Online Appendix

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

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A Data

A.1. Boroughs in the Dataset

Number of boroughs pre-1348. For our analysis of pre-Black Death outcomes (Sections III. and IV. in the paper), we focus on settlements that became boroughs prior to 1348 and existed at least until this year.[1] Altogether, there are 555 settlements that had received borough status by 1348. Among the 90 Farm Grant boroughs in this sample, 64 were summoned to Parliament by 1348. Among these 64, in turn, 58 were summoned to Parliament *after* they had received Farm Grants, and only six were first summoned and then received a Farm Grant.[2] In anticipating concerns about reverse causality, we drop the six boroughs that received Farm Grants after having been summoned to Parliament from the sample.[3] This leaves a sample size of 549 boroughs for our pre-1348 analyses.

Number of boroughs post-1348. For our analysis of long-run outcomes after the 14th century, the overall number of boroughs changes for two reasons: First, the original number of 555 pre-1348 boroughs drops by four: one borough disappeared,[4] two were bought by larger boroughs after the Dissolution of Monasteries in the 16th century,[5] and two boroughs (Weymouth and Melcombe)

[1] Thus, our pre-Black Death analysis excludes 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 represented in Parliament. Thus, including them would bias the relationship between Farm Grants and parliamentary representation upward. However, we do include settlements that grew to borough status after 1348 in our analyses of post-Black Death outcomes in Section V. (see below). 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.

[2] As we remarked in footnote 3 in the paper, three among these six boroughs had other forms of municipal autonomy such as restrictions on the sheriff's administrative power.

[3] None of our results change either quantitatively or in terms of statistical significance if we instead include these six boroughs (see Panel A in Table A.27 below).

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

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

were merged into one ("Weymouth and Melcombe Regis") for parliamentary purposes. This leaves overall 551 surviving boroughs. Second, at the same time, new boroughs emerged: Between 1348 and the 17th century, 70 additional settlements acquired the status of boroughs.[6] Thus, the total number of boroughs after 1348 is 621 (551+70). Consistent with our pre-1348 sample, we drop the six boroughs that received Farm Grants after being summoned to Parliament, as well as – for the same reason – the newly formed borough "Weymouth and Melcombe Regis."[7] In addition to these seven, we drop 14 boroughs that received Farm Grants *after* 1348.[8] The reason is that our main 'treatment' variable is *medieval* Farm Grants (i.e., pre-1348) – which is also the main period during which Farm Grants were awarded. Since it would be neither consistent to include these 14 post-1348 Farm Grant boroughs among the 'treated' boroughs, nor among the 'control' (non-Farm Grant) boroughs, we drop them from our post-1348. This leaves overall 600 (621-7-14) boroughs in our post-1348 sample.

Appendix E.9. shows that none of our results depend on this conservative sample choice: Table A.27 (Panel A) presents regressions for all our outcome variables, including all boroughs with available data (555 pre-1348 and 621 post-1348). The coefficients are almost identical. In addition, Panel B in Table A.27 shows that all our results also hold when we make a more conservative sample choice for our post-1348 analyses, including only settlements that had obtained borough status by 1348 (i.e., dropping settlements that obtained borough status after 1348 from our post-Black Death analysis).[9]

Finally, we note that not all our post-1348 outcomes are observed for all boroughs. For example, several variables are only observed for boroughs that were represented in Parliament – this is the case in our analyses of broad municipal election (Section V.A. in the paper), of voting rights in MP elections (Section V.D.), and of borough MPs' support for the Great Reform Act (Section V.E.). For these analyses, the sample comprises all boroughs that were represented in Parliament at the time when the outcome is measured (provided that the respective outcome variable is observed for the borough). Similarly, royal influence in appointing local officials (used in Table 3 in the paper) is only observed for incorporated boroughs. The exact numbers of observations are reported below in the Appendix sections that describe the coding of each of these variables.

[6]The last entry of a settlement receiving borough status in our dataset is 1622.

[7]The originally separate borough Melcombe received a Farm Grant in 1318 and was enfranchised in 1319. The other originally separate borough, Weymouth, never received a Farm Grant, but it was enfranchised already in 1315. Since the two were merged after 1348, the 'union' of the boroughs has 1315 as its first date of enfranchisement, and 1318 as its date of Farm Grant. Thus, the newly formed "Weymouth and Melcombe Regis" is coded as 'enfranchised before Farm Grant' and thus dropped from the sample.

[8]These were awarded between 1366 and 1589.

[9]In this case, the sample contains 530 boroughs (551 surviving boroughs, minus the same 7 boroughs that were enfranchised after receiving Farm Grants, and minus the 14 boroughs that received Farm Grants after 1348).

A.2. Classification of Boroughs' Administrative Control – Royal vs. Mesne

We classify boroughs according to who controlled their ordinary jurisdiction and was entitled to the proceeds from (ordinary) tax collection, distinguishing three categories of administrative control: *mainly royal*, *mainly mesne*, and *mixed*. For each borough, we compute the years since its foundation until 1348. We also calculate the time that each borough spent under royal or mesne lords' control between its foundation and 1348. In coding this duration, 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 387 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).[10] Because even relatively short control by the king was sufficient for charters of liberties to be granted, we include these *mixed* boroughs under "royal" in our main analysis.[11] This yields a total of 145 (91+54) royal boroughs for the purpose of our main analysis. Finally, there are 23 settlements that received borough status before 1348, but for which systematic information on administrative control 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 410 (387+23) mesne boroughs that were founded before 1348. Similarly, the 71 settlements that obtained borough status after 1348 have no systematic information on their medieval administrative status. We follow the same convention and code these as mesne.

