2006). In linking the Financial Revolution to the Industrial Revolution that followed a century later we are implicitly following North and Weingast (1989) and Pincus and Robinson (2011). However, we are also building on O'Brien (1988, 2001, 2011) and O'Brien and Hunt (1999) who argue that the Financial Revolution required a fiscal revolution and that this fiscal revolution began before the Glorious Revolution.

Geography meant that sea transport was always more important than inland trade in England, and this made it relatively straightforward for the monarchy to take control of the independent and local customs taxes (Gras (1912, 123-126), Heckscher (1955, 46)). The main ordinary tax collected by the king was the Customs, comprising the Great Customs on wool, the Petty Customs which were imposed on cloths, silks and other goods, and tonnage and poundage. Until the introduction of the Excise tax on internal trade in 1643, these remained the most important forms of ordinary revenue (Bonney, 1995; Braddick, 1996).

The French king relied on the royal tailles and numerous local taxes.[6] The tailles were collected either on persons or property, depending on the region involved. The various local taxes basically fell into the category of either a gabelle (tax on salt), an aide (sales tax), a traite (customs duty), or part of the domaine taxes. These taxes were farmed by private individuals. In France, the royal tailles and the tax farms constituted the greater part of revenues for the crown in 1500.[7]

English monarchs alternated between directly supervising collection, appointing local officeholders, and allocating the right to collect the Customs to a farm who paid the king a fixed lease price and retained the residual revenue as profit (see Fryde, 1959; Kaeuper, 1973; Bell et al., 2009, 2011).[8] Given the reliance in both England and France on tax farming and other fiscal rights that were 'sold-off' in various ways, their fiscal systems can be said to have relied to a considerable extent on market allocation methods in the late medieval period.

An important difference between the two countries in 1500 was that France was significantly less centralized than England. In France, property rights of all kinds were fragmented across different political entities ranging from the numerous local lords, known as seigneurs, to the regional courts

[6] The royal taille should not be confused with the 'seigneurial taille' which was collected by landholding nobles. The seigneurial taille was eliminated by an Ordinance of 1439 which simultaneously made the royal taille more legitimate and regular (Picot, 1979, 327-30).

[7] While the tailles and the tax farms were the two primary taxes collected on a regular basis by the crown, there were other more 'extraordinary' sources of income. For example, the crown would require free gifts (don gratuits) from the clergy on an increasingly regular basis during the sixteenth century. Similarly cities were often required to make loans to the king which would easily transform into gifts as well. If the cities objected or the crown decided they needed to be recompensed for their sacrifice it would often grant (or 'octroyer') them the permanent right to levee a sales tax which became known as an octrois tax (Franck et al., 2012). In addition, increasingly important revenues came from the sale of offices.

[8] The former policy aligned the incentives of the Customs farmers with the King, but the latter was a politically expedient meaning of buying support from local interests. Thus the decline in the power of the crown in the fifteenth century was accompanied by an increasingly reliance on local notables and merchants and a fall in the Customs revenue. Baker (1961) describes in detail the attempts made in the early fourteenth century to control the collection of the Customs. By the mid-fourteenth century, the crown had reached 'the conclusion that it had proved impossible to find trustworthy men to act as controllers' (Baker, 1961, 50). It therefore allowed the Customs to be collected by local office holders: 'the tradition that all work at the local level should be done at no cost to the King by the propertied men living in the counties and boroughs was firmly established; (Baker, 1961, 50). Strayer observed, however, that: officeholders 'had no compelling reason for exerting themselves to increase the king's income and they had every reason for wishing to keep the good-will of their relatives, friends and acquaintances in their own neighborhood' (Morris and Strayer, 1947).

Institution	Description
Champart	Rent worth 1/20–1/6 of value of the crop.
Cens	Paid by free peasants and burghers—worth up to a year's rent
Lods & Ventes	A charge levied when possession of the land changed.
Peages	Tolls on roads and rivers collected by agents of the seigneur.
Banalités	Taxes for using mills, wine presses, bread ovens, repairing iron tools.
Chevage	Small poll tax paid by serfs.
Formariage	Fine for marrying outside noble's domain paid by serfs.
Mainmorte	Paid by serf's heirs if he died without a son.
Corvée Labor	Regular dues owed in labor paid by serfs and freemen alike.
Droit de Leyde	Right of seigneur to tax trade by foreigners at fairs within his domain.

Table 1: A Description of the some of the most important seigneurial taxes and charges. Source: Wolfe (1972) and Renauldon (1765).

known as parlements. The fiscal system reflected this fragmentation. Parallel to the system of royal tax collection already discussed, there was an extensive seigneurial tax system.[9] In order to provide a sense of how extensive the the seigneurial system was, Table 1 describes some of the most common taxes and fees local lords were allowed to collect.

In England, after 1400 lords converted their feudal rights into cash rents (Brenner, 1976). In France, the seigneurial system survived into the early modern period and lords continued to extract numerous taxes, fees, licenses, and fines which varied from region to region. In addition to these explicit forms of taxation, local lords also had numerous regulatory rights.[10] The existence of this seigneurial tax regime reduced the ability of the crown to collect taxes. It increased overall tax incidence, thereby making resistance to royal tax increases greater. Just as importantly, however, it also created uncertainty. Each local noble had some discretionary authority over the enforcement and exact definition of rules, standards, and taxes.[11]

Despite these differences, the monarchies of Henry VIII (1509–1547) and Francis I (1515–1547) shared many common features.[12] After 1500, both were subject to similar external pressures, and

[9]Even this ignores the systems of the pays d'état and the church. Compared to the seigneurial system and the royal system, however, these two were of second order importance.

[10]For example, most crimes were tried by judges appointed at the seigneurial level. In addition, local lords possssed the right to set the weights and measures within their lands (Renauldon, 1765, 339). This ability could be used by lords in conjunction with more explicit taxes, paid in goods and services, to significantly increase the tax burden on their subjects, for example, by increasing the size of a foot ('pied') (Heckscher, 1955, 112).

[11]To take one example, the author of a tract on seigneurial rights from the mid-eighteenth century described the effect of the local tolls and tariffs (the peages) during the renaissance period as follows: 'One was not able to go up to or down from a region on the major rivers without being stopped to pay considerable seigneurial dues. It was the same by land, at each village, each town, each crossroads, the merchants and their merchandise were inspected and taxed (*rangonnées*) (Renauldon, 1765, 310-11).

[12]See the opening quotation. Heckscher observed that 'Comparisons between England and France are always

they initially developed similar fiscal and financial institutions. The introduction of gunpowder weapons, artillery, and improved fortifications led to a dramatic increase in the costs of warfare. This Military Revolution first put pressure on French and other continental monarchs to raise increasingly large amounts of revenue at short notice.[13] Since the new costs of warfare were so large, they could not be met through taxation, and rulers across Europe turned to borrowing and sought new ways of accessing credit. We will argue below that it was this pressure to borrow that led early modern monarchs to move away from the competitive allocation of fiscal rights, as epitomized by competitive tax farming, towards a reliance on monopsonies, or cabals, of tax collectors who lent money to the crown in addition to managing the collection of taxes.

3 A Model

In this section we develop a model to explain the choice of the crown over how allocate the rights to collect taxes as well as the amount the crown invests in fiscal capacity. Formally, there are two types of players: a crown and n tax farmers. Each tax farmer denoted by $i \in n$ has a unique marginal cost of collection θ_i, where θ is uniformly distributed on support $\underline{\theta}$ and $\bar{\theta}$ with mean μ and variance σ^2. Each tax farmer's marginal cost of collection is private knowledge. Tax farmer i's valuation over the fiscal rights embodied by the tax farm lease is decreasing in his marginal cost of collection such that he obtains $V_i(\theta_i)$ for leasing the tax farm, where $V'(\cdot) < 0$.

Figure 1 shows the choices available to the crown and the tax farmers and the order in which they are made. Play begins with Nature choosing the amount of lending (x) required by the crown from his tax collectors. We refer to this type of lending as 'inside finance'.

After the amount of inside finance is determined, the crown decides how to allocate fiscal rights.[14] It can allocate the right to collect taxes competitively, or, decide to give it to a monopsonist. Under competition, the crown offers the contract to the n farmers and leases out the contract to the farmer who bids the highest for it in an English (ascending bid) auction. Under monopsony, the crown offers the contract to a cabal of tax farmers and payoffs are allocated according to the Nash Bargaining solution. Under cooperative bargaining, we assume that if the crown collects the taxes itself it faces the same marginal cost as the least profitable tax farmer ($\theta_{crown} = \bar{\theta}$).

After deciding how to allocate fiscal rights, the crown then makes a dichotomous decision to invest

instructive. But as regards the development after 1660 and 1688 they are so because of the peculiar outstanding contrasts. The course of events down to the Civil War wears a different complexion; till then the agreement between English and French internal development was usually greater than the disagreement' (Heckscher, 1955, 263).

[13] See Parker (1976) for a classic statement for the Military Revolution.

[14] Historically, the nature of these rights could vary quite a bit. They included, for example, grants to collect a specific tax at a set rate, monopoly rights to the sale of some product at a set price, of the right to sell licenses. In this paper we will often refer to all of these sorts of rights as 'taxes'.

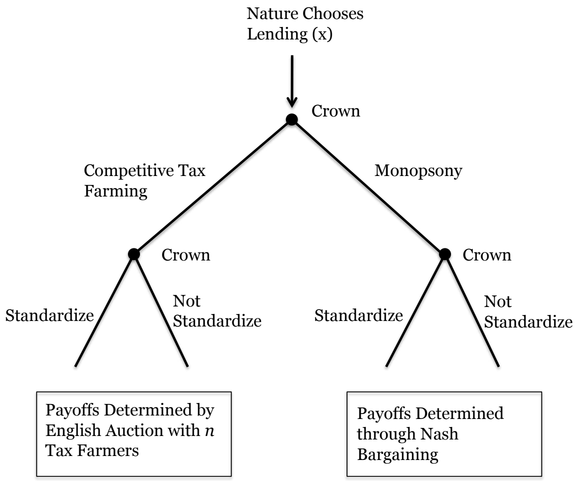

Figure 1: Contract Allocation Game

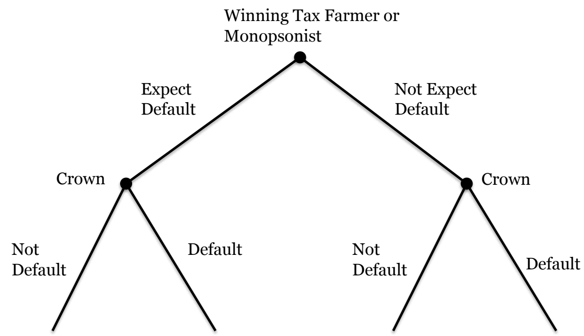

Figure 2: Financial Intermediation Stage Game

or not invest in fiscal capacity by establishing common weights and measures, making the tax system more uniform, and reducing opportunities for evasion. This was primarily standardization of the fiscal system, but, as we demonstrate, it also led to greater standardization throughout the economy as a whole. We model standardization as a reduction in the variance of the cost of tax collection.

After the crown's decisions over how to allocate tax rights and whether or not to invest in fiscal standardization, then a contract is written that sets the payoffs to the crown and either the winning tax farmer (under competition) or the monopsonist. We begin by solving for the equilibrium strategies of the crown and the tax collectors assuming there is no lending ($x = 0$). Then, we allow $x > 0$ and model the long-run relationship between the tax collectors and the crown. We assume the contract runs for two periods and can be renewed. In the first period, the crown receives the contractually agreed upon first period payments plus any loans on second period receipts. In the second period the crown chooses whether to default on the contract. If there is no default, the tax farmer receives second period receipts. He pays the crown the difference between the contractually agreed upon amount and the anticipations owed him. If the crown chooses to default, then the contract with the original farmer, who receives nothing in the second period, is broken. Under competition, the contract is re-leased to another farmer who reaps the rewards of his predecessors investments and pays the Crown the agreed upon amount. Under monopsony, in the event of default, management of the fiscal rights revert to the crown. The game then repeats. Figure 2 depicts the stage game of this repeated interaction.

