Online Appendix

How Merchant Towns Shaped Parliaments:
From the Norman Conquest of England to the Great Reform Act

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A   Case Study – A Tale of Two Towns

In this appendix, we complement the historical discussion in Section 3 in the paper with two case studies – a royal and a mesne town, of similar trade geography and size in 1066. We discuss the evolution of their local institutions over the period between the Norman Conquest and the Great Reform Act.

A.1   Bridport – A Royal Town

We begin by describing the institutional history of Bridport – a settlement in Dorset that was in existence at the time of the Norman Conquest.[1] The Domesday Book (1086) recorded Bridport as a royal settlement, with taxable wealth equal to 6.4 fiscal units (geld).[2] Its geographical position – along the rivers Bride and Ahser, and ca. one mile distant from the Dorset coast – was conducive to trade, as reflected by the presence of a market in the 11th century. By the beginning of the 13th century, Bridport was experiencing a surge in trade and population.[3] In this period, Bridport also obtained municipal autonomy. In 1228, the community paid the king ten marks to acquire the right to collect the yearly farm and elect local officials (i.e., a Farm Grant). In 1253, it paid thirty marks to have these liberties granted in perpetuity.[4] Elections of borough officials (e.g., bailiffs) were held annually at Michaelmas (a Christian festival on September 29th).[5]

In the 14th century, Bridport was active in trade, especially with London, Southampton, and Portsmouth. A new harbor contributed to the expansion of commercial activity.[6] Bridport's Farm Grant of 1253 was repeatedly confirmed until, in 1619, the town bought a Charter of Incorporation for £150 at the request of Robert Millar – a feltmaker. The Charter conferred to the king the right

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[1]Our main sources are the entries for Bridport in the *History of Parliament*. These are available for various periods, beginning in 1386 (which also includes earlier information), and ending in 1832. All subperiods can be accessed here: https://historyofparliamentonline.org/volume/1386-1421/constituencies/bridport. Whenever we use additional sources, we cite these in footnotes.

[2]http://opendomesday.org

[3]https://dorset-ancestors.com/?p=167

[4]In 1953, Bridport celebrated the 700th anniversary of the 1253's Charter of Liberties (https://dorset-ancestors.com/?p=167).

[5]See the Fine Rolls of Henry III (https://finerollshenry3.org.uk/index.html) and Ballard and Tait (1923).

[6]https://dorset-ancestors.com/?p=167

of *first appointment* of the capital burgesses (Weinbaum, 1943). The administration continued to be in the hands of fifteen capital burgesses, who chose two bailiffs and renewed themselves by cooptation.

Bridport was represented in the Model Parliament (1295). In the 14th and 15th centuries, Members of Parliament (MPs) were largely drawn from local traders and manufacturers. Over the 16th century, the high steward, the Admiralty, and several large landowners residing nearby, began to exercise influence over MP elections. At the beginning of the 17th century, the body of fifteen capital burgesses fully controlled parliamentary elections. This state of affairs was short-lived. In 1628, the commonalty petitioned the Commons, who re-established the broad parliamentary franchise based on the evidence that burgesses at large had participated in past elections. Bridport actively supported the Parliamentarians during the Civil War, by providing volunteer troops.[7]

During the 18th century, and up until the Great Reform Act, the franchise was vested in the 'inhabitant householders paying scot and lot,' who numbered approximately 250 to 350, relative to a population of 3,117 in 1801. Parliamentary elections were open to contests: Local merchants trading with the West Indies were among the main contestants, alongside the local gentry. The issues of anti-slavery, malt duties, and Catholic emancipation were central during the August 1830 general election. The radical Whig Henry Wharburton (a timber merchant) and Sir St. Paul (a soldier) were elected. Shortly after the 1830 election, parliamentary reform became paramount. Bridport's inhabitants petitioned the Commons in favor of reform in November 1830. The members of the corporation – mainly merchants and manufacturers – also supported the Grey ministry's Reform Bill of March 1831, despite the fact that Bridport was scheduled for partial disenfranchisement (Schedule B). Only Wharburton voted in favor of the March 1831 bill. Both MPs ran and were re-elected at the following general election made necessary by the defeat of the Reform Bill. The partial disenfranchisement of the borough met with opposition among the inhabitants.[8] Eventually, Bridport was excluded from the list of partially disenfranchised boroughs. Wharburton voted in favor of the December 1831 bill. The reform resulted in an increase in the number of electors, from ca. 300 to 400.

A.2   Faversham – A Mesne Town

Faversham is a borough in the county of Kent that was in existence at the time of the Norman Conquest.[9] Faversham was initially a royal settlement, as recorded in the Domesday Book (1086). In c. 1135, Faversham became mesne when it was granted to the Earl of Kent for his military service against the empress Maud. In c. 1148, Faversham was granted 'in perpetual alms' by the

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[7]See the sources listed in Appendix B.8.

[8]A petition against disenfranchisement was supported by St. Paul. Also, the Bridport freeholders lent some support to the anti-reform candidate in the county elections.

[9]See Beresford and Finberg (1973). Most of the information reported in this account can be found in the British History Online (https://www.british-history.ac.uk/survey-kent/vol6/pp318-371).

king (in accordance with the Earl) to the newly founded abbey.[10] After being granted to the abbey, Faversham was subject to the jurisdiction of the abbot in matters concerning the local administration. Faversham offers an ideal comparison to Bridport, because both had a similar starting point – including being initially royal. Faverham's taxable wealth was assessed as 7 fiscal units (geld) in the Domesday Book (as compared to 6.4 for Bridport).[11] Both towns also had a very similar geography: Faversham's position on the navigable Swale creek and close to the Kentish coast was conducive to trade, as reflected by the early establishment of a market and a fair, and by it obtaining a grant of 'freedom from tolls throughout the realm' in 1252 (Ballard and Tait, 1923; Letters, Fernandes, Keene, and Myhill, 2003).

Since the 1250s, the community of burgesses was headed by a mayor and twelve jurats. The abbot – the borough's mesne lord – interfered heavily with the local administration. He appointed a steward and exacted various sums from burgesses (e.g., for exposing merchandize in the market). The mayor was chosen by the abbot from a list of three candidates proposed by the burgesses. The community of burgesses did not obtain a Farm Grant. This state of affairs generated frequent disputes, which often required the intervention of the king's officials to re-establish the abbot's rights (Ballard and Tait, 1923). Faversham had an important military role, being part of the confederation of the Cinque Ports since 1229. As a member of the Head Port of Dover, it sent one ship for royal naval service during wars.[12] Several royal charters granted Faversham most of the privileges enjoyed by the Liberty of the Cinque Ports, such as exemption from hundred and shire courts.[13]

Faversham was not represented in Parliament, arguably because of its lack of administrative autonomy. At the dissolution of the abbey in 1538, the borough reverted to the crown. Royal ownership finally paved the way for (some) municipal autonomy of this important trade community. In 1546, Henry VIII granted the burgesses a Charter of Incorporation and a Farm Grant. The corporation was composed of a mayor, 12 jurats, and 44 freemen. However, Faversham's degree of autonomy was limited – arguably due to the long history of mesne ownership and the late attainment of a Farm Grant.[14] The Charter of 1546 conferred to the king the right of *first appointment* of town magistrates, i.e., mayor and jurats (Weinbaum, 1943), and the Lord Warden's influence over the town's internal affairs remained strong (Murray, 1935, p. 95). During the Civil War, Faversham

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[10]Thus, Faversham is one of the 76 boroughs that changed ownership, as discussed in Section B.2. Since Faversham was mesne for 213 out of 262 years between 1086-1348, it is one of the 17 mixed boroughs that were "mainly mesne," i.e., those with mixed ownership that belonged to a mesne lord for more than 75% of the time period (see footnote 17 in the appendix).

[11]http://opendomesday.org.

[12]Because of their military importance, the inhabitants of towns belonging to the Cinque Ports were sometimes referred to as 'barons' (Tait, 1936, p. 260).

[13]In matters concerning the Cinque Ports, Faversham was subject to the jurisdiction of the *court of Shepway* presided by the Lord Warden, a royal official (Ballard and Tait, 1923).

[14]Only three other boroughs obtained Farm Grants in the 16th century, when the importance of the boroughs' farms relative to other taxes began to decline significantly (Webb and Webb, 1963, p. 287).

did not provide volunteer troops in support of the Parliamentarians. Faversham did not vote during the Great Reform Act, because it was not a parliamentary constituency.

B   Data and Background

B.1   Timing: Farm Grants and Wars

Starting with Lincoln in 1130, Farm Grants were issued to boroughs throughout England. Figure A.1 presents the timing of royal and mesne Farm Grants for the period 1130-1348. Although Farm Grants were issued in almost every decade, kings John and Henry III stand out as the most active grantors. Figure A.1 also highlights England's wars with France: Periods of war often coincided with the granting of numerous Farm Grants to royal towns. This had two reasons: First, during wars, the need for financing was particularly strong. Second, the king was often absent while fighting abroad, which rendered the monitoring issues in controlling his tax-collecting administration even more severe.[15] Farm Grants offered a way to address both these issues, since they decentralized tax collection and also typically resulted in the payment of up-front fees and higher annual lump sums (see Section 3.5 in the paper for detail). Figure A.1 also illustrates that Farm Grants were much less common in mesne boroughs, as discussed in Section 3.6.
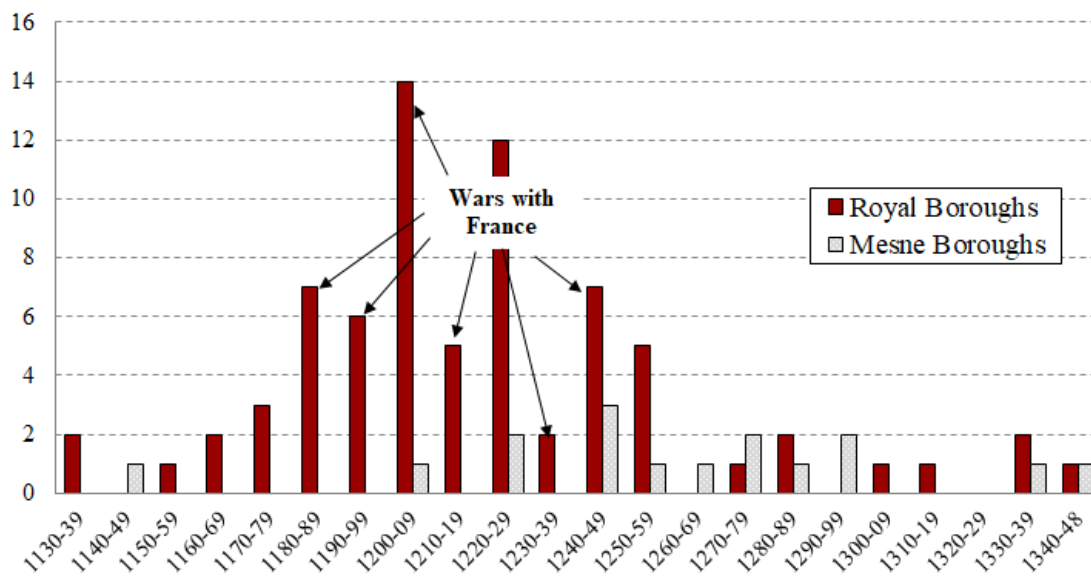

Figure A.1: Timeline of Farm Grants for Royal and Mesne Boroughs

Note: The figure illustrates the timing of all Farm Grants that were issued before 1348 – overall 74 to royal boroughs and 16 to mesne boroughs. Farm Grants were often granted during periods of external wars, when the king was in need of finance.

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[15] Arguably, the introduction of *Scutage* and the employment of mercenaries allowed mesne lords to transform their military duties into money payments. As a result, periods of absence must have been less frequent among mesne lords.

B.2 Classification of Borough Ownership

For our analysis, we focus on locations that became boroughs prior to the Black Death in 1348 and existed at least until this year.[16] We classify boroughs according to their ownership as *mainly royal*, *mainly mesne*, and *mixed*. For each borough, we compute the years since its foundation until 1348. We also calculate the time spent as part of the royal or mesne lords' demesne between foundation and 1348. For this, we use the following criteria: Boroughs that belonged to the king for at least 75% of the period between their foundation and 1348 are classified as *mainly royal*. Those boroughs that belonged to mesne lords for more than 75% of the time are counted as *mainly mesne*. According to these criteria, 91 boroughs were *mainly royal*, and 386 were *mainly mesne*. An additional 54 *mixed* boroughs belonged to both the king and a mesne lord for a non-negligible part of the period 1086-1348 (i.e., more than 25% to each).[17] Because even relatively short ownership by the king was sufficient for charters of liberties to be granted, we include these *mixed* boroughs under "royal" in our main analysis.[18] This yields a total of 145 (91+54) royal boroughs for the purpose of our main analysis. Finally, there are 23 boroughs that were founded before 1348, but for which systematic information of ownership is not available for the full period prior to 1348. In the vast majority of cases, the scattered information at our disposal points to the presence of a mesne lord. We thus classify these boroughs as *mainly mesne*. Altogether, we thus count 409 (386+23) mesne boroughs that were founded before 1348. In Appendix C.2, we show that our results are robust to a more conservative definition of royal ownership, based on a 90% threshold and excluding mixed boroughs and those without systematic documents on ownership.

Number of Boroughs pre- and post-1348. Altogether, there are 554 boroughs with documented

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[16]We exclude boroughs that were founded after 1348. Similarly, we exclude locations (e.g., villages) with documented existence before 1348 that had not received the status of borough by 1348. The reason for excluding these is that non-borough settlements were largely rural and much less involved in trade; with very few exceptions, these did not receive Farm Grants or were enfranchised in Parliament. Thus, including them would bias the relationship between Farm Grants and enfranchisement upward. Finally, we exclude boroughs that disappeared before 1348 – these were all very small settlements that got borough status for idiosyncratic reasons. None of these received a Farm Grant or were enfranchised, so that excluding them represents a conservative choice, making it less likely to find a systematic relationship between Farm Grants and representation in Parliament.

[17]Changes in ownership were typically due to inheritance issues and are thus unlikely to be related to our analysis in a systematic fashion. During the period 1086-1348, altogether 77 boroughs changed ownership from the king to a mesne lord, or viceversa. Among these, 12 (17) belonged to the king (mesne lords) for more than 75% of the time and are thus included in the 91 *mainly royal* (386 *mainly mesne*) boroughs. This leaves 77-12-17=48 boroughs that belonged more than 25% of the period 1086-1348 to each the king and mesne lords. These are classified as *mixed*. During the same period, further 6 boroughs belonged jointly to the king and a mesne lord; we classify these 6 also as *mixed* ownership (i.e., at 50% each). Thus, 48+6=54 boroughs are classified as *mixed*.

[18]Among the boroughs that changed ownership, there were instances of new Farm Grants being issued by the king immediately after previous mesne boroughs became royal. For example, Chester became royal in ca. 1237 and received a Farm Grant in 1239. There are also instances of charters being revoked after a switch from royal to mesne. For example, 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, there are no recorded instances of charters being revoked when boroughs became royal, and also no instances of new charters being granted in the first few years following the change in ownership from royal to mesne.

existence prior to 1348. For our analysis of long-run outcomes in the 17th-19th centuries, the sample reduces to 550 boroughs because one borough disappeared,[19] two were bought by larger boroughs after the Dissolution of Monasteries in the 16th century,[20] and two boroughs (Weymouth and Melcombe) were merged into one ("Weymouth and Melcombe Regis") for parliamentary purposes. Between 1348 and 1700, 71 boroughs were newly formed. Thus, the total number of boroughs in 1700 is 621 (550+71). We use this full set of boroughs only in Figure 6 in the paper for a complete illustration of enfranchisement after 1348. Otherwise, we only use boroughs that existed in 1348.

Index of Borough Ownership. We also create an *index of ownership* that exploits the official standing of lords (e.g., earls and bishops) as an indicator for the size of the territory they own. We assign (i) 4 points to boroughs belonging to the king, queen, or prince (royal boroughs), (ii) 3 points to boroughs belonging to earls or archbishops,[21] (iii) 2 points to boroughs belonging to bishops and (iv) 1 point to boroughs belonging to either seigneurs (lesser barons) or abbots/nunneries.[22] According to this index, there are 145 royal boroughs, and the remaining 409 mesne boroughs that existed by 1348 are divided as follows: 108 with size=3 (earls or archbishops), 72 with size=2 (mostly owned by bishops), and 229 with size=1 (seigneur/abbot/nunnery). These are the size categories underlying Figure 3 in the paper.

B.3   Coding of Royal Influence on Local Politics

Beginning in the second half of the 14th century, the king issued Charters of Incorporation to boroughs.[23] Incorporated boroughs were allowed to own property and issue by-laws. They were governed by municipal councils headed by mayors (Tait, 1936). The Charters of Incorporation include information on the election of the governing body. We code two variables, based on the information reported in Weinbaum (1943). First, we code whether the king appointed the first members of this body right after the borough's incorporation (*first appointment clause*). Second, we code whether subsequent members of the governing body were selected by co-optation, thus perpetuating the initial influence of the king (*cooptation*). For all 157 boroughs with available data that were incorporated between 1345 and 1641 (and that existed by 1348), we then create the

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[19]Ravenserodd was destroyed by the sea in ca. 1366.

[20]Bootham was bought by York, and Templemead was bought by Bristol in ca. 1550.

[21]We have evidence that even after the Norman Conquest, earls were the greatest barons (Brooke, 1961, pp. 103-05).

[22]For boroughs that changed ownership between their date of foundation and 1348, we use the criteria described above to define royal boroughs. When boroughs changed hands between different types of mesne lords, we assign them the average number of points on the ownership index and then round to the nearest integer.

[23]Boroughs paid to receive these charters. They sanctioned town-level prerogatives accumulated in the preceding centuries, harmonized governance structures, and bestowed new prerogatives (Weinbaum, 1943). Often, these included the right to collect the farm for boroughs that had previously not possessed Farm Grants – however, this does not affect our results because we only code Farm Grants until 1348. Mesne boroughs could also receive a Charter of Incorporation from the king with their lord's assent. Following the Dissolution of the Monasteries of 1536-41, many ecclesiastical boroughs passed into the king's hands and received Charters of Incorporation soon after.

indicator *Influence King* that takes on value one for boroughs with both *first appointment clause* and *cooptation*.

B.4   Taxable Wealth in 1086

In 1086, the Normans assessed and recorded the taxable wealth of rural and urban settlements in the Domesday Book.[24] Taxable wealth was assessed in (fiscal) hides, which historically had reflected land area but, by 1086, had evolved into a broader measure of taxable worth of a settlement that had no fixed relationship to its area or its population (Faith, 1999, p. 91). An open source for the Domesday Book is available at http://opendomesday.org. For each settlement, this source reports taxable wealth in the variable called "Total tax assessment." The units of measurement of this variable can vary across boroughs. In the vast majority (ca. 80%) of cases, the unit of measurement is called "geld units." In the remaining ca. 20% of cases, the units are referred to as "exemption units" (in less than 1% of cases they are named "unchanged units"). To the best of our understanding, despite this difference in labeling, the variable "Total tax assessment" is measured in the *same* fiscal unit (hides), even when it is not referred to as "geld."[25] We thus use taxable wealth for all boroughs, including those for which "Total tax assessment" is not in "geld" units.[26]

We exclude seven boroughs for which we have strong reasons to believe that our source (http://opendomesday.org) provides an incomplete (and therefore low) estimate. For instance, in the case of Oxford our source reports several entries, some of which have no figure for taxable wealth. As a result, the reported total (4 exemption units) is rather low. Our concern is corroborated by Ballard (1904), who provides a separate estimate of 100 geld units for Oxford (which we do not use in order to keep the data source consistent). As a further example, in the case of Southampton, the reported total (2.5 exemption units) is too low when compared to historians' general assessment of the settlement's importance. All of these seven boroughs that we exclude were royal boroughs with Farm Grants and were represented in Parliament. Thus, if anything, excluding them from our regressions with taxable wealth stacks the odds against our main result – a strong relationship between Farm Grants and enfranchisement in royal boroughs.

B.5   Geographic Variables

We collect information on Medieval navigable rivers from Edwards and Hindle (1991), Langdon (1993), Jones (2000), Langdon (2000), Peberdy (1996), Gardiner (2007), Hooke (2007), Langdon (2007), and Rippon (2007). We only use non-minor rivers as reported in Edwards and Hindle (1991) and listed as navigable in Langdon (1993) and/or Jones (2000). For the areas not covered by the analysis in Langdon (1993) and Jones (2000), we consider as naviga-

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[24]See footnote 18 in the paper for more detail on the Domesday Book.

[25]See http://www.domesdaybook.net/domesday-book/data-terminology/taxation).

[26]All our results hold when we use only the 80% of boroughs for which "Total tax assessment" is reported in "geld." These results are available upon request.

ble rivers those that are listed as non-minor in Edwards and Hindle (1991), or those that are listed as minor but for which we have evidence for their navigability in the History of Parliament (http://www.historyofparliamentonline.org). To account for possible endogeneity, we exclude humanly modified sections of rivers (Blair, 2007; Bond, 2007; Rhodes, 2007). Information on Roman roads is collected from Hindle (1976). As for our two terrain controls, we compute an index of soil quality in a radius of 10 km around each borough, based on the suitability of growing low input level rain-fed cereals provided by the Food and Agriculture Organization (FAO). We also compute the terrain ruggedness for each borough, using the granular data provided by Nunn and Puga (2012).[27]

B.6 Commercial Importance of Boroughs

To assess a borough's commercial importance, we combine two measures into an index: First, Masschaele (1997) identifies 51 commercial centers in the mid-14th century. "This select group, ..., comprises the settlements that contemporaries repeatedly perceived as being economically distinct from all other settlements in the country and that had sufficient capital resources to influence commercial development within a regional environment" Masschaele (1997, p. 82).[28] Second, we gather information on whether a borough obtained a grant from the king that provided "freedom from tolls" throughout the realm. Those liberties were granted by the king to 85 royal and mesne boroughs by 1348; they allowed all merchants from a borough to move tradeable goods throughout the realm (including territories governed by mesne lords) without facing tolls.[29] Information on freedom from tolls is available from Ballard (1913), Ballard and Tait (1923), and Weinbaum (1943). Based on the two indicators we derive the index *Commercial Importance* as their first principal component.

B.7 Data on MP Elections in the 17th-19th Centuries

We use several measures for the openness of borough-level MP elections. The first two measures are based on Aidt and Franck (2015):

- *Broad Franchise*: This is a dummy variable that takes value 0 if the borough elected its MPs using a "burgage" or "corporation" franchise ("narrow franchise"), and takes value 1 otherwise. Under "burgage," the right to vote was attached to the tenancy of a house or

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[27]For a straightforward interpretation of coefficients, we standardize both the soil quality and the ruggedness variable. For the former, *lower* values in the original FAO data correspond to better land for farming. We thus use the negative standardized variable.

[28]Masschaele's classification is based on a variety of criteria such as the presence of a merchant guild, the payment of lay subsidies on land and goods at the urban rate (as opposed to the rural rate) in 1294-1336, and the classification as an urban settlement in the *Nomina Villarum* military census of 1316.

[29]"Freedom from tolls" comprised all the market charges (transaction fees, right of displaying goods in markets, etc.) The exception were tolls collected by boroughs j that had obtained the "right to levy tolls on merchants" *before* borough i obtained its "freedom from tolls." Thus, in practice, more ancient grants were more valuable to their holders.

property designated as a burgage plot for parliamentary elections. Under "corporation," only mayor, aldermen and (sometimes) councilmen could vote for the MPs representing their borough.

- *Patronage Index*: This index captures both the extent to which a borough was subject to patronage and whether it was disenfranchised by the Great Reform Act of 1832. It ranges from 0 to 2. The index equals 0 (closed) for rotten boroughs *and* closed constituency (controlled by local patron); it equals 1 if the borough was either rotten *or* a closed constituency, and it takes on value 2 (open) if neither of the two apply. Note that we redefined the original coding in Aidt and Franck (2015) so that larger values reflect openness of MP elections.

Next, we define three additional indexes for openness of MP elections:

- *Contested Elections*: This index ranges from 0 to 4. It reflects the number of MP elections (altogether four between 1820-31) for which there were more local candidates than the borough's seats in Parliament (typically two). Data are from the History of Parliament (Fisher, 2009).

- *Openness Index/Dummy*: These measures capture the extent to which a borough's choice of its MPs was subject to the control of a patron (e.g., a local landed interest or the Treasury). It ranges from 1 to 3: The index equals 1 (closed) if both MPs were chosen by a patron, it equals 2 if only one MP was chosen by a patron, and 3 (open) if anyone could run for Parliament. Data are from the History of Parliament. We construct this index for different time periods:

  - *Openness 1820-1831*: This index takes value 3 if the borough is defined as "open" in Fisher (2009). It takes value 2 if the borough is reported as partially subject to patronage in the description of the constituency contained in Fisher (2009), and it takes value 1 if it is defined as "close" in the same source. Finally, we assign a value 1.5 to boroughs that are not listed as "open" in Fisher (2009), and for which we have been unable to fully establish the degree of patronage.

  - *Openness 1690-1715 / 1754-1790 / 1790-1820*: To construct the openness index for these earlier periods, we rely on the description of boroughs contained in Cruickshanks, Handley, and Hayton (2002), Namier and Brooke (1964), and Thorne (1986) respectively. We also make use of the more detailed boroughs' accounts available at http://www.historyofparliamentonline.org. Our coding criteria match those used for the index of openness 1820-1831. However, we adjust our coding because of the less clear-cut distinction between "open" vs. "closed" boroughs (especially for the period

1690-1715) made by our references.[30] We subtract 0.5 points from boroughs that are described as generally open, but in which "interests" (e.g., a landed gentlemen owning large properties in the borough) exerted some influence over the borough's elections of MPs. Similarly, we assign a value of 2 to boroughs that are not described as "closed" or "semi-closed," but whose parliamentary seats were subject to strong "interests."

- *Openness dummies*: For each time period, we define a dummy that takes on value one if the borough is classified as "open" (i.e., if its openness index is strictly greater than 2).

- *Broad Franchise 1604-29 / 1660-90 / 1690-1715 / 1715-54 / 1754-90 / 1790-1820*: We apply the coding criteria described above for *Broad Franchise* in 1820-31 (following Aidt and Franck, 2015) to compute the same index for earlier periods.[31] We use the description of boroughs contained in Ferris and Thrush (2010), Henning (1983), Cruickshanks et al. (2002), Sedgwick (1970), Namier and Brooke (1964), and Thorne (1986).

B.8 The English Civil War: Background and Data

The English Civil Wars (1642-1646 and 1648-49) and the crises and switches in political regimes that followed ultimately strengthened the English Parliament. By the end of Oliver Cromwell's rule in 1659, Parliament had gained greater control over the king's revenues (e.g., customs, excises, and hearth tax). Following the Glorious Revolution of 1688 and the coronation of William in 1689, the Parliament could no longer be dissolved without its consent. It also took full control over military expenses and granted the king the minimum amount of revenues necessary to cover the costs of civil government (Miller, 1983).

Background. In the early 17th century, the summoning and dissolving of Parliament was still a royal prerogative. In line with his absolutist tendencies, Charles I did not summon Parliament for a period stretching 11 years (1629-40). As a result, he resorted to various unpopular means to raise extra-ordinary taxes (e.g., the levying of ship money in 1634). Charles also introduced highly controversial religious measures, which raised suspicions that he was reintroducing Catholicism. His attempt to apply religious reforms to Scotland led to a Scottish rebellion and the first Bishops' War (1639). The disastrous outcome of the conflict forced Charles to summon Parliament to raise revenues. The MPs voiced many complaints about his rule – e.g., appointment of bishops, monopolies on international trade, internal licenses, and the farming of customs – and they opposed his

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[30]For the pre-Glorious Revolution period, the distinction between "open" and "closed" becomes even less precise. For consistency, we therefore start the construction of our *Openness* index in 1690.

[31]*Broad Franchise* is based on an objective measure (boroughs' franchise rules), for which we have data since 1604. In contrast, *Openness* is based on the accounts of boroughs' internal politics in the collection of books *History of Parliament*, which are less precise before 1690 (see footnote 30). We can thus extend the *Broad Franchise* measure further back in time than the above *Openness* measure.

plans to invade Scotland (Ashton, 1979; North and Weingast, 1989). The Parliament was dissolved after only a few weeks in May 1640, and Charles attacked Scotland again, suffering a humiliating defeat and prompting the invasion of northern England by the Scots in August 1640. Forced to pay tribute to the Scots, Charles summoned the Parliament again in November 1640 (Bennett, 1995). This Parliament would sit for the next 13 years.

Although a military conflict with the king – let alone its deposition – was unimaginable then, many MPs were hostile to Charles and successfully passed legislation that strengthened Parliament (e.g., the Act for Triennial Parliaments of 1641). When a rebellion broke out in Ireland in October 1641, both king and Parliament agreed that the creation of an army was necessary to suppress the uprising. However, neither side trusted the other with the control of these forces. The county militias – the only land forces available during peacetime – were under the control of the royal appointee lord-lieutenants, who supervised and trained them (Wedgwood, 1959). After the failure to secure control of the armed forces, in March 1642 Parliament issued the *Militia Ordinance* without royal approval to appoint its own lord-lieutenants. As a response, in June 1642 the king issued the *Commissions of Array* – a long obsolete tool to raise men in the shires. The choice whether to obey the *Militia Ordinance* or the *Commissions of Array* forced boroughs (i.e., their burgesses, local officials, or the governing lords) to pick a side.

In the months leading up to the outbreak of hostilities in August 1642, royalists and parliamentarians feared the other side's possible use of force, and preparations for military conflict began on both sides. The king recruited mostly from rural areas by relying on county-level officials (sheriffs and lords-lieutenants) and gentry. In contrast, the parliamentarians successfully recruited both in counties and boroughs, despite the fact that many boroughs attempted to remain neutral out of fear for their liberties (Howell, 1982). London provided over 6,000 men. The parliamentarians gathered volunteers by sending orders or logistical information to their appointed lord-lieutenants and to the lords sympathetic to their cause. Mayors were also contacted for recruitment in boroughs, and MPs dispatched to their constituencies to counteract the king's effort to enforce the *Commissions of Array*. One of Hull's MPs famously convinced John Hotham, Governor of Hull, to refuse the king's entry into the town (Bennett, 1995, p. 25). This led the king to move to Nottingham, where on August, 22nd 1642 he raised the Royal Standard. Soon thereafter, fighting broke out.

Both sides initially had over 15,000 men at their disposal, and battles were fought over large areas of the country for a period lasting three years. Although royalist forces initially had the upper hand, they were eventually defeated by the parliamentarian forces in 1645, and the king was captured a year later. In 1647, the king conspired with the Scots, and fighting broke out again in 1648. The forces loyal to the king were defeated in 1649, and Charles was tried and sentenced to death the same year. The monarchy was abolished in February 1649, and Oliver Cromwell ruled with the help of the Parliament until his death in 1659. Although the monarchy returned in 1660,

the Parliament had gained considerable power in the process, and the transition to a full-fledge constitutional monarchy would be complete by the end of the Glorious Revolution in 1689.

Data. We focus on the period immediately preceding the military conflict: January-August 1642. For each borough in our dataset, we record whether it raised volunteer troops to fight on the parliamentarian side.[32] We collect information on boroughs' raising of volunteer troops from the House of Lords Journal (1629-42 and 1642-43) and from the Private Journals of the Long Parliament (3 January to 5 March 1642, 7 March 1642 to 1 June 1642, and 2 June to 17 September 1642).[33] We complement these data with those provided in Russell (1990) and Daniell (2008). Altogether, the parliamentary records mention 31 boroughs that raised voluntary troops to support the parliamentarians. Out of these, 30 boroughs existed by 1348 and are thus in our dataset. We create the indicator variable *Volunteers* for these 30 boroughs.[34]

B.9 The Great Reform Act: Background

The rules governing Parliament and the composition of enfranchised constituencies were largely unchanged from the 17th century to the Reform Act of 1832 (Porritt, 1909). In essence, the Parliament was an institution inherited from Medieval times. In 1830, 383 constituencies were represented, including 203 English boroughs returning a total of 405 MPs, as well as 40 English counties returning 82 MPs (Fisher, 2009). In our empirical analysis, we focus exclusively on English boroughs that had obtained the borough status by 1348.

The beginning of the 19th century was marked by profound discontent with local governance and MP elections. The Industrial Revolution led some boroughs to experience rapid population growth, thereby straining the public provision of sanitation and law and order (see Lizzeri and Persico (2004) and references therein). Moreover, the parliamentary system was generally perceived as corrupt (Brock, 1973, pp. 25-8), and many rapidly growing boroughs were unrepresented (e.g., Manchester).

Within enfranchised boroughs, large portions of the population were excluded from participating in MP elections. The internal franchise rule varied greatly from borough to borough. In 1830, six franchise rules existed (*scot and lot*, *householder*, *freeholder*, *freeman*, *burgage*, and *corporation*). Two of these rules – *burgage* and *corporation* – consisted of particularly narrow franchises. For instance, only the members of the governing body were allowed to vote in corporate boroughs.

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[32]We do not record recruitment after August 1642 because army movements across the territory render the "voluntary" nature of recruiting questionable. To the best of our knowledge, there exist no records of volunteer troops raised for the royalist side in the boroughs.

[33]These sources can be accessed online at the following links: http://www.british-history.ac.uk/lords-jrnl/vol4, http://www.british-history.ac.uk/lords-jrnl/vol5, and http://www.british-history.ac.uk/commons-jrnl/vol2.

[34]Information on the *number* of men raised by each borough is not available. However, the boroughs that raised men were explicitly discussed in Parliament (which underlies our data source). This suggests that the contributions of each of these boroughs must have been significant.

Further, MP elections were often subject to patronage.[35] In these cases, the borough "patron" – typically a large local landowner, and sometimes the Treasury – was effectively entitled to nominate some or all of the borough MPs. Patronage was particularly pervasive in the smaller "rotten" boroughs such as Gatton, which did not have any inhabitants left (Porritt, 1909, pp. 369-70).

Reforming the parliamentary franchise was a recurrent theme of British politics in the early 19th century (Brock, 1973). The chances for reform became tangible in the 1820s. By and large, Whigs and Radicals were in favor of reform, whereas Tories were against it.[36] Between 1822 and 1827, George Canning, the Tory Leader of the House of Commons, successfully appeased the "commercial men" and dampened their demand for a vast parliamentary reform by promoting liberal legislation (Brock, 1973). In 1828, besides the parliamentary reform, the Duke of Wellington's Tory government faced three other major issues: the currency crisis that followed the financial crash of 1825-6, the Catholic Emancipation, and the Corn Laws. The possibility for reform presented itself when, in November 1830, during a period of general economic distress, Lord Grey formed the first Whig Government since 1806. By then, part of the Tories had turned in favor of reform, largely because of the rotten boroughs' role in the Catholic Emancipation (Brock, 1973). However, MPs were chosen by their constituencies based not only on this possible reform, but also on other major issues such as Anti-Slavery, Corn Laws, and Free Trade (c.f. Fisher, 2009; Brock, 1973).

The first Bill was proposed in March 1831. The reform aimed at (i) harmonizing the franchise across boroughs, (ii) disenfranchising smaller boroughs, and (iii) enfranchising the newly industrialized ones. The reform undermined patrons' hold on boroughs both directly (by disenfranchising rotten boroughs) and indirectly (by making the electorate in enfranchised boroughs sufficiently large and uniform). Patrons of disenfranchised boroughs were partially compensated for the loss in the value of their property with an increase in the number of county seats.

The Bill of March 1831, although approved by the House of Commons by a narrow margin, was then rejected by the House of Lords. This event prompted the collapse of the Government and new MP elections. The general elections of April 1831 were effectively a referendum on the parliamentary reform. Two bills were proposed in June and September 1831 and, after some amendments and compromises, a new bill was voted in December 1831 and finally approved in March 1832. The reform resulted in 56 boroughs being entirely disenfranchised and 30 boroughs losing one seat. On the winning side, 43 boroughs were enfranchised, with 21 gaining one seat and the rest two seats. In each enfranchised borough, all males owning property with an annualized value of at least £10 gained voting rights. The net effect of the reform was to extend the franchise from 3% to 6-7% of the population.

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[35]For a comprehensive description of each franchise rule we refer to Fisher (2009).

[36]Among the Tories, the majority of the Huskissonites and many ultra-Tories were, however, in favor of reform (Brock, 1973, p. 76).

C   Empirical Appendix

This appendix section presents numerous robustness checks and extensions of the empirical results in the paper.

C.1   Predictive Power of Geography in Royal and Mesne Boroughs

This section examines the predictive power of trade geography in royal vs. mesne boroughs, complementing the analysis in Section 4.2 in the paper. Table A.1 shows that trade-favoring geography predicts economic activity in *both* royal and mesne territories. We use three different economic variables. Columns 1 and 2 show that navigable rivers and Roman roads positively predict taxable wealth in 1086, while results for boroughs by the sea coast are mixed.[37] In columns 3 and 4, we find that navigable rivers and sea coast are strong predictors of our measure for commercial importance in the 14th century. Finally, columns 5 and 6 use city population in the mid-17th century as dependent variable.[38] We find that city size is positively predicted by location on a navigable river and Roman roads in both subsamples. Importantly, the three geography variables are jointly highly significant in all specifications: p-values (shown in the bottom of Table A.1) are 0.01 or lower throughout.

C.2   Conservative Classification of Borough Ownership

Our result on the determinants of Farm Grants and enfranchisement hold also when we use a conservative classification of borough ownership. In the results presented in Table A.2, we classify as royal those boroughs that were owned by the king for more than 90% of the time period between their foundation and 1348. This leaves us with 86 royal boroughs. In addition, we include as mesne boroughs only those that belonged to mesne lords for more than 90% of the time – altogether 376. We exclude mixed boroughs (based on the 90% criterion) and those with incomplete ownership records (i.e., the 23 boroughs for which the scattered evidence on ownership points towards mesne lords – see Appendix B.2).

Columns 1-4 in Table A.2 examine the determinants of Farm Grants, replicating our results from columns 1-3 in Table 2, and from column 6 in Table 3 in the paper. Columns 5-7 in Table A.2 replicate our regressions for representation in Parliament from columns 1, 2, and 10 in Table 4 in the paper. We confirm all results from the paper.

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[37]The negative coefficient on sea coast is likely driven by two facts: i) the Norman Conquest had left some of the boroughs on the Channel coast devastated, and ii) Danish attacks via the sea were still common until the consolidation of Norman control in the late 11th century. By the 12th century, locations by the sea had largely recovered from these negative shocks, so that we can use sea coast as a proxy for commercial activity in later periods.

[38]This is the first period for which population is available for a large number of boroughs. Data are from https://discover.ukdataservice.ac.uk/catalogue?sn=7154 and Langton (2000). City population has been widely used as a proxy for economic activity (DeLong and Shleifer, 1993; Acemoglu, Johnson, and Robinson, 2005; Dittmar, 2011; Squicciarini and Voigtländer, 2015).

Table A.1: Trade Geography and Economic Outcomes

Dependent variable: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	ln(Taxable Wealth 1086)		Commercial Importance 14C†		ln(population mid-17C)	
Boroughs included:	royal	mesne	royal	mesne	royal	mesne
Navigable River	1.188***	0.594***	1.063***	0.259**	0.914***	0.470***
	(0.340)	(0.208)	(0.259)	(0.119)	(0.247)	(0.134)
Sea Coast	0.256	-0.862***	0.845***	0.274***	-0.034	-0.116
	(0.371)	(0.239)	(0.274)	(0.103)	(0.285)	(0.119)
Roman Road	0.299	0.161	0.437*	-0.005	0.351*	0.218**
	(0.258)	(0.160)	(0.224)	(0.059)	(0.189)	(0.095)
p-value: joint significance River, Coast, Road	*[0.004]*	*[<0.001]*	*[<0.001]*	*[0.012]*	*[0.002]*	*[0.001]*
Mean Dep. Var.	1.88	1.62	0.79	-0.28	7.19	6.75
R^2	0.18	0.07	0.18	0.06	0.15	0.07
Observations	85	269	145	409	126	279

Notes: This table shows that trade-favoring geography predicts various economic outcomes in *both* royal and mesne boroughs. This supports our use of mesne boroughs as a valid 'placebo' – mesne boroughs were otherwise comparable to royal boroughs, but they did not receive Farm Grants. All regressions are run at the borough level. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01. See footnote 37 for an explanation for the negative coefficient on sea coast in cols 1 and 2.

† First principle component of two indicators for commercial importance: "Freedom from tolls" (a grant of liberty that exempted a borough's burgesses from tolls throughout the realm) and an indicator variable for whether a borough was a commercial hub during the 14th century, based on Masschaele (1997). See Appendix B.6 for detail.

C.3   Location of Boroughs with Farm Grants by 1348

Figure A.2 shows the location of boroughs that had received Farm Grants by 1348. There is no apparent clustering – Farm Grant boroughs are spread relatively evenly across England.

C.4   Trade Geography and Taxable Wealth

In Table A.3 we relate trade-favoring geography to taxable wealth. In column 1, we find that both navigable rivers and Roman roads predict taxable wealth in 1086 (with rivers showing a particularly strong relationship). Boroughs by the sea coast, on the other hand, were significantly poorer in 1086. This is likely driven by i) the fact that the Norman Conquest had left some of the boroughs on the Channel coast devastated, and ii) by Danish attacks via the sea that were still common until the late 11th century. In the 12th century, locations by the sea had largely recovered from these negative shocks. For this reason, we do not use seacoast to predict Farm Grants in the remainder of Table A.3, but we do use it for subsequent analyses that exploit data after the 11th

Table A.2: Conservative Classification of Borough Ownership

Dependent variables: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dep. Var.:	Indicator for Farm Grant by 1348				Enfranchised by 1348		
Notes:					only royal (conservative)		2SLS‡
Farm Grant 1348					0.629***	0.474***	0.587***
					(0.085)	(0.127)	(0.214)
Royal (conservative)	0.504***	0.499***	0.499***	0.187**			0.088
	(0.055)	(0.054)	(0.055)	(0.082)			(0.126)
River x Royal				0.382***			
				(0.099)			
Sea coast x Royal				0.272**			
				(0.132)			
Roman Road x Royal				0.273***			
				(0.098)			
Navigable River				-0.016			-0.006
				(0.032)			(0.041)
Sea Coast				-0.034			-0.011
				(0.034)			(0.044)
Roman Road				-0.028			-0.011
				(0.021)			(0.035)
p-value: joint significance River, Coast, Road				[0.466]			[0.981]
County FE			✓	✓		✓	
Terrain Controls		✓				✓	
Mean Dep. Var.	0.14	0.14	0.14	0.14	0.52	0.52	0.21
R^2	0.33	0.33	0.40	0.47	0.39	0.67	
Observations	462	462	462	462	86	86	462

Note: This table verifies that our main results for Farm Grants and boroughs' representation in Parliament hold also for the conservative coding of royal borough ownership in Appendix C.2. Columns 1-3 replicate the regressions from columns 1-3 in Table 2, and column 4 replicates column 6 from Table 3 in the paper. Columns 5-7 replicate results on parliamentary franchise from columns 1, 2, and 10 in Table 4 in the paper. All regressions are run at the borough level. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Terrain controls include soil quality as well as ruggedness in a 10 km radius around each borough.

‡ Two-stage least square regression that uses the following variables to predict Farm Grants by 1348 in the first stage: the interaction of status as royal borough (conservative definition) with the location on the sea coast, on a navigable river, and on Roman roads The status as royal borough itself, and the three geo-variables are included as controls in both stages. The first-stage F-statistic is 10.5.
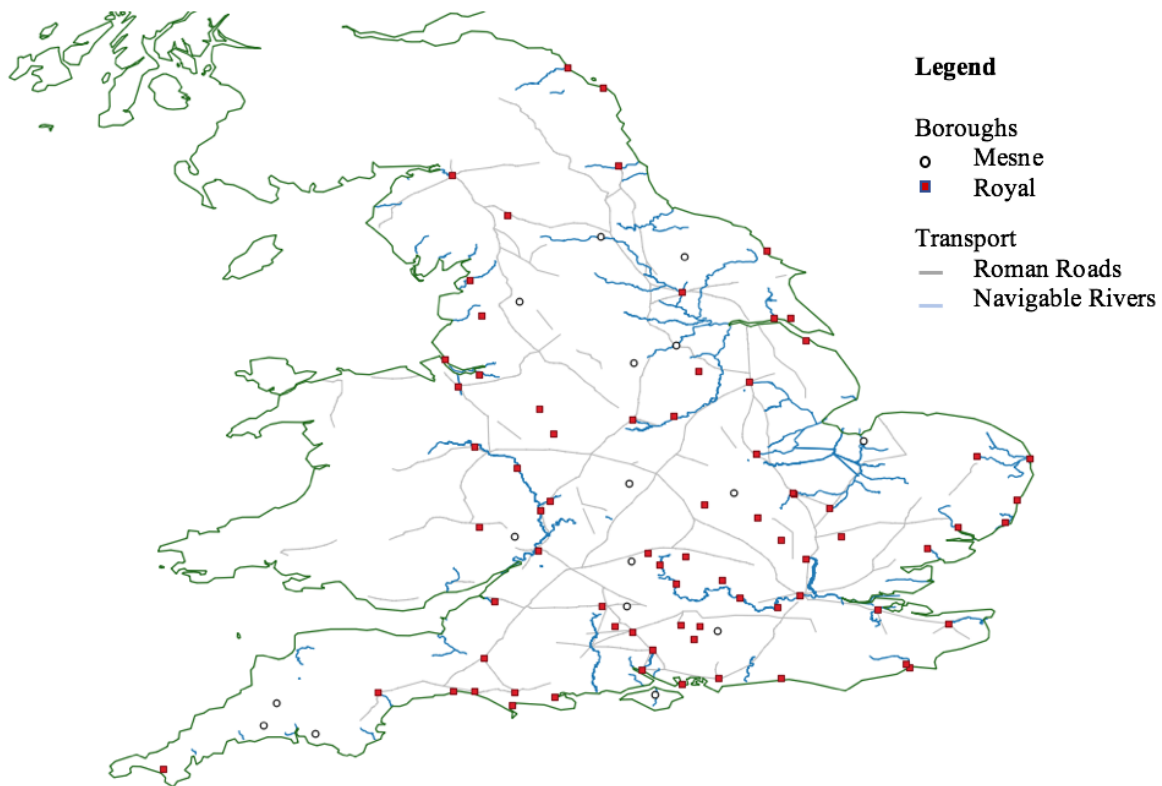
Figure A.2: Boroughs with Farm Grants, by Royal and Mesne

Note: This figure shows the location of the 90 boroughs in our dataset that had received Farm Grants by 1348. Solid squares indicate the 74 royal boroughs, and hollow dots, the 16 mesne boroughs (owned by local lords or by the Church). The figure also shows the location of navigable rivers and of Roman roads.

century.[39] Column 2 shows that the coefficients on rivers and Roman roads are very similar when we use only these two proxies for trade. At the same time, the dummy for royal boroughs is small and insignificant, confirming our results from Section 4.2 that there are no major differences in taxable wealth across royal and mesne boroughs.

Next, we turn to 2SLS results, using rivers and Roman roads as instruments for taxable wealth in 1086.[40] Column 3 in Table A.3 shows that we obtain a significant positive coefficient that is about twice as large as the coefficient on taxable wealth in the corresponding OLS specification (column 5 in Table 2 in the paper). This is likely due to measurement error: Taxable wealth in the Domesday Book was assessed largely based on the value of land and structures, which in turn was indirectly affected by population and, arguably, trade (Darby, 1977, p. 11).[41] Also, trade may

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[39]The results that follow (columns 3 and 4) are very similar – and the first stage is stronger – when we exclude the 35 boroughs that were located on the sea coast (and for which data on taxable wealth in 1086 is also available).

[40]At the bottom of Table A.3 we report the first-stage F-statistics. Since these are below the rule-of-thumb of 10, the 2SLS results in this table have to be interpreted with caution.

[41]See also Faith (1999, p. 91), who points out that while *geld* (the Domesday taxable wealth) had historically

Table A.3: Farm Grants: Use Trade Geography to Predict Taxable Wealth

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	ln(Taxable Wealth)		Indicator for Farm Grant by 1348		
Boroughs included:	all	all	all	royal	mesne
Notes:	OLS (1st stage)		2SLS for ln(Taxable wealth in 1086)		
Navigable River	0.764***	0.744***			
	(0.177)	(0.178)			
Roman Road	0.196	0.232*			
	(0.137)	(0.137)			
Sea Coast	-0.610***				
	(0.204)				
Royal borough	0.128	0.118	0.434***		
	(0.151)	(0.147)	(0.057)		
ln(Taxable wealth in 1086)†			0.103*	0.206**	-0.022
			(0.062)	(0.087)	(0.075)
Mean Dep. Var.	1.69	1.69	0.16	0.51	0.04
R^2	0.09	0.06			
Observations	354	354	354	85	269
First stage F-stat.:			9.9	7.2	4.0

Note: Columns 1 and 2 in the table show that boroughs on navigable rivers or Roman roads had higher taxable wealth in 1086; due to the devastation during the Norman Conquest and frequent raids by Danes during the 11th century, boroughs on the sea coast had lower wealth in 1086. Sea coast is thus not used as an instrument in the rest of the table. Columns 3-5 use 2SLS results to show that the effect of geography on Farm Grants worked at least in part through (taxable) wealth – but this holds only in royal boroughs. All regressions are run at the borough level. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.
† Predicted using navigable river and Roman road as instruments.

have affected Farm Grants not only via taxable wealth, but also via the need for a more specialized administration (as discussed in Section 3). Thus, the exclusion restriction is unlikely to hold when we instrument for wealth – and correspondingly, we are reluctant to take the point estimate at face value. Next, in column 4 we restrict the sample to royal boroughs and obtain a large positive and significant coefficient on taxable wealth. This is in stark contrast to the small insignificant coefficient on wealth among mesne boroughs (column 5). Altogether, our results suggest that trade had a strong effect on the odds of receiving Farm Grants in royal boroughs, but not in mesne boroughs. In addition, this effect worked at least in part via taxable wealth – boroughs that were richer because of trade were also more likely to obtain Farm Grants.

C.5 Farm Grants and Commercial Importance

In what follows we present suggestive evidence that Farm Grant boroughs were commercially more important already in the mid-14th century. Importantly, we do not argue that Farm Grants *caused*

reflected land area, it evolved into a broader measure of taxable worth of a settlement by 1086.

commercial importance. Instead, the following results underline the close – possibly bi-directional – relationship between self-governance and economic development at the local level. In columns 1-3 of Table A.4 we use our first proxy for commercial importance described in Appendix B.6: an indicator variable for "Freedom from tolls" – a grant of liberty that exempted a borough's burgesses from tolls throughout the realm. This liberty was issued by the king against a fee paid by boroughs. Clearly, purchasing this liberty only made sense for burgesses from boroughs with a focus on trade. Column 1 shows that boroughs with a Farm Grant were 52 percentage points (p.p.) more likely to obtain "Freedom from tolls," relative to an average of about 15 percent of boroughs that purchased this liberty. In column 2, we add county fixed effects and terrain controls, and in column 3, we restrict the sample to royal boroughs. In both cases we confirm the strong positive association between Farm Grants and "Freedom from tolls" (with almost identical coefficient sizes).

Table A.4: More Evidence on Commercial Importance of Boroughs with Farm Grants

Dependent Variable: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Freedom from Tolls by 1348[†]			Commercial Hub in 14C[‡]		
Boroughs included:	all	all	royal	all	all	royal
Farm Grant 1348	0.520***	0.544***	0.533***	0.381***	0.381***	0.417***
	(0.053)	(0.051)	(0.070)	(0.053)	(0.053)	(0.065)
County FE		✓			✓	
Terrain Controls		✓			✓	
Mean Dep. Var.	0.15	0.22	0.46	0.09	0.09	0.27
R^2	0.28	0.33	0.29	0.24	0.29	0.22
Observations	554	554	145	554	554	145

Note: The table shows that boroughs with Farm Grants were commercially more important in the 14th century, using the two indicators explained below. Section 4.1 provides more detail. All regressions are run at the borough level. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Terrain controls include soil quality as well as ruggedness in a 10 km radius around each borough.
[†] Indicator variable for "Freedom from tolls" – a grant of liberty that exempted a borough's burgesses from tolls (taxes on trade) throughout the realm. This liberty was issued by the king against a fee paid by boroughs, and it was available to both royal an mesne boroughs. See Appendix B.6 for detail.
[‡] Indicator variable for whether a borough was a commercial hub during the 14th century, based on Masschaele (1997). Criteria include the presence of merchant guilds, the classification as "urban" in the 1340 Nonae Rolls tax records, and the total tax on tradable goods levied in 1334.

In columns 4-6 of Table A.4 we repeat the same specifications as in the first three columns, but now using as dependent variable our second proxy for commercial importance: an indicator variable for whether a borough was a commercial hub during the 14th century, based on Masschaele (1997). We confirm the previous results both in terms of magnitude and statistical significance: Boroughs with Farm Grants were much more likely to be commercial centers in the mid-14th century. We do not interpret these results causally. In fact, as by our argument, commercial centers

were more likely to obtain Farm Grants in the first place. Thus, the correlations in Table A.4 corroborate our historical evidence that commercial activity was *associated* with Farm Grants.

C.6   Strategic Enfranchisement

As shown in Figure 6 in the paper, between 1348 and 1700, an additional 73 boroughs became enfranchised. Unlike the boroughs that gained representation in Parliament before 1348, the vast majority of these boroughs did not enjoy early self-governance. As the House of Commons grew in political power in the 15th and 16th centuries, kings resorted to the enfranchisement of rural boroughs in an attempt to control the lower house. For instance, as Porritt (1909) puts it:

> "Nothing except the desire of the Crown [...] to control the House of Commons [...] could account for the enfranchisement of such Cornish boroughs as Newport, Saltash, Camelford, West Looe, Grampound, Bossiney and St. Michaels. Until the reign of Edward VI (1537-1553), Cornwall had not been over-represented. [...] it was in the reign of Edward VI that Cornwall first began to attain notoriety as a county of many boroughs. It owed this notoriety to the fact that it was a royal duchy, a county over which the Crown exercised more direct control than over most of the other counties of England." (Porritt, 1909, pp. 373-4)

Consistent with their limited commercial importance, and being under close control of the king's allies, these newly enfranchised boroughs were significantly more likely to be considered as "rotten" – i.e., small and subject to patronage – in the period leading up to the Great Reform Act. This is illustrated in Figure A.3. The left part of the figure examines boroughs that obtained seats in Parliament by 1348. It shows that the share of "rotten boroughs" was low among the boroughs with self-governance (Farm Grants), and high (almost one-third) among the other enfranchised boroughs. This suggests that strategic enfranchisement can potentially account for some of the non-commercial boroughs that gained representation in Parliament by 1348 (in addition to the factors discussed in Section 5.2 in the paper). The right part of Figure A.3 examines enfranchisement after 1700. Among the boroughs that were enfranchised later, there are much fewer boroughs with Farm Grants, and the share of rotten boroughs is even higher: Half of the boroughs without Farm Grants that were enfranchised between 1348 and 1700 became rotten, and almost all of the rotten boroughs were those without Farm Grants. Overall, these results are consistent with the strategic enfranchisement of commercially unimportant boroughs that were under close patronage of the king's allies – in an attempt to shift the balance in the House of Commons in the king's favor.

C.7   Enfranchisement of Boroughs: Additional Results

Table A.5 provides additional results for boroughs' representation in Parliament, complementing Table 4 in the paper. Columns 1 and 2 show that Farm Grant boroughs were also significantly more likely to be represented in the 'Model Parliament' of 1295. Again, the coefficient is very similar for the full sample (col 1) and for the subset of royal boroughs (col 2). Columns 3-7 return to our main period of interest – enfranchisement by 1348. Columns 3 and 4 add county fixed effects and terrain controls (soil quality and ruggedness) to our baseline specifications from Table
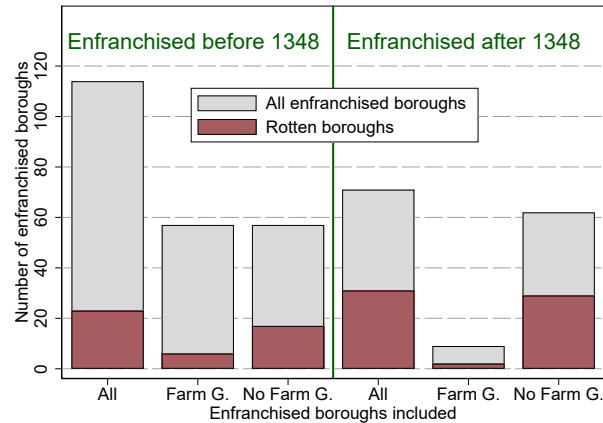
Figure A.3: Rotten boroughs: The role of Farm Grants and Timing of Enfranchisement

Note: The figure provides evidence for strategic enfranchisement: Among the boroughs without Farm Grants, the share of "rotten boroughs" was much larger, and this is particularly true for later enfranchisement (after 1348).

4 in the paper. The coefficients on Farm Grants are virtually unaffected. In column 5, we exploit the length of the time period during which boroughs held Farm Grants until 1348. We restrict the sample to the 90 boroughs that did receive these grants by 1348.[42] We find a strong positive coefficient: Doubling the years for which a borough held a Farm Grant increases the probability of being enfranchised by 9.9 p.p. (relative to a mean of 0.71 – most boroughs with Farm Grants were represented in Parliament). Next, columns 6 and 7 provide the regressions that correspond to Figure 7 in the paper: The coefficients are much larger for boroughs that also had constraints on sheriffs entering the borough (and thus restricted possibilities for central authorities to collect extra-ordinary taxes). Finally, column 8 repeats the full-sample regression for enfranchisement by 1700 and finds a strong positive coefficient on Farm Grants, which is very similar to the results for 1348, in both magnitude and significance.

Table A.6 provides a robustness check that uses an alternative, broader coding of the dummy for enfranchisement, related to the issue explained in footnote 33 in the paper: The results in the paper (Table 4) and in Table A.5 above coded as enfranchised only boroughs that retained their seats in Parliament until 1830 (and not counting those boroughs as enfranchised that let their franchise expire and were later denied re-enfranchisement). In contrast, Table A.6 codes as enfranchised *all* boroughs that were represented in Parliament at least once by the respective date (1295 / 1348), even if they later lost the franchise. This gives 24 and 32 additional enfranchised boroughs in 1295 and 1348, respectively. Columns 1 and 2 show that results are very similar for the 'Model Parliament' in 1295 (the comparison here are the specifications from cols 1 and 2 in Table A.5).

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[42]In a few cases, Farm Grants were revoked for intermittent years and then re-granted (see footnote 22 in the paper). We exclude these years when coding the duration of Farm Grants.

Table A.5: Representation in Parliament by 1295, 1348, and 1700: Additional Results

Dependent variable: Indicator for borough enfranchised by 1295 / 1348 / 1700

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep.Var.: Enfranchised by	1295	1295	1348	1348	1348	1348	1348	1700
Boroughs included:	founded by 1295				Farm Grant			
	all	royal	all	royal	by 1348	all	royal	all
Farm Grant 1295	0.360***	0.422***						
	(0.068)	(0.077)						
Farm Grant 1348			0.447***	0.583***				0.416***
			(0.064)	(0.081)				(0.063)
ln(years grant 1066-1348)					0.099***			
					(0.037)			
Grant and constraint on sheriff						0.621***	0.640***	
						(0.070)	(0.076)	
Grant, no constraint on sheriff						0.368***	0.477***	
						(0.075)	(0.091)	
Royal borough	0.135***		0.160***		0.336**	0.137***		0.191***
	(0.050)		(0.049)		(0.139)	(0.049)		(0.057)
County FE			✓	✓				
Terrain Controls			✓	✓				
Mean Dep. Var.	0.21	0.42	0.23	0.51	0.71	0.23	0.51	0.35
R^2	0.19	0.18	0.36	0.57	0.21	0.28	0.33	0.20
Observations	460	136	554	145	90	554	145	550

Note: The table shows that boroughs with Farm Grants were also significantly more likely to be represented in the first Parliament in 1295 ('Model Parliament'). In addition, the earlier Farm Grants were obtained, the more likely was the borough to be represented in Parliament (col 5). Finally, coefficient sizes are much larger for boroughs that also had constraints on sheriffs entering the borough (and thus restricted possibilities for central authorities to collect extraordinary taxes – cols 6 and 7). All regressions are run at the borough level. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Terrain controls include soil quality as well as ruggedness in a 10 km radius around each borough.
[†] Constraints on sheriff is a dummy variable that takes on value one if a borough possessed additional liberties that prohibited royal officials from entering the borough in their judicial functions (*non-intromittat*), in financial functions (*direct access to the Exchequer*), or to enforce royal orders (*return of writs*).

Next, columns 3 and 4 in Table A.6 repeat the specifications from cols 1 and 3 in Table 4 in the paper. Again, results are very similar. Consequently, our results hold (both in terms of significance and magnitude) independent of how we code boroughs that lost their seats in Parliament by the early 19th century.

C.8 Farm Grants and Enfranchisement: Proxies for Organizational Capacity

Could our results be driven by (unobserved) organizational capacity of boroughs? In particular, better organized merchants may have been more successful at lobbying the king for both Farm Grants and representation in Parliament. In what follows, we address this issue using two proxies for the organizational capacity of boroughs. We first provide background on the history and data

Table A.6: Representation in Parliament: Include Boroughs that Later Lost Franchise

Dependent variable: Indicator for borough enfranchised by 1295 / 1348

	(1)	(2)	(3)	(4)
Dep.Var.: Enfranchised by	1295	1295	1348	1348
Boroughs included:	founded by 1295			
	all	royal	all	royal
Farm Grant 1295	0.320***	0.383***		
	(0.069)	(0.080)		
Farm Grant 1348			0.448***	0.500***
			(0.063)	(0.071)
Royal borough	0.194***		0.196***	
	(0.055)		(0.055)	
Mean Dep. Var.	0.26	0.50	0.29	0.59
R^2	0.17	0.15	0.25	0.26
Observations	460	136	554	145

Note: Columns 1 and 2 repeat the specifications from cols 1 and 2 Table A.5 in the appendix, and columns 3 and 4 repeat the specifications from cols 1 and 3 in Table 4 in the paper. Here, enfranchisement is defined more broadly: The previous results in Tables A.5 and 4 coded as enfranchised only boroughs that retained their seats in Parliament until 1830 (and not counting those boroughs as enfranchised that lost their franchise – see footnote 33 in the paper). The present table codes as enfranchised all boroughs that were represented in Parliament at least once by the respective date (1295 / 1348), even if they later lost the franchise. This gives 24 (32) additional enfranchised boroughs in cols 1 and 2 (3 and 4).

for each proxy, and then present our results.

Boroughs' Separate Rights to Elect Officials. Our first proxy for organizational capacity is whether boroughs obtained the right to elect officials, independent of Farm Grants. As explained in the main text, Farm Grants already included the right to elect local officials. Some boroughs without Farm Grants obtained separate election rights, i.e., the right to elect local officials, *without* self-administered tax collection. In particular, the election of coroners and mayors was not included in Farm Grants (since these were not essential for tax collection). For example, the royal town of Dover elected a mayor by the second half of the 13th century without ever obtaining a Farm Grant. Dover's mayor was not responsible for the collection of the farm (this responsibility fell on the king's bailiffs), but rather was the representative of the community of burgesses (Reynolds, 1977, pp. 108-110).[43] A similar example is provided by the mesne borough of New Salisbury, in which a mayor was elected since 1249, but whose authority was limited by the bishop's bailiff.[44]

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[43]Over time, the mayor of Dover acquired prerogatives in the local administration of the borough. These prerogatives were, however, limited by the presence of royal officials. See the online version of the collection of volumes *History of Parliament* http://historyofparliamentonline.org/volume/1386-1421/constituencies/dover and http://historyofparliamentonline.org/volume/1509-1558/constituencies/dover.

[44]See http://historyofparliamentonline.org/volume/1386-1421/constituencies/salisbury and http://historyofparlia-

In order to obtain the right to elect local officials, a borough's burgesses had to organize collective action in bringing forward their petition to the crown or local lord. Thus, obtaining the right to elect officials is a proxy for organizational capacity. We code these liberties mainly from Ballard (1913) and Ballard and Tait (1923). We complement these datasets with information reported in the British History Online (https://www.british-history.ac.uk) and History of Parliament (http://www.historyofparliamentonline.org).

Overall in our dataset, 95 boroughs obtained separate rights to elect officials before 1348 (i.e., other than the election prerogatives included in Farm Grants). Among these, 50 boroughs also had Farm Grants – they typically obtained additional election rights such as mayor or coroner that were not crucial for tax collection. The remaining 45 boroughs got *only* rights to elect officials, but no Farm Grant by 1348. Another way to look at these numbers is via the composition of our main explanatory variable, "Farm Grant by 1348." Overall, 90 boroughs obtained Farm Grants by 1348. Among these, there are 40 boroughs that never got a separate right to elect officials (i.e., only had the election rights included in Farm Grants), and 50 boroughs that got Farm Grants and (separate) rights to elect officials.[45]

Boroughs' Rights to Collect Murage or Pavage. Our second proxy for organizational capacity is whether boroughs obtain the right to collect Murage or Pavage. In the Middle Ages, the burden to repair town walls and streets lay with the community of burgesses. Royal grants of Murage (walls) and Pavage (streets) consisted of the right for burgesses to impose taxes on themselves and/or goods entering the town in order to finance the repairs of walls and streets (Ballard and Tait, 1923, p. lxviii). As with our first proxy above, the request by townsmen for Murage or Pavage grants required organizational capacity. We code the information on grants of Murage and Pavage from the Patent Rolls of the reigns of Henry III, Edward I, Edward II and Edward III. Access to these sources is available at http://www.medievalgenealogy.org.uk/sources/rolls.shtml.

Overall, 104 boroughs obtained the right to collect Murage or Pavage before 1348. Among these, 49 boroughs also had Farm Grants, and 55 boroughs had the right to collect Murage/Pavage, but did not obtain a Farm Grant by 1348.[46] Consequently, among the overall 90 boroughs with Farm Grant by 1348, 49 also had Murage or Pavage rights, and 41 boroughs had Farm Grants only.

Empirical Results: Controlling for Organizational Capacity. For direct comparability with our previous results, we keep all boroughs with Farm Grants in a single category, whether or not the

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mentonline.org/volume/1604-1629/constituencies/salisbury.

[45]The vast majority of boroughs (43 out of 50) with both election rights *and* Farm Grants first got Farm Grants and then *later* additional rights to elect officials. Only seven boroughs first got the right to elect officials and then received a Farm Grant. None of our results change when we exclude these seven boroughs.

[46]The vast majority of boroughs with Farm Grants and Murage/Pavage rights first obtained the former. Only five boroughs first got Murage/Pavage rights and then received a Farm Grant.

borough had additional election or Murage/Pavage rights.[47] For notational purposes, we label the variable "D_1: Farm Grant by 1348." We label the two proxies for organizational capacity as follows: "D_2: Right to elect officials / no Farm Grant" (a categorical variable that is comprised of the 45 boroughs mentioned above that obtained the right to elect officials but did not get a Farm Grant by 1348) and "D_3: Murage or Pavage / no Farm Grant" (a categorical variable for the 55 boroughs that obtained Murage/Pavage rights but did not get a Farm Grant by 1348).

Table A.7 presents our results. In columns 1 and 2, we use the two proxies to check whether our main results – the relationship between Farm Grants and enfranchisement – may be confounded by organizational capacity. We use the baseline regression from column 1 in Table 4 in the paper as a reference point (where the coefficient on Farm Grant is 0.466). Column 1 in Table A.7 reports results when we control for the right to elect officials.[48] Two findings stand out: First, the coefficient on D_1 is very similar to our main results in Table 4 in the paper. In other words, the relationship between Farm Grants and enfranchisement is virtually unchanged when we control for (separate) election rights. Second, the coefficient on D_2 is less than half in magnitude compared to D_1, and this difference is statistically highly significant with a p-value of 0.004. The second result suggests that the right to elect officials is also associated with representation in Parliament, but to a lesser degree than Farm Grants. Coherent with our argument, this suggests that the right to collect taxes in itself (i.e., not just other election rights that came with Farm Grants) significantly augmented the probability that a borough was enfranchised.

Column 2 in Table A.7 presents the full sample results for Murage/Pavage rights (D_3). The pattern is very similar to column 1: Adding D_3 as a control does not affect the relationship between Farm Grants and enfranchisement. Also, the coefficient on Murage/Pavage is itself statistically significant but much smaller than the coefficient on Farm Grants (with the difference in coefficients being significant with a p-value smaller than 0.001).

In column 3 of Table A.7 we restrict the sample to the 95 boroughs that obtained the right to elect officials, i.e., towns that had proved their organizational capacity independent of (or in addition to) Farm Grants. Among these, 50 boroughs had both Farm Grants and the right to elect officials; the remaining 45 had only the right to elect officials. Even within this subsample of boroughs with 'proven capacity to organize,' the boroughs that also had Farm Grants were much more likely to be enfranchised. In fact, the coefficient is almost as large as in our main sample. This further suggests that it is unlikely that organizational capacity confounds our results. Finally, column 4 restricts the sample to the 104 boroughs that obtained Murage/Pavage rights,

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[47]For the right to elect officials, this choice is additionally motivated by the fact that Farm Grants already included important election rights.

[48]Interestingly, the right to elect officials is not related to trade geography: When running the regression from column 1 in Table 3 in the paper with D_2 as dependent variable, the three trade geography variables are individually close to zero and jointly far from statistical significance, with a p-value of 0.464.

Table A.7: Proxies for Organizational Capacity: Right to Elect Officials and Murage/Pavage

Dependent variable: Indicator for borough enfranchised by 1348

Boroughs included:	(1) all	(2) all	(3) only boroughs with separate rights to... elect local officials	(4) Murage/Pavage
D_1: Farm Grant 1348	0.492*** (0.063)	0.490*** (0.064)	0.425*** (0.135)	0.554*** (0.126)
D_2: Right to elect officials / no Farm Grant	0.229*** (0.073)			
D_3: Murage or Pavage / no Farm Grant		0.158** (0.066)		
p-value for difference between D_1 and D_2/D_3	*0.004*	*<0.001*		
Royal borough	0.147*** (0.050)	0.146*** (0.051)	0.176 (0.138)	-0.011 (0.131)
Number of boroughs with $D_1 = 1$	90	90	50	49
Number of boroughs with $D_2/D_3 = 1$	45	55		
Mean Dep. Var.	0.23	0.23	0.64	0.55
R^2	0.28	0.27	0.34	0.30
Observations	554	554	95	104

Note: The table controls for two proxies for boroughs' organizational capacity: Whether they obtained the right to elect officials (independent of Farm Grants) and whether they obtained the right to collect Murage or Pavage taxes to repair town walls and/or roads. Columns 1 and 2 show that our main results (i.e., the coefficient on Farm Grant in col 1 in Table 4) do not change when controlling for these proxies. Columns 3 and 4 show that even when restricting the sample to boroughs that obtained the right to elect officials or Murage/Pavage (i.e., towns that had proved their organizational capacity), the coefficient on Farm Grants is very similar to the main result in Table 4. All regressions are run at the borough level. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

among which 49 also held Farm Grants. We find that Farm Grant boroughs were much more likely to be represented in Parliament – with a coefficient size that is even slightly larger than in the full sample. This complements our results above, suggesting that townsmen's ability to organize collective actions and obtain other liberties mattered, but that Farm Grants were a more powerful stepping stone towards parliamentary representation.

C.9   MP Elections 1604-1831

This section complements our analysis of local MP elections from Section 6.2 in the paper. We extend the coding of two of our proxies for open elections to a longer time horizon (going back to the 17th century): *Openness* (the extent to which a borough's choice of MP candidates was subject to the control of a patron) and *Broad Franchise* (the breadth of the electorate that voted for MPs). Appendix B.7 describes the construction of these variables in detail. The number of observations varies across the different time periods, depending on the availability of the necessary information in the sources listed above.

Table A.8 uses a modification of the openness index that was defined for values 1 to 3 in Table 7. Here, we use dummies that take on value one if a borough's MP elections are classified as

"open" (values strictly greater than 2 in the openness index).[49] Also, Table A.8 examines a longer time period, using the openness measure for five sub-periods between 1690 and 1831. To account for potential changes in regional socio-economic conditions over time, we include county fixed effects for each sub-period.[50] Column 1 shows that our results for the openness index for 1820-31 from Table 7 in the paper hold also when we use the dummy. The coefficient on Farm Grants is statistically highly significant, and its magnitude is large: Boroughs with Medieval Farm Grants (that were also represented in Parliament) were about 15 p.p. more likely to have open elections, relative to a sample mean of 0.15. Next, we repeat the analysis using the election openness dummy for the periods 1790-1820 (col 2), 1754-1790 (col 3), 1715-54 (col 4), and 1690-1715 (cols 5). We find coefficients on Farm Grants of very similar magnitude throughout.[51] Thus, our results imply that boroughs with Medieval Farm Grants had significantly more open elections of their MPs over a long time span between 1690 and 1831.

Table A.8: Openness of MP Elections 1690-1831

Dependent variable: Indicator for Open MP elections

	(1)	(2)	(3)	(4)	(5)
Period considered	1820-31	1790-1820	1754-90	1715-54	1690-1715
Farm Grant 1348	0.149**	0.172**	0.188***	0.149*	0.248**
	(0.063)	(0.068)	(0.070)	(0.076)	(0.100)
County FE	✓	✓	✓	✓	✓
Mean Dep. Var.	0.15	0.20	0.23	0.25	0.37
R^2	0.30	0.34	0.31	0.33	0.29
Observations	185	184	185	185	161

Note: The table shows that boroughs with Medieval Farm Grants had more open elections of their MPs over the period 1690-1831. The construction of the dependent variables is described in Appendix B.7. All regressions are run at the borough level. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01. The number of observations varies across the different time periods, depending on the availability of the necessary information in the sources listed in Appendix B.7.

Table A.9 extends our *Broad Franchise* measure from Table 7 for six additional time periods,

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[49]This addresses concerns about the implicit linearity assumption when using the full index (as in column 1 of Table 7).

[50]The results are nearly identical when we exclude county fixed effecs.

[51]As the mean of the dependent variable shows, a larger fraction of boroughs had open elections in the earliest period that starts in 1690. A likely explanation is that in 1690 – following the Glorious Revolution – the old Charters of Incorporation where reestablished after the kings' attempt to change them in the 1640s and 1680s (in an attempt to manipulate the election of MPs): Both Charles I and James II had forced numerous incorporated boroughs to hand over their Charters of Incorporation. New charters were then issued with the objective of imposing mayors and aldermen sympathetic to the royal cause (Porritt, 1909; Howell, 1982; Miller, 1983). Following the Glorious Revolution in 1688, boroughs petitioned king and Parliament to have their old charters reestablished (Henning, 1983; Cruickshanks et al., 2002). This process resulted in fresh contests for city councils and, arguably, boroughs' parliamentary seats.

reaching back to 1604.[52] On average, about 70% of boroughs had a broad franchise, and this fraction is stable between the early 17th and the 19th century. Across the various periods, boroughs with Farm Grants were about 20% more likely to have a broad franchise.[53] In combination, the results from Tables A.8 and A.9 imply that, between the 17th and 19th century, boroughs with Medieval Farm Grants were both significantly more open in terms of nominating candidates for MP seats, and had a broader electorate that voted for MP candidates.

Table A.9: Franchise Rules in MP Elections 1604-1831

Dependent variable: Indicator for Broad Franchise over the indicated period

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Period considered	1820-31	1790-1820	1754-90	1715-54	1690-1715	1660-90	1604-29
Farm Grant 1348	0.143**	0.208***	0.200***	0.199***	0.237***	0.300***	0.147**
	(0.071)	(0.067)	(0.067)	(0.067)	(0.057)	(0.064)	(0.073)
County FE	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.69	0.71	0.72	0.73	0.76	0.71	0.70
R^2	0.28	0.32	0.32	0.30	0.32	0.38	0.33
Observations	185	185	184	186	185	184	176

Note: The table shows that boroughs with Medieval Farm Grants had a broader franchise electing their MPs over the period 1604-1831. The construction of the dependent variables is described in Appendix B.7. All regressions are run at the borough level. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. The number of observations varies across the different time periods, depending on the availability of the necessary information in the sources listed in Appendix B.7.

C.10 Volunteer Troops During the Civil War

In Table A.10, we examine the reduced-form relationship between trade geography and *Volunteers* to support parliamentarians during the Civil War. Column 1 shows a strong relationship for boroughs that were royal in Medieval times – with a p-value of 0.001 for the joint significance of the three geography variables. In contrast, there is no reduced-form relationship for our 'placebo' mesne boroughs (col 2), and this non-result is also obtained when using entropy weights (col 3). These results complement the findings in Table 8 in the paper, which show that merchant boroughs with Farm Grants were particularly likely to support parliamentarians during the Civil War. The

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[52]Note that we can extend the *Broad Franchise* measure further back in time than the above *Openness* measure. *Broad Franchise* is based on an objective measure (boroughs' franchise rules), for which we have data since 1604. In contrast, *Openness* is based on the accounts of boroughs' internal politics, as reported in the collection of books *History of Parliament*. In this collection, there is a clearer distinction between "open" and "close" boroughs for the period 1690-1832 than for the pre-Glorious Revolution period. For consistency, we therefore start the construction of our *Openness* index in 1690.

[53]As in Table A.8, we present the results with county fixed effects to account for potential changes in regional socio-economic conditions over time. Results without fixed effects are almost identical and available upon request.

placebo results presented here make it unlikely that this relationship is driven by unobservables that are correlated with trade geography, Farm Grants, and volunteer troops. In sum, our results thus suggest that Medieval self-governance had a long-term effect on the support for Parliament.

Table A.10: Farm Grants and Support for Parliamentarians during the Civil War: Reduced Form

Dep. Var.: Indicator for pro-Parliamentary volunteer troops raised by borough in 1642

	(1)	(2)	(3)
	— Reduced Form —		
Boroughs included:	royal	mesne	mesne
Note:			E-weights§
Navigable River	0.158**	0.014	0.012
	(0.069)	(0.027)	(0.026)
Sea Coast	0.059	0.027	0.051
	(0.067)	(0.026)	(0.039)
Roman Road	0.207***	0.006	-0.005
	(0.062)	(0.017)	(0.016)
p-value: joint significance River, Coast, Road	[0.001]	[0.734]	[0.332]
Mean Dep. Var.	0.14	0.02	0.03
R^2	0.13	0.01	0.02
Observations	144	406	406

Note: This table shows reduced-form results corresponding to the 2SLS results in column 6 of Table 8. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.
§Entropy balancing reweighs the observations in mesne boroughs to match the mean and variance of navigable river, sea coast, and Roman road in royal boroughs. See Hainmueller and Xu (2013) for details.

C.11 Obstructions to Trade

This section provides detailed information on our coding of trade obstructions and presents robustness checks of the results shown in Table 10 in the paper.

Background and Data Description. For each enfranchised borough with a Farm Grant by 1348, we collect information on the occurrence of persistent negative shocks to trade *after* the borough received its Farm Grant. We focus on two types of shocks to transportation infrastructure: First, natural disasters – the silting up or destruction of harbors located on the sea coast. Second, the obstructions of parts of navigable rivers due to water mills. Information about these events is recorded in the constituencies' descriptions for the period 1086-1832 available at http://www.historyofparliamentonline.org. Typically, such events were recorded because of petitions by burgesses asking for (i) a reduction of the yearly farm, (ii) subsidies for repairs, and (iii) exemptions from extra-ordinary taxation. For instance, Dunwich was submerged by the sea in 1354 and had its harbor permanently obstructed as a result. Dunwich saw its farm reduced from £65 in 1357 to £12 under Henry VI. By 1832, "coastal erosion had reduced Dunwich to a small

village."[54] Similarly, New Shoreham, located at the mouth of the river Adur, suffered both from the silting of the river and obstructions to its harbor in the 15th and 16th centuries. As a consequence of these shocks, the town was exempted from the payment of several taxes.[55]

Obstructions of river transport by watermills were also common, especially after the 14th century. Watermills were used for agricultural purposes and in the production of textiles. They required weirs (or milldams) across rivers, which had a significant negative impact on navigability (Langdon, 2000). Goods had to be unloaded and loaded again at every mill – a process known as "backing" (Jones, 2000). This slowed down water transport and made it more expensive, thus hampering trade for the affected upstream and downstream boroughs. Often, lords (including the king) made the decision whether to build a mill on their demesne. This decision was made in disregard of the negative externalities it generated on other boroughs located on the same river. For example, Huntingdon filed a petition in the 15th century because of the obstructions to the river Great Ouse caused by watermills between St. Neots and St. Ives. The petition led to a reduction of Huntingdon's annual farm by about 30%, while the obstruction by the watermills remained.[56] Information on obstructions of navigable rivers are taken from Jones (2000) and Langdon (2000).[57] By the 14th century, the obstructions caused by the numerous water mills prompted complaints by burgesses (often voiced in parliament). Starting with the Magna Carta, numerous legislations attempted to regulate the construction of weirs, but failed notoriously (Jones, 2000).[58] Special commissions (*de walliis et fossatis*) were also created to investigate and remove obstructions. However, they proved largely ineffective as explicitly stated in the Patent Rolls of 1328 for the case of the river Don and further suggested by the nine commissions that were set up between 1302 and 1377 for the navigability of the Thames between Oxford and Reading (Jones, 2000).

We code negative shocks to seaports and rivers of boroughs with Farm Grants between the 13th and 17th centuries – the variable *Trade Obstruction*. These shocks typically had a detrimental economic effect that lasted for centuries (Langdon, 2000). Among the 90 boroughs that had received Farm Grants by 1348, we count 17 boroughs (all royal) that filed petitions after suffering trade obstructions. All obstructions occurred *after* these boroughs had obtained their Farm Grants.

Additional Results on Trade Obstruction. Table A.11 replicates Table 10 in the paper, excluding the five boroughs where trade obstructions began before 1348 (but after these boroughs had

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[54]See http://www.historyofparliamentonline.org/volume/1820-1832/constituencies/dunwich. For a similar example, see the entry for Lyme Regis.

[55]See http://www.historyofparliamentonline.org/volume/1509-1558/constituencies/new-shoreham.

[56]See http://www.historyofparliamentonline.org/volume/1509-1558/constituencies/huntingdon.

[57]Jones (2000) covers all rivers except those of the Humber system. To complement these data, we rely on the constituency descriptions contained in the History of Parliament, and we analyze the 14th century Patent Rolls that contain complaints by burgesses about obstructions, as well as information about the creation of royal commissions (see below).

[58]Moreover, no evidence survives to indicate the existence of a market for property rights; arguably because of the large number of stakeholders involved (individual boroughs and lords).

received Farm Grants). For the plausibility check in the first four columns, the results are very similar to those in the paper.[59] The long-run outcomes in columns 5 and 6 are very similar for Farm Grant boroughs with and without trade obstruction. In column 7, the predictive power of Farm Grants is actually stronger for the 12 boroughs that experienced trade obstructions after 1348.

Table A.11: Obstructions of Trade after Farm Grants

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Plausibility checks				Long-run institutional outcomes		
	Pre-1348 outcomes		Post-1348 outcomes				
Dependent variable:	ln(Taxable Wealth in 1086)	Commercial Importance 14C†	Trade employment share in 1831	Population in 17th century	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Farm Grant, no obstruction	0.592*** (0.211)	1.546*** (0.185)	0.086*** (0.021)	1.027*** (0.150)	0.230*** (0.052)	0.727*** (0.171)	0.251*** (0.073)
Farm Grant, trade obstructed	1.420*** (0.419)	1.368*** (0.327)	0.009 (0.027)	0.209 (0.340)	0.230* (0.126)	0.570** (0.243)	0.431*** (0.106)
p-value: test for equality of coefficients	[0.072]	[0.634]	[0.013]	[0.026]	[1.000]	[0.565]	[0.109]
Mean Dep. Var.	1.68	-0.02	0.39	6.89	0.06	-0.00	0.57
R²	0.05	0.32	0.09	0.17	0.13	0.11	0.09
Observations	349	549	185	398	544	180	173

Note: The table replicates Table 10 from the paper, but it drops 5 boroughs where trade was obstructed already before 1348 (although after the respective borough had received a Farm Grant). Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.
† First principle component of two indicators for commercial importance: "Freedom from tolls" (a grant of liberty that exempted a borough's burgesses from tolls throughout the realm) and an indicator variable for whether a borough was a commercial hub during the 14th century, based on Masschaele (1997). The variable has mean zero and standard deviation 1.
‡ First principle component of the four proxies for open MP elections used in Table 7 in the paper. The variable has mean zero and standard deviation 1.

C.12   Clustering and Spatial Correlation

Table A.12 replicates our main results, accounting for possible spatial dependence of error terms. For direct comparison, Panel A shows our main results (OLS with robust standard errors), referring to each respective specification in the table header. Panel B uses clustering, allowing standard errors to be correlated within counties. This could arise, for example, if decisions about Farm Grants and outcome variables (such as enfranchisement) were affected by county characteristics. The standard errors in Panel B are very similar to those in Panel A. Next, Panel C allows for spatial correlation of error terms. This addresses the concern that unobserved local characteristics may be correlated with both Farm Grants and later institutional outcomes. The analysis in Panel C uses a weighting matrix that is based on each borough's geographic location. We consider boroughs with less than 2 degrees distance (about 220km) as 'neighbors,' assigning them a non-zero spatial weight. Again, the standard errors are very similar to those in the baseline specifications (Panel

[59]If anything, boroughs that later had their trade obstructed started off with *higher* taxable wealth (col 1). Yet, they were significantly less commercial and had lower population sizes after the obstructions (cols 3 and 4).

A). Overall, the results in Table A.12 suggest that our baseline specification with robust standard errors is sufficient.

Table A.12: Main Results: Clustering and Spatial Correlation

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Seat in Parliament by 1348	Influence of king on local elections 15-17C	Openness of MP elections 1820-31[‡]	Volunteer troops during Civil War	Vote share for Great Reform Act 1832
Reg. in paper:	Table 4, col 1	Table 6, col 1	Table 7, col 5	Table 8, col 1	Table 9, col 2
	Panel A: Main Results (OLS with robust standard errors)				
Farm Grant 1348	0.466***	-0.222**	0.671***	0.201***	0.165**
	(0.063)	(0.104)	(0.149)	(0.045)	(0.070)
R^2	0.26	0.03	0.10	0.12	0.16
Observations	554	158	185	550	176
	Panel B: Clustered Standard Errors (at the county level)				
Farm Grant 1348	0.466***	-0.222**	0.671***	0.201***	0.165***
	(0.082)	(0.098)	(0.125)	(0.054)	(0.060)
R^2	0.26	0.03	0.10	0.12	0.16
Observations	554	158	185	550	176
	Panel C: Accounting for Spatial Correlation				
Farm Grant 1348	0.466***	-0.222**	0.554***	0.201***	0.170**
	(0.051)	(0.101)	(0.135)	(0.030)	(0.070)
Observations	554	158	185	550	176

Note: The table replicates our main results (which are run by OLS with robust standard errors and reported in Panel A), clustering standard errors at the county level (Panel B) and accounting for spatial correlation (Panel C). For each column, the header lists the table in the paper that runs the same regression, and each regression includes the same controls as those used in the corresponding tables in the paper. The coefficients in Panel C are estimated by maximum likelihood, using each borough's geographic location to derive the weighting matrix. All boroughs with distance less than 2 degrees (220km) are considered spatially contiguous and are assigned a nonzero spatial weight. Standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.
[‡] First principle component of the four proxies for open MP elections used in Table 7 in the paper. The variable has mean zero and standard deviation 1.

C.13 Controlling for Taxable Wealth in 1086

This appendix section shows that all our results hold when we control for taxable wealth in 1086 – despite the fact that this reduces the sample size. Taxable wealth was assessed by the Normans after their conquest of England, and summarized in the Domesday Book in 1086. Table A.13 extends our robustness checks for the results on enfranchisement (from Table 5 in the paper) to all other institutional outcomes from Tables 6-9.

Panel A in Table A.13 controls for log taxable wealth, using all boroughs with available data on taxable wealth. Panel B excludes boroughs with taxable wealth above 50, which corresponds to the 15 richest boroughs (see Figure 5 in the paper for the full distribution of wealth; Figure A.4 below illustrates the distribution for royal and mesne boroughs with taxable wealth smaller

than 50). Panel C excludes the top-10 percentile of boroughs in terms of taxable wealth, as well as boroughs with population above 10,000 in 1290 (as compared to Panel A, this excludes 36 boroughs, 11 royal and 25 mesne).[60] All coefficient estimates on Farm Grants confirm our main results (see Panel A of Table A.12 for comparison). In addition, the coefficients on log taxable wealth are quantitatively small throughout, and statistically insignificant in most regressions in Table A.13. This makes it unlikely that our results are confounded by the initial (taxable) wealth of boroughs.
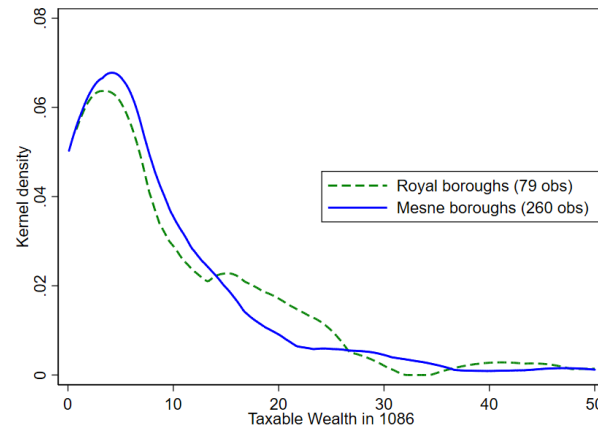

Figure A.4: Taxable Wealth in 1086 by Borough Ownership, Excluding the Richest Boroughs

Note: This figure complements the Kernel density of taxable wealth in 1086 shown in Figure 5 in the paper. Here, we exclude the 15 richest boroughs, restricting the sample to boroughs with taxable wealth below 50. The royal boroughs (dashed line) and mesne boroughs (solid line).

C.14 Matching Results

In Section 3 in the paper we discussed that Farm Grants were predominantly granted to royal territories. Since Farm Grants were largely absent in mesne boroughs, we used these to check the exclusion restriction for our geography instruments. This analysis is valid if mesne boroughs were otherwise comparable to royal boroughs. However, as discussed in Section 4.2, royal boroughs were more likely to be located on navigable rivers and Roman roads (although there were *overall* more mesne boroughs located on rivers and roads). We addressed this caveat by using entropy balancing to obtain the same trade geography – on average – in royal and mesne boroughs (see

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[60]The maximum number of observations is 354 boroughs in Panel A, 339 in Panel B, and 318 in Panel C. These enter in the regression in column 1. In columns 2-5 the number of observations is lower due to data availability – only incorporated boroughs in col 2, and only enfranchised boroughs in cols 3 and 5 (in the latter, with available data on MP voting. Among the boroughs with population above 10,000, four royal boroughs do not have data on taxable wealth and are thus excluded from all regressions in Table A.13: London, Norwich, Bristol, and Southwark. London and Bristol were not surveyed in the Domesday Book. Southwark has a missing entry in our source (http://opendomesday.org). Finally, in the case of Norwich, the information reported by our source is incomplete (see Appendix B.4 for detail).

Table A.13: Main Results: Controlling for Taxable Wealth in 1086

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Seat in Parliament by 1348	Influence of king on local elections 15-17C	Openness of MP elections 1820-31[‡]	Volunteer troops during Civil War	Vote share for Great Reform Act 1832
Reg. in paper:	Table 4, col 1	Table 6, col 1	Table 7, col 5	Table 8, col 1	Table 9, col 2
Panel A: All boroughs with data on taxable wealth					
Farm Grant 1348	0.405***	-0.297**	0.487**	0.198***	0.153
	(0.082)	(0.120)	(0.191)	(0.059)	(0.097)
ln(Taxable wealth in 1086)	0.022	-0.072**	0.079	0.008	0.060
	(0.018)	(0.035)	(0.072)	(0.011)	(0.036)
R^2	0.25	0.11	0.08	0.13	0.16
Observations	354	94	104	354	100
Panel B: Taxable wealth in 1086 below 50					
Farm Grant 1348	0.430***	-0.283**	0.470**	0.200***	0.203**
	(0.084)	(0.123)	(0.205)	(0.062)	(0.102)
ln(Taxable wealth in 1086)	-0.002	-0.072*	0.062	0.001	0.055
	(0.018)	(0.042)	(0.090)	(0.010)	(0.045)
R^2	0.25	0.09	0.06	0.13	0.18
Observations	339	85	93	339	89
Panel C: Taxable wealth in 1086 < 90pctile & Pop^{1290}<10,000					
Farm Grant 1348	0.461***	-0.279**	0.379*	0.233***	0.220**
	(0.088)	(0.126)	(0.216)	(0.068)	(0.103)
ln(Taxable wealth in 1086)	-0.009	-0.049	0.039	0.001	0.091*
	(0.019)	(0.047)	(0.101)	(0.009)	(0.050)
R^2	0.26	0.08	0.04	0.17	0.24
Observations	318	79	85	318	82

Note: In Panel A, the table replicates our main results (see Panel A of Table A.12), controlling for each borough's taxable wealth from the Domesday Book in 1086. In addition, the table imposes the restrictions from Table 5, excluding wealthy and large Medieval boroughs: Panel B excludes boroughs with taxable wealth above (the 15 richest boroughs, 6 royal and 9 mesne – see Figure 5 in the paper for the distribution of wealth). Columns 5-8 exclude the top-10 percentile of boroughs in terms of taxable wealth or population in 1290 (where the 90th percentile is 10,000) – as compared to Panel A, this excludes 36 boroughs, 11 royal and 25 mesne. Robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.
[‡] First principle component of the four proxies for open MP elections used in Table 7 in the paper. The variable has mean zero and standard deviation 1.

Table 1 in the paper). In what follows, we perform an additional analysis that renders mesne boroughs without Farm Grants comparable to royal boroughs with Farm Grants.

In Table A.14 we perform propensity score matching, where the 'treatment group' are royal boroughs with Farm Grants – altogether 74 in the full sample of 554 boroughs that existed by 1348. For each 'treated' borough, we use propensity score matching to identify two mesne boroughs that had exactly the same trade geography (for example, location on river and Roman road, but not on the sea coast).[61] The coefficient on *Farm Grant* in Table A.14 thus reflects the difference in the respective outcome variable between royal boroughs with Farm Grants and identical (in terms of trade geography) mesne boroughs without Farm Grants. For representation in Parliament (col 1), openness of MP elections (col 3), and volunteer troops during the Civil War (col 4) we find very similar coefficients as in the paper. For influence of the king (col 2 – where the sample is the smallest) the coefficient is negative, as in Table 6, but quantitatively smaller and statistically insignificant. On the other hand, for votes during the Great Reform Act (col 5) we find a coefficient that is larger than in Table 9 in the paper. Overall, the results with (exact) matching confirm our main findings.

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[61]Note that this analysis excludes the 71 royal boroughs without Farm Grants, because we want to restrict attention to mesne boroughs as 'control group.' We also exclude the 16 mesne boroughs that received Farm Grants (but none of our results depend on this). This leaves a maximum of 467 (=554-71-16) observations, which include 393 mesne boroughs. This number is sufficiently large so that the matching algorithm finds at least two exact matches (in terms of the three trade geography variables) for each of the 74 'treated' royal boroughs (column 1). We also find two exact matches in the cases with fewer observations – i.e., where the dependent variable is only available for incorporated boroughs (col 2) or for enfranchised boroughs (cols 3 and 5).

Table A.14: Matching Results

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)
Dependent variable:	Seat in Parliament by 1348	Influence of king on local elections 15-17C	Openness of MP elections 1820-31[‡]	Volunteer troops during Civil War	Vote share for Great Reform Act 1832
Farm Grant 1348	0.589***	-0.105	0.631***	0.165***	0.280***
	(0.074)	(0.108)	(0.194)	(0.049)	(0.088)
Observations	467	127	144	463	139
'Treated' obs. (royal boroughs with Farm Grant)	74	55	59	73	58
Mean of dep. var.:	0.231	0.378	0.092	0.058	0.597

Note: The table replicates our main results from Tables 4-9 in the paper, performing propensity score matching with two (exact) matches. The 'treatment group' are royal boroughs with Farm Grants; the 'control group' are mesne boroughs (without Farm Grants) with the same trade geography as each 'treated' borough. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.
[‡] First principle component of the four proxies for open MP elections used in Table 7 in the paper. The variable has mean zero and standard deviation 1.

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