In Appendix C.5., we show that our results are robust to a more conservative definition of royal control, based on a 90% threshold and excluding mixed boroughs and those without systematic documents on administrative control. In addition, Appendix E.9. shows that all our results hold when we exclude the 'new' boroughs (settlements that received borough status after 1348) in our post-1348 analyses.

[10] Changes in administrative control 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 control 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* control (i.e., at 50% each). Thus, 48+6=54 boroughs are classified as *mixed*.

[11] Among the boroughs that changed administrative control, 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. We exploit these ownership changes systematically in Appendix D.6.. There are also instances of Farm Grants 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 Farm Grants being revoked when boroughs became royal, and also no instances of new Farm Grants being granted in the first few years following the change in administrative control from royal to mesne.

Index of administrative control. For the pre-1348 boroughs, we also create an *index of administrative control* that exploits the official standing of lords (e.g., earls and bishops) as an indicator for the size of the territory they controlled. We assign (i) value 4 to boroughs belonging to the king, queen, or prince (royal boroughs), (ii) value 3 to boroughs controlled by earls or archbishops,[12] (iii) value 2 to boroughs belonging to bishops and (iv) value 1 to boroughs belonging to either seigneurs (lesser barons) or abbots/nunneries.[13] According to this index, there are 145 royal boroughs, and the remaining 410 mesne boroughs that existed by 1348 are divided as follows: 109 with size=3 (earls or archbishops), 72 with size=2 (mostly controlled by bishops), and 229 with size=1 (seigneur/abbot/nunnery). These are the size categories underlying Figure A.4 in Appendix C.3..

A.3. Data on Farm Grants and other Charters of Liberties

We use the information on different Charters of Liberties (e.g., judicial, commercial, financial) contained in the collection of borough charters reported in Ballard (1913), Ballard and Tait (1923), and Weinbaum (1943). We further expand on the information in these datasets by coding liberties contained in the Charter Rolls, Close Rolls, Fine Rolls, and Patent Rolls of the reigns of Henry III, Edward I, Edward II, Edward III, and Richard II. These sources are digitized and available at http://www.medievalgenealogy.org.uk/sources/rolls.shtml. To identify the Charters of Liberties granted to each borough, we read through the text in all Charter Rolls. We interpret the non-observance of a grant in a given borough as evidence for the absence of a grant. This approach is warranted by the high data quality and survival rate of historical data on Charters of Liberties (e.g., Pipe Rolls, Quo Warranto records). In addition, grants are often recorded in multiple documents because they were repeatedly confirmed by successive lords or by the Crown, which reduces the probability of missing them.

Farm Grants. For every borough, we document the Charters it received with the date of the grant. Farm Grants were the most important liberties that boroughs could obtain. The vast majority of boroughs either obtained Farm Grants in perpetuity or renewed them successively.[14]

Figure A.1 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.

Other liberties that further separated boroughs from the shire administration. Boroughs that obtained Farm Grants often obtained additional Charters of Liberties that further restricted the entry of royal officials and thus reinforced the separation of Farm Grant boroughs from the shire

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

[13] For boroughs that changed administrative control 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 value on the administrative control index and then round to the nearest integer.

[14] A few Farm Grant boroughs suffered temporary revocations, either because of their failure to pay their farm as promised, or because they failed to uphold Common Law.

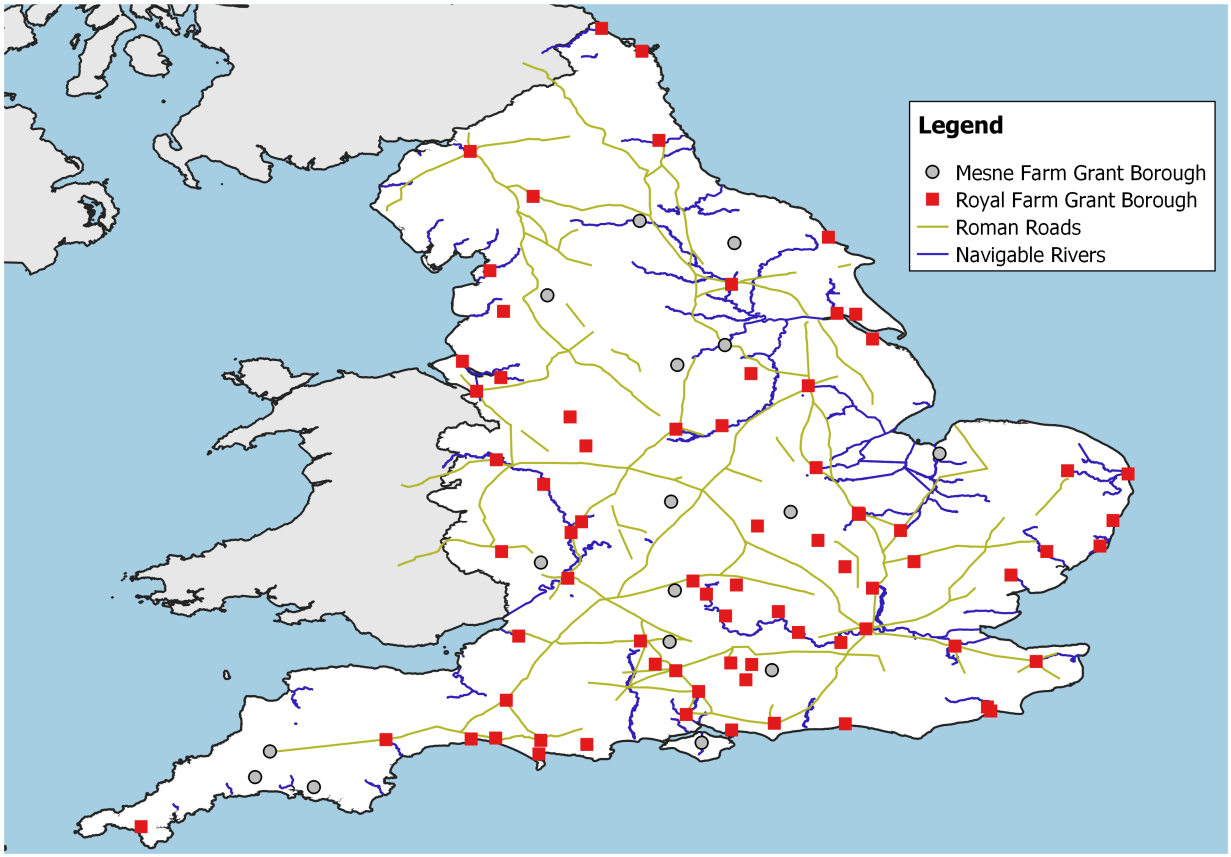

Figure A.1: Boroughs with Farm Grants, by Royal and Mesne

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 (controlled by local lords or by the Church). The figure also shows the location of navigable rivers and of Roman roads that were usable in the 11th and 12th century.

administration. These included i) the right to forbid the sheriff from entering the borough to perform judicial tasks (*non-intromittat clause*), ii) the right to circumvent the sheriff, by handing over the farm and all other debts owed to the Crown directly to the Exchequer (*direct relation with the Exchequer*), and iii) the right for burgesses to execute royal orders themselves within the borough (*return of writs*).[15] These rights complemented Farm Grants by strengthening the independence of local officials and thus the extent of self-governance (Jolliffe, 1937, p. 323-4).

Freedom from Tolls. We gather information on whether a borough obtained a grant from the king or its lord that provided "Freedom from Tolls" – either throughout the realm or throughout the lord's territories."Freedom from tolls" allowed all merchants from a borough to move tradeable

[15]The vast majority of these rights were obtained by boroughs that already possessed Farm Grants – conceivably because these had the organizational capabilities necessary to handle important administrative tasks independently from the shire administration. For further detail see Ballard (1913) and Ballard and Tait (1923).

goods throughout the area covered by the liberty without facing tolls. This comprised all the market charges (transaction fees, right of displaying goods in markets, etc.). Information on freedom from tolls is available from Ballard (1913), Ballard and Tait (1923), and Weinbaum (1943). Those liberties were granted to 118 royal and mesne boroughs in our pre-1348 sample. We also code the more narrowly defined "freedom from tolls throughout the realm" (which included territories governed by mesne lords) that could only be granted by the monarch (overall 81 boroughs).[16]

Boroughs' rights to elect officials (separate from 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. We use the right to elect officials as a proxy for organizational capacity because a borough's burgesses had to organize and bring forward their petition to the Crown or local lord in order to obtain such rights.[17] 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 and History of Parliament. Overall in our pre-1348 dataset, 90 boroughs obtained separate rights to elect officials before 1348. Among these, 45 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 obtained *only* rights to elect officials, but no Farm Grant by 1348.[18]

Boroughs' rights 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) gave burgesses the right to collect taxes to maintain walls and streets (Ballard and Tait, 1923, p. lxviii). Since these rights had to be formally requested by the community of burgesses, we use Murage/Pavage grants as our second proxy for 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.[19] Overall, 100 boroughs in our pre-1348 dataset obtained the right to collect Murage or Pavage before 1348. Among these, 45 boroughs also had Farm Grants, and 55 boroughs had the right to collect Murage/Pavage, but did not obtain a Farm Grant by 1348.[20]

A.4. Geographic Characteristics of Boroughs

Trade geography. To obtain geographic characteristics of medieval English boroughs, we geocode the location of all boroughs as well as medieval navigable rivers and Roman roads in use in the

[16]Because we are interested in whether a boroughs was active in trade, we focus on the overall set of "freedom from tolls," i.e., including those granted by the king and by mesne lords.

[17]Appendix D.9. provides further historical detail and examples.

[18]The vast majority of boroughs (40 out of 45) with both election rights *and* Farm Grants first obtained Farm Grants and then *later* additional rights to elect officials. Only five boroughs first got the right to elect officials and then received a Farm Grant. None of our results change when we exclude these five boroughs.

[19]Access to these sources is available at http://www.medievalgenealogy.org.uk/sources/rolls.shtml.

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

11th and 12th century.[21] We also consult historical sources for each of these trade variables – for example, to confirm the navigability of rivers in medieval times or the survival of Roman roads after the 5th century.

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 navigable 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).

We geo-locate boroughs located directly on the sea coast. We confirm the presence of a harbor by relying on the individual boroughs' historical accounts provided by British History Online (https://www.british-history.ac.uk) and History of Parliament (https://historyofparliamentonline.org). We also assign a borough as being on the sea coast if it had access to a navigable river (as defined in Edwards and Hindle, 1991) and the borough was located within 5 miles of the river mouth.

Information on Roman roads is collected from Hindle (1976). During the Dark Ages, most Roman Roads fell into desuetude. This changed with the Commercial Revolution and the increasing administrative centralization imposed by the new Norman rulers (Stenton, 1936). We geocode the location of Roman roads which, according to royal itineraries, were in use between the 11th and 14th centuries.[22] This allows us to establish the proximity of a borough to a Roman road in use at the date of its foundation. We further employ individual boroughs' historical accounts from the British History Online (https://www.british-history.ac.uk) and the History of Parliament (https://historyofparliamentonline.org) to confirm the location of a borough in the proximity of a Roman road.

Soil quality. 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).[23]

[21] We mainly relied on Wikipedia entries when coding the latitude and longitude of boroughs. We cross-validated our coding using Letters, Fernandes, Keene, and Myhill (2003). Whenever possible, we chose boroughs' coordinates that correspond to the medieval location of the borough (using information such as medieval walls or churches and castles).

[22] As Michaels and Rauch (2017) point out, the collapse of the Western Roman Empire in the 5th century AD temporarily ended urbanization in Britain. After the recovery in late medieval times, towns in Britain were less frequently located on Roman roads, as compared to continental Europe. Instead, British towns often located on navigable waterways. Thus, our three proxies for trade capture both pre-existing infrastructure, as well as natural geography.

[23] For a straightforward interpretation of coefficients, we standardize soil quality. In the original FAO data, *lower*

Sea ports in 16-19C. We code an indicator for whether boroughs had a historic sea port between the 16th and 19th century. We rely on Alvarez-Palau and Dunn (2019) to geocode the locations of English historical ports that engaged in coastal trade, i.e., in which "coasting vessels regularly landed to load and discharge goods" (Alvarez-Palau and Dunn, 2019, p. 3). The data are based on primary (e.g., port books) and secondary sources, and they cover a period between the 16th and 19th century. Since some of the ports in Alvarez-Palau and Dunn (2019) are located inland on rivers, we also impose the criterion of maximum 5 miles distance from the coast for a port to be coded as a sea port. Among the 549 boroughs in our pre-1348 dataset, 100 had sea ports between the 16th and 19th century; of these, 30 had royal ownership and 70 were owned by mesne lords in medieval times.

A.5. Taxable Wealth in 1086 and Number of Tax Payers in 1377

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]

Taxable wealth is available for overall 355 settlements that obtained borough status by 1348. We did not use data for 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

values correspond to better land for farming. We thus use the negative standardized variable.

[24] See footnote 7 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.

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 parliamentary representation among royal boroughs. In addition, the 355 boroughs with data on taxable wealth in 1086 include four of the six boroughs that we exclude from our regression analysis because they received Farm Grants *after* being summoned to Parliament (see footnote 3 in the paper).[27] Thus, the overall number of boroughs with taxable wealth data in our regression analysis is 351, including 83 royal and 268 mesne boroughs.

Number of tax payers in the 1377 poll tax. The most comprehensive data on borough size towards the end of our sample period are from the 1377 poll tax. The underlying data are from Fenwick (1998, 2001, 2005). The number of tax payers in the 1377 poll tax is a proxy for borough population since all burgesses over the age of fourteen (excluding beggars) were required to pay the same fixed amount. Overall, there are 157 boroughs with data on tax payers in 1377.[28] Due to the fixed nature of the per-head tax, there is no direct information on burgesses' wealth. However, more populous boroughs were arguably wealthier overall.

A.6. Commercial Importance of Medieval Boroughs

To assess a borough's commercial importance in the medieval period, we combine two measures into an index: First, among the boroughs in our pre-1348 dataset, Masschaele (1997) identifies 48 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).[29] We use this information to code a dummy variable for *Commercial Center 14C*. Second, we use the information on whether a borough obtained a grant from the king or its lord that provided "freedom from tolls" – either throughout the realm or throughout the lord's territories (see Appendix A.3. for detail). "Freedom from tolls" exempted all merchants from a borough from taxation when moving tradeable goods throughout the area covered by the liberty. We code a dummy variable *Freedom from Tolls*. Based on the

[27] None of our results involving wealth data change if we include these four boroughs.

[28] We use data from 1377 because the poll tax of that year provides detailed data on tax-paying population for a large number of boroughs. Comprehensive data on settlements' wealth across England are also available for the lay subsidy of 1334. We do not employ these data in our empirical analysis because, unlike the poll tax of 1377, exemptions and difficulties in interpreting towns' boundaries led to a misrepresentation of urban wealth in 1334 (see Dyer, 2000, p. 755, and Nightingale, 2004).

[29] 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, or the classification as an urban settlement in the *Nomina Villarum* military census of 1316. Another criterion used by Masschaele is a borough's representation in Parliament. We note that, if anything, the inclusion of this criterion stacks the odds against finding a relationship between trade geography and commercial importance for mesne boroughs: As we have shown for example in columns 3-5 in Table 2, there is no relationship between trade geography and parliamentary representation among mesne boroughs (as represented by the non-interaction terms).

two indicators *Commercial Center 14C* and *Freedom from Tolls*, we derive the index *Commercial Importance* as their first principal component.

A.7. Administrative Separation after 1400: Coding

As described in Section V.A., we examine the administrative separation of boroughs from their surrounding shire by collecting data on Justices of Peace (JP) grants. We collect data on JP grants by examining the content of borough charters listed in Weinbaum (1943), which covers the period going from 1307 to 1660. Specifically, we define the dummy variable *JP Grant* that takes value 1 for boroughs whose charter(s) explicitly named members of the municipal governing bodies (e.g., mayor, aldermen, recorder) as JPs between 1373 and 1660. Since the coding is based on charters, the procedure is similar to our coding of Farm Grants and other liberties: A JP grant could potentially be extended to all boroughs. Thus, no information about a JP grant in the borough charters is evidence that the borough did not receive one. Consequently, the variable *JP Grant* takes on value zero if no JP grant is observed, and it is thus defined for our full sample. Overall, 88 boroughs obtained JP grants – 50 royal and 38 mesne.

A.8. Influence of the Crown on Local Politics: Background and Coding

Background. In the 15th to 17th century, the Crown issued Charters of Incorporation to boroughs. Boroughs paid to receive these charters. They often confirmed previously-issued liberties, harmonized governance structures, and bestowed new prerogatives (Weinbaum, 1943).[30] Incorporated boroughs were allowed to own property and issue by-laws. Municipal corporations also enforced the law, assessed and collected taxes, ran markets, administered schools, charities and alms-houses, organized the maintenance of streets, bridges, walls, harbours, and managed land (Halliday, 1998, pp.41-44).[31] Similar to towns' governance across much of Western Europe (e.g., Puga and Trefler, 2014; Stasavage, 2014), the municipal offices of mayor and aldermen were often held by a restricted oligarchy, although a number of boroughs also had a larger common council (Tait, 1936). Our empirical analysis exploits the variation across boroughs in the Crown's influence on appointing these officials (Rigby and Ewan, 2000; Patterson, 2008; Liddy, 2017).

Coding. To code the Crown's influence on local politics, we use election rules contained in boroughs' Charters of Incorporation. Weinbaum (1943) provides this information for 186 boroughs in our dataset that were incorporated between 1345 and 1641.[32] The incorporated boroughs

[30] 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.

[31] Corporations funded their activity by relying on the revenues generated by the management of land and the items making up the farm of the borough (e.g., tolls and court fees), net of the amount payable to the lord. Towns' governing councils could petition the Crown (or Parliament, from the reign of Elizabeth I) to obtain the right to raise additional taxes either on the local population or on merchant non-burgesses to fund public works, e.g., harbours (Tittler, 1989; Halliday, 1998, pp. 41-44).

[32] Among these, 165 had received borough status by 1348 (the remaining boroughs were merely 'settlements' before

include 105 mesne and 81 royal boroughs – although the distinction between royal and mesne lost importance as the central government gained strength after 1500 (Tittler, 1977). We create an indicator variable for strong royal influence that takes on value one if two conditions hold: i) the Crown appointed the first members of the governing body right after the borough's incorporation, and ii) subsequent members of the governing body were selected by co-optation, thus perpetuating the initial influence of the Crown. This coding yields 72 boroughs (38.7%) with strong royal influence. This approach is similar in spirit to that discussed by Root (1994, pp. 26-8) for the case of France.

A.9. Broad Municipal Elections after 1400: Coding

Our coding of broad municipal elections of borough officials is based on two underlying pieces of information: First, after the 14th century, some English boroughs set up a *Common Council*, allowing for a broader participation of freemen in selecting municipal officials. To our knowledge, the richest source on boroughs' local administrative structure is History of Parliament, which focuses on the subset of parliamentary boroughs. Accordingly, and following the literature on the 'openness' of municipal institutions across Western Europe (Prak, 2018; Wahl, 2019), we exploit this source to code a dummy variable *Common Council*. This variable takes value 1 if the borough had a Common Council in the period 1604-29.[33] *Common Council* takes on value zero if the source does describe the governance structure, but the description makes it clear that there was no common council. In case of missing or conflicting information on the governance structure, we code the entry as missing. Overall, we code *Common Council* for 145 boroughs, with 91 boroughs having a common council.[34]

Second, History of Parliament also reports information for some boroughs whether the mayor and/or bailiffs were appointed by other stakeholders – either by royal county officials (in royal boroughs) or by the lord of the borough (in mesne boroughs). We code a dummy variable *Community Appointment* which takes value 1 if we find evidence that the community itself appointed its officials, i.e., if the source explicitly noted a wide participation by the burgesses in the appointment of municipal officers. The variable takes value 0 if we find evidence of direct appointment of municipal officers by either the lord of the borough or by county officials. The History of Parliament contains conclusive information on *Community Appointment* for 37 boroughs that were enfranchised by 1629; 9 of these explicitly state that the community appointed its officials.

this date – see Appendix A.1. for detail). All our results hold when we restrict the sample to those boroughs instead.

[33] We restrict our attention to the 1604-29 period because this is the latest period for which information is available in History of Parliament prior to the crises of the 17th century.

[34] Note that this variable can only be coded systematically for boroughs that were enfranchised by 1629, so that information is available in History of Parliament. There are 201 boroughs that were enfranchised by 1629. Among these, 145 have sufficient information to code the *Common Council* dummy. In a few cases, where a borough entry is unclear in History of Parliament, we also consult the information contained in the borough charters reported in Weinbaum (1943) to verify the presence or absence of a Common Council.

As a final step, we combine the variables *Common Council* and *Community Appointment* to create the dummy variable that we use in Table 3 in the paper, *Broad Municipal Election*. When information on both underlying variables is available, *Broad Municipal Election* takes on value 1 if *both* are equal to 1, reflecting a conservative coding approach. The variable takes value 0 if at least one of the two underlying variables take value 0 (i.e., information about either the absence of a common council or about the appointment of local officials by outsiders is available). In case one underlying variable has a missing entry, the value taken by *Broad Municipal Election* coincides with the value of the underlying variable with an entry. In sum, the variable *Broad Municipal Election* takes on value 1 when the existing information unambiguously points to a larger participation by the community of burgesses in the selection of municipal officials. Overall, this variable has 158 entries, with 90 boroughs having evidence of broad municipal elections.[35]

A.10. 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* (1820-31): 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 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).

[35] Among these, 151 had received borough status by 1348 (see Appendix A.1. for detail). Our results are very similar when we restrict the sample to those boroughs instead.

- *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 from History of Parliament. 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.[36] 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.[37] We use the description

[36] 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.

[37] *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 36). We can thus extend the *Broad Franchise* measure further back in time than the above *Openness* measure.

of boroughs contained in Ferris and Thrush (2010), Henning (1983), Cruickshanks et al. (2002), Sedgwick (1970), Namier and Brooke (1964), and Thorne (1986).

A.11. Data on Volunteer Troops During the English Civil War

For each borough in our dataset, we record whether it raised volunteer troops to fight on the parliamentarian side.[38] 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).[39] 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.[40]

A.12. Summary Statistics

Table A.1 shows the summary statistics for the variables used in the paper and appendix. We distinguish between variables used in our pre- vs. post-1348 analyses (with some variables – such as Farm Grants – being used in both).

B Historical Background

B.1. Misconduct of Tax-Collecting Officials

Keeping local officials in check was a significant problem, especially in the vast territory owned by the king, and during the frequent absences of the king and his household during external wars and crusades. The severity of misbehavior is reflected in countless complaints about local officials. For example, the contemporary Henry of Huntingdon (ca. 1088-1154) wrote "Sheriffs and reeves, whose office was justice and judgment, were more terrible than thieves and plunderers, and more savage than the most savage" (cited in Bisson, 2009, p. 178). The flood of complaints triggered numerous formal inquiries, many of which lasted several years. Surviving records of inquiries give a vivid picture of local officials' misconduct. For instance, the Inquest of the Sheriffs in 1170, which led to the removal of most sheriffs and lower-level officials, tells us of reeves extracting unauthorized tolls and of sheriffs abusing shire courts by summoning burgesses to act as jurors at inconvenient times and places, only to fine those unable to attend (Poole, 1955; Cam, 1963).

[38] We focus on the period immediately preceding the military conflict: January-August 1642. 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.

[39] 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.

[40] 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.

Table A.1: Summary Statistics

	pre-1348 Dataset					post-1348 Dataset					Sources
	#obs	Mean	Std. Dev.	Min	Max	#obs	Mean	Std. Dev.	Min	Max	& Detail
Explanatory Variables											
Farm Grant 1348	549	0.15	0.36	0	1	600	0.14	0.35	0	1	App. A.3.
Royal Borough	549	0.26	0.44	0	1	600	0.22	0.42	0	1	App. A.2.
Navigable River	549	0.17	0.38	0	1	600	0.17	0.38	0	1	App. A.4.
Sea Coast	549	0.21	0.41	0	1	600	0.20	0.40	0	1	App. A.4.
Roman Road	549	0.33	0.47	0	1	600	0.33	0.47	0	1	App. A.4.
Main Outcome Variables											
in Parliament 1348	549	0.23	0.42	0	1						Section IV.A.
Justices of the Peace						600	0.15	0.35	0	1	App. A.7.
Crown's influence on appointments						165	0.39	0.49	0	1	App. A.8.
Broad Municipal Election						140	0.56	0.50	0	1	App. A.9.
Volunteer troops during Civil War						600	0.045	0.21	0	1	App. A.11.
Open MP elections (principal component)						183	0	1.00	-1.44	2.11	App. A.10.
Share pro-Reform Act votes 03/1831						181	0.45	0.41	0	1	Section V.E.
Share pro-Reform Act votes 12/1831						176	0.56	0.47	0	1	Section V.E.
Auxiliary Outcome Variables											
in Parliament 1295	549	0.17	0.38	0	1						App. D.11.
Freedom from Tolls 1348	549	0.21	0.41	0	1						App. A.3.
Commercial Center in 14C	549	0.087	0.28	0	1						App. A.6.
Commercial Importance Index 14C	549	0	1.00	-0.48	2.98						App. A.6.
Sea Port 1540-1900	549	0.18	0.39	0	1						App. A.4.
Open MP elections 1690-1715						160	0.37	0.48	0	1	App. A.10.
Open MP elections 1715-1754						183	0.25	0.43	0	1	App. A.10.
Open MP elections 1754-1790						183	0.22	0.42	0	1	App. A.10.
Open MP elections 1790-1820						182	0.20	0.40	0	1	App. A.10.
Open MP elections 1820-1832						183	0.15	0.36	0	1	App. A.10.
Broad Franchise MP Elections 1604-29						174	0.70	0.46	0	1	App. A.10.
Broad Franchise MP Elections 1660-90						182	0.71	0.46	0	1	App. A.10.
Broad Franchise MP Elections 1690-1715						183	0.75	0.43	0	1	App. A.10.
Broad Franchise MP Elections 1715-54						184	0.73	0.45	0	1	App. A.10.
Broad Franchise MP Elections 1754-90						182	0.72	0.45	0	1	App. A.10.
Broad Franchise MP Elections 1790-1820						183	0.72	0.45	0	1	App. A.10.
Broad Franchise MP Elections 1820-31						183	0.69	0.46	0	1	App. A.10.
Population 17C						425	2,139	15,132	40	310,941	App. footn. 78
Population 1851						230	27,628	167,925	717	2,490,199	App. E.5.
Control Variables											
Soil suitability	549	0.0074	0.98	-3.53	2.96	600	-0.0021	1.00	-3.53	2.96	App. A.4.
Taxable wealth in 1086	351	11.5	17.8	0.10	155	394	11.2	17.1	0.10	155	App. A.5.
Number of Poll Tax Payers in 1377	154	696.0	1055.7	10	7248	155	650.1	1033.7	10	7248	App. A.5.
Disenfranchise 03/1831						600	0.16	0.37	0	1	Section V.E.
Disenfranchise 12/1831						600	0.14	0.34	0	1	Section V.E.
Swing Riot within 10km						183	0.70	0.46	0	1	Section V.E.
Market integration index 1831						183	18.2	66.9	3.81	907.8	Section V.E.
Distance to Urban Center 1831						183	1.03	0.49	0	2.43	Section V.E.
Connection to London 1831						183	2.24	2.37	0.68	20.4	Section V.E.

Note: The table shows the summary statistics for the variables used in the paper and appendix.

Similarly, the Hundred Rolls Inquiries in 1274-75 contain complaints involving over 1,000 officials (Cam, 1963, p. 229). Sheriffs were accused of imposing arbitrary financial penalties, making arrests without any formal accusation, refusing to give proper receipts for payments in order to collect debts twice, and extracting unauthorized tolls (Cam, 1963; Masschaele, 1997).

Attempts to curtail misconduct of officials. English kings were aware of the widespread misconduct of their officials, and they tried to address this issue – albeit with limited success. Several legal reforms encompassing statutes, ordinances, and provisions explicitly addressed the issue of controlling local officials. At least 34 major reforms (out of a total of ca. 80 pieces of legislation over the period 1086-1307) contained chapters dealing with this issue, either by limiting officials' prerogatives or by creating new offices whose purpose was to monitor existing officials (see Luders et al., 1810 and Douglas and Rothwell, 1996). For instance, local shire justiciars and coroners were introduced during the 12th century to diminish the sheriff's judicial prerogatives (Carpenter, 1976). Similarly, the Exchequer – instituted around 1110 – tightened control over the sheriffs' financial accounts (Cam, 1963; Powicke, 1962). In 1212-3, John summoned knights of the shire – local notables elected by 40 shilling freeholders within each county – from each shire to report complaints about local officials' behavior to the king's council (Holt, 1981). The Magna Carta (1215-1217) – famous for empowering lords vis-à-vis the king – also included provisions that sought to limit the pervasiveness of the administration. For instance, it forbade the shire court from meeting more than once a month, and the sheriff from making more than two *tourns* through his shire per year.[41] In the 1240s-50s, Henry III attempted to increase the minimum price at which a shire could be farmed. This led to an explosion of complaints about officials' misbehavior and eventually to reforms in 1258-9 (Carpenter, 1976). At the same time, the various attempts to fix the system (e.g., appointing salaried local gentry as sheriffs) proved largely ineffective.

The introduction of Farm Grants in the 12th century helped to address these issues by delegating legal and administrative power to boroughs. One may presume that sheriffs would oppose Farm Grants because they were the losing party, while both the king and local merchants benefited (see our discussion in Section III.A.).[42] Even though sheriffs tried to oppose early legislation that limited their judicial prerogatives (Holt, 1981), their position was much too weak – as shown by their wholesale dismissal in several occasions (Maddicott, 1981) – to stage successful opposition to Farm Grants, and no such incidences are documented.

[41] The *tourn* was the circuit of hundreds done by the sheriff. In each visited hundred, he would preside over the hundred court, often using these occasions to extract unauthorized fines.

[42] In particular, a net gain for the king implies that a borough's annual fee for its Farm Grant was larger than the decline in the total farm collected from the corresponding shire. For instance, in Lincoln, burgesses paid £180 to the king, while the sheriff's farm of the entire shire was reduced by only £140, implying a gain of £40 to the king.

B.2. Timing: Farm Grants and Wars

Starting with Lincoln in 1130, Farm Grants were issued to boroughs throughout England. Figure A.2 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.2 also highlights England's wars with France: Periods of war often coincided with the granting of numerous Farm Grants to royal towns, presumably because of the greater need for financing. As explained in Section III.A., Farm Grants typically included a one-time up-front payment (*fine*) in addition to the higher annual lump sum (*increment*). Thus, issuing Farm Grants could raise substantial revenues in a short time. Figure A.2 also illustrates that Farm Grants were much less common in mesne boroughs, as discussed in Section III.A..

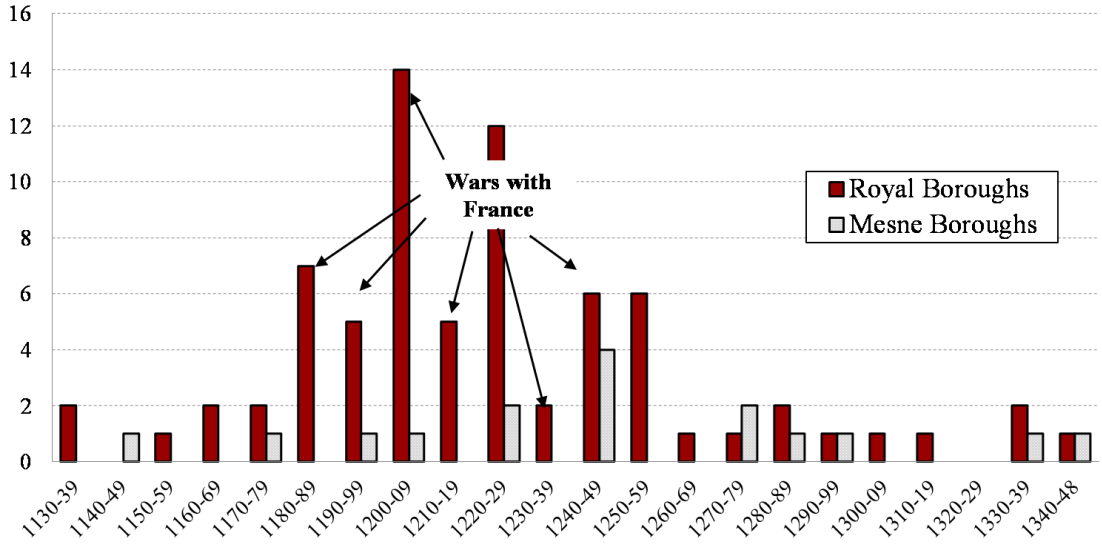

Figure A.2: Timeline of Farm Grants for Royal and Mesne Boroughs

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.

B.3. Background on the English Parliament, 1295-1500

Table A.2 summarizes the functioning of Parliament and its composition highlighting four main features: i) the Crown's decision to summon Parliament, ii) the selection of participants and representatives by local communities, iii) the way deliberations took place, and, iv) the implementation of the agreed-upon policies. The information covers the period going from the late 13th century to the 15th century. This choice allows us to focus on the formative period of Parliament, which corresponds roughly to the first part of our empirical analysis in Section IV., in which we show that administratively independent boroughs were more likely to be directly represented in Parliament (i.e., separately from their shires). It also allows us to describe the gradual increase in the prerog-

atives of the Commons in Parliament vis-à-vis the Crown, which is relevant for our subsequent empirical analysis in Section V., where we explore the relationship between municipal autonomy and Parliament.

Table A.2: Composition and *Modus Operandi* of the English Parliament: 13th to 15th Century

Main Features	Description	Main Sources
Who summons Parliament?	The Crown.	Mitchell (1951); Lyon (1960).
– How does summoning work?	Crown sends writs of summon to lords and high clergy. Writs of summon are also sent to local communities (shires and selected boroughs) through sheriffs.	Willard (1934); Lyon (1960).
– What information do writs of summon contain?	The writs inform the receivers of the topic of discussion and instruct them to be present in person (lords and high clergy) or to elect representatives with *plena potestas* (i.e., with the power to legally bind local communities to decisions taken in Parliament).	Post (1943); Lyon (1960); Goldsworthy (2001).
Who participates?	Monarch, high officials (e.g., chancellor, royal justices), lords, (high) clergy, 2 shire representatives for each of the 39 shires and 2 MPs from each selected borough (by 1348, roughly 130 boroughs had sent representatives). Lords and Clergy who receive personal writs of summon either attend in person or send proxies (e.g., stewards).	Post (1943); Mitchell (1951); Lyon (1960); McKisack (1962)
– How are borough and shire representatives selected?	Directly represented boroughs: In principle, all burgesses can participate in the selection of 2 borough MPs made in the borough court. In practice, in *self-governing boroughs*, the most influential burgesses have large say in the selection of representatives. In *non self-governing boroughs*, either the local lord (in mesne boroughs) or the sheriff (in royal boroughs) have large say in the selection of representatives. Shires: In principle, all (sufficiently wealthy) county freeholders and burgesses can participate in the county court in the selection of 2 knights of the shire. In the early Parliaments, the most important local landowners and the sheriff often had influence on the selection of shire representatives.	Jolliffe (1937); Lyon (1960); Pasquet (1964).

Table continues on next page...

Table A.2 continued...

Main Features	Description	Main Sources
How does a parliamentary session work?		
– What is debated?	Mainly extra-ordinary taxation for wars. Crown also receives information from the localities, high justice is dispensed, central administrators are appointed.	Post (1943); Lyon (1960); Ormrod (1995).
– Who speaks?	The monarch speaks first. Lords and Commons debate and give their answers to the Crown separately (from ca. 1339, shire and borough representatives meet together, paving the way to the division into House of Lords and House of Commons). Commons present petitions. Speaker of the Commons introduced in ca. 1376. Crown answers petitions and decision is reached.	Post (1943); Lyon (1960).
– How are decisions made?	1295 - ca. 1348: No formal voting rules. Decision-making rests largely with the Crown. There is an element of deliberation, with representatