Trade, Law and Order, and Political Liberties: Theory and Application to English Medieval Boroughs*

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February 5, 2016

Abstract

We develop a framework that puts the administration at the core of the relationship between trade and political liberties. A ruler chooses the size of an administration that (i) collects taxes and (ii) provides law and order for a representative merchant to use. To be exploited, large gains from trade require a relatively large administration. However, keeping a large administration in check is difficult. When the resulting inefficiencies are significant, the ruler grants control of the administration to the better-informed merchant, even though this facilitates tax evasion. We analyze the case of post-Norman Conquest England (1066-1307) by using evidence on taxation, commerce, and political liberties across boroughs. We use boroughs' ownership as a proxy for the cost of controlling the administration, and find that rulers with a high cost are more willing to grant boroughs the control of their administration. Also, provided it belongs to a high-cost ruler, a borough's propensity to receive a grant increases with its commercial importance. Finally, we find that boroughs are willing to pay higher taxes in exchange for liberties.

Keywords: Law and Order, Administration, Trade, Medieval England.

JEL Classification Numbers: D02, D73, N43, P14, P16.

*We are particularly indebted to Alberto Bisin, Roberta Dessí, Patrick Rey, Andrei Shleifer, Ennio Stacchetti, and Jean Tirole for useful comments and suggestions. We also thank Daron Acemoglu, Nava Ashraf, Julia Cagé, Joyee Deb, Mark Dincecco, Georgy Egorov, Jeffry Frieden, Avner Greif, Oliver Hart, Alessandro Lizzeri, Trevor O'Grady, Nicola Persico, Shanker Satyanath, David Stasavage, seminar participants at Harvard, MIT, NYU, Boston College, Université Libre de Bruxelles, Tsinghua University, University of Bologna, University of Leicester, University of Surrey, University of Exeter, and participants at the 2012 IIO Conference in Washington D.C., the 2013 EARIE Conference in Evora, and the 2015 RES Conference in Manchester. Part of this research was conducted while Simone Meraglia visited NYU. The author is grateful to this institution for its hospitality. All remaining errors are ours.

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Sheriffs and reeves, whose office was justice and judgment, were more terrible than thieves and plunderers, and more savage than the most savage.

Henry of Huntingdon (*ca.* 1088-1154), in Bisson (2009), p. 178.

1 Introduction

In the eleventh century, much of western Europe was organized as a feudal society. Trade was scant and the majority of the population enjoyed limited liberties. Over the next two centuries, trade flourished and, in parallel, merchant towns developed significant political liberties (Lopez (1976), North and Thomas (1973)). England is a case in point.[1] During the course of the twelfth and thirteenth centuries, urban settlements more than doubled, thousands of markets were created,[2] and many towns obtained the right to appoint and fire the officials in charge of their administration.

We propose a theory that puts the local administration at the core of the relationship between trade and political liberties, and apply it to the case of post-Norman Conquest England (1066-1307). Starting in the twelfth century, English feudal rulers – for example, king and barons – expanded the local administration needed to protect trade routes, administer markets, enforce contracts, and tax the growing volume of trade. Along with this expansion, the population voiced complaints regarding the behavior of local officials (sheriffs, bailiffs, etc.). The people accused officials of engaging in widespread expropriation. These grievances forced the king to launch inquiries into their conduct and adopt costly administrative measures. Citizens increasingly expressed the desire to handle the local administration themselves. Despite the inevitable

[1]Several factors point to an environment increasingly favorable to trade starting in the tenth century, including population growth (North and Thomas (1973)), regained access to Mediterranean trade, and, in England, a stable society following the Norman Conquest. Also, significant technological progress wass under way in English agriculture, such as horse traction for hauling and windmills (Langdon and Masschaele (2006)).

[2]Only 139 markets are recorded for 1086 (Britnell (1981)).

loss of control over citizens, the king and, to a lesser extent, local lords eventually gave in to their desires by granting towns *Charters of Liberties*.

We develop a model based on the following observations. First, the higher the potential gains from trade, the greater the demand for law and order. Second, the local administration that supplies law and order is capable of coercion and, therefore, capable of expropriation.[3] Third, citizens – because of their superior information – are better able than distant rulers to monitor the behavior of the local administration.[4] We argue that when (*i*) a relatively large administration is necessary to reap the benefits from trade and (*ii*) its monitoring is difficult for the ruler, granting citizens the right to elect local officials is mutually beneficial and leads to a more efficient supply of law and order.[5]

In our model, a revenue-maximizing ruler chooses the size of the administration required to *(i)* provide law and order for a representative merchant and *(ii)* collect taxes. Their interaction is repeated and leads to an agreed-upon level of taxation. The cost of controlling the administration is especially high when its size is so large that it can expropriate the merchant against the ruler's wishes.[6] To reduce this cost, the ruler can downsize the administration. In a rural economy, where demand for law and order is low, controlling the administration through its size involves no production inefficiencies.

[3]On the issues of state building and coercion, see Lane (1958) and, more recently, Mayshar, Moav and Neeman (2015). Besley and Persson (2009) and Besley and Robinson (2010) analyze the link between coercion and the provision of law and order. See also Olson (1993) and Grossman and Kim (1995).

[4]Bardhan (2002). See Banerjee, Hanna and Mullainathan (2012) on the relation between the lack of control over local officials and their misbehavior.

[5]Martinez-Bravo et al. (2014) show that political liberties in rural China lead to a more efficient provision of public goods. Lizzeri and Persico (2004) relate the franchise expansion occurring in nineteenth century Britain to the provision of public goods. On the link between market supporting institutions (e.g., courts and police) and political institutions, see also Acemoglu and Robinson (2005) and Cervellati, Fortunato and Sunde (2008).

[6]We define expropriation as the coercive appropriation of an amount of output higher than the agreed-upon tax. Formally, we treat the administration as a costly technology rather than a player. In the Online Appendix, we extend the model to treat officials as players whose decision to expropriate the merchant is unobservable to the ruler. The Online Appendix is available at https://sites.google.com/site/simonemeragliawebpage/research.

Conversely, downsizing the local administration involves production inefficiencies when the demand for law and order is high, which occurs when the gains from trade are high. To escape the trade-off that arises in a trade economy, the ruler may find that granting control of the local administration to the merchant is profitable, even though this makes tax evasion more tempting. Because the merchant is better informed about the officials' behavior, he can invest in a stronger local administration that does not engage in expropriation.

We provide evidence on taxation, commercial importance, and political liberties across the 496 English boroughs recorded from 1066 to 1307. The data we collect are coherent with our model in several ways. First, we distinguish between *royal* boroughs whose administration was controlled by the king, and *mesne* boroughs whose administration was controlled by a local lord. Mesne lords, who controled smaller territories than the king, were arguably better able to monitor officials and, thus, did not need to delegate as much control over the local administration to their boroughs. We find that 41% of the royal boroughs obtained local political liberties, against 5% of the mesne boroughs. Second, we distinguish between boroughs according to their commercial relevance. To sustain larger trade volumes, more commercially important boroughs needed a larger local administration and were thus more likely to obtain political liberties. We find that 66% of the 51 most commercially important boroughs were granted liberties, against only 7% of the remaining 445 less commercially important ones. In particular, 80% of the boroughs that were *both* royal and commercially important were granted liberties; by contrast, only 5% of the most commercially important mesne boroughs and 26% of the less commercially important royal boroughs obtained liberties. These figures suggest that trade becomes a major determinant of local political liberties only when the ruler is distant and unable to control her local administration. Finally, we find that over half of the royal boroughs that obtained Charters made an upfront pay-

ment and/or paid higher yearly taxes upon (and explicitly in exchange for) the grant. We observe no decreases in taxes immediately following the first grant. This finding suggests granting liberties is mutually beneficial to the king and the burgesses.

The main existing theories on trade and political liberties emphasize the role the merchant class played in the rise of English national representative assemblies (North and Thomas (1973), North and Weingast (1989), Bates and Lien (1985)). Our focus is on the impressive – and yet overlooked – spread of political liberties to merchant towns that preceded their representation in parliament. The analysis of this period reveals the critical role the local administration played in fostering liberties, and highlights the process by which the English merchant class gained considerable and long-lasting power.[7]

Wars, and the need to finance them, are often considered vital to the evolution of political liberties (see, e.g., North and Weingast (1989)).[8] Wars were common during our period of study, and indeed many grants of liberties occured either immediately preceding or immediately following a conflict. Our framework points to a novel channel through which wars can lead to liberties. Because conflicts were often fought abroad, the king's absence from England exacerbated the issue of controlling the local administration, as evidenced by the numerous inquiries into officials' behavior launched upon his returns.

Finally, rebellions, or their threat, may also lead to political liberties (Acemoglu and Robinson (2000)).[9] In our context, however, the fact that the king received higher payments from boroughs upon the grant of liberties suggests that, if rebellions played

[7]See Acemoglu, Johnson and Robinson (2005) on the importance of medieval political institutions for future institutional developments in Britain.

[8]On the role played by wars, see also Gennaioli and Voth (2015).

[9]Rebellions seem crucial in other parts of Western Europe, such as France and Northern Italy, where citizens organized themselves into *communes*. In the case of England, only three attempts at rebelling against the king are recorded (i.e., London (1191), Gloucester (1169-70), and York (1176)), and all three have failed. On the London commune, see Tait (1936).

a role, they must have often been directed against the local administration rather than the king.

Related Literature. Our paper continues a stream of literature on the relationship between local political liberties and the issue of controlling the bureaucracy.[10] Bardhan (2002) and Bardhan and Mookherjee (2006) investigate this issue in the presence of corruptible officials. A premise of this research is that communication between citizens and rulers is costly. Egorov, Guriev and Sonin (2009) analyze the role of free media in alleviating this problem of communication.

A strand of the literature explains autocrats' handover of power to citizens, by arguing their enfranchisement makes expropriation less tempting to rulers (North and Weingast (1989), Greif, Milgrom and Weingast (1994)). In the same vein, North and Thomas (1973) and De Long and Shleifer (1993) highlight the link between the rise of trade and the arrival of more open forms of political institutions. Bates and Lien (1985) emphasize rulers' difficulty in taxing movable wealth in explaining the rise of western European representative assemblies.[11] In Myerson (2015), constitutional constraints, by making expropriations of officials less tempting to rulers, also favor the rise of a privileged aristocracy.

Horowitz (1993) and Acemoglu and Robinson (2000) analyze the path of economic and political reforms in the presence of a threat of social unrest. Lizzeri and Persico (2004) show that an expansion of the franchise may occur even in the absence of the threat of a revolt. Specifically, it may occur when the need for public goods is sufficiently high.

[10] De Lara, Greif and Jha (2008) point out how administrative power is an important determinant of self-enforcing representative systems.

[11] Interestingly, their focus is on the thirteenth and fourteenth centuries. As we highlight in this paper, by that time the administration of the most commercially important English boroughs was controlled by merchants. Presumably, this has exacerbated rulers' difficulty in taxing movable wealth.

The paper proceeds as follows. Section 2 introduces the historical context. Section 3 presents the model setting. Sections 4 and 5 solve the model. Section 6 provides quantitative and qualitative evidence on trade, taxation, and local political liberties in England (1066-1307). Section 7 concludes.

2 The Historical Context

Territorial Administration. Post-Norman Conquest England was divided into shires/counties, themselves divided into hundreds. Each hundred was composed of manors within which rural and urban settlements – villages and boroughs – coexisted. The presence of a market and a trading community characterized urban settlements. Unlike villagers, burgesses could alienate their land property and pay a cash rent to the manorial lord rather than provide labor services.[12] In what follows, we focus on boroughs because of their greater importance.

The person with the highest authority over an area was its owner: either the king or a local (*mesne*) lord. According to the Domesday Book (1086), approximately 20% of the land belonged to the king, 55% to lay mesne lords, and 25% to ecclesiastical mesne lords. Although mesne lords were tied to the king by feudal obligations, they were entitled to receive almost the entirety of their land's profits.

The king and mesne lords appointed the officials who enforced the law and collected taxes in their respective territories. On the royal demesne, the king appointed sheriffs at the shire level, and either the sheriff or the king appointed bailiffs at the hundred level. Similarly, reeves were appointed in boroughs and villages (Tait (1936), p. 225). Officials had fiscal and judicial authority within their jurisdiction, and each responded

[12]Ballard (1913) (pp. xliv and lxxxviii-lxxxix). Burgesses could move as part of their trading activity. However, acquiring the status of burgess in a borough other than that determined by birth was very difficult in practice.

to the officials with wider jurisdiction.[13] The range of officials on the mesne lords' territories was almost identical to that on the royal demesne, except for sheriffs who were unnecessary on mesne lords' small territories.

Boroughs, Markets, and Trade. The period under consideration was one of booming economic activity. The number of recorded urban settlements increased drastically: boroughs went from 112 in 1086 to approximately 500 by 1307. Around 150 fairs were established by the end of the twelfth century and more than 1,000 newly licensed markets were recorded between 1200 and 1349.[14] Coinage in circulation increased both in nominal terms – from £25,000 to £900,000 – and per capita (Mayhew (1995)). Richard I introduced the first national customs tariff. In 1203-4, a total of £4,958 were collected from 35 ports, a sum equal to the total value of all mesne lords' lands as recorded in the Domesday Book (Langdon and Masschaele (2006)). Traded goods included agricultural produce, food, rural industrial products (cloth), and manufactures.

Beginning in about 1160, the king licensed all English markets in exchange for an up-front fee. A license gave the market holder the right to build the necessary infrastructure, hold the market on a given day of the week, hold the market court, and collect various tolls (Davis (2011)). The king imposed limitations on the rates of tolls and charges to be levied from traders (Britnell (1978) and Masschaele (1997)). Market holders appointed market officials to monitor exchanges, whereas clerks of the market – officials of the king's household – monitored the enforcement of market regulations. Often, mesne lords were license holders on their demesne.

[13] See Ballard (1913) and Green (1989). Other officials existed, such as shire justiciars, itinerant justices, justices in eyre, coroners, under-sheriffs, itinerant serjeants, serjeants of the hundreds, clerks, bedels, sub-bedels, cacherels, summoners, messengers, and toll collectors (Cam (1963), pp. 132-33, 153-56).

[14] Britnell (1981), Masschaele (1997), and Langdon and Masschaele (2006). In 1189, the proceeds of the fair of St. Giles – still in existence – amounted to £146 8s. 7d., a sum comparable to the yearly profits the king received from his wealthiest boroughs (Poole (1955), p. 77).

A Growing Administration. Several facts suggest a growing local administration. Each of the some 1,000 newly licensed markets required several officials, such as toll collectors, weighers and measurers, ale tasters, bread weighers, viewers of the market, and so on. New offices were created, for instance, clerks of the market and keepers of the peace (in charge of protecting trade routes).[15] Finally, several statutes addressed the need for registered commercial contracts and more speedy dispute resolution by allowing more frequent sittings of existing courts and establishing new ones (Statute of Acton Burnell (1283), Statute of Merchants (1285), and Statute of Westminster II (1285, c. 18)).[16]

Tax Farming. Court fees, tolls, and market licence fees were significant sources of profits for the king and mesne lords.[17] The contractual arrangement between the king and his officials was known as *tax farming*. The *farm* of a territory was a fixed amount of money representing the sum of all the king's revenues from that territory. The king auctioned off the right to collect the *farm*. The winning official retained any revenue in excess of his bid, and the king enjoyed an *increment* whenever this bid was higher than the farm.[18,19] The farmer's profit mostly stemmed from the handling of court disputes.[20] However, caps and limits were imposed on the admissible fees and the frequency with which courts were to be held.

[15]Toll collectors proliferated (Masschaele (1997)). Also, from Henry II's reign onward, the sheriff's men grew significantly more numerous (Cam (1963), pp. 6-7).

[16]Ballard and Tait (1923), p. lxix; Tait (1936); Poole (1955), p. 392; Powicke (1962), p. 623; Cam (1963), pp. 145-46.

[17]See Ballard (1904) (pp. 90-91) and Masschaele (1997). Other permanent sources included a land tax (*geld*), proceeds from the lord's demesne houses (*gablum*), and receipts from mints (Ballard (1904), pp. 63-64). At times, extraordinary taxes were also collected, such as the *aides* and *tallages*.

[18]The market for the sheriff's office was fairly competitive under Henry I (Green (1989), p. 201) and Richard I (Carpenter (1976), Poole (1955), p. 388).

[19]Farms were customarily fixed and invariant after the Domesday survey. However, presumably because of the booming economic activity, the king temporarily imposed *increments* in the thirteenth century (Cam (1963), p. 94; Carpenter (1976)).

[20]Round (1892), p. 91; Morris (1968), pp. 98-99.

The sheriff was responsible for the farm of the shire, and lower-level officials were accountable to him for the hundreds' and boroughs' farms. The sheriff presided over the shire court, whereas the bailiff and the reeve presided over, respectively, the hundred and the borough courts. The shire and hundred courts dealt with trespassing and debts, and registered verbal contracts (Cam (1963), p. 18, p. 115, and pp. 181-3). Moreover, during his periodical *tourns*, the sheriff dealt with various offenses, monitored the local police system (the frankpledge tithings), and received payments (Cam (1963), pp. 70, 89, and 120-23).[21] All lower level courts – namely, borough, market, and *piepowder* courts – dealt with commercial contracts and handled disputes between merchants.[22] Identical courts were found on mesne territories, except for those run by the royal sheriff.

In 1204, John dismissed many sheriffs and appointed new ones as *custodes* rather than farmers. Custodians were meant to transfer all revenues to the Exchequer – minus allowed expenses – and became paid officials entitled to a salary. This system, discontinued during the period leading to the Magna Carta, was reimposed in the periods 1223-24, 1236-41, and in 1258-59 (Powicke (1962), p. 62; Carpenter (1976)).

The farming system was also common within mesne lords' territories. However, we are unsure whether auctions were held.

Officials' Misbehavior. The control of local officials was a significant problem. The importance of this issue can, for instance, be inferred from the various inquiries and the legal reforms of the period.

An inquiry occured when the king sent officials from his household to gather and investigate complaints about local officials. We have records of 21 such inquiries, where

[21] Pleas related to market transactions could also be dealt with in the sheriff's tourn.

[22] *Piepowder* courts developed in the thirteenth century. According to the Ipswich Dom-Boc (1291), this court was held in the borough court, and citizens made their pleas before the borough's bailiff. See also Powicke (1962) (p. 625) and Gross (1906).

each inquiry may have lasted up to several years. Inquiries' surviving records give a vivid picture of local officials' exactions. For instance, the Inquest of the Sheriffs (1170), which led to the removal of most sheriffs and lower level officials, tells us of reeves extracting unauthorized tolls and of sheriffs abusing shire courts by summoning burgesses to act as jurors at inconvenient times and places only to fine those unable to attend.[23] Similarly, the Hundred Rolls Inquiries (1274-75) contain complaints involving over 1,000 officials (Cam (1963), p. 229). Sheriffs were accused of imposing arbitrary financial penalties, making arrests without any formal accusation, refusing to give proper receipts for payments in order to collect debts twice, and extracting unauthorized tolls.[24]

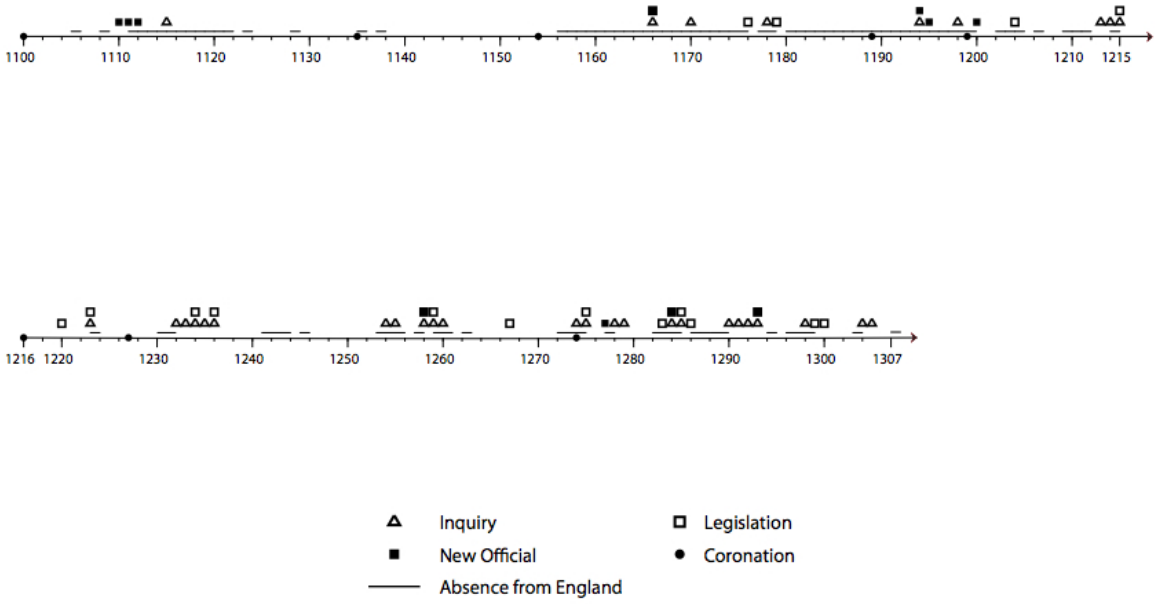
Legal reforms encompass statutes, ordinances, and provisions that explicitly dealt with the issue of controlling local officials. To the best of our knowledge, at least 34 major reforms (out of a total of *ca.* 81 pieces of legislation; see Great Britain Public Record Office (1810) and Rothwell (1995)) contained chapters dealing with this issue and that either limited officials' prerogatives or created new offices whose purpose was to monitor existing officials (and assume some of their responsibilities). For instance, local shire justiciars and coroners were introduced during the twelfth century to diminish the sheriff's judicial prerogatives (Carpenter (1976)). Similarly, the Exchequer – instituted around 1110 – tightened control over the sheriffs' financial accounts.[25] Sometimes, reforms aimed at limiting the pervasiveness of the administration. The Magna Carta (1215-1217), for instance, forbade the shire court from meeting more than once a month, and the sheriff from making more than two tourns per year. These measures – in times of growing demand for contract enforcement – are strongly indicative of the high cost the

[23]Poole (1955), pp. 388-89; Cam (1963), pp. 4-5. In 1213-15, immediately preceding the Magna Carta, John also launched local inquiries into sheriffs' malpractices, again leading to the removal of unpopular sheriffs.