The model generates the following results. (1) Competitive tax farming provides the highest revenues for the crown so long as lending is zero or low. (2) The Crown has a greater incentive to invest in standardization under monopsony than under competitive farming. (3) Monopsony sustains larger amounts of lending than competition. This last result helps explain why rulers in the early modern period initially used competitive tax farming, but then moved away from it towards monopsonistic, or, 'cabal' tax farming as the amount of inside finance grew large during the seventeenth century. Finally, the model generates predictions that enable us to explore the long-run sustainability of cabal tax farming as an equilibrium. The cabal of tax farmers will continue to lend to the crown so long as the King can credibly commit to not defaulting on them. However, (4) as standardization increases, the ability to sustain lending under monopsony is gradually eroded. The relationship between the crown and the cabal of tax farmers is more likely to be stable in a highly fragmented economy than in an economy with a comparatively high level of standardization. This last result explains why this cabal financing equilibrium broke down in England relatively rapidly, while it persisted in France for over a century.[15]

3.1 Tax Farming without Financial Intermediation

Suppose the crown does not initially use the tax farmers as financial intermediaries. In such a situation of information asymmetry, an auction is an ideal mechanism by which to have the tax collectors themselves reveal their costs of collection by placing bids on the right to collect the tax. The price to charge is simply determined by the competitive bidding of the farmers themselves. We can model the determination of the lease prices as a game of incomplete information between the n tax collectors. If we create an ordinal ranking of the marginal costs of collection such that $\theta_1 \leq \theta_2 \leq \ldots \theta_n$, it follows directly from our assumptions concerning personal valuation that $V_1 \geq V_2 \geq \ldots V_n$. In other words, the farmer with the lowest marginal cost of investment in the tax will have the highest valuation which we will denote as V_1 and which is equal to $V(\underline{\theta})$.

In sixteenth and early seventeenth century France, tax farms were actually allocated using ascending bid, or English, auctions. The revenue farms were also allocated competitively in sixteenth century England. In an ascending big auction between bidders with independent, private valuations who adopt symmetric strategies, it is weakly dominant for every bidder to play his true valuation for the Farm. The winner then ends up paying the valuation of the second highest bidder. The expected

[15] Note that an alternative explanation for reliance on tax farming is based on risk aversion. While this explanation is undoubtedly part of the story, it fails to shed light on some of the most important characteristics of tax collection in the early modern period. According to the risk aversion hypothesis, there is an implied trade-off in which the risk-averse government sacrifices some of its potential income in return for a secure revenue stream. The first problem with this framework is that it does not shed light on how tax farming is organized i.e. whether it is competitively organized or centralized. A second problem is that it is inconsistent with the fact that in both England and France farmers were permitted defalcations in the event of war or other shocks. These defalcations meant that the king rarely received a fixed amount and the receipts from the farms often varied considerably. Nor does it make sense to assume that the king was more risk adverse than the tax collectors. Third, there is no reason to suppose that the king of England became more or less risk adverse in 1604 or 1683.

value of the winning bid is then $B^*(V_2, n) = V_2$, or, the expected value of the second highest valuation. The expected value of the lease price paid by the winning bidder is then, $B^*(V_2, n)$.

The winning bid has the desirable property that it allocates the tax farm contract to the collector with the lowest marginal cost of collection. Furthermore, $\lim_{n\to\infty} B^*(V_2, n) = V_1$. Under a uniform distribution, therefore, the winning bid $B^*(V_2, n)$ approaches $V(\underline{\theta})$, the valuation of the lowest cost tax farmer. As bidding for the tax farm becomes more competitive, the winning bid will approach the true valuation of the tax collector with the lowest opportunity cost of collection and the crown expropriates all of the gains from sub-contracting collection.

Alternatively, the crown can give the contract to a monopsony of tax collectors. We call this monopsony the cabal. In this case, the crown and the cabal divide up the total tax revenue according to the Nash bargaining solution. For convenience, we assume the cabal has the marginal cost of the average tax farmer: $\hat{\theta}$.[16] Therefore the value of the tax rights under the cabal is: $V(\hat{\theta})$. Let α represent the share of this received by the cabal and $(1-\alpha)$ the share going to the crown. In this case the cabal obtains: $\alpha V(\hat{\theta})$ and the crown receives: $(1-\alpha)V(\hat{\theta})$. If the crown does not lease the contract to the cabal it obtains $V(\bar{\theta})$ which is the value of the tax farm under direct collection. The net total surplus which is maximized by the Nash bargaining rule is therefore:

$$[\alpha V(\hat{\theta})] \cdot [(1-\alpha)(V(\hat{\theta}) - V(\bar{\theta})] \,. \tag{1}$$

The Nash bargaining solution maximizes the surplus relative to the status quo. Maximizing equation (1) yields shares for the cabal and the crown respectively equal to:

$$\alpha = \frac{1}{2}\big(1 - \frac{V(\bar{\theta})}{V(\hat{\theta})}\big) \quad ; \quad (1-\alpha) = \frac{1}{2}\big(1 + \frac{V(\bar{\theta})}{V(\hat{\theta})}\big) \,.$$

Under cabal tax farming, the payoffs for the crown and for the cabal are therefore given by:

$$\text{Crown's payoffs} \quad = \quad \frac{1}{2}\big(V(\hat{\theta}) + V(\bar{\theta})\big) \,; \tag{2}$$

$$\text{Cabal's payoffs} \quad = \quad \frac{1}{2}\big(V(\hat{\theta}) - V(\bar{\theta})\big) \,. \tag{3}$$

It is straightforward to see that the payoffs to the crown under cabal tax farming are inferior to those under competition since $V(\underline{\theta}) > \frac{1}{2}\big(V(\hat{\theta}) + V(\bar{\theta})$. This generates the following proposition:

Proposition 1 *Competitive tax farming will always be preferred to centralized tax farming if tax farmers are not financial intermediaries.*

Using a competitive auction to allocate fiscal rights is a very efficient method for overcoming the

[16]Our results hold so long as $\theta_{cabal} < \theta_{crown}$.

transaction costs of collecting tax revenues. The crown will always prefer to use the market rather than direct negotiation to manage its fiscal system if financial intermediation is not an issue.

Furthermore, it follows that the crown has less incentive to invest in fiscal standardization under competitive tax farming compared to cabal tax farming or direct collection. We assume that standardization reduces the uncertainty of the crown with regards to the true marginal cost of the tax collectors. At the same time, it reduces the importance of local knowledge or specialist information or connections. As such, we model an investment in standardization as lowering σ.[17]

To see how the crown's payoffs are affected by standardization, we rewrite them in terms of the mean (μ) and standard deviation (σ) of the distribution from which the tax collector's marginal costs are drawn. Recall that the expected value of $\hat{\theta}$ is $\frac{1}{2}(\underline{\theta} + \bar{\theta}) = \mu$. Then, using the fact that θ is uniformly distributed, and that $\bar{\theta} = \mu + \sqrt{3} \cdot \sigma$ and $\underline{\theta} = \mu - \sqrt{3} \cdot \sigma$, we rewrite these payoffs as follows:

$$\begin{aligned} \text{Crown's payoff under competitive tax farming} &= V(\mu - \sqrt{3} \cdot \sigma)\,; && (4) \\ \text{Crown's payoffs under cabal tax farming} &= \frac{1}{2}\big(V(\mu) + V(\mu + \sqrt{3} \cdot \sigma)\big)\,; && (5) \\ \text{Crown's payoffs under direct collection} &= V(\mu + \sqrt{3} \cdot \sigma)\,. && (6) \end{aligned}$$

Clearly, the Crown's payoff under competitive tax farming falls as σ falls (holding μ constant), while the payoffs to the crown under cabal financing and direct collection increase as σ is reduced. Hence, we have the following proposition:

Proposition 2 *The crown has less incentive to invest in standardization under competitive tax farming relative to both cabal tax farming and direct collection.*

3.2 Tax Farming with Financial Intermediation

Thus far we have have only focused on the initial allocation of the tax farming contract. We now consider what happens when the crown borrows a portion of second period returns from the tax collector in the first period, with the understanding that this loan will be deducted by the collector from second period payments. This borrowing creates a commitment problem since the crown can choose to renege at the beginning of the second period of the contract and re-lease the tax farm to another collector to whom he does not owe repayment of debt. The possibility of this sort of ex-post renegotiation affects each tax collector's expected value for the right to collect the tax. The size of the anticipation x required of the tax farmer or the monopsonist is determined exogenously

[17] By giving the crown a dichotomous choice to either invest or not invest in standardization, we implicitly assume that heterogeneity cannot be *increased* by reducing standardization.

before the contract is written.

Financial intermediation affects the payoffs of the tax collector due to the possibility of losing the returns from the second half of the lease. There will, therefore, be two states of the world for the representative tax collector: default and no default. We indicate the state contingent nature of a tax collector's valuation for the tax farm using superscripts ND to represent no default and D to represent default. As discussed above, the expected value of the winning lease price under no default is $B^*(V_2^{ND}, n)$ which approaches the winning farmer's true valuation, V_i^{ND}, as n becomes large.

The expected lease payments over the course of the tax farm contract may be decomposed as, $B^*(V_2^{ND}, n) = B^*(v_{21}^{ND} + v_{22}^{ND}, n) = B^*(v_{21}^{ND}, n) + B^*(v_{22}^{ND}, n)$. This allows us the convenience of assuming that the winning tax collector pays his receipts to the crown as he gets them and write these payments as:

$$\begin{aligned} P_1^{ND} &= B^*(v_{21}^{ND}, n) + x\,; \\ P_2^{ND} &= B^*(v_{22}^{ND}, n) - x\,, \end{aligned}$$

where P_1^{ND} is the first payment on the lease, and P_2^{ND} is the second payment under the assumption that the crown is not defaulting.

In Figure 2, if the farmer plays 'expect default' and the crown chooses to breach the contract, then he re-leases the Farm to the $n-1$ remaining tax farmers. This is a common value auction, since the value of second period receipts depends only on the investment made in the first period by the original farmer. We assume the remaining farmers each get a signal as to the value of second period receipts, s_j. For simplicity, we assume this is a pure common value auction such that, $v_{12}^D = \sum_{i=1}^{n-1} s_i$. In other words, each farmer's valuation is dependent on the other farmers' valuations in the sense that knowing all of the signals would give you the correct value for the tax farm. The remaining farmers engage in an English auction for the right to manage second period receipts. Analogous to the English auction with independent private values discussed above, an equilibrium strategy in the English common value auction is to bid your true valuation given the signals you observe.

Assuming that the signals are ranked such that $s_1 > s_2 > s_{n-1}$, the winning bid will be $B_C^*(s_2, s_3, \ldots, s_{n-1})$. The winning bid incorporates all of the $n-2$ signals provided by those who dropped out of the auction at a given price. Furthermore, like the private values auction, as the number of bidders, and thus signals, becomes very large, the winning bid will approach the true value of second period receipts from the tax farm. The second period payment to the crown under default is then,

$$P_2^D = B_C^*(s_2, s_3, \ldots, s_{n-1})\,. \tag{7}$$

Having calculated the crown's expected payoffs under default and no default we use backwards induction to find the equilibrium strategies for the crown and a representative farmer in the stage game. The crown considers only his second period payments when deciding whether to renege on the tax farm contract. If the tax farmer is not expecting a breach, the crown will play renege if his payment from doing so is greater than from not reneging. In other words, he will renege if

$$x > \Delta B \,, \tag{8}$$

where ΔB is the difference between the original lease payment and the expected payment resulting from re-leasing the contract, or, $B^*(V_{22}^{ND}, n) - B_C^*(s_2, s_3, \ldots, s_{n-1})$. Thus, the crown incurs both a cost and a benefit from engaging in default. The cost is that he must accept a lower bid on second period payments from the $n-1$ remaining farmers competing to take over the tax farm. The benefit is that he expropriates from the original tax collector any loans paid in the first period.

Importantly, as the number of bidders, n, goes to infinity, ΔB goes to zero. The more competitive the auctions for tax farm contracts, or, the greater the amount of anticipations through the Farm, the less of a punishment the crown faces for default in the stage game. It follows that in the extreme case in which the tax farm auctions are perfectly competitive, the crown will default on any anticipations greater than zero in the stage game.

We can now extend our analysis to allow for the fact that the relationship between the crown and his tax collectors continued for years or even decades by allowing the two-period stage game to be infinitely repeated. In repeated games reputation can play an important role in sustaining cooperation between the crown and his tax collectors. According to the Folk Theorem, given a sufficiently high discount factor δ, the crown will play 'cooperate' and not renege on the tax farm contract even if it would benefit him in the stage game. To explicitly solve for this discount factor and see how it varies with our parameters, we assume that the collectors adopt a grim trigger strategy such that they cooperate with the crown by playing 'expect no default' so long as the crown has not reneged in the previous round. However, if the crown defects by reneging, then in subsequent rounds the farmers will play their equilibrium strategies from the stage game. Given these assumptions, the crown will choose to cooperate with his tax farmers so long as his discount factor satisfies,

$$\delta^* \geq \frac{x - \Delta B}{x + \Delta V} \,, \tag{9}$$

where $\Delta V$is equal to the decrease in the discounted value of future lease prices due to a positive expectation of default by the farmers once cooperation with the crown has ceased. Under perfectly competitive tax farming, this condition cannot be satisfied for any discount factor less than 1 since ΔB and ΔV go to zero as the number of farmers goes to ∞, reflecting the fact that it is very easy for the crown to find another individual to run the Farm.

In contrast to the case of perfect competition, lending can be sustained under cabal tax farming. This stems from the fact that the cabal of financiers can impose a multilateral punishment on the crown. Under cabal tax farming ΔB is equal to the difference between what the cabal pay for the fiscal right in the first period $v_1(\hat{\theta})$ and the crown's outside option, which is direct collection, for collecting the tax in the second period, $v_2(\bar{\theta})$. ΔV is equal to the difference between what the crown receives for the tax from the cabal without default over both periods, $V(\hat{\theta})$, and what the crown gets for managing the tax itself, $V(\bar{\theta})$. Equation (9) can be rewritten as:

$$\delta^* \geq \frac{x - \left[v_1(\hat{\theta}) - v_2(\bar{\theta})\right]}{x + \left[V(\hat{\theta}) - V(\bar{\theta})\right]}\,, \tag{10}$$

which can be satisfied for values of $\delta < 1$ so long as $\hat{\theta} < \bar{\theta}$. This leads to our third proposition,

Proposition 3 *The amount of lending supported under monopsony, or, cabal tax farming is greater than under competitive tax farming.*

Equation 10 states the conditions under which financial intermediation is possible: δ^* is the minimum value for the Royal discount factor which supports a cooperative equilibrium in which the crown chooses not to breach contracts and the tax farmers do not expect him to. Tax collectors require a degree of monopsony power in order to lend to the crown because this increases the opportunity cost to the crown of defaulting and, therefore, makes default less likely.

3.3 The Sustainability of Cabal Financing

Lending is possible if $\delta > \delta^*$. However, this condition does not rule out the possibility of defaults. It suggests that defaults will be associated with developments that either affect $V(\hat{\theta})$ or $V(\bar{\theta})$ or shocks that increase the weight that the crown places on the present such as wars or the threat of revolution which reduce δ.

This condition also sheds light upon the long-run sustainability of cabal tax farming and financing as an equilibrium. The variables $V(\hat{\theta})$ and $V(\bar{\theta})$ depend on the amount of standardization in the economy. To see how the level of standardization affects the long-run sustainability of cabal tax farming and financing as an equilibrium rewrite equation 10 as follows:

$$\delta^* \geq \frac{x - \left[v_1(\mu) - v_2(\mu + \sqrt{3}\sigma)\right]}{x + \left[V(\mu) - V(\mu + \sqrt{3}\sigma)\right]}\,. \tag{11}$$

Higher levels of standardization (lower σ) are associated with larger payments to the crown, but they also make it less likely that insider finance is sustained. A lower value of σ causes the RHS of equation (11) to increase, and as $\sigma \longrightarrow 0$ lending becomes impossible to sustain for $\delta < 1$. This generates our final result:

Proposition 4 *Cabal tax farming is more sustainable in an economy where standardization is low (σ is high).*

We would thus expect cabal tax farming and insider finance to survive for longer in an economy in which there are relatively low levels of standardization, whereas this equilibrium is likely to be more fragile in an economy characterized by a higher amount of standardization.

4 Applying the Model to History

The model suggests the institutional equilibrium of an early-modern state will depend on two factors: the amount of lending required by the crown from it's tax collectors (x) and how standardized are the country's institutions (σ). Figure 3 summarizes the model equilibria as well as illustrating the historical paths taken by England and France through these equilibria between 1500 and 1800. When both standardization and lending are low (lower left quadrant), competitive tax farming is effective in overcoming the high costs of monitoring tax collectors. If the crown starts demanding increasing amounts of loans using his tax collectors as intermediaries, then competitive tax farming is no longer sustainable and the institutional equilibrium tends toward cabal farming (upper left quadrant). Under cabal farming the crown has stronger incentives to invest in standardization since it no longer benefits from the information revelation properties of competitive markets to reveal the costs of collection of the tax collectors. However, the model illustrates that as the crown's ability to monitor its collectors increases, the opportunity cost of reneging on fiscal contracts also decreases. Thus, as standardization increases, the equilibrium will gradually shift from cabal farming with inside finance to direct management with outside finance (the lower right quadrant).

It is in this sense that we refer to cabal farming as an intermediate institution. The use of cabal tax farming generates the incentives for the ruler invest in state capacity so as to increase his revenues. However, cabal farming is only an equilibrium so long as standardization is relatively low. As the capacity of the state to directly monitor its fiscal agents increases, cabal farming is no longer an equilibrium.

The paths of England and France in Figure 3 give the outline for the analytic narrative we develop below. Fiscal institutions in both countries evolved in accordance with the model's predictions. Table 2 outlines some of the key dates we will discuss in the gradual institutional development in France from competitive tax farming to centralized cabal tax farming. Table 3 gives some of the key dates for England, showing how it adopted competitive tax farming later than France and then rapidly moved towards reliance on a cabal of tax farming for access to credit.

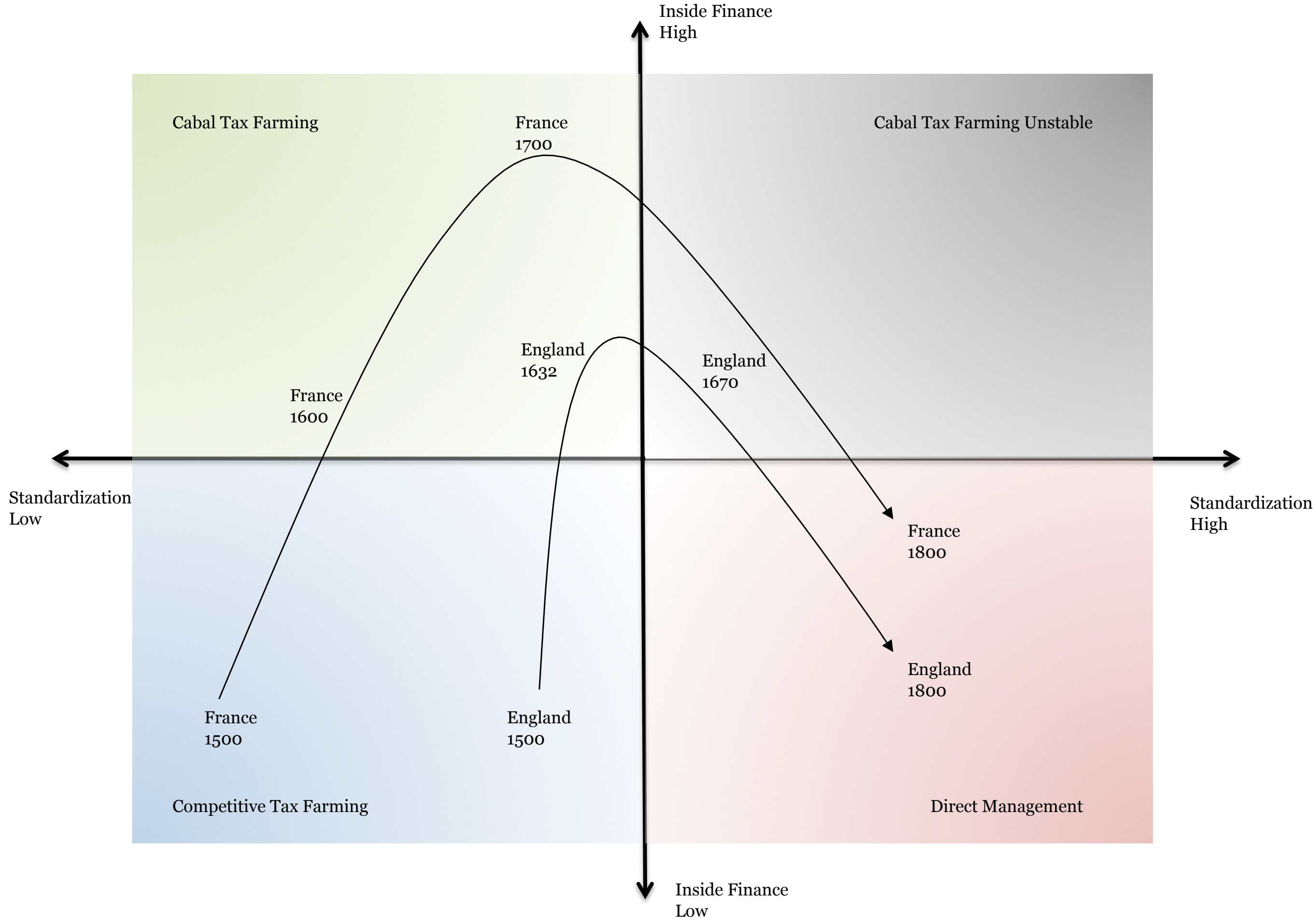

Figure 3: Summary of model equilibria and historical paths of England and France

While the histories of both countries support this institutional progression, there are also informative differences. The most important of these is that English institutions were, from the medieval period onwards, more standardized than those of France. As a result, English rulers were never as dependent on competitive tax farming as their French counterparts were. More importantly, when English rulers started using cabal farming in order to facilitate inside finance after 1604, this arrangement was much less stable than it was in France. Consequentially, the French fiscal system remained in an equilibrium in which fiscal rights were managed by cabals of wealthy financiers up until the Revolution. By contrast, English monarchs were eventually unable to credibly commit to these cabals of tax collecting financiers and this led to the demise of this intermediate institution in the second part of seventeenth century as illustrated in Table 3. The demise of cabal tax farming led the Crown to seek alternative sources of credit and paved the way for Parliamentary-based taxation and the subsequence financial and fiscal revolutions that occurred in England after the

Year	France
Before Early 1500's	Competitive Tax Farming at the parish level
1527	Jacques de Beune (Superintendant of Finances for Francis I) executed
1559	Failure of Grand Parti de Lyon (marks the end of 'outside finance')
1578 – 1598	Gabelles (salt taxes) consolidated into single cabal of tax farmers
1598	Traites (customs) consolidated into single cabal of tax farmers
1604	Aides (sales taxes) consolidated into single cabal of tax farmers
1635	France enters the Thirty Years' War (lending through tax farms increases)
1661	Louis XIV and Colbert institute Chambre de Justice
1681	A single cabal of tax farmers, the Company of General Farms, is formed

Table 2: Chronology of tax farming in France: 1500–1700.

Year	England
1568	Competitive farming of the Customs is introduced.
1604	The creation of the General Farm begins the consolidation of the Customs.
1621	Silk Farms integrated into the Great Farms.
1632	Petty Customs farms consolidated into the Great Farm.
1641	Customs farmers expropriated by Parliament.
1660	The Restoration of the Monarchy. Custom farmers are restored.
1671	Customs farming contract cancelled. Customs are placed under government supervision.
1683	Excise farming contract cancelled. The Excise is placed under government supervision.
1688	The Glorious Revolution.
1694	Foundation of the Bank of England and establishment of the National Debt.

Table 3: Chronology of tax farming in England: 1550–1700.

Glorious Revolution.

In this section we describe the initial fiscal equilibrium in England and France, taking special care to establish the relative differences in state capacity between the two during the sixteenth century. We then describe the rise in the use of inside finance and how this led to an increased reliance on cabal farming in both countries. We go on to present evidence of the investments in standardization which accompanied this move towards cabal farming, especially in France, which lagged behind England in this regard. Finally, we describe how in England the equilibrium of cabal farming was relatively unstable, whereas in France it was able to persist for over a hundred years up until the French Revolution.

4.1 Competitive Tax Farming

The transaction costs of tax collection were high in both England and France. Nonetheless, as we have established there was considerably more heterogeneity and fragmentation in France than England. The effect of a parallel seigneurial tax system on the ability of the French crown to extract revenues was that it increased the variance of tax collectors' valuation of the local fiscal rights in question. A local noble in Bordeaux would find it much easier to negotiate local customs and laws in order to manage the tax farm on the wine trade in that region. As such that noble would value the tax much higher than, say, a noble from Auvergne. Similarly, the more tax farms were unified, the more jurisdictions they covered and the lower the benefits of the local knowledge of tax farmer would be in running it (lower σ).

The net effect of these transaction costs was that, as predicted by the model, the tax farms were competitively farmed out in France throughout the high middle ages (Lyon and Verhulst (1967, 49-52), Strayer (1936); Johnson (2006*a*)). Furthermore, up until the early sixteenth century, the farms were leased out at the parish level (Durand, 1971, 50). As will be discussed in the next section, after 1500 the farms were gradually unified. Nonetheless, the English auctions used to allocate the farms were also competitive up until the mid-seventeenth century according to evidence on bidding provided by Bayard (1988).

These facts suggest a decentralized system of market-based tax collection was more valuable in France than in England. And indeed, this is consistent with what we observe: France relied on competitive tax farming throughout the late medieval period whereas the English used it less frequently, and English rulers remained heavily dependent on revenue from the royal domain until the seventeenth century.

Nevertheless, when there were moves to modernize the Customs tax regime, the English copied the example of France. Elizabeth I (1558–1603) wanted to follow 'other princes in like causes' such as the King of France and 'to grant our Customs to farm so as there be sufficient persons that have offered to take them' (quoted in Ramsay, 1952, 147).[18] The Customs were gradually put out to farm from the late 1560s onwards. This system was decentralized and there was competitive bidding for most of the farms.[19]

[18] See Dietz (1930, 37–38). The decision to adopt competitive tax farming was made because reliance on local officers holders to collect the Customs was ineffectual and led to large-scale corruption and evasion, especially after Henry VIII and Mary I (1553-1558) attempted to raise Customs rates. As Ramsay observes: 'the crown was being systematically cheated of some of the revenue it should have drawn from the port of London' (Ramsay, 1952, 145). In the medieval period rates were low and this meant there was little incentive to evade the Customs (Rigby, 1985, 13). Evidence for a dramatic increase in tax evasion and wine smuggling in the port of Bristol is provided by Pitt (2006).

[19] A letter to William Cecil, Lord Burghley, in 1576 illustrates the competitive nature of the bidding process 'Her Majesty maketh stay in resolving therein until she receive from your Lordship the several rates to the end that she may choose the highest' (quoted in Read, 1925). Some farms were allocated to political favorites of the Queen.

As Proposition 1 suggests, this system of competitive tax farming was relatively successful in increasing revenue for the Crown.[20] As residual claimants, tax farmers were less likely to collude with smugglers, than were 'local officials for whom the temptations to laziness or corruption were considerable' (Braddick, 1996, 60). Historians agree that the Queen 'obtained more from the farms she leased to tax farmers, like the celebrated Thomas 'Farmer' Symthe, than she had ever obtained from direct collection' (Read, 1925, 384). Tawney (1958) describes it as 'one of the few of the Crown's financial innovations to have been meet with a measure of approval' (Tawney, 1958, 91).

Importantly, as our model suggests, England was able to employ competitive tax farming because the crown's borrowing needs in this period remained modest. In terms of Figure 3, late sixteenth century England was in the bottom-left quadrant. Elizabeth withdrew from overseas credit markets in the 1570s.[21] Thereafter, however, she had opted to limit spending and raise revenue by selling Crown lands. As the model suggests, so long as the overall level of borrowing was low, the monarchy could rely on decentralized, market-based methods for raising revenue.

4.2 The Rise of Inside Finance and The Move Towards Cabal Tax Farming in France

In both England and France the need to borrow large amounts of money at short notice pushed rulers away from the competitive tax farming equilibrium. In France, after 1500, the increased costs of warfare meant that tax collectors were increasingly used to provide loans, or inside finance, in addition to collecting taxes. While the Spanish monarchy could rely on imports of American silver and a close relationship with Genoese banking families to secure credit, the French monarchy did not have access to outside sources of finance, at least not on scale required.[22] In terms of the model, this represents an increase in x. As tax collectors were increasingly used as credit intermediaries by the crown, the inability of the king to credibly commit to fiscal contracts gradually became a cost which rivaled that of finding the lowest cost collector.[23]

[20]Since Customs revenues were dependent on the volume of maritime trade, competitive tax farming had to be temporarily suspended during periods of warfare such as the 1590s.

[21]This was after attempts to raise money at lower rates in 1574 failed (Outhwaite, 1971). As Epstein notes: 'Elizabeth's officers drew two conclusions from the debacle: first, that the monarchy should avoid debt if possible; second, that unavoidable borrowings should be restricted to the domestic market where the crown could dictate terms with its lenders' (Epstein, 2000, 28).

[22]French rulers rarely went to the great Italian banking families unless, ironically, they happened to be crossing the Alps to fight in Italy (Wolfe, 1972, 40). It wasn't until 1540 when the first truly significant foray of the French crown into outside finance was set up under the auspices of the Grand Parti of Lyon (Wolfe, 1972, 68). But this system failed by 1559 and, for the most part, this marked the end of the use of outside finance in France for the next hundred and fifty years (Bayard, 1988, 15).

[23]This inability to commit was epitomized during Francis I's reign when he executed Jacques de Buene, sire de Semblançay in 1527. In his role as superintendent of finances, Semblançay had access to lots of fiscal resources and knowledge of where to invest these resources. As such, the queen asked him to invest a large sum for her. When the king asked for a large loan, Semblançay found it necessary to give him the queen's money, in addition to a

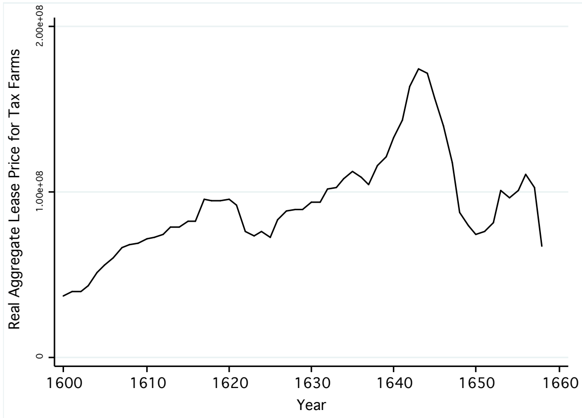

Figure 4: Aggregate Revenues From French Revenue Farms, 1600-1656. Source: See text.

Figure 5: Loans as a Proportion of Lease Prices, 1614-1656. Source: See text.

Unfortunately there are no consistent French data on lease prices and lending through the tax farms during the sixteenth century. However, we can trace the increasing importance of the loans provided by the tax farmers by examining time series data on lease prices during the first half of seventeenth century. During this period, we also have incomplete (and therefore lower-bound) estimates of anticipations that were made through the farms (these correspond to the variable x from the theory section). Anticipations were effectively loans as they allowed the king to borrow money now on the understanding that it would be repaid out of future tax revenue. Figure 4 shows the real aggregate value of lease prices between 1600 and 1656. Figure 5 shows the value of loans made through the tax farms as a proportion of the lease price between 1614 and 1656.[24] Together these two figures illustrate the important role of the tax farms in providing credit to the king. The value of anticipations through the taxes varied between fifty percent and one-hundred thirty percent of the value of lease prices. Furthermore, it is clear that, at least before 1640, these high proportions were not due to decreases in the value of lease prices as Figure 4 shows a consistent increase in the real aggregate value of lease prices during this period.

As predicted by the model, the increasing reliance on inside finance by the crown resulted in two developments in France. First, as predicted by equation (9), the competitive allocation of the tax

significant amount of his personal resources, his thought being that the funds of the royal household were shared. The queen disagreed and, eventually, she prevailed upon Francis to have Semblançay hung for mismanaging royal funds. A convenient outcome for both the king and queen since they then were able to take more resources from Semblançay's household (Wolfe, 1972, 74). There are many anecdotes concerning the inability of French rulers at this time to commit to their promises. Francis I went so far as to have a 'piggy bank' bolted to floor of the Louvre Palace, complete with slots at the top for dropping in coins (but not getting them out) and an elaborate set of ceremonies (and keys held by four separate individuals) required to open the chest in times of dire need. Needless to say, this system ultimately failed under the fiscal pressure of the Habspburg Wars (Wolfe, 1972, 87).

[24]These data are compiled from those provided by Bonney and Bonney (2011) who reproduce the tax records kept by Jean-Roland Mallet (c. 1675 - 1736) as secretary to the Controller General Desmarets (Bonney and Bonney, 1993).

farms became inconsistent with lending. Johnson (2006*a*), Bonney (1979), and Bayard (1988) show that during the late sixteenth century and first half of the seventeenth century, contracts on the tax farms were frequently breached. For example, between 1598 and 1655, only about a third of tax farm leases went for their entire contracted length. Twenty percent had their leases broken over forty percent of the time (Bayard, 1988, 123).[25]

The second consequence of increased lending predicted by the model is that there should be a gradual shift away from competitive tax farming towards cabal farming. This happened in France as a response to the failure of the revenue farms and the increasing desire of the crown to borrow funds from his tax collectors. There were two big waves of consolidation. The first occurred in the aftermath of the failure of the Grand Parti de Lyon in 1559 and culminated in the unification of the gabelles taxes in 1578 and then again in 1598 so that by the middle of the seventeenth century there was a single salt tax for vast center of the country known as the Cinq Grosses Fermes. Similarly the royal Customs taxes (traites) were also consolidated for the Cinq Grosses Fermes in 1598 and the same thing was done for sales taxes (the aides) in 1604 (Bonney, 1979). By the first half of the seventeenth century, the tax farms were far more consolidated than in the previous century and, as a consequence, competitive auctions of the contracts played less of a role in their allocation. For example, between 1600 and 1656 the single largest tax farm accounted for one-third of the revenues from whole tax farm system. The two largest farms accounted for fifty percent of revenues (Johnson, 2006*a*, 7).

A second wave of consolidations came after 1661 and was instigated by the Finance Minister of Louis XIV (1643-1715), Jean-Baptiste Colbert. Taking advantage of a recent financial scandal surrounding his predecessor, Nicolas Fouquet, Colbert revoked the leases of the previous tax farmers and began laying the institutional ground-work for the unification of all the farms into a single monopsony which would become known as the Company of General Farms (Ferme Générale).[26] Colbert negotiated a lease unifying the aides in 1663 and did the same for the gabelles and the traites in 1664. Then, in 1668, he managed to sign a lease with a cabal of farmers unifying all the major farms. Colbert followed up his creation of a unified 'General Farms' by issuing ordinances in May 1680, June 1681, and May 1681 which gave legal basis for the operation of the new tax farm monopsony and granted it status as a legal person (Jourdan et al., 1822-30, May 1681).[27] With a brief interlude caused by the John Law affair, the monopsony of tax farmers represented by the Company of General Farms managed all the kings tax farm revenues up until the Revolution.[28] The

[25] Heumann (1938) tells the story of the tax farmer Antoine Feydeau who controlled most of the aides and gabelles tax farms between 1619 and 1623. He also made significant loans to the king. After the crown 'renegotiated' his loans, Feydeau was forced to abandon his tax farm leases and, ultimately flee the country.

[26] On the trial of Fouquet and the farmers, see Dessert (1984). For the outline of the unification of the Farms after 1661, see Dessert and Journet (1975) and Johnson (2006*a*).

[27] See Matthews (1958) and Johnson (2006*a*) for more detail on the inner working of the Company of General Farms.

[28] Revenues from the tax farms increased to about forty percent of over-all state revenues during the second half of

equilibrium in France shifted from the lower-left quadrant of Figure 3 to the upper-left quadrant. As we will now see, a parallel development occurred in England during the first half of the seventeenth century for similar reasons.

The rise of the Great Farm of the Customs in England

England's isolation from the Continent initially allowed it to avoid the increased financial burdens associated with the Military Revolution. This changed after 1600. Elizabeth's successor James I (1603-1625) was in the words of one historian, 'a super-borrower', whose demands could not be met by the commercial money market in London (Tawney, 1958, xv).[29] This increase in borrowing (x) shifted England towards the upper-left quadrant of Figure 3.

In 1604, the Great Customs were consolidated into a single farm.[30] Proposition 3 states that this centralization should be understood in terms of providing the means for a cabal of financier to provide credit to the King. This is consistent with the history: the 'right to farm the Customs was the reward of those who were prepared to meet the Crown's demand for loan; the ability to do this could be found only in *syndicates* of business men' (Ashton, 1957, 313, emphasis added). This syndicate of tax farmers became prominent bankers to the James I and Charles I (1625–1649).

Figures 6 and 7 plot data collected by Ashton (1957, 1960).[31] Figure 6 plots the annual lease price, or rent, for the Great Farm. The annual lease price for the first farm was £112,400; by 1638 this had risen to £172,500 and in 1640, together with the lease price of the petty farms (£60,000) it represented thirty-seven percent the king's total revenue.[32] More significant was the increased use

the seventeenth century. See Johnson (2006*b*) and White (2004) for a description of the Company of General Farms during the years leading up to the Revolution.

[29] Elizabeth I limited her expenditure and relied on feudal income and the sale of domain lands. Her successor, could not continue the latter policy, and had no inclination to attempt the former one (See Thomas (1983), Wilson (1984), Braddick (1994), Kishansky (1996), and Cramsie (2000)). As a Scot, James's position was less secure than Elizabeth's so he had to distribute patronage more generously, and he had a large royal family to support (each of the royal children required their own household and court). Elizabeth had raised loans on the domestic money market but these sums were small (Outhwaite, 1971). In addition, James inherited a war with Spain from Elizabeth. James had limited access to credit; he could not borrow from abroad and was dependent on the limited financial resources of his nobles and the merchants of London.

[30] The other Customs remained decentralized and privately farmed until they were consolidated in 1621 and 1632 (Ashton, 1960).

[31] The account we develop owes a lot to Ashton (1956, 1957, 1960). However, Ashton did not distinguish between competitive and cabal tax farming. He was puzzled by the fact that by end of the sixteenth century it had become an 'canon of fiscal dogma' that 'it was more profitable for the Crown to farm out the Customs than to administer them directly' when in fact that body of evidence suggested that the real importance of the tax farmers lay as creditors to the king (Ashton, 1956, 311).

[32] The receipts from the Great Farm (£150,000) and petty farms (£60,000) alone accounted for more than twice the revenue the King obtained from all the Crown lands. Hence Sharpe notes 'the monarchy was now funded by trade rather than estates' (Sharpe, 1992, 128). A separate overdraft facility allowed the tax farmers to lend more to the King (van der Wer, 1977, 382).

Figure 6: Nominal rents of the Great Farm of the Customs in England. Source: Ashton (1957, 1960).

Figure 7: Anticipations over rents of the Great Farm of the Customs in England. Source: Ashton (1957, 1960).

of anticipations during the 1620's and 1630's traced in Figure 7. Under James I, it was typical to anticipate in advance that year's rent or the rent for the subsequent year. During the reign of Charles I, the size and terms of the loans changed and became longer-term (Thomas, 1983, 121). The Crown began to anticipate the rent for the Great Farm for several years in advance. Ashton notes that the Crown did not attempt to raise the lease price in order to maximize revenue in the understanding that this was the 'price which it chose to pay for the new services performed by the farmers' (Ashton, 1956, 16).

The tax farmers played a vital role in enabling Charles to rule without calling Parliament (Sharpe, 1992, 124-130). As the king's other sources of credit dried up and attempts to increase his prerogative incomes met resistance, he became increasingly reliant on the Customs farmers. Loans became longer-term and more secure (Thomas, 1983). By 1640, on the eve of the English Civil War (1642-1648), three additional Customs farms: the petty farms on French and Rhenish wines, sweet wines, and currants had been consolidated and were now held by the syndicate of the Great Farm (Ashton, 1960, 105).[33] In both England and France, therefore, the increased demand for inside finance was associated with a move away from competitive, and towards, cabal tax farming. In contrast, a state like the Dutch Republic which could issue long-term public debt and borrow at low rates of interest, maintained decentralized and competitive tax farming throughout the seventeenth century (Hart, 1991).

[33] The tax farmers were virulently attacked in the parliaments of 1621 and 1629 (Ashton, 1979). Specifically parliament opposed monopsony control of the Customs and wished to deny the king access to the credit offered by the farmers. A proposal of 1621 made by Sir Dudley Digges demanded financial and organizational decentralization on the grounds that it would make the farmers 'more industrious' (Ashton, 1979, 109).

5 Cabal Tax Farming as an Intermediate Institution

Investments in Standardization in France

The model suggests that states should have shifted away from competitive tax farming towards cabal tax farming as the inside finance became more important (Proposition 1) and that this shift should have been accompanied by an increase in investments in fiscal capacity (Proposition 2). We can now provide evidence for Proposition 2 by studying investments in standardization in France.

As we outline in Section 2, French fiscal institutions were characterized by a huge amount of geographic heterogeneity. One of the most important sources of this disunity stemmed from the multiple layers of fragmented authority inherited from the middle ages. The seigneurial regime increased the transaction costs of collecting taxes by making it more difficult to measure the output of both tax subjects and tax collectors (it caused σ to be high).

In order to show the relationship between the move to cabal farming in France and increased investment by the crown in eliminating the seigneurial system, we focus on just a few specific institutions. We compile a list of the edicts issued by the monarchy with regards to five key seigneurial institutions which potentially increased the transaction costs of collecting royal taxes (σ).[34] The five institutions we focus on are the terrier, seigneurial justice, peages, corvée labor, and weights and measures. The terrier was a type of land register kept by the seigneury as a record of the obligations of serfs and freemen to the seigneur as well as a document on which to base the collection of the taille and other taxes. Beginning in 1659 a series of arrêts were issued that defined the rights of an independent third party, a notary, to perform the survey on which the terrier was based. Later rules, for the most part, either made it easier for the seigneur's subjects (censitaires) to dispute the terrier, or, harder for the seigneur to alter or manipulate the terrier (for instance, preventing the replacement of a notary).

Seigneurial justice was the backbone of the old regime system of justice. If one committed a non-capital crime (or one unrelated to royal tax collection), then in all likelihood you would end up before a magistrate appointed by the local seigneur (Greenshields, 1994). The early arrêts issued by the crown were mostly concerned with requiring that the local lord provide justice (e.g. the rules of 1565 and 1600). However, as the tax system became more centralized the rules increasingly weakened the rights of local judges and, often, the nobles who appointed them. Thus, the arrêt of

[34] The table is reproduced in Appendix 1 as Table A1. We rely on Renauldon's *Historical and Practical Treatise on Seigneurial Rights* to compile the arrêts and edicts. Traditionally, arrêts concerned a single change to a law, edicts dealt with multiple changes. We count each separate rule change in an Edict as equivalent to one arrêt. Renauldon was a seigneur himself and wrote his book in the mid-eighteenth century as an aid to his contemporaries who were confronting the increasing encroachment of royal power on their traditional rights. As such, if anything, the alterations to the rules mentioned by Renauldon should be biased against rulings knocking down traditional rights.

1668 allowed an agent of the crown (the intendant) to remove a judge from office with permission from the king. The rule of 1702 forbade the Seigneur from appointing officers of justice without permission of the crown. The arrêt of 1716 forbids tenants of the seigneur from being appointed judges, and that of 1737 explicitly allowed the local lord to be tried in his own court.

The peages consisted of the local tolls and tariffs collected by the seigneurs. The arrêts make clear the attempts by the monarchy to eliminate as many of these as possible. Unable to simply revoke this particular seigneurial right across all of France, the crown more often adopted the strategy of requiring that the nobles provide written proof of their right to levy a specific tax.[35]. Other arrêts outright revoked rights to levy peages in certain areas.[36].

The corvée represented the right of local lords to extract labor services from their serfs. The severity of the corvée across different regions of France varied greatly and many of the arrêts issued by the crown were concerned with defining the bounds of this right. For example, the arrêts of 1551 and 1666 limited the number of oxen the noble could require his serf to bring along during his labor service. Other arrêts restricted the cases in which children could be subject to the corvée (e.g. 1594 and 1608). And, similar to the peages, the crown attempted to completely strip the rich of corvée where possible by requiring nobles to have 'precise title' to invoke it as a right (e.g. 1666).

The last category of seigniorial right addressed weights and measures. There were periodic attempts throughout French history to establish a common set of weights and measures. The push was especially strong after 1660. Colbert wrote a letter in 1665 to the king concerning his great project to, '...bring the whole of His Majesty's kingdom within the same statutes and within the same system of weights and measures, an undertaking very worthy of our great King... (Colbert, 1869, 14f).' Among Colbert's achievements along this front was the publication of Jacques Savary's compendium of weights and measures throughout the kingdom, *Le parfait négociant* (Savary, 1675).[37] In 1667 Louis XIV also forbade the use of the unit of currency known as the parisis. From then on, all commerce was handled using the livre tournois (Heckscher, 1955, 120).

Figure 8 shows the frequency of the arrêts recorded in Table A1. The timing of the arrêts corresponds closely with the periods during which the tax farms were being unified. There are two jumps in legislative activity in Figure 8. The first jump corresponds to the period when the Grand Parti de Lyon failed (1559), thus leading to the end of the use of outside finance and a significant shift towards inside finance. Along with this shift, consistent with the predictions of the model, there was increasing consolidation of the major tax farms, culminating in the creation of single cabal farms for the Gabelles in 1578, the Aides in 1598, and the Traites in 1604. The second spike in arrêts occured after 1661 when Colbert was in the process of consolidating the tax farms into a

[35]For example, the arrêts of 1579, 1663, 1666, 1665, 1669, 1668, 1683, 1693, 1711, and 1714.

[36]For instance, 1432, 1559, 1570, 1577, and 1680

[37]Savary wrote the book at the request of Colbert and also dedicated it to him.

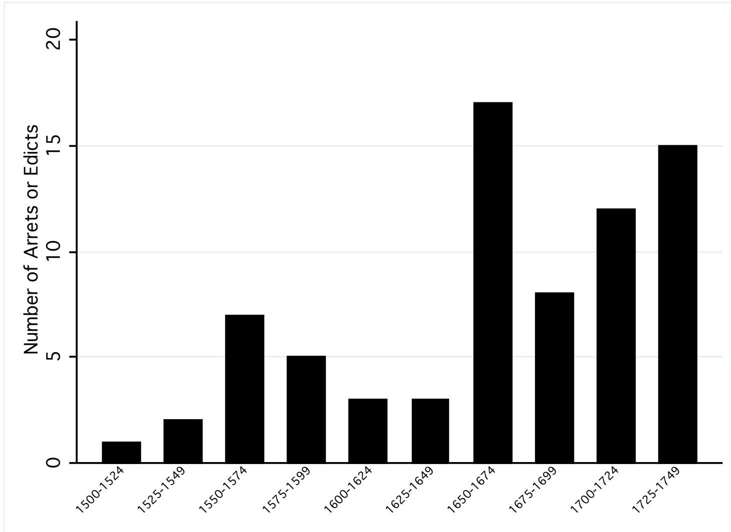

Figure 8: Number of standardizing arrêts issued by French Monarchy, 1500 - 1749. Source: Renauldon (1765).

single monopsony, the Company of General Farms (Ferme Générale).

Figure 8 suggests the activity of the crown in consolidating and standardizing rules at the seigneurial level. It does not give a full sense for all the standardizing reforms that were implemented during the second half of the seventeenth century. For example, Colbert and his uncle, Pussort codified in two great statutes civil and criminal law for all sovereign law courts (Heckscher, 1955, 126). Industrial law in France was placed under state jurisdiction (rather than handled individually by each city) by ordinances of 1667 and 1699 creating lieutenants generaux de police. Local rights of guild sanction disappeared at about the same time (Heckscher, 1955, 139). The same Jacques Savary who wrote the *Parfait négociant* also wrote much of a 1673 Ordinance in which accounting standards were laid out in detail for the first time for all French merchants. Among its requirements, the 1673 Ordinance obligated merchants to keep a book of account which, in the event of bankruptcy, they had to present under penalty of death to the court. The rules in Savary's Ordinance, minus the death penalty, were largely adopted by the Napoleonic code of commerce in 1807 (Howard, 1932).[38]

A legitimate concern with these data on legislation aimed at increasing standardization is that they may not have been enforced. Given that many of the arrêts simply re-state previous rules, there is certainly truth to these claims.[39] Heckscher, however, suggests that many of the crown's reforms,

[38] The 1673 Ordinance also sanctioned for the first time rules of limited liability partnerships (similar to commenda contracts). Limited liability played a major role in the functioning of the Company of General Farms (Balla and Johnson, 2009).

[39] Careful analysis by, Markoff (1996) of the cahiers de doléances at parish level shows that some of the highest priority complaints by the peasantry on the eve of the Revolution concerned the burdens and fragmentation created by the seigneurial system. Among the top complaints registered in the parish cahiers were those against the seigneurial

particularly after 1661, did make a difference (Heckscher, 1955, 103). Root (1987) finds ample evidence that royal power was substituting for seigniorial rights at the local level in Burgundy.[40] At the very least, it is clear that the French Crown increased its *efforts* at state centralization at the same time they shifted away from the competitive allocation of fiscal rights. This is consistent with our theory. That making these investments 'stick' in France was a process that extended well into the eighteenth century is also consistent with the fact that the cabal financiers represented by the Company of General Farms persisted up until the end of the eighteenth century. It took the guillotine to finally carve out a place for direct management of taxes in France.

The Collapse of Cabal Tax Farming in England

Proposition 4 states that an equilibrium comprising cabal tax farming and inside finance will be more fragile in a more standardized economy. We provided evidence for this proposition by examining the eventual collapse of cabal tax farming in England after 1670.

The relationship between the crown and the farmers described by equation 9 is vulnerable to exogenous shocks, such as war. The English custom farmers were, indeed, expropriated by Parliament during the Civil War (Brenner, 1993, 432). This interrupted the mutually beneficial relationship between the crown and the farmers. Nevertheless, it did not represent the end of cabal tax farming; Parliament continued to rely on both tax farming and inside finance during the Interregnum.[41] In 1660, the surviving tax farmers were restored to their positions and given a new contract in 1662.[42] The restored monarchy remained financially backwards and dependent on inside finance.[43] Con-

regime in general and the burden of the corvee. The cahiers of the third estate also focused on the fragmented nature of the system of weights and measures.

[40] There is also evidence from studies of the prosecution of crimes such as witchcraft that standardization across the legal system was occurring as the state developed its fiscal capacity (Johnson and Koyama, 2011; Johnson et al., 2011).

[41] In May 1641, the Custom Farms lost their leases, and Parliament refused to honor the debts the king held with them. Subsequently they were fined £I50,000 'for their complicity in raising 'illegal taxes." (Harper, 1929, 63). A bill to confiscate their estates was even prepared, although never tabled (Ashton, 1960, 111). One historian observes with suitable indignation: '[f]or their villainy in presuming to aid the king to collect the illegal impositions Goring, Harrison, Pindar and their associates were tried by the Long Parliament. As a result not only was their contract confiscated, but the outrageous fine of £150,000 was assessed upon them. Thus the defenders of liberty began their career by acts of tyranny greater than anything that had ever entered into the imagination of the old despotism' (Dietz, 1932, 337).

[42] Parliament experimented with both farming and direct collection for both the Customs and for the Excise tax which was introduced in 1643 and became a major source of revenue. The Excise was put out to farm in 1650 (Coffman, 2007). Parliament borrowed against the Customs as James I and Charles had done. Even under the Republic, established in 1649, the state's credit was little better than it had been under Charles I, and as late as 1657 it was said that 'the Public Faith [i.e. credit] of the nation is now become a public despair' (Rosevere, 1991, 11). As our model would predict, this was often unsuccessful. In 1641, the Long Parliament dismissed three London aldermen from their posts as commissioners of the Customs because of 'their inability or unwillingness to advance an additional £70,000 on security of future Customs receipts' (Coffman, 2008, 93–94).

[43] Jones (1979); Wilson (1984); Holmes (1993); Carruthers (1996). Charles's chief minister, Edward Hyde, the

sequently, the farmers again became prominent as lenders to Charles II (1660–1685) as they had been to his father.[44]

Our analysis, nevertheless, suggests that the ultimate breakdown in the relationship between the king and the farmers of the Great Farm was unavoidable. The property rights of the farmers were less secure than before. The position of the king was weaker than it had been.[45] Additionally, the difference between what the cabal was willing and able to pay for the Farms and the Crown's outside option of direct collection (ΔB) was shrinking as the investments in the Customs administration made under cabal tax farming in England made it more likely that the Crown would eventually shift to direct collection. Moreover, the king's need for borrowing was reaching a level that was exceeding the capability of the farmers. The capacity of inside finance was limited. In the 1660 there were attempts to reform the Treasury which 'aimed at eliminating the Crown's dependence on the Goldsmith bankers and tax farmers' (van der Wer, 1977, 383). By the end of the decade, it was possible to foresee a time when the king would have alternative, outside, sources of finance (Ashworth, 2003; Rosevere, 1991, 1969).[46]

The immediate cause of the cancellation of the contract for the Great Farm was a disagreement between the Treasurer, Lord Clifford, and the head of the new farming syndicate William Bucknall.[47]

Earl of Clarendon (1609-1674) emphasized the personal character of the king's finances in the first part of the 1660s, observing that '[a]s soon as an act of parliament was passed, the king sent for these bankers, (for there was never any contact made with them but in his majesty's presence)' (Hyde, 1760*a*, 597). Shaw notes: 'so crude were the financial ideas of Charles's government, and so low was the credit of that government, that in order to anticipate the revenues of the Customs he was driven to farm them out and ask for an an advance from the farmers' (Shaw, 1902, 404).

[44] Many of the goldsmith bankers who lent to the king directly were also prominent members of the syndicate of farmers such as Thomas Viner and Edward Backwell. The king used other forms of 'inside finance' in addition to borrowing from the tax farmers. Government ministers like Sir Stephen Fox acted as effective lenders to the king, using their personal funds to pay for expenses which they subsequently claimed back from the Excise revenues (Carruthers, 1996, 58). For details on the goldsmith bankers see Hyde (1760*b*), van der Wer (1977, 382-384), and Quinn (1997).

[45] The old farmers had been expropriated because they had too closely aligned with the interests of the king. There was now no prospect of the king ruling 'on his own' as Charles I had done in the 1630's and this meant that the new generation of farmers could not affiliate themselves as closely with the Crown as they did not wish to alienate Parliament.

[46] These reforms were led by Sir George Downing (1623-1684), who was 'instrumental in adding to these innovations the first English imitations of Dutch republican structures of public credit. This occurred despite Clarendon's vociferous protests that these were incompatible with monarchy' (Scott, 2003, 337). Beginning in 1665 he began to reform the Treasury centralizing the different revenue streams. He was interested in finding alternative 'parliamentary-based' sources of credit for the king (Ashworth, 2003, 17). Downing approach thus contrast with the 'Clarendonian theory of financial control' which remained one of personal finance, based on a 'lord treasurer and an exclusive group of bankers over whom the monarch might exercise discretionary powers' (Tomlinson, 1979, 105).

[47] See Chandaman (1975, 26-28) and Cassidy (1983). Sir William Bucknall's syndicate farmed the Excise revenues between 1668 and 1671. In 1671 his syndicate won the right to farm the Customs. According to Charles Bertie, secretary to Clifford's successor as Treasurer, Lord Danby: 'Bucknall and his partners, masters of the receipt of the two great branches of the Revenue (as they thought) and finding the king under great necessities to borrow money on the said branches, they made their own loans and would not lend but to the king's great disadvantage which occasioned a total falling out between Lord Clifford and Bucknall and his Lordship broke their farms of the Customs' (quoted in Coffman, 2007, 7).

Historians have suggested that the real reason for the break with the farmers was the financial crisis caused by the Dutch war and the king's profligacy (Crews, 1936, 120).[48] But our model suggests that the low opportunity of abandoning cabal tax farming for direct collection made a break with the tax farmers inevitable. The cost to the king of predating on loans from the cabal was lower in England than in France. The Customs reverted to direct collection by default, and the new commissioners were granted salaries (Braddick, 1996).

Further evidence in favor of our explanation comes from the fact that, through the 1670's, the king's ministers tried to strike a new deal with the tax farmers. Thomas Osborne, the Earl of Danby, and Lord Treasurer between 1673 and 1678, 'strongly favoured the farming method as providing a firmer basis of credit' (Chandaman, 1975, 33).[49] But, for the reasons, we have outlined, it was no longer possible for the Crown to credibly commit to the farmers in the way that had been possible in the 1630's. Tax farming continued to be used to collect the Excise tax with the Excise farmers continuing to provide credit to the king, advancing £250,000 on their receipts in 1677 (Nichols, 1971, 94). But in 1683 the Excise too was brought under direct collection.

6 Discussion and Concluding Comments

A growing body of literature stresses the importance of state capacity for economic development (North et al., 2009; Besley and Persson, 2009, 2011). One important lesson from this literature is that the process through which states acquired capacity was both gradual and fraught with the danger of reversals. The modern state emerged slowly in Europe over the course of several centuries, and the process of state formation was neither smooth, nor linear (see Evans et al., 1985; Ertman, 1997; Bonney, 1995). The development of modern institutions: central banks, public debts and bureaucratic systems of taxation did not happen rapidly. Instead, as Tilly (1975) argued, numerous intermediate institutions played a critical role in providing the pre-conditions for these political and economic developments.

This paper has presented an analysis of the rise and fall of one of most significant of these intermediate institutions—monopsony or cabal tax farming. The Great Farm of the Customs in England and the Company of General Farms in France were two of most important fiscal institutions in their respective countries. Historians have studied these institutions previously, but they have not focused on the puzzle of why early-modern governments would forego the obvious benefits of competitive

[48]Tomlinson observes: '[t]he decision to abandon the farming out of the customs, Excise and Hearth-money taxes did not represent a conscious policy decision to improve revenue yield, but rather was a consequence of the failure of the farming system at a time of financial crisis' (Tomlinson, 1979, 101).

[49]Danby held that 'It would be disastrous for the government to abandon tax farming until some other credit arrangement could be devised to offset the loss of the farmers' advance loans' (Nichols, 1971, 93).

allocation of fiscal rights in favor of ceding these rights to monopsonies. The fiscal systems of both England, and particularly France, were highly fragmented at the close of the middle ages. Given this fragmentation, and the significant information costs imposed by geographic and institutional heterogeneity, it made perfect sense for monarchs in both countries to rely on decentralized and competitive mechanisms for raising taxes. Market-based methods minimized both corruption and waste. We combined a theoretical model with the fiscal histories of England and France to demonstrate that it was demand for inside finance that first drove rulers to shift away from competitive, decentralized, tax farming.

Our model also explains why this shift away from competitive tax farming was associated with increased investments in state capacity. Under the system of market allocation of fiscal rights, there was little need to invest in state capacity. However, under cabal tax farming there were increased incentives for rulers to invest in standardization and in fiscal capacity. This intermediate institution therefore helped lay the foundations for the subsequent rise of the modern state in both countries.

Our thesis is related to Allen's (2005; 2012) argument that increasing standardization drove many of institutional changes that characterize the modern state. Allen argues that patronage and the sale of offices make sense in a world where high monitoring costs preclude ministers or government officials from observing the actions of their subordinates. Lower monitoring costs made possible the transition from tax farming to bureaucracy in England in the late seventeenth century. We agree with this assessment, but suggest that it neglects the importance of the cabal tax farming in seventeenth century England and France. In addition to playing an important role in providing credit, the switch to cabal tax farming caused increases in standardization. We show how cabal financing and tax farming was eventually self-undermining in both England and France because as standardization became more pervasive, the barriers to entry which allowed tax farm monopsonies to flourish were lowered. It was this development that caused this intermediate institution to collapse and be replaced by a tax bureaucracy.

Our analytical narrative explains why the intermediate institution of cabal tax farming was a stable equilibrium in seventeenth and eighteenth century France but not in England. Our argument suggests that the failure of the English Crown to make self-enforcing agreements with elite groups such as the syndicate of tax farmers was an important factor in explaining the *failure* of the Stuart monarchs to establish an absolutist monarchy in England. France, by contrast, would have to wait till the end of the eighteenth century to fully free itself from the institutions of the old regime, like the seigniorial system. However, as Heckscher notes, the standardizing reforms of Colbert that accompanied the formation of the Company of General Farms were, '...able to prepare the plans for a new order of things, even though the old monarchy was too weak to carry them into effect. It was thus possible to carry out without friction the final work of reform, one year and a half after the convening of the National Assembly. . . ' (Heckscher, 1955, 109). The ground-work for the reforms that took the Revolution years to implement were laid during the previous centuries. It was the changing organization of the fiscal system that played a vital role in creating the incentives for this investment.

Lastly, it is important to note that the system of direct collection that emerged after 1671 did not initially resemble a modern bureaucracy. Chandaman notes that '[t]he new regime leaned heavily on the outgoing farmers' organization. Apart from 'some few necessary alterations', the farmers' subordinate personnel and the framework of local administration were taken over virtually intact' (Chandaman, 1975, 29). While the Excise was relatively well suited to direct collection due to the economies of scale that could exploited, there is little evidence that direct collection replaced farming for the Customs because it was seen as more efficient.[50] Our model suggests that it was the fall in monitoring costs in late seventeenth century England that caused the cabal tax farming equilibrium to break down. In the wake of this collapse, direct collection was adopted by default. Nevertheless, the move to direct collection put Britain on the path to developing a relatively effective bureaucratic tax system that other successful economies followed after 1800.

[50]In 1697, after the shift to direct collection, Charles Davenant considered that '[f]armers, whose fortunes shall be stake for the payment of a large annual rent, will be active and industrious themselves; they will make frequent inspection into the behaviour of their officers in the country, and they will have no regard to private recommendations of persons not qualified' (Davenant, 1967, 1697, 215). The main problem with direct administration of the Customs in the late seventeenth and early eighteenth centuries was the cost of patronage. Prior to the Consolidation Act of 1787 the Customs service was 'filled with useless offices held by sincurists (Hoon, 1968). This was a considerable expense — perhaps one-sixth of the cost of the outports is accounted for by spending on these offices' (Braddick, 1996, 59). These sinecure positions were retained for patronage purposes and they affected the efficiency of the entire service. New collectors were appointed at many of the ports, yet the old 'customers,; with their 'controllers' and 'searchers,' were allowed to retain their offices as sinecures. When the 'patents' lapsed, other favourites were appointed and the extraordinary system of having one set of officers do the actual work, and another set of officers who were merely pensioners upon maritime trade, continued for more than a century' (Braddick, 1996, 105). At this distance it is impossible to test the superiority of farming over direct collection in the late seventeenth century. While O'Brien and Hunt (1999) associated the increase in tax revenues after 1689 with the move away from farming, they present no direct evidence for this connection. Kiser and Linton (2001), in contrast, notes that '[c]ommunications and transportation technology were not advanced enough until the late eighteenth century to make monitoring of mobile assets effective, even in a small country like England . . . This is why efficiency did not increase when tax farming was abolished' (Kiser and Linton, 2001, 199). We interpret the lack of a historical consensus on this point as consistent with our theoretical framework in which when σ is low there is little different between $V(\hat{\theta})$, $V(\bar{\theta})$, and $V(\underline{\theta})$.

Appendix 1: Edicts and Arrêts Encouraging Standardization in France

Terrier	Juges and Justice	Peages	Corvee	Weights & Measures
1659, 1666, 1703, 1736: Arrets establishing and regulating the rights of notaries in surveying a noble's terrier	February 1564, August 1586, September 1639: A gardien of a lord in his monority may not revoke a judge's position	1256, 1287: Seigneurs required to indemnify merchants robbed on roads they tax.	June 1507: That a corveable is not obligated to rent working stock (betail) to fulfill his duties.	864: Ordonnace of Chalres the Bald that all measures of greater than the royal measures be reduced.
January 1675: a censitaire on the terrier of the king, also owes the cens to a Seigneur pariager.	May 1565, January 1600: Requires Seigneurs to name Officers of Justice	1432, 1559, 1570, 1577: All tolls on Loire and its tributaries eliminated.	September 1543: That in certain circumstances the Seigneur must house and feed the corveable.	1540: Francis I orders the unit of length "l'aulne de roi" be used throughout kingdom.
1678 and 1711: That a terrier signed by a Notary is legitimate even if not signed by Seigneur.	February 1615: Law allowing for the assignment of judges by Lord every three years within pareage.	1579 Ordonnance of Blois, art 282: Abolished all internal tolls not legitimate. Those that exist must maintain roads etc.... And that they only tax what they're allowed.	1551 and 1666: Limiting the number of beasts required from the corveable to two oxen.	1558 and 1570: Ordonnances requiring weights & measures be brought in line to those of Paris.
June 1721: A censitaire may request the Seigneur re-do the terrier if he suspects Notary of making mistake.	July 1625: A Judge's office may be sold but not divided by the Seigneur	January 1633: All peages on Seine and its tributaries (up to Rouen) abolished. Reimbursed owners of eliminated tolls. Created new Aides taxes to pay for this.	1582 and 1750: That the corveable can convert labor due into cash payment.	1675: Publication of Savery's "Parfait Negociant" at the request of Colbert.
June 1728: Seigneur is allowed to choose the Notary to make the terrier.	1693, 1701, 1736, 1745: Edict declaring judiciary offices revocable, even if purchased, for just compensation.	January 1663, January 1666: Forbids collecting a toll without Royal permission.	1594 and 1608: Restricting the cases in which children are subject to the corvee.	August 1716: Arret prohibiting charging for the use of measures established by Seigneur.

Terrier	Juges and Justice	Peages	Corvee	Weights & Measures
May 1752: Regulation describing the official procedure for requesting information from the censitaire for the terrier.	April 1668: Intendents not allowed to revoke an officer of justice asigned by local lord unless they have premission from King.	January 1663: Eliminates illegitimate peages under pain of confiscation of "corps et de fief". Required all existing tolls to be officially registered.	January 1666: Prohibiting Seigneur from requiring corvee without "precise title"	1766: Ordonnance on standardization of weights & measures.
August 1759: Restricting the ability of Seigneur to replace the notary creating the terrier.	August 1702: Seigneur not allowed to create a Lieutenant without permission from King.	January 1665: Arret stating that tolls in existence for at least 40 years are legitimate.	September 1667: Regulating the conditions of corvee.	
	August 1716: Forbids tenants of the Lord to be judges.	January 1666 and 1669: Cour des Grands Jours orders registration and/or suppression of peages in Auvergne, Bourbonnois, La Marche, Combraille, Lyonnois, Forez, Beaujolois, Maconnois.	August 1668: Sets the times that a subject can obligated to perform corvee.	
	August 1724, August 1743: Forbids Seigneurial judges from being Judges of waters and forests.	April 1668: All owners of peages, bacs, bateux, ponts, and other rights must prove they had legitimate right for at least 100 years.	January 1674: Regulates the number and nature of corvees.	
	August 1737: Establishing the competence of Local Judges to hear cases involving Seigniorial Agents	August 1680: Ordonnance on Gabelles prohibits any local taxes on salt.	July 1675: Requiring silver payment for missed corvee.	

Terrier	Juges and Justice	Peages	Corvee	Weights & Measures
	August 1737: In pecuniary matters (matiere reelle) the siegneur can be brought to trial in his own court.	1683 & 1693: Edicts requiring written confirmation of request in Edict of 1668.	August 1689: Prohibitions on the maltreatment of corveables.	
	August 1738: Disallows seigneurial judges from judging crimes in commited in community woods.	1711 and 1714: All peages on Loire and Cher rivers suppressed unless royal titles presented to Intendant within 3 months under penalty of 3,000 livre fine.	July 1734: Corvees in good title are imprescriptible.	
		1724: Commission on peages suppresses "1,200" throughout kingdom under orders of Louis XV. (p 315, Renauldon).	July 1726: That is the corveable is in one noble's jurisdiction but his ox in another, he still needs to bring the ox.	
		1724, 1725: Orders that peages must be renewed with each change in crown.	July 1734: Regulating the appropriate titles necessary to invoke the corvee.	
		December 1731: That a peage payable in goods is also payable in silver.	August 1735: That notaries are exempt from the Corvee.	

References

Allen, Doug (2000), Transaction costs, *in* B.Bouckaert and G.De Geest, eds, 'Encyclopedia of Law and Economics (Volume One: The History and Methodology of Law and Economics', Edward Elgar, Chelthenham, pp. 893–926.

Allen, Douglas W. (2005), 'Purchase, Patronage, and Professions: Incentives and the Evolution of Public Office in Pre-Modern Britain', *Journal of Institutional and Theoretical Economics* **161**(1), 57–.

Allen, Douglas W. (2012), *The Institutional Revolution*, Chicago University Press, Chicago.

Ashton, Robert (1956), 'Revenue farming under the early Stuarts', *The Economic History Review* **8**(3), pp. 310–322.

Ashton, Robert (1957), 'Deficit finance in the reign of James I', *The Economic History Review* **10**(1), pp. 15–29.

Ashton, Robert (1960), *The Crown and the Money Market, 1603-1640*, Clarendon Press, Oxford.

Ashton, Robert (1979), *The City and the Court, 1603–1643*, Cambridge University Press, Cambridge.

Ashworth, William J. (2003), *Customs and Excise: Trade, Production, and Consumption in England, 1640–1845*, Oxford University Press, Oxford.

Aylmer, G.E. (1961), *The Civil Service of Charles I*, Columbia University Press, New York.

Baker, Robert L. (1961), 'The English customs service, 1307-1343: A study of medieval administration', *Transactions of the American Philosophical Society* **51**(6), pp. 3–76.

Balla, Eliana and Noel D. Johnson (2009), 'Fiscal crisis and institutional change in the Ottoman Empire and France', *The Journal of Economic History* **69**(03), 809–845.

Barzel, Yoram (1997, 1989), *Economic Analysis of Property Rights*, 2nd edn, CUP, Cambridge, UK.

Bayard, Françoise (1988), *Le Monde des financiers au xviie siècle*, Flammarion, Paris.

Bell, Adrian R., Chris Brooks and Tony K. Moore (2009), *Accounts of the English Crown with Italian Merchant Societies, 1272-1345*, List and Index Society, Kew.

Bell, Adrian R., Chris Brooks and Tony K. Moore (2011), 'Credit finance in thirteenth century England: the Ricciardi of Lucca and Edward I, 1272–1294', *Thirteenth Century England* **XIII**, 101–116.

Besley, Timothy and Torsten Persson (2009), 'The origins of state capacity: Property rights, taxation, and politics', *American Economic Review* **99**(4), 1218–44.

Besley, Timothy and Torsten Persson (2011), *Pillars of Prosperity*, Princeton University Press, Princeton, New Jersey.

Bonney, M. and R. Bonney (1993), *Jean-Roland Malet Premier Historien des Finances de la Monarchie Française*, Comité pour l'Histoire Economique et Financière de la France, Paris.

Bonney, R. J. (1979), 'The failure of the French revenue farms, 1600-60', *The Economic History Review* **32**(1), pp. 11–32.

Bonney, Richard, ed. (1995), *The Rise of the Fiscal State in Europe c.1200-1815*, Clarendon Press, OUP, Oxford.

Bonney, Richard, ed. (1999), *Economic Systems and State Finance*, Oxford University Press, Oxford.

Bonney, Richard and Margaret Bonney (2011).
URL: *http://esfdb.websites.bta.com/Database.aspx*

Braddick, Michael J. (1994), *Parliamentary Taxation in Seventeenth-Century England*, The Royal Historical Society: The Boydell Press, Woodbridge, Suffolk.

Braddick, Michael J. (1996), *Nerves of State: Taxation and the financing of the English State, 1558–1714*, Manchester University Press, Manchester.

Brenner, Robert (1976), 'Agarian class structure and economic development in pre-industrial Europe', *Past and Present* **70**(1), 30–75.

Brenner, Robert (1993), *Merchants and Revolution*, Princeton University Press, Princeton, New Jersey.

Brewer, John (1988), *The Sinews of Power*, Harvard University Press, Cambridge, M.A.

Carruthers, Bruce G. (1996), *City of Capital: Politics and Markets in the English Financial Revolution*, Princeton University Press, Princeton, New Jersey.

Cassidy, Irene (1983), Bucknall, Sir William (1633-76), of London and Oxhey, Hert, *in* 'History of Parliament 1660-1690'.

Chanda, Areendam and Louis Putterman (2007), 'Early starts, reversals and catch-up in the process of economic development', *Scandinavian Journal of Economics* **109**(2), 387–413.

Chandaman, C.D. (1975), *The English Public Revenue 1660–1688*, Clarendon Press, Oxford.

Coase, R. H. (1960), 'The problem of social cost', *The Journal of Law and Economics* **3**(1), 1.

Coffman, D'Maris Dalton (2007), "The power of the king to be without parliament": a new look at an old interpretation of the financial settlement of 1690. Conference paper.

Coffman, D'Maris Dalton (2008), The Fiscal Revolution of the Interregnum: Excise taxation in the British Isles, 1643-1663, Dissertation, University of Pennsylvania.

Colbert, J.B. (1869), *Lettres, instructions et mémoires: Justice et police. Affaires religieuses. Affaires diverses*, number v. 6 *in* 'Lettres, instructions et mémoires: Justice et police. Affaires religieuses. Affaires diverses', Imprimerie Impériale.

Coşgel, Metin M. and Thomas J. Miceli (2009), 'Tax collection in history', *Public Finance Review* **37**(4), 399–420.

Cramsie, John (2000), 'Commercial projects and the fiscal policy of James VI and I', *The Historical Journal* **43**(2), pp. 345–364.

Crews, C.C. (1936), 'The last period of the great farm of the English customs', *Bulletin of the Institute of Historical Research* **14**(41), 118–121.

Davenant, Charles (1967, 1697), Whether to farm the revenues, may not, in this jucture, be the most for the public service, *in* 'The Political and Commercial Works of that celebrated Writer Charles D'Avenant, LL.D.', Gregg Press Limited, Fairnborough, pp. 207–232.

Dessert, Daniel (1984), *Argent, Pouvoir Et Sociéte au Grand Siècle*, Fayard, Paris.

Dessert, Daniel and J. L. Journet (1975), 'Le lobby colbert: Un royaume, ou une affaire de famille?', *Annales E.S.C.* **30**, 1303–36.

Dickson, P.G.M. (1967), *The Financial Revolution in England*, Gregg Revivals, Aldershot.

Dietz, Frederick C. (1930), 'Elizabethan customs administration', *The English Historical Review* **45**(177), pp. 35–57.

Dietz, Frederick C. (1932), *English Public Finance 1485–1641*, Vol. II: 1558–1641, Barnes & Noble, INC, New York.

Dincecco, Mark (2009), 'Fiscal centralization, limited government, and public revenues in Europe, 1650-1913', *Journal of Economic History* **69**(1), 48–103.

Dincecco, Mark (2011), *Political Transformations and Public Finances: Europe, 1650-1913*, Cambridge University Press, Cambridge.

Drelichman, Mauricio and Hans-Joachim Voth (2011*a*), 'Lending to the borrower from hell: Debt and default in the age of Philip II', *The Economic Journal* pp. 1205–1228.

Drelichman, Mauricio and Hans-Joachim Voth (2011*b*), 'Serial defaults, serial profits: Returns to sovereign lending in Habsburg Spain, 1566-1600', *Explorations in Economic History* **48**(1), 1–19.

Drobak, John N. and John V.C. Nye (1997), *The Frontiers of the New Institutional Economics*, Academic Press, San Diego, California.

Durand, Yves (1971), *Les Fermiers Généraux au XVIIIe Siècle.*, Presses Universitaires de France, Paris.

Epstein, S. R. (2000), *Freedom and Growth, the rise of states and markets in Europe, 1300–1700*, Routledge, London.

Ertman, Thomas (1997), *Birth of Leviathan*, Cambridge University Press, Cambridge.

Evans, Peter, Dietrich Rueschemeyer and Theda Skocpol, eds (1985), *Bringing the State Back In*, Cambridge University Press, Cambridge, UK.

Finer, S.E. (1999), *The History of Government from the Earliest Times*, Vol. III, Oxford University Press, Oxford.

Franck, Raphael, Noel D. Johnson and John V. C. Nye (2012), From internal taxes to national regulation: Evidence from a French wine tax reform at the turn of the twentieth century. Manuscript.

Fryde, E. B. (1959), 'The English Farmers of the Customs, 1343-51', *Transactions of the Royal Historical Society* **9**, pp. 1–17.

Fryde, E. B. (1991), 'Royal fiscal systems and state formation in France from the 13th to the 16th century, with some English comparisons', *Journal of Historical Sociology* **4**(3), 236–287.

Fukuyama, Francis (2011), *The Origins of Political Order*, Profile Books Ltd., London.

Gennaioli, Nicola and Hans-Joachim Voth (2011), State capacity and military conflict, CEPR Discussion Papers 8699, C.E.P.R. Discussion Papers.

Goldsmith, Raymond W. (1987), *Premodern Financial Systems*, Cambridge University Press, Cambridge.

Gras, N. S. B. (1912), 'The origin of the national customs-revenue of England', *The Quarterly Journal of Economics* **27**(1), pp. 107–149.

Greenshields, M.R. (1994), *An economy of violence in early modern France: crime and justice in the Haute Auvergne, 1587-1664*, Pennsylvania State University Press.

Harper, W. Percy (1929), 'The significance of the farmers of the customs in public finance in the middle of the seventeenth century', *Economica* (25), pp. 61–70.

Hart, Marjolen'T (1991), "The devil of the Dutch': Holland's impact on the Financial Revolution in England, 1643–1694', *Parliaments, Estates, and Representation* **11**(1), 39–51.

Heckscher, Eli F. (1955), *Mercantilism*, Vol. I, George Allen & Unwin LTD, London. translated by E.F. Soderlund.

Heumann, Pierre (1938), Un traitant sous louis xiii: Antoine feydeau, *in* M. G.Pagès, ed., 'Études sur l'Histoire Administrative et Sociale de l'Ancien Régime', Librairie Félix Alcan, Paris, pp. 185–89.

Hoffman, Philip T. (1994), Early modern France, 1450-1700, *in* P. T.Hoffman and K.Norberg, eds, 'Fiscal crises, liberty, and representative government, 1450-1789', Stanford University Press, Stanford, Calif.

Holmes, Geoffrey (1993), *The Making of a Great Power*, Longman, London.

Hoon, Elizabeth Evelyonola (1968), *The Organization of the English Customs System, 1696–1786*, David & Charles, Newton Abbot, Devon.

Howard, Stanley (1932), 'Private rules for private accounting in France, 1673 and 1807', *The Accounting*

Review **7**(2).

Hyde, Edward (1760*a*), *The Life of Edward Hyde Earl of Clarendon*, Vol. 3, J.J. Toureneisen, Basil.

Hyde, Edward (1760*b*), *The Life of Edward Hyde Earl of Clarendon*, Vol. 2, J.J. Toureneisen, Basil.

Johnson, Noel D. (2006*a*), 'Banking on the King: The evolution of the royal revenue farms in old regime France', *The Journal of Economic History* **66**(04), 963–991.

Johnson, Noel D. (2006*b*), 'The cost of credibility: The company of general farms and fiscal stagnation in eighteenth century France', *Essays in Economic and Business History* **24**.

Johnson, Noel D. and Mark Koyama (2011), Taxes, lawyers, and the decline of witchcraft. Manuscript.

Johnson, Noel D., Mark Koyama and John V.C. Nye (2011), Establishing a New Order: The Growth of the State and the Decline of Witch Trials in France. Manuscript.

Jones, J.R. (1979), Main trends in restoration England, *in* J.Jones, ed., 'The Restored Monarchy 1660–1688', Rowman & Littlefield Publishers, Totowa, New Jersey, pp. 1–30.

Jourdan, Decrusy, Isambert, Armet and Taillander (1822-30), *Recueil général des anciennes lois française, 29 vols*, Belin-Le-Prieur Verdiere, Paris.

Kaeuper, Richard W. (1973), *Bankers to the Crown: the Riccardi of Lucca and Edward I*, Princeton University Press, Princeton, U.S.A.

Karaman, K. Kivanç and Sevket Pamuk (2011), Different paths to the modern state in Europe: The interaction between domestic political economy and interstate competition, Europe in Question Discussion Paper Series of the London School of Economics (LEQs) 7, London School of Economics / European Institute.

Kiser, Edgar and April Linton (2001), 'Determinants of the growth of the state: War and taxation in early modern France and England', *Social Forces* **80**(2), pp. 411–448.

Kiser, Edgar and Joachim Schneider (1994), 'Bureaucracy and efficiency: An analysis of taxation in early modern Prussia', *American Sociological Review* **59**(2), pp. 187–204.

Kiser, Edgar and Joshua Kane (2001), 'Revolution and state structure: The bureaueratization of tax administration in early modern England and France', *American Journal of Sociology* **107**(1), 183–223.

Kishansky, Mark (1996), *A Monarchy Transformed: Britain 1603–1714*, Penguin Books, London.

Lyon, B.D. and A.E. Verhulst (1967), *Medieval finance: a comparison of financial institutions in northwestern Europe*, Brown University Press.

Markoff, J. (1996), *The Abolition of Feudalism: Peasants, Lords, and Legislators in the French Revolution*, Pennsylvania State University Press.

Matthews, George T. (1958), *The Royal General Farms in Eighteenth-Century France*, Columbia University Press, New York.

Maurer, Noel and Andrei Gomberg (2004), 'When the state is untrustworthy: Public finance and private banking in Porfirian Mexico', *The Journal of Economic History* **64**(04), 1087–1107.

Morris, W.A. and JNR. Strayer (1947), *The English Government at Work*, Vol. 2: 1327-1336, Medieval Academy of America.

Nichols, G.O. (1971), 'English government borrowing, 1660-1688', *The Journal of British Studies* **10**(2), 83–104.

North, Douglass C. (1981), *Structure and Change in Economic History*, Norton, New York, U.S.A.

North, Douglass C. (1990), *Institutions, Institutional Change, and Economic Performance*, Cambridge UP, Cambridge, U.K.

North, Douglass C. and Barry Weingast (1989), 'Constitutions and commitment: the evolution of institutions governing public choice in seventeenth century England', *Journal of Economic History* **49**, 803–32.

North, Douglass C., John Joseph Wallis and Barry R. Weingast (2009), *Violence and Social Orders: a conceptual framework for interpreting recorded human history*, Cambridge University Press, Cambridge.

North, Douglass C. and Robert Paul Thomas (1973), *The Rise of the Western World*, Cambridge University Press, Cambridge, U.K.

Nye, John (2008), Institutions and the institutional environment, *in* E.Brousseau and J.-M.Glachant, eds, 'New Institutional Economics, a guidebook', Cambridge University Press, Cambridge, pp. 67–81.

O'Brien, Patrick K. (1988), 'The political economy of British taxation, 1660-1815', *The Economic History Review* **41**(1), 1–32.

O'Brien, Patrick K. (2001), Fiscal exceptionalism: Great Britain and its European Rivals from Civil War to Triumph at Trafalgar and Waterloo. LSE Working Paper.

O'Brien, Patrick K. (2011), 'The nature and historical evolution of an exceptional fiscal state and its possible significance for the precocious commercialization and industrialization of the British economy from Cromwell to Nelson', *The Economic History Review* .

O'Brien, Patrick K. and Philip A. Hunt (1999), England, 1485–1815, *in* R.Bonney, ed., 'The Rise of the Fiscal State in Europe c.1200-1815', Oxford University Press, Oxford, pp. 53–101.

Outhwaite, R. B. (1971), 'Royal borrowing in the reign of Elizabeth I: The aftermath of Antwerp', *The English Historical Review* **86**(339), pp. 251–263.

Parker, Geoffrey (1976), 'The "military revolution," 1560-1660–a myth?', *The Journal of Modern History* **48**(2), pp. 195–214.

Peck, L.L. (1993), *Court patronage and corruption in early Stuart England*, Psychology Press.

Picot, Georges (1979), *Histoire Des États Généraux, Considérés Au Point de Vue de Leur Influence Sur Le Gouvernement de la France De 1355 À 1614*, Vol. 1, Mégariotis Reprints, Genève.

Pincus, Steven C.A. and James A. Robinson (2011), What really happened during the Glorious Revolution?, Working Paper 17206, National Bureau of Economic Research.

Pitt, Catherine Rachel (2006), The wine trade in Bristol in the fifteenth and sixteenth centuries, Master's thesis, Bristol University.

Prestwich, Mena (1966), *Cranfield, Politics and Profits under the Early Stuarts*, Clarendon Press, Oxford.

Quinn, Stephen (1997), 'Goldsmith-banking: Mutual acceptance and interbanker clearing in restoration London', *Explorations in Economic History* **34**(4), 411–432.

Quinn, Stephen (2001), 'The Glorious Revolution's effect on English private finance: A microhistory, 1680 1705', *The Journal of Economic History* **61**(03), 593–615.

Ramsay, G. D. (1952), 'The smugglers' trade: A neglected aspect of English commercial development', *Transactions of the Royal Historical Society* **2**, pp. 131–157.

Read, Conveys (1925), *Mr Secretary: Walsingham and the policy of Queen Elizabeth*, Vol. III, Clarendon Press, Oxford.

Renauldon, Joseph (1765), *Traité historique et pratique des droits seigneuriaux*, Despilly, Paris.

Rigby, S.H. (1985), 'The customs administration at Boston in the reign of Richard II', *Bulletin of the Institute of Historical Research* **58**(137), 12–24.

Root, Hilton (1989), 'Tying the king's hands: Credible commitments and royal fiscal policy during the old regime', *Rationality and Society* **1**(2), 240–59.

Root, Hilton L. (1987), *Peasants and King in Burgundy: Agrarian Foundations of French Absolutism*, University of California Press.

Rosevere, Henry (1969), *The Treasury: The Evolution of a British Institution*, Columbia University Press, New York.

Rosevere, Henry (1991), *The Financial Revolution 1660–1760*, Longman, London.

Savary, Jacques (1675), *Le parfait négociant*, Chez Jean Guignard.

Scott, Jonathan (2003), ''Good Night Amsterdam'. Sir George Downing and Anglo-Dutch statebuilding', *The English Historical Review* **118**(476), 334–356.

Sharpe, Kevin (1992), *The Personal Rule of Charles I*, Yale University Press, New Haven.

Shaw, William Arthur (1902), The beginnings of the national debt, *in* T.Trout and J.Tait, eds, 'Historical essays by members of the Owens college, Manchester', Longman Green, and Co., London, pp. 391–422.

Stasavage, David (2002), 'Credible commitment in early modern Europe: North and Weingast revisited', *Journal of Law, Economics, and Organization* **18**(1), 155–86.

Stasavage, David (2010), 'When distance mattered: Geographic scale and the development of European representative assemblies', *American Political Science Review* **104**(4), 625–643.

Stasavage, David (2011), *States of Credit: Size, Power, and the Development of European Polities*, Princeton University Press, Princeton, N.J.

Strayer, J.R. (1936), *The royal domain in the bailliage of Rouen*, Princeton university press.

Sussman, Nathan and Yishay Yafeh (2006), 'Institutional reforms, financial development and sovereign debt: Britain 1690–1790', *The Journal of Economic History* **66**(04), 906–935.

Tawney, R.H. (1958), *Business and Politics under James I*, Cambridge University Press, Cambridge.

Thomas, David (1983), Financial and administrative developments, *in* H.Tomlinson, ed., 'Before the English Civil War', St. Martin's Press, New York.

Tilly, Charles (1975), Reflections on the history of European state-making, *in* C.Tilly, ed., 'The Formation of Nation States in Western Europe', Princeton University Press, Princeton, New Jersey, pp. 3–84.

Tilly, Charles (1990), *Coercion, Capital, and European States, AD 990-1990*, Blackwell, Oxford.

Tomlinson, Howard (1979), Financial and administrative developments in England, 1660–1688, *in* J.Jones, ed., 'The Restored Monarchy 1660–1688', Rowman & Littlefield Publishers, Totowa, New Jersey, pp. 94–118.

van der Wer, Herman (1977), Money, credit and banking systems, *in* E.Rich and C.Wilson, eds, 'The Cambridge Economic History of Europe', Vol. V: The Economic Organization of Early Modern Europe, Cambridge University Press, Cambridge, pp. 290–393.

White, Eugene N. (2004), 'From privatized to government-administered tax collection: tax farming in eighteenth-century France', *The Economic History Review* **57**(4), 636–663.

Wilson, Charles (1984), *England's Apprenticeship, 1603–1763*, second edition edn, Long Group Limited, London.

Wolfe, Martin (1972), *The Fiscal System of Renaissance France*, Yale University Press, New Haven.