[24]Cam (1963), pp. 72-73, 94-96, 117-18, 125, 218; Masschaele (1997).

[25]Cam (1963), and Powicke (1962) (p. 65).

Figure I: **Main Events: England, 1100-1307.**



Sources: Great Britain Public Record Office (1810), Wade (1839), Eyton (1878), Stenton (1966), Warren (1987), Prestwich (1988), Holt (1992), Rothwell (1995).
Notes: Because Henry III was a minor at the beginning of his reign, we treat 1216 and 1227 as two distinct coronation dates. For a detailed chronology of the events contained in Figure I, see Table VI in Appendix 2.

king incurred to control officials' behavior.[26] Presumably, the king's experimentation with *custodian* sheriffs was also a response to the population's grievances.

Figure I presents the chronology of inquiries and reforms. It also reports the king's (and much of his household's) periods of absence from England (often because of wars).

Figure I is instructive in several ways. First, 20 of the 21 inquiries occured either during or immediately following a period of absence, and legal reforms tended to follow inquiries.[27] Second, 7 of the 10 legal reforms that created new offices took place either immediately preceding, during, or immediately following periods of absence. These

[26]The Statute of Merchants (1285) states that (*i*) speedy justice is needed to support trade, (*ii*) the sheriffs meant to provide it abused their position, and (*iii*) justice to merchants is therefore the responsability of mayors elected by burgesses.

[27]See, for instance, the royal document entitled *Enquiry into offences by royal officials during the king's absence 1286-9* (1289). Legal reforms often addressed the offenses recorded in the inquiries. For instance, the Statute of Westminster I (1275) provided that toll franchises could be revoked were excessive tolls to be charged. See Powicke (1962), pp. 356-59, 625, and Cam (1963), pp. 226-27.

patterns suggest the king's ability to control his local administration was weakened when he was absent from England.

Summary:

- Boroughs either belonged to the king or to local *mesne* lords. Local lords received all of their boroughs' revenues and had full discretion over their administration.
- Officials administered justice and collected taxes within boroughs. They were allowed to retain the revenues extracted in excess of the payments due to the lord.
- Markets, and the officials that administered them, increased drastically over time.
- Officials engaged in widespread misbehavior. To address this issue, the king had no choice but to monitor their behavior and adopt costly administrative measures.

3 The Model Setting

We consider the interaction between a ruler R (e.g., the king or a local lord) and a representative merchant M (e.g., burgess). Both players are risk neutral. For simplicity, we treat the local administration as a costly technology. In the Online Appendix, we extend the model to treat the administration as a player.

Let $t \in \mathbb{R}_+$ denote the agreed-upon lump-sum tax to be transferred by M to R, and $q \in \mathbb{R}_+$, the size of/investment in the local administration. The local administration provides law and order, which is an input in the production technology $y(q)$ owned by M. The higher the number of local officials and/or the broader the scope of their responsibilities, the greater their ability to enforce contracts or protect trade routes, and thus the higher the potential output. The size of the local administration also

determines an appropriation function $f(q)$, which represents the maximum amount of output that can be appropriated coercively from M. We assume $y(q)$ and $f(q)$ are both non-decreasing and concave, with $f(0) = 0$. In line with our historical context, officials who provide law and order are also in charge of collecting taxes.[28]

Players interact repeatedly. At the beginning of each period, R decides whether to grant M the right to choose (t, q). Letting M choose q amounts to granting him the right to appoint local officials. Given an allocation of decision rights over (t, q) and choice q, M decides whether to produce $y(q)$ or exit the economy. If production occurs, players share the output through either taxation t or coercive appropriation $f(q)$.

Ruler. R chooses $I \in \{R, M\}$, where I denotes the player with decision rights over (t, q). The other elements in R's action space Ω_R depend on I:

$$\Omega_R(I) = \begin{cases} \{q, t, e\} & \text{if } I = R, \\ \emptyset & \text{if } I = M. \end{cases}$$

If $I = R$, R decides whether to coercively appropriate output from M ($e = 1$) or not ($e = 0$). If $I = M$, $e = 0$ necessarily. In words, when R grants M control of the local administration, she loses the ability to coercively appropriate output from him. R's payoff is:

$$V(t, q, I) = T(t, q, I) - C_R(t, q, I), \tag{1}$$

where $T(t, q, I)$ represents the amount of output accruing to R, and $C_R(t, q, I)$ is the cost to R of the local administration. Anticipating the description of M's action space, $T(t, q, R)$ is either equal to (i) the tax t or (ii) the minimum between $f(q)$ and $y(q)$, whereas $T(t, q, M)$ is either equal to the tax t or zero. We set R's reservation utility to zero.

[28] A model in which the two tasks are separated leads to qualitatively identical results as long as one recognizes coercive power is needed to provide law and order.

Merchant. M's action space Ω_{M} as a function of $I \in \{R, M\}$ is:

$$\Omega_{M}(I) = \begin{cases} \{Y, a\} & \text{if } I = R, \\ \{Y, a, t, q\} & \text{if } I = M, \end{cases}$$

where $a \in \{0, 1\}$ represents M's choice to pay the tax t ($a = 1$) or not ($a = 0$), and $Y(q) \in \{0, y(q)\}$ denotes M's decision to produce ($Y = y(q)$) or not ($Y = 0$). M's payoff is:

$$U(t, q, I) = y(q) - T(t, q, I) - C_{M}(t, q, I), \tag{2}$$

where $C_{M}(t, q, I)$ is the cost to M of the local administration. Finally, let $\underline{u}_{M} > 0$ denote M's reservation utility.[29]

Cost of the Local Administration. Suppose first R controls the local administration, i.e., $I = R$.

To explain the cost of investing in the local administration, we rely on the findings of the Online Appendix in which local officials are treated as infinitely lived players. There, R needs to convince each of her q appointed officials to both (i) collect a specific amount of output from M and (ii) transfer a share of this collected output to her. R ensures compliance by choosing the share of collected output each official is allowed to retain and by firing those who fail to make payments. Inducing officials to transfer part of the collected ouptut is always a concern to R and determines a minimum amount $\underline{c}$ each official must retain. The marginal cost of an administration of size q is thus at least equal to $\underline{c}$. Preventing officials from extracting more than a specific amount of output (i.e., engaging in expropriation) can also be a concern: because R cannot observe the amount officials actually extract from M, she must sometimes allow them

[29] We require $\underline{u}_{M} > 0$ for M's participation – and therefore expropriation – to be a concern. For instance, $\underline{u}_{M}$ can be interpreted as either the minimum level of output that guarantees subsistence to M, or his payoff when moving somewhere else.

to retain a higher share of output.[30] In this case, the marginal cost of investing in the local administration is equal to $\overline{c} > \underline{c}$.

The cost to R of investing in the local administration, for a given tax t, is:

$$C_{R}(t,q,R) = \begin{cases} \underline{c}q & \text{if } \ e=1, \\ \underline{c}q & \text{if } \ e=0 \text{ and } t \geq f(q), \\ \underline{c}q + \Delta c\,(q - \tilde{q}(t)) & \text{if } \ e=0 \text{ and } t < f(q), \end{cases} \tag{3}$$

where $\Delta c = \overline{c} - \underline{c} > 0$, and where $\tilde{q}(t)$ denotes the value of q such that $t = f(q)$. When $I = M$, $C_{R}(t,q,M) = 0$; that is, M bears the cost of investing in the local administration.

When $e = 1$, the total cost of the local administration is low. Because R is only tempted to play $e = 1$ either when $f(q) > t$ or when M has reneged on t, officials cannot possibly extract from M more than instructed by R.[31] When $e = 0$ and the number of officials q is such that $f(q) \leq t$ (i.e., $q \leq \tilde{q}(t)$), again each official cannot extract from M more than instructed, and thus the cost of investing in the local administration is low. By contrast, the cost of the local administration is high when $e = 0$ even though its size q is large enough (i.e., $q > \tilde{q}(t)$) that officials could unobservably *expropriate* M (i.e., extract $f(q) > t$), transfer t to R, and pocket the difference. The term $\Delta c\,(q - \tilde{q}(t))$ represents the total additional rent that R must give up to the local administration to prevent expropriation.[32]

[30]The misalignment of incentives between R and her administration can occur because, on the one hand, trade involves transactions across different markets and, on the other hand, each official administers only a few markets. As the number of markets increases, each official tends to internalize less its disruption on trade on R's entire territory.

[31]We should also state the cost to R of playing $e = 1$ when M is willing to pay t *and* $f(q) \leq t$. We do not state this cost because $e = 1$ would amount to instructing officials to extract less than what M is willing to pay.

[32]English kings experimented with two contractual arrangements with their local officials. In the first arrangement, local officials acted as *tax farmers*. The king fixed a reservation price and the farmers bid for the right to collect a borough's taxes. Tax farmers retained the amount of money collected in excess of their bid, although they were subject to caps. In the second arrangement, officials were appointed as *custodians* entitled to a salary. The model in the Online Appendix captures the main

When $I = M$, the cost of controlling the local administration is borne entirely by M and $C_{M}(t, q, M) = \underline{c}q$.[33] M is perfectly able to observe the amount officials extract from him, and fires them if necessary.[34] Therefore, the only rent the officials receive is that needed to ensure they make the appropriate payment to R.

Timing. The game is infinitely repeated in discrete time $\tau = 0, 1, \ldots$. Let $\beta_{M}, \beta_{R} \in [0, 1)$ denote the players' discount factors. The timing of the stage game is the following:

1. *Grant Stage*: R chooses $I_{\tau} \in \{R, M\}$;
2. *Investment Stage*: Player I_{τ} chooses (t_{τ}, q_{τ});
3. *Production Stage*: M chooses $Y_{\tau} \in \{0, y(q_{\tau})\}$. If $Y_{\tau} = 0$, players enjoy their reservation utilities, and the period ends;
4. *Transfer Stage*:
   (a) M chooses $a_{\tau} \in \{0, 1\}$;
   (b) If $I_{\tau} = R$, R chooses $e_{\tau} \in \{0, 1\}$;
   (c) T_{τ} is transferred from M to R.

The choice of I_{τ} is made at the beginning of every period τ, implying the revocation of decision rights is possible. Revocations are costless to R and, as we discuss in Section 6, not uncommon in our period of interest.

trade-offs arising under both systems.

[33] When $I = R$, R bears the cost of the local administration and, therefore, $C_{M}(t, q, R) = 0$.

[34] Burgesses selected officials from among themselves. Because officials were no longer backed by the lord, punishing them was not an offense. Also, the right to assemble fostered coordination among burgesses. Finally, historical evidence suggests the turnover of borough officials was significant (see, e.g., Reynolds (1972)).

When $I = R$, stage 4 should be thought of as a subgame in which R's officials collect taxes from M under the threat of coercion. If in stage 4.a M agrees to transfer t to R's officials, in stage 4.b officials can at most expropriate an amount equal to $\max[f(q) - t, 0]$ by employing coercion. Formally, when $a = 1$ and $e = 1$, R collects $\max[t, f(q)]$.

We consider equilibria in which R either retains decision rights over (t, q) or grants them to M. In the first case, we seek the equilibrium that guarantees the highest possible payoff to R. In the second case, we seek the equilibrium that guarantees the highest possible payoff to M, subject to R being better off granting decision-rights. Focusing on these equilibria is conservative in so far as the associated necessary conditions for a grant to occur are the most difficult to meet.

Manorial and Trade Economies. We define the trade (manorial) economy as the economy in which *gains from trade* are high (low). In the manorial economy, the output is independent of q and equal to $\underline{y}$, where $\underline{y} > \underline{u}_M$ (i.e., enough output is produced to maintain M at least at the subsistence level). In the trade economy, the output is $y(q)$, where $y(0) = \underline{y}$: gains from trade make the production of output more responsive to the provision of law and order (see Greif (1993) and Dixit (2003)).To ease exposition, we use the term "merchant" in both the manorial and the trade economies, and we assume $\underline{u}_M$ is independent of the type of economy we consider.

Technical Assumptions. In the trade economy, let $g(q, \underline{u}_M) := y(q) - f(q) - \underline{u}_M$. This function represents the difference between (i) M's payoff when R coercively appropriates the produced output and (ii) M's reservation utility. Furthermore, let $q^*(\underline{c})$ denote the size of the local administration that maximizes the surplus $S(q, \underline{c}) := [y(q) - \underline{c}q]$. We assume the following:

(A1) $g(q^*, \underline{u}_M) < 0$, and

(A2) $g(q, \underline{u}_{M})$ is concave in q.

A1 is an assumption regarding the efficient size of the local administration: we assume the trade economy requires a sufficiently large local administration that, if its efficient size is chosen, M does not produce when he expects output to be appropriated coercively. **A1** allows us to focus on the case of interest: if **A1** is reversed, R never grants decision rights, because the expropriation of M by local officials is not enough of a concern. **A2** ensures the uniqueness of the solution in the static game. It also allows us to do comparative statics on players' discount factors. This assumption, however, has no qualitative impact on the results regarding delegation.[35]

4 The One-Period Game

Suppose R and M interact for one period only. We denote by (t^s, q^s) the equilibrium tax and size of the local administration, respectively. Similarly, I^s denotes R's equilibrium choice to grant M decision rights over (t, q). We solve the game by backward induction. Suppose $I = R$. Given R's choice of q, we necessarily have $t = f(q)$, because R would not find it profitable to request $t < f(q)$, and M would not agree to pay $t > f(q)$.[36]

If $I = R$, $T(t, q, R) = f(q)$ and, given (3), $C_{R}(t, q, R) = \underline{c}q$. R solves:

$$\max_{\{q\}} [f(q) - \underline{c}q]$$

$$\text{s.t. } y(q) - f(q) \geq \underline{u}_{M}, \tag{4}$$

where (4) is M's participation constraint (**PC**).[37]

[35] Possible functional forms include $y(q) = \underline{y} + \theta\sqrt{q}$ and $f(q) = \gamma q$. The manorial economy is one in which $\theta = 0$. **A1** holds and a sufficiently high value of γ ensures **A2** also holds.

[36] We interpret an equilibrium in which $t = f(q)$ as one in which coercion occurs.

[37] It must be that $\min[y(q), f(q)] = f(q)$; for otherwise, **PC** would be violated.

Proposition 1 *In the one-period game, R retains decision rights; that is, $I^s = R$. An inefficiently small size of the local administration characterizes the trade economy (i.e., $q^s < q^*$), and conversely for the manorial economy.*

Proof. See Appendix 1. ■

In the manorial economy, the efficient size of the local administration is small because of the low demand for contract enforcement. However, because (i) M cannot commit to paying a tax greater than what can be coercively appropriated and (ii) R maximizes revenues, R chooses an inefficiently large size of the local administration.

In the trade economy, the efficient size of the local administration is relatively large. However, R's lack of commitment not to expropriate M implies a smaller than efficient size of the local administration to ensure M's participation.

In either type of economy, if R were to grant decision-rights, M would choose the efficient size of the local administration. Despite this efficiency gain, in either case, R does not grant M control of the local administration, because she anticipates M would ultimately escape taxation.

5 Infinitely Repeated Game

We define the history of a game $h^\tau = (I^\tau, q^\tau, Y^\tau, t^\tau, a^\tau, e^\tau)$ as the collection of sequences of past actions taken by players from period 0 until $\tau - 1$. A subgame perfect equilibrium (**SPE**) is given by R's choice of I^E_τ given history h^τ, q^E_τ given $\{h^\tau, I_\tau\}$, M's output production Y^E_τ given $\{h^\tau, I_\tau, q_\tau\}$, a tax t^E_τ given $\{h^\tau, I_\tau, q_\tau, Y_\tau\}$, a choice a^E_τ given $\{h^\tau, I_\tau, q_\tau, Y_\tau, t_\tau\}$, and the coercive appropriation choice e^E_τ as a function of the history $\{h^\tau, I_\tau, q_\tau, Y_\tau, t_\tau, a_\tau\}$.

R and M play stationary trigger strategies in which each player threatens to revert

to the one-period stage game forever after a deviation from the equilibrium (t^E, q^E) is detected at any stage in period τ or in any previous period $\tau' = 0, ..., \tau - 1$. Specifically, if the *cooperation phase* involves the grant of decision rights to M, the *punishment phase* is such that R revokes them in all subsequent periods. This strategy matches our historical account: the king revokes burgesses' right to control their own borough administration when they fail to transfer the promised amount of taxes.

Players' deviations from (t^E, q^E) depend on I^E. If $I^E = R$, R can deviate at the investment and transfer stages, and M can deviate at the production and transfer stages. The temptation to deviate at the transfer stage occurs because of the difference between t^E and $f(q^E)$. If the former is greater than the latter, the temptation to deviate rests on M, and vice versa. Finally, if $I^E = M$, R cannot deviate at any stage, whereas M can deviate at the investment and transfer stages.

We characterize both players' relevant constraints in the case of the trade economy. The constraints of the manorial economy are identical, except $y(q) = \underline{y}$.

We first analyze the case in which $I^E = R$. Consider some pair (t^E, q^E). M's participation constraint (**PC**) is given by (4), where we substitute in t^E for $f(q)$. M's incentive compatibility constraint (**IC(M)**) at the transfer stage is:

$$\frac{y(q^E) - t^E}{1 - \beta_M} \geq [y(q^E) - T(t^E, q^E, R)] + \frac{\beta_M}{1 - \beta_M} U^s,$$

where U^s denotes M's utility in the one-period stage game (see Proposition 1). By deviating at the transfer stage, M triggers coercive appropriation $T(t^E, q^E, R) = f(q^E)$.[38]

We now analyze R's incentive to deviate from (t^E, q^E). The difference between t^E and $f(q^E)$ affects R's temptation to deviate at both the investment and the transfer stages. If a deviation occurs at the investment stage, M anticipates coercive appro-

[38]Note M produces $y(q^E)$ also when he plans to deviate at the transfer stage because (i) a deviation is rational only when $t^E > f(q^E)$ and (ii) t^E must necessarily satisfy **PC**. Also, because of (i) and (ii), we have $T(t^E, q^E, R) = \min[y(q^E), f(q^E)] = f(q^E)$.

priation, and thus R chooses q as in the one-period game. R's incentive compatibility constraint at the investment stage (**ICI(R)**) is:

$$\frac{t^E - \underline{c}q^E}{1-\beta_R} \geq [f(q^s) - \underline{c}q^s] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s],$$

where **ICI(R)** is independent of β_R, and where the marginal cost of investing in the administration of size q^E is equal to $\underline{c}$.[39] **ICI(R)** simplifies to:

$$t^E - \underline{c}q^E \geq f(q^s) - \underline{c}q^s = V^s. \tag{5}$$

R's deviation at the transfer stage is relevant only if $t^E < f(q^E)$, and the associated incentive compatibility constraint (**ICT(R)**) is:

$$\frac{t^E - C_R(t^E, q^E, R)}{1-\beta_R} \geq [\min[y(q^E), f(q^E)] - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s]. \tag{6}$$

Given (3), when R expropriates M, the marginal cost of investing in q is equal to $\underline{c}$ in the first term on the right-hand side (RHS).

Lemma 1 *Let $I^E = R$. When $t^E > f(q^E)$, R is tempted to deviate at the investment stage only. When $t^E \leq f(q^E)$, R is tempted to deviate at the transfer stage only.*

Proof. See Appendix 1. ■

Suppose now $I^E = M$. Consider some pair (t^E, q^E). M's participation constraint (**PC**) is given by (4), where we substitute in t^E for $f(q)$. **IC(M)** is:

$$\frac{y(q^E) - t^E - \underline{c}q^E}{1-\beta_M} \geq [y(q^E) - \underline{c}q^E] + \frac{\beta_M}{1-\beta_M}U^s,$$

where M bears the cost of the local administration. Because R cannot employ coercion,

[39] As we formally show in Lemma 1, **ICI(R)** is relevant only when $t^E > f(q^E)$. Therefore, from (3), we have $C_R(t^E, q^E, R) = \underline{c}q^E$.

M invests in the efficient size of the administration regardless of his decision to pay t. Therefore, a deviation by M at the investment stage is irrelevant. Also, because R grants control of the administration to M, her deviations at the investment and transfer stages are irrelevant.

We proceed by first characterizing the pair (t^R, q^R) that guarantees the highest payoff to R in the subgame in which she retains decision-rights over (t, q). We then analyze the conditions under which a pair (t^M, q^M) exists which guarantees the highest payoff to M in the subgame in which he obtains decision rights, subject to R being better off making a grant.

5.1 The No-Grant Case

Suppose $I_\tau = R$, $\forall \tau$. In each period τ, R solves:

$$\max_{\{t,q\}} [t - C_{_R}(t, q, R)],$$

$$\text{s.t. } \mathbf{PC}, \mathbf{IC}(M), \mathbf{ICI}(R), \mathbf{ICT}(R).$$

We divide the analysis between the manorial economy and the trade economy cases.

The Manorial Economy. Because the concern is M's possible deviation at the transfer stage, we anticipate that R's constraints are slack, and verify this is true in Appendix 1. The pair (t^R, q^R) is then the solution to:

$$\max_{\{q\}} \beta_{_M} \{[\underline{y} - f(q)] - U^s]\} + f(q) - C_{_R}(t, q, R), \tag{7}$$

$$\text{s.t. } \mathbf{PC}.$$

Lemma 2 *Let $I_\tau = R$, $\forall \tau$. In the manorial economy, the equilibrium investment $q^R(\underline{c}, \beta_{_M})$ lies between the efficient level $q^*(\underline{c}) = 0$ and the "one-period-game" level*

$q^s(\underline{c})$, and is independent of R's shortsightedness. Also, $t^R > f(q^R)$. All else equal, the less shortsighted M is, the closer the economy is to efficiency.

Proof. See Appendix 1. ■

In the manorial economy, demand for law and order is low. If R were to choose the efficient size of the administration $q^*(\underline{c}) = 0$, M would pay taxes only if sufficiently longsighted. If M is shortsighted, R has no choice but to invest in the administration to collect taxes under the threat of coercion. Because $t^R > f(q^R)$ in equilibrium, expropriating M is not tempting and the cost of the administration is low.

On the medieval English agricultural manors, feudal lords appointed officials whose main purpose was to collect taxes from the peasantry. Stewards and bailiffs ensured the lord appropriated a sufficiently high share of the output proceeds, whereas reeves supervised peasants' agricultural labor on the lord's estate.

The Trade Economy. In addition to the issue of controlling the local administration (see (3)), the concern is R's temptation to deviate at the transfer stage. Therefore, we anticipate **PC** and **ICT(R)** are binding. In each period τ, R solves:

$$\max_{\{q\}}[y(q) - \underline{u}_{M} - C_{R}(t, q, R)]$$

$$\text{s.t. } \mathbf{ICT}(R),$$

where we have substituted **PC** in the objective function. From (3), let q° denote the (constrained) efficient investment when expropriation is an issue; that is, $q^\circ(\underline{c}, \overline{c}) := \arg\max_q [y(q) - \underline{c}q - \Delta c\,(q - \tilde{q})]$.

Lemma 3 *Suppose $I_\tau = R$, $\forall\tau$. In the trade economy, the investment $q^R(\underline{c}, \overline{c}, \beta_R)$ lies between the "one-period-game" level $q^s(\underline{c})$ and the constrained efficient level $q^\circ(\underline{c}, \overline{c}) <$*

$q^*(\underline{c})$, and is independent of M's shortsightedness. Also, $t^R < f(q^R)$. All else equal, the less shortsighted R is, the closer the economy is to constrained efficiency.

Proof. See Appendix 1. ■

In the trade economy, demand for law and order is relatively high. However, choosing the efficient level of investment $q^*(\underline{c})$ makes expropriating M feasible. As we discuss in (3), when expropriation is feasible, the cost of investing in the local administration is high, and alone implies an inefficiently small investment (i.e., $q^\circ(\underline{c}, \overline{c}) < q^*(\underline{c})$). In addition, when R induces her officials to expropriate M, she (i) appropriates more revenues than those from taxation and (ii) saves on the cost of controlling local officials. Therefore, if R is sufficiently shortsighted, she is forced to distort the investment q even further to reduce her temptation.[40]

The historical account made by Roger of Howden – a cleric close to Henry II – provides an example of the distortion incurred to avoid expropriation:

> "Staying in England, the lord-king questioned the justices he had appointed in England whether they had treated the people of the realm with decent restraint." And when he learned that the people were "overly oppressed" by an excessive "multitude" of justices, the king [...] decided to reduce the number of justices from eighteen to five [...]. (Bisson (2009), p. 379).

As several royal statutes indicate, in the twelfth and thirteenth centuries, the increase in trade led to a growing demand for law and order. Lords' borough officials – for example, bailiffs and reeves – collected taxes and presided over courts that increasingly delt with commercial contracts. At the same time, however, important legislative reforms – for example, the Magna Carta (reissued in 1217) – were made following the

[40] One can also show that higher values of $\underline{u}_M$ imply, all else equal, a higher temptation for R to expropriate M. If $\underline{u}_M = 0$, R can choose the efficient investment ($q^*(\underline{c})$) and extract the entire surplus.

population's complaints about officials' behavior and limited the latter's prerogatives by decreasing the frequency of court sittings.

5.2 Granting Decision Rights

Granting M decision rights over (t, q) affects both the equilibrium size of the local administration and the equilibrium tax R can appropriate. Because of M's superior ability to monitor local officials, the cost to M of investing in the local administration is (weakly) lower than the cost that R would bear absent a grant. However, a grant also exacerbates M's temptation to escape taxation, because it gives him control over local tax collectors.

Proposition 2 *Granting decision rights over the local administration can be profitable for the Ruler in the trade economy only. Specifically, the Ruler grants decision rights provided the Merchant is sufficiently longsighted not to escape taxation. When it occurs, a grant is mutually beneficial and leads to an efficient size of the local administration.*

Proof. See Appendix 1. ■

In the manorial economy, the efficient size of the local administration is small. As a consequence, expropriation is not a concern and the cost to R of controlling the local administration is low when at its efficient size. However, because of M's temptation to escape taxation, R retains decision rights and invests in an inefficiently large local administration whose sole purpose is to collect taxes.

In the trade economy, the efficient size of the local administration is relatively large. Unlike in the manorial economy, expropriation is a concern and implies a high cost to R of controlling the local officials. As a consequence, the associated investment in the local administration is inefficiently small. If R grants M decision rights, this

inefficiency disappears because M is able to control the local administration at a low cost. Therefore, in the trade economy, a grant occurs whenever M is sufficiently patient not to escape taxation once endowed with decision rights.[41]

In our framework, a grant can occur even when R is perfectly patient. Nevertheless, the more shortsighted R is, the higher her willingness to grant M decision rights.

As discussed earlier, officials' misbehavior forced the king to distort the provision of law and order (e.g., by limiting court sittings). This kind of measure - in a time of growing demand for contract enforcement - strikes us as strongly indicative of the high cost the king incurred to control officials. Over time, an alternative response emerged: the king granted Charters of Liberties, allowing the community of burgesses to elect their own borough officials.

Finally, from Proposition 2, we can infer that a grant would never occur if R's and M's cost of controlling the local administration were the same.

From Model to History: Predictions. In our framework, high gains from trade and the ruler's difficulty in controlling the local administration are necessary conditions for the emergence of local political liberties. In Section 2, we presented quantitative and qualitative evidence supporting these two main premises. Our theory also predicts:

Prediction 1: All else equal, rulers who bear a higher cost of monitoring their local officials are more willing to delegate control of the local administration to burgesses.

Prediction 2: All else equal, provided the ruler bears a high cost of monitoring her officials, more commercially developed boroughs are more likely to be granted political liberties.

Prediction 3: When granted, liberties are mutually profitable to the ruler and the

[41] One can show that, all else equal, the higher $\underline{u}_M$ is, the higher the temptation to expropriate, and therefore the more likely a grant is to occur.

borough.

To verify these predictions, in the following section, we present data on ownership, taxation, commercial importance, and the spread of local political liberties across English boroughs (1066-1307).

6 Trade and Liberties

Charters of Liberties. Over the twelfth and thirteenth centuries, the king and mesne lords granted their boroughs numerous Charters of Liberties. Boroughs typically received more than one Charter, with earlier Charters including the most basic liberties (e.g., the right to hold a market and have a borough court). Starting with Henry I, many boroughs obtained the right and obligation to collect the borough farm.[42] Importantly, this grant also implied the right for burgesses to elect all the officials in charge of the financial and judicial administration of the borough, such as reeves, coroners, and market officials.[43] In addition to these prerogatives, burgesses often obtained (*i*) the right to have all disputes pleaded in the borough court exclusively and (*ii*) that the sheriff be forbidden from entering the borough (*non-intromittat clause*).[44] Following Henry II's reign, grants often became perpetual (*fee-farm*), although subject to revocation in case burgesses failed to transfer the farm to the Exchequer.[45]

Burgesses assembled in the borough's main square or in the borough court to elect

[42]The Charters to Lincoln and London in 1130 and 1131 were the first two grants of these liberties in post-Norman Conquest England.

[43]Gross (1906), p. 239; Ballard (1913), pp. lxxxvi-lxxxvii; Tait (1936), p. 186. Because borough officials also collected taxes on merchants coming from different boroughs, burgesses – once in control of the local administration – may have been tempted to extract high taxes from those merchants. However, the king forbade this practice and enforced limits to taxes on trade.

[44]See Ballard (1913) and Ballard and Tait (1923) (p. lxi).

[45]For instance, such failure to transfer the farm happened in Cambridge (1189) and York (1190). Other reasons can explain the revocation of liberties. Henry II withdrew London's prerogatives in 1154, possibly because of its failure to support Henry's mother during the civil war. Gloucester's liberties were revoked in 1169-70 after having attempted to form a *commune* (Tait (1936), pp. 176-77).

Table I: **Number of Boroughs: England, 1066-1307**

Period	Nr. Royal Boroughs	Nr. Mesne Boroughs	Nr. Unclassified Boroughs	Total
1066-1216	104	152	10	250*
1217-1307	132	373	24	496*

Main Sources: Beresford and Finberg (1973), Letters et al. (2003), *British History Online* (2015).
Notes: (*) Because boroughs' ownership can change within and/or across periods, the total number of boroughs does not match the sum of royal, mesne, and unclassified boroughs.

officials for fixed periods of time.[46] The ability to assemble, that of choosing a fellow burgess, combined with the fact that officials were no longer backed by the king, allowed boroughs to replace officials when necessary (see Davis (2011), pp. 166-67).

Prediction 1. We collect data on the number of English boroughs, the nature of their ownership (royal vs. mesne), taxation, and the control of the borough administration between 1066 and 1307. This information mostly comes from the digitized version of original medieval documents (e.g., Charters and letter patents collected in the Pipe Rolls, Charter Rolls, Fine Rolls, Close Rolls, and Patent Rolls). To obtain the number of boroughs, we use the primary data collected by Beresford and Finberg (1973) and Letters et al. (2003). For borough Charters, we also rely on Ballard (1913) and Ballard and Tait (1923).

We know of 496 boroughs as of 1307. Among these, 150 (377) were under royal (mesne) control for the entire period or a part of it. Also, 55 boroughs changed hands at least once during the period, and we are unable to attribute ownership to 25 boroughs for the entire period or a part of it. Table I provides the number of royal, mesne, and unclassified boroughs recorded in the periods 1066-1216 and 1217-1307. As the table shows, the number of boroughs increased significantly from one period to the next.

Table II presents the number of grants to burgesses of the right to control their own

[46]See the Charter John granted to Ipswich in 1200, reported in Ballard (1913). For instance, the lists of officials elected in London and Exeter suggest significant turnover seems to have occurred (Jenkins (1841), Reynolds (1972)).

local administration in royal, mesne, and unclassified boroughs. The king made grants to royal boroughs, whereas mesne lords made grants to mesne boroughs. To focus on the spread of grants, we do not take into account confirmations of older ones.[47] Royal grants are more numerous and occured earlier than grants to mesne boroughs (see also Figure II below). Our model can explain these distinct patterns if one believes that mesne lords, being geographically close to their officials, were better able than the king to monitor their behavior, and therefore less willing to grant liberties. Indeed, even though some mesne lords controlled large areas (i.e., earls, barons, and bishops), at least half of the mesne boroughs belonged to lords owning small territories [48,49] Coherent with this rationale, our data include two instances (no instances) in which liberties were immediately revoked (granted) when boroughs passed from royal to mesne hands. Similarly, we observe one instance (no instances) in which liberties were immediately granted (revoked) when boroughs pass from mesne to royal hands.[50]

We also have information on partial grants of liberties. We document 33 instances (8 instances) in which mesne lords (the king) grant burgesses the right to elect single officials, while retaining the right to appoint all remaining officials.[51] Combining these facts with Table II, we observe that, when mesne lords granted liberties, they tended to do so to a much lesser extent than the king.

We interpret the non-observance of a grant in a given borough as evidence of the

[47]Often, new kings confirmed previously granted Charters. Counting them as new grants would overestimate the phenomenon of interest. A full data set is available from the authors upon request.

[48]For the same reason, mesne lords' territories included fewer markets than the king's territory. As a consequence, mesne lords may not have internalized as much the consequences of their officials' misbehavior.

[49]Many of the grants to mesne boroughs recorded in Table II can be attributed to these large mesne landowners. Moreover, surviving historical anecdotes suggest ecclesiastical lords – who owned 133 boroughs in total by 1307 – were the least prone to grant political liberties to burgesses.

[50]Liverpool and Newcastle under Lyme lost their liberties when they became mesne boroughs in about 1266 and 1292, respectively (Ballard and Tait (1923), p. lvi). By contrast, Chester became royal in around 1237 and was granted liberties in 1239.

[51]In many instances, elected officials in mesne boroughs were subordinated to those the lord appointed. Elected mayors appeared by the beginning of the thirteenth century.

Table II: **Number of Boroughs Farmed by Burgesses: 1066-1307**

Period	Nr. Royal Grants	Nr. Mesne Grants	Nr. Unclassified Grants	Total
1066-1216	38	2	0	40
1217-1307	24	13*	0	37*
Total	62	15*	0	77*

Sources: Fine Rolls Henry III (*Henry III Fine Rolls Project* (2007)), Calendar of the Charter Rolls Henry III - Edward I (Great Britain Public Record Office, and H. C. Maxwell Lyte, and Stamp, Alfred E. (1908)), Calendar of Patent Rolls 1216-1307 (Boynton (2003)), Ballard (1913), Ballard and Tait (1923), Tait (1936), *Victoria County History* (N.d.), *British History Online* (2015).
Notes: In some cases, we have a period, rather than a certain date, within which a charter is granted. We select the mid-point of the period as the date of the charter.
(*): Helston is granted at farm to burgesses by the king in 1201, and by a mesne lord in 1260. We treat Helston as receiving two separate grants.

absence of a grant. This approach could be a concern in case of missing data. However, we are confident about our findings for at least three reasons. First, many collections of official documents have survived to this day, especially royal ones (e.g., Pipe Rolls, Quo Warranto records). Second, grants were repeatedly confirmed by successive lords, thereby reducing the probability of missing them. Finally, the king often acknowledged grants to mesne boroughs (e.g., because of inheritance matters).[52]

Figure II presents the timing of royal and mesne grants under the successive kings (no grant is recorded before 1130). John and Henry III stand out as the most active grantors.[53] Interestingly, other major events marked both reigns, such as the large concessions to both burgesses and barons contained in the Magna Carta and the statutes of 1258-60. In the years preceding the concessions of 1258-60, grants to boroughs often included the *non-intromittat clause*.[54]

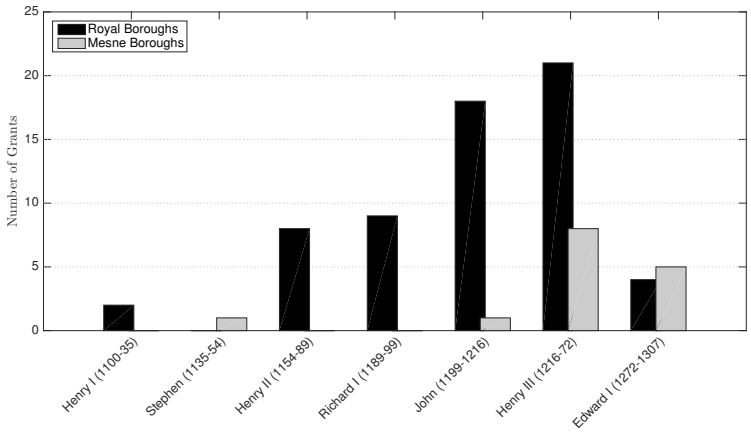
Prediction 2. We assess whether gains from trade are an important determinant of local political liberties by using two methods.

[52]Anecdotally, it is not uncommon for boroughs today to annually celebrate the grant of these liberties and publicly display the original Charter of Liberties.

[53]Henry III is also the king who most often revoked liberties. For instance, London's liberties were revoked several times during his reign.

[54]The *non-intromittat clause* was granted to 36 royal boroughs and 11 mesne boroughs.

Figure II: **Timing of Grants: England, 1066-1307.**



Sources: Fine Rolls Henry III (*Henry III Fine Rolls Project* (2007)), Calendar of the Charter Rolls Henry III - Edward I (Great Britain Public Record Office, and H. C. Maxwell Lyte, and Stamp, Alfred E. (1908)), Calendar of Patent Rolls 1216-1307 (Boynton (2003)), Ballard (1913), Ballard and Tait (1923), Tait (1936), *Victoria County History* (N.d.), *British History Online* (2015).
Notes: In some cases, we have a period, rather than a certain date, within which a Charter was granted. We select the mid-point of the period as the date of the Charter.

In the first method, we divide boroughs according to their commercial relevance as measured by five criteria as defined in Masschaele (1997) (Chapter 4): (*i*) presence of a merchant guild, (*ii*) representation in Parliament under Edward I, (*iii*) payment of the lay subsidies on land and goods (1294-1336) at the urban rate (as opposed to the rural rate), (*iv*) status of an urban community in the *Nonae Rolls* tax records (1340), and (*v*) classification as a city or borough in the *Nomina Villarum* military census (1316). Table III divides boroughs into three categories. Category A contains 51 boroughs that satisfy at least four of the five listed criteria, and paid at least £120 in the lay subsidy of 1334. Category B contains 83 boroughs that satisfy at least four criteria. Category C contains 120 boroughs that satisfy at least three criteria.[55] We also consider the whole sample of boroughs, and distinguish between royal and mesne boroughs.

In line with Prediction 3, the proportion of royal boroughs farmed by burgesses increases with commercial relevance.[56] No such pattern holds for mesne boroughs.

[55]In Category C, we disregard 2 boroughs whose ownership is uncertain.
[56]Note the most commercially developed boroughs tended to be royal.

Table III: **Grants of Liberties and Boroughs' Commercial Importance by ca. 1300**

Category	Nr. Royal Boroughs	Nr. Royal Grants	Nr. Mesne Boroughs	Nr. Mesne Grants
A	41	33 (80.48%)	20*	1 (5.00%)
B	60	43 (71.66%)	37*	6** (16.21%)
C	73	49 (67.12%)	65*	8** (12.30%)
All Boroughs	150	62 (41.33%)	377*	15** (3.97%)

Sources: Fine Rolls Henry III (*Henry III Fine Rolls Project* (2007)), Calendar of the Charter Rolls Henry III - Edward I (Great Britain Public Record Office, and H. C. Maxwell Lyte, and Stamp, Alfred E. (1908)), Calendar of Patent Rolls 1216-1307 (Boynton (2003)), Ballard (1913), Ballard and Tait (1923), Tait (1936), *Victoria County History* (N.d.), *British History Online* (2015), Masschaele (1997).
Notes: (*) Some boroughs changed ownership within the period. We count them as both royal and mesne.
(**): Helston is granted at farm to burgesses by the king in 1201, and by a mesne lord in 1260. We treat Helston as receiving two separate grants.

For the second method, we use boroughs' geographical characteristics to identify those with a higher commercial potential. According to historical evidence, in Medieval England, transporting goods by land was four times more costly than by river, and eight times more costly than by sea (Masschaele (1993)). Table IV distinguishes between royal and mesne boroughs located (*i*) both by the seacoast and at the mouth of a navigable river, (*ii*) by the sea-coast, and (*iii*) on a navigable section of a river.

The information contained in Table IV is coherent with the view that potential gains from trade are an important determinant of local political liberties for royal boroughs only. In addition, royal boroughs with arguably the most favorable geographical conditions (i.e., those by the seacoast *and* at the mouth of a navigable river) show the highest percentage of grants. These findings are in line with Table III's; such coherence is not surprising given the strong overlap between boroughs listed in Table IV and the Category A boroughs defined above.[57]

At times, the inhabitants of rural villages and manors (those without a borough) were also granted the right to collect their own farm. However, we document only about

[57]Indeed, 41 of the 51 boroughs listed in Category A (Table III) were located on the seacoast and/or a navigable part of a river. Among these 41 boroughs, 30 royal boroughs (out of 36) and 1 mesne borough (out of 15) were granted liberties by their lords. The overlap between boroughs listed in Table IV and the boroughs belonging to Category B and C (Table III) is also strong.

Table IV: **Grants of Liberties and Boroughs' Geographical Location**

Location	Nr. Royal Boroughs	Nr. Royal Grants	Nr. Mesne Boroughs	Nr. Mesne Grants
Sea-coast & Navigable River	15	11 (73.33%)	18*	0 (0.00%)
Sea-Coast	12	5 (41.66%)	21*	0 (0.00%)
Navigable River	57	31 (54.38%)	96*	4 (4.16%)
Total	84	47 (55.95%)	134*	4 (2.96%)

Sources: Fine Rolls Henry III (*Henry III Fine Rolls Project* (2007)), Calendar of the Charter Rolls Henry III - Edward I (Great Britain Public Record Office, and H. C. Maxwell Lyte, and Stamp, Alfred E. (1908)), Calendar of Patent Rolls 1216-1307 (Boynton (2003)), Ballard (1913), Ballard and Tait (1923), Tait (1936), *Victoria County History* (N.d.), *British History Online* (2015), Edwards and Hindle (1991), Masschaele (1997).
Notes: (*) Some boroughs changed ownership within the period. We count them as both royal and mesne.

13 such grants – all made under Henry III – despite the fact that rural settlements should have been as numerous as urban ones, if not more.[58]

Prediction 3. Boroughs paid their lord in exchange for liberties. Payments took two forms: *(i)* a one-time lump-sum payment (*fine*) and *(ii)* an *increment* on their farm. We document 32 instances in which royal boroughs paid a fine and/or an increment (out of 62 royal grants), and one such instance among mesne boroughs (out of 15 mesne grants).[59] Table V shows the breakdown between fines and increments. We find no evidence of a decrease in the farm at the date of the first grant.

More than one third of royal boroughs paid an upfront fine to be granted liberties. The boroughs explicitly paid the fine to obtain the Charter of Liberties, and such payment constituted a gain to the king. Also, one fifth of royal boroughs paid an increment. Increments over the farm could have reflected other factors, such as improved local economic conditions. However, the Charter of Andover (1205) makes it clear that increments could also be related to the obtention of political liberties:

> Know ye that we have granted [...] to our burgesses of Andover our manor of Andover with all its appurtenances at fee farm, to hold to them and their heirs

[58]Recall that, by and large, each manor comprised an urban and a rural settlement.

[59]The increments were typically specified in the Charters of Liberties. Concerning royal grants, the fines were recorded in the Pipe Rolls, the Fine Rolls, and the Book of Fines. Missing data, especially regarding fines, are a bigger concern for mesne boroughs.

Table V: **Fines and Increments**

	Royal Boroughs	**Mesne Boroughs**
Number of Fines	23	0
Number of Increments	14	1
Number of Fines and/or Increments	32	1

Sources: Fine Rolls Henry III (*Henry III Fine Rolls Project* (2007)), Calendar of the Charter Rolls Henry III - Edward I (Great Britain Public Record Office, and H. C. Maxwell Lyte, and Stamp, Alfred E. (1908)), Calendar of Patent Rolls 1216-1307 (Boynton (2003)), Ballard (1913), Ballard and Tait (1923), Tait (1936), *Victoria County History* (N.d.), *British History Online* (2015).

> of us and our heirs by the ancient farm, to wit, at £80 a year, and as increment £15 which they formerly gave us for having the said manor at farm during our pleasure, and in addition £10 which they afterwards added for having the said manor at fee farm, and this farm, to wit, £105 in the whole, they shall pay at our Exchequer yearly to us by their own hands [...].

Much like the fine, the increment seems to have constituted a gain to the king. Specifically, the grant to burgesses of the right to collect their own farm implied for the king (*i*) a revenue equal to the farm and the increment and (*ii*) a loss equal to the sum the previous farmer – for example, the sheriff – would have paid for the right to farm the borough. All cases for which such detailed information survives suggest a gain to the king.[60] For instance, in Lincoln, burgesses paid £180 to the king, and the sheriff's farm of the entire shire was reduced by £140, implying a gain of £40 to the king. We have no information about the sums royal officials extracted prior to a grant. Regardless, if burgesses were willing to pay for these liberties, they must have been better off, because of a lower cost of the local administration.

Wars and Rebellions. Undoubtedly, rebellions or their threat played a role in the granting of liberties. However, fully reconciling rebellions against the king – as opposed to rebellions against local officials – with the evidence we presented seems difficult.

[60]See, for instance, Ballard (1913) (pp. lxxvi-lxxvii).

First, the king extracted more money from a borough when granting it liberties (Prediction 3). Second, as discussed earlier, revoking liberties was not uncommon for the king. Finally, most of the recorded complaints and uprisings were directed at the local administration, rather than directly at the king.

The need to wage war was also an important determinant because it may have induced the king to accept a loss of control in exchange for money. Our theory highlights a second channel through which wars may have fostered political liberties: the king's absence from the realm can only have worsened the issue of controlling local officials (see Section 2). Coherent with the view that wars matter, Richard I and John made a significant number of grants in the years immediately preceding the Third Crusade and the war in France, respectively.

To us, whether in times of war or through rebellions, the fact that burgesses would negotiate the right to handle the local administration themselves strongly suggests misbehavior by royal officials was first order in explaining the spread of liberties.

7 Concluding Remarks

We propose a theory that links the rise in trade activity to the evolution of political liberties. In our model, high gains from trade generate a high demand for law and order at the local level. To meet this demand, a ruler invests in a relatively large local administration that is capable of coercion and, therefore, capable of expropriating the surplus created by trade. Because citizens are better informed than the ruler about local officials' behavior, granting them the right to appoint and fire local officials leads to an efficient supply of law and order. In our framework, both the high demand for law and order generated by trade and the citizens' informational advantage about local officials' behavior are necessary conditions for the emergence of local political liberties.

A transition from a rural economy to one increasingly reliant on trade characterized Post-Norman Conquest England. Boroughs more than doubled, thousands of markets were created, and numerous international fairs were established. The king, or other territorial lords, appointed borough officials to provide justice, enforce contracts, regulate markets, and collect taxes. Often, officials (e.g., sheriffs) bid for their position (*tax farming*). As the evidence presented indicates, officials engaged in widespread misbehavior, leading the king to launch numerous investigations and introduce many administrative reforms. The king and, to a much lesser extent, local lords eventually granted the control of the local administration to their commercially most important boroughs. Often, royal boroughs also obtained that royal officials be banned from entering the town walls.

As the gradual and concomitant spread of markets and local political liberties suggests, the relation between trade opportunities and liberties is circular. Potential gains from trade are an important determinant of the grant to boroughs of the right to appoint and fire officials in charge of their administration. These liberties, in turn, allow for more of these gains from trade to be realized.

The period we consider marks the beginning of England's transition away from feudalism. Arguably, the grant of the right to elect local officials was an early and essential step toward the subsequent institutional evolution of England. By the end of the thirteenth century, boroughs and their merchant elite were represented in parliament, and negotiated taxation at the national level.

Appendix 1

Implications of A1-A2: in the trade economy $\exists\, \widehat{q}(\underline{u}_{_M}) : y(q) \leq f(q) + \underline{u}_{_M}$ for $q \geq \widehat{q}(\underline{u}_{_M})$, where $\widehat{q}(\underline{u}_{_M})$ is non-increasing in $\underline{u}_{_M}$. $\widehat{q}(\underline{u}_{_M})$ is similarly determined in the manorial economy. Also, in the trade economy: $\frac{df(q^*)}{dq} > \underline{c}$.

Proof of Proposition 1. Consider $I = R$. The efficient investment $q^*(\underline{c})$ is given by the first-order condition (FOC) $\frac{dy(q^*)}{dq} = \underline{c}$. Let:

$$q^{max} = \arg \max_{\{q \in \mathbb{R}_+\}} y(q) - f(q),$$

that is, q^{max} is the investment that maximizes M's utility when $T(t, q, R) = f(q)$. Given **A1**, a unique q^{max} exists. In the manorial economy, we have $q^* = q^{max} = 0$.

Consider first the manorial economy. R solves:

$$\max_{\{q \in \mathbb{R}_+\}} f(q) - \underline{c}q,$$

$$\text{s.t. } \underline{y} - f(q) \geq \underline{u}_{_M}.$$

Let $q^s(\underline{c})$ denote the solution to this problem, where $q^s(\underline{c}) \geq q^* = 0$. In the trade economy. R solves a similar problem, where $y(q)$ replaces $\underline{y}$ in the constraint. From **A1-A2**, the solution $q^s(\underline{c})$ is such that the constraint binds, where $q^s(\underline{c}) = \widehat{q} < q^*(\underline{c})$. To summarize, we have $q^s(\underline{c}) \geq q^* = 0$ in the manorial economy, and $q^s(\underline{c}) \leq q^*(\underline{c})$ in the trade economy.

Finally, consider the choice of $I \in \{R, M\}$. Because $I = M$ implies $T = 0$ in stage 4, $I^s = R$ independently of the type of economy considered. ■

Proof of Lemma 1. Consider a pair (t^E, q^E) and suppose first $t^E > f(q^E)$, which implies $q^E < \tilde{q}(t^E)$. Hence, the marginal cost of investing in q is equal to $\underline{c}$. We need

to analyze the case in which $\min[y(q^E), f(q^E)] = f(q^E)$ only. We have:

$$[f(q^E) - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s] < [t^E - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s].$$

Moreover, from **ICI**(R), we also have:

$$[t^E - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s] \leq \frac{[t^E - \underline{c}q^E]}{1-\beta_R}.$$

By combining the last two inequalities, we obtain:

$$[f(q^E) - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s] < \frac{[t^E - \underline{c}q^E]}{1-\beta_R},$$

that is, we recover **ICT**(R).

Suppose now $t^E \leq f(q^E)$. Consider the case in which $\min[y(q^E), f(q^E)] = f(q^E)$. When **ICT**$(R)$ holds, we have:

$$\frac{[t^E - C_R(t^E, q^E, R)]}{1-\beta_R} \geq [f(q^E) - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s] \geq [t^E - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s],$$

where:

$$[t^E - \underline{c}q^E] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s] \geq [t^E - C_R(t^E, q^E, R)] + \frac{\beta_R}{1-\beta_R}[f(q^s) - \underline{c}q^s].$$

These two chains of inequalities give:

$$t^E - C_R(t^E, q^E, R) \geq f(q^s) - \underline{c}q^s;$$

that is, we recover **ICI**(R). When $\min[y(q^E), f(q^E)] = y(q^E)$ and/or when we consider the manorial economy, the same reasoning holds.

Proof of Lemma 2. First, disregard **PC**. We denote the solution to (7) as (t^r, q^r).

The associated FOC is:

$$(1-\beta_{_M})\frac{df(q^r)}{dq}=\underline{c}, \tag{8}$$

Let $\check{q}(\underline{c})$ be the solution to R's one-period problem when **PC** is disregarded:

$$\check{q}(\underline{c})=\arg\max_{\{q\in\mathbb{R}_+\}} f(q)-\underline{c}q. \tag{9}$$

From (8) and (9), we have $q^r\in[0,\check{q}(\underline{c})]$ and $t^r=\beta_{_M}[\underline{y}-U^s]+(1-\beta_{_M})f(q^r)$.

Let (t^R,q^R) be the solution to R's constrained problem. First, consider (t^r,q^r). This pair verifies **ICI**(R): because R can choose $q=q^s$, if $q^r\neq q^s$, it must be that R obtains a higher payoff. Because $t^r\geq f(q^r)$, **ICT**(R) also holds by Lemma 1. We now turn to **PC**. We can have: **(i)** $\check{q}(\underline{c})\leq\widehat{q}$ or **(ii)** $\check{q}(\underline{c})>\widehat{q}$. In case **(i)**, $q^s(\underline{c})=\check{q}(\underline{c})$, and **PC** is rewritten as:

$$(1-\beta_{_M})[\underline{y}-f(q^r)]\geq\underline{u}_{_M}-\beta_{_M}U^s.$$

Because $q^r(\underline{c},\beta_{_M})\in[0,\check{q}(\underline{c})]$ and because the RHS in the previous inequality is weakly lower than $(1-\beta_{_M})\underline{u}_{_M}$, we can easily check that **PC** holds and, therefore, $q^R=q^r(\underline{c},\beta_{_M})$. In case **(ii)**, $q^s=\widehat{q}$, and **PC** is rewritten as:

$$(1-\beta_{_M})[\underline{y}-f(q)]\geq(1-\beta_{_M})\underline{u}_{_M},$$

which implies **PC** holds if and only if $q\leq\widehat{q}$. Two subcases can arise: **(ii.1)** $q^r(\underline{c},\beta_{_M})\leq\widehat{q}$, which gives $q^R=q^r(\underline{c},\beta_{_M})$, and **(ii.2)** $q^r(\underline{c},\beta_{_M})>\widehat{q}$, which gives $q^R=\widehat{q}$ to satisfy **PC**. This establishes that $q^R(\underline{c},\beta_{_M})\in[0,q^s(\underline{c})]$.

Finally, we have:

$$\frac{\partial q^r}{\partial\beta_{_M}}=\frac{\frac{df(q^r)}{dq}}{\text{SOD}}<0,$$

where SOD is the derivative of the left-hand side of the equality (8) with respect to q, which is negative because the second-order-condition holds. The higher $\beta_{_M}$ is, the

closer $q^R(beta_{_M}, \cdot)$ is to q^*. ■

Proof of Lemma 3. Let $q^\circ(\underline{c}, \overline{c})$ be the solution when **ICT(**R**)** is disregarded. From **PC**, $t = y(q) - \underline{u}_{_M}$, which implies $\tilde{q}(t) = q^s = \widehat{q}$. From (3), $C_{_R}(t, q, R)$ has a kink at $q = \widehat{q} < q^*(\underline{c})$, and $q^\circ(\underline{c}, \overline{c}) < q^*(\underline{c})$. We have two cases: **(i)** $q^\circ(\underline{c}, \overline{c}) > \widehat{q}$ and **(ii)** $q^\circ(\underline{c}, \overline{c}) = \widehat{q}$.

Consider case **(i)**. Let $\overline{q}$ be defined as $y(\overline{q}) = f(\overline{q})$, where $\overline{q} = \widehat{q}(0)$. Two subcases can occur: **(i.1)** $\overline{q} > q^\circ(\underline{c}, \overline{c})$ and **(i.2)** $\overline{q} \leq q^\circ(\underline{c}, \overline{c})$.

In case **(i.1)**, for $q \in [\widehat{q}, q^\circ]$, $\min[y(q), f(q)] = f(q)$. Hence, when $q = q^\circ$, from (3) and (6), we can define:

$$\overline{\beta}_{_R} = \frac{\underline{u}_{_M} - [y(q^\circ) - f(q^\circ)] + [\overline{c} - \underline{c}](q^\circ - q^s)}{[f(q^\circ) - \underline{c}q^\circ] - [f(q^s) - \underline{c}q^s]}. \tag{10}$$

If $\beta_{_R} \geq \overline{\beta}_{_R}$, **PC** binds and $q^R = q^\circ(\underline{c}, \overline{c})$ verifies **ICT(**R**)**. Therefore, $t^R = [y(q^\circ) - \underline{u}_{_M}]$. When $\beta_{_R} < \overline{\beta}_{_R}$, **ICT(**$R$**)** binds. We write **ICT(**R**)** as:

$$y(q) - \underline{u}_{_M} - \underline{c}q^s - \overline{c}(q - q^s) \geq (1 - \beta_{_R})[f(q) - \underline{c}q] + \beta_{_R}[f(q^s) - \underline{c}q^s]. \tag{11}$$

Recall that, for $q \geq q^{max}$, $\frac{y(q)}{dq} < \frac{f(q)}{dq}$, where q^{max} is defined in the proof of Proposition 1 and where $q^{max} \leq \widehat{q}$ (from **A1-A2**). Also, the solution to R's problem is not greater than $q^\circ(\underline{c}, \overline{c})$ and not lower than $\widehat{q}$ (because all the constraints trivially hold at $\widehat{q}$). Hence, as $q \in [\widehat{q}, q^\circ(\underline{c}, \overline{c})]$ decreases, the difference between the LHS and the RHS in (11) increases until verifying **ICT(**R**)**. When **ICT(**R**)** binds, $q^R(\underline{c}, \overline{c}, \underline{u}_{_M}, \beta_{_R}) \in [\widehat{q}, q^\circ(\underline{c}, \overline{c})]$, which is non-decreasing in $\beta_{_R}$ (from (11)).

In case **(i.2)**, the same procedure applies. However, when **ICT(**R**)** is violated, q has to be sufficiently low so that $\min[y(q), f(q)] = f(q)$.

We now verify whether the other disregarded constraints hold. Because **PC** binds, **IC(**M**)** is given by $y(q^R) - f(q^R) \leq \underline{u}_{_M}$, which holds for $q^R \geq \widehat{q}$. Because $q^R \in$

$[\widehat{q}, q^{\circ}(\underline{c}, \overline{c})]$, **IC**$(M)$ holds. Also, for $q^R \in [\widehat{q}, q^{\circ}(\underline{c}, \overline{c})]$, $t^R = y(q^R) - \underline{u}_{_M} \leq f(q^R)$. Therefore, by Lemma 1, **ICI**(R) also holds.

Finally, in case **(ii)**, the solution is trivially given by $q^R = \widehat{q}$. ■

Proof of Proposition 2. Consider the following strategy played by R. *Cooperation phase:* play $I_\tau = M$, $\forall \tau$. *Punishment phase:* play the equilibrium of the finitely repeated stage game. R starts with the cooperation phase in period τ, and switches forever after to the punishment phase whenever $t_\tau < t^E$, for t^E to be defined.

Given (t^R, q^R) as defined in Lemma 2, in the manorial economy R weakly prefers granting decision rights if $t^M \geq \underline{V}_{_R}(\underline{c}) = t^R - \underline{c}q^R \equiv t^E$. When $I_\tau = M$, given $q^M = q^* = 0$, **IC**(M) is:

$$\frac{\underline{y} - \underline{V}_{_R}(\underline{c})}{1 - \beta_{_M}} \geq \underline{y} + \frac{\beta_{_M}}{1 - \beta_{_M}} U^s. \tag{12}$$

We now show **IC**(M) does not hold. By substituting $t^R = \beta_{_M}\{[\underline{y} - f(q^R)] - U^s]\} + f(q^R)$ in (12), we obtain $(1 - \beta_{_M})f(q^R) - \underline{c}q^R \leq 0$, a contradiction to the definition of q^R. To summarize, in the manorial economy, $I^E = R$, and the equilibrium pair (t^E, q^E) is given by (t^R, q^R) as defined in Lemma 2.

In the trade economy, given (t^R, q^R) from Lemma 3, $I^E = M$ if $t^M \geq \overline{V}_{_R}(\overline{c}, \beta_{_R}) \equiv t^R - C(q^R)$. When M pays t^M as promised, he solves:

$$\max_{\{t,q\}} y(q) - \underline{c}q - t, \qquad \text{s.t. } t \geq \overline{V}_{_R}(\overline{c}, \beta_{_R}). \tag{13}$$

From (13), it is easily seen that M optimally invests $q^M = q^*(\underline{c})$.

Therefore, $I^E = M$ if **IC**(M) holds:

$$y(q^*) - \underline{c}q^* - \overline{V}_{_R}(\overline{c}, \beta_{_R}) \geq (1 - \beta_{_M})[y(q^*) - \underline{c}q^*] + \beta_{_M}\underline{u}_{_M},$$

where M also sets $q^*(\underline{c})$ when he deviates **IC(M)** is written as:

$$\beta_{_M}[y(q^*) - \underline{c}q^* - \underline{u}_{_M}] \geq \overline{V}_{_R}(\overline{c}, \beta_{_R}). \tag{14}$$

From (14), the grant of decision rights is a **SPE** only if M is sufficiently longsighted. Also, all else equal, the more shortsighted R is and the higher $\overline{c}$ is, the lower $\overline{V}_{_R}(\overline{c}, \beta_{_R})$ is, and, therefore, the more likely a grant of decision rights is to occur. ■

Appendix 2

Table VI: **Main Events: England, 1066-1307**

1066	Norman Conquest - William the Conqueror
1086 - 87	Domesday Survey - William II
1100	Henry I
1105-08	Invasione of Normandy - Campaign in South Wales
1110 *ca.*	Institution of Exchequer, Local Justices, and Itinerant Justices
1111-21	Campaign in Anjou - Campaign in Mid-Wales - War in France - Expedition to North Wales
1123	Expedition to Normandy
1128	Expedition to France
1135	Campaign in Normandy to stop a rebellion
1135 - 54	Stephen of Blois and Civil War
1154	Henry II
1156 - 65	Expedition to Aquitaine - Campaign in Wales - Expedition to Toulouse - Expeditions to Wales
1166 - 69	Assize of Clarendon - Itinerant Justices and Eyre - Campaign in France
1170 - 76	Inquest of the Sheriffs - Prince Henry's Revolt - Assize of Northampton - Justiciars and Circuits
1177 - 79	Expedition to Normandy - Inquiry into the proceedings of Itinerant Justices - Council at Windsor - Justiciars on Circuits
1180 - 89	Several Expeditions to France to confront Richard
1189 - 94	Richard I - Third Crusade
1192 - 94	End of the Crusade - Return to England - Iter of 1194 - Institution of County Coroners
1194 - 99	War in France - Institution of Justices of the Peace
1198	Inquiry into the assessment and collection of the Carucage
1199 - 1200	John - Expedition to Normandy - Institution of the Borough Coroners
1202 - 04	War with France - Introduction of *Custodian* Sheriffs
1206	Stay in Poitou and Gascony
1209 - 11	Campaigns in Scotland, Ireland, and Wales
1213 - 15	Local inquiries - Expedition to Poitou
1215 - 17	First Barons' War - Magna Carta
1216	Henry III (minor)
1220	Ordinance of 1220
1223	Expedition to Wales - Inquiry and reintroduction of Custodian Sheriffs
1225	Expedition to defend Gascony
1227	Henry III assumes the throne
1230 - 31	Expedition to France
1232 - 36	Inquiries - Clarification of Magna Carta - Reintroduction of Custodian Sheriffs
1241 - 43	Expedition to Wales - Expedition to Poitou
1245	Expedition to Wales
1253 - 54	Expedition to Gascony
1254 - 55	Inquiries (Eyres)
1257	Expedition to Wales
1258 - 59	Provisions of Oxford and Westminster - Ordinance of Sheriffs - Petition of the Barons - Ordinances of the Magnates
1259 - 60	Inquiries (Eyres) - Henry's stay in Normandy
1262	Henry's stay in France
1263 - 67	Second Barons' War - Statute of Marlborough
1272	Edward I is on Crusade
1274 - 76	Edward returns to England - Hundred Rolls Inquiries - Parliament - Statutes of Exchequer and Westminster I - Statute of Ragman
1277	First Welsh War - Introduction of Keepers of the Peace
1278 - 79	Inquiries (Eyres) and Survey - Statute of Gloucester
1282 - 84	Expedition to Wales
1283 - 86	Statutes of Acton Burnell - Rhuddlan - Merchants - Westminster II - City of London - Exeter
1284-85	Inquiries (Exchequer Inquest - Kirby's Quest)
1286 - 89	Edward's stay in Gascony
1290 - 93	Inquiries (State Trials) - Introduction of the Justices of the Assises - Statute of Persons to be put in Assises and Juries
1294 - 98	War with France - First War of Scottish Independence
1298 - 1300	Inquiry into grievancies - Statute of Fines Levied - Articuli super Cartas
1299 - 1300	Statute of Fines Levied - Articuli super Cartas
1303	Second conquest of Scotland
1304 - 05	Trailbaston Inquiry
1307	Expedition to Scotland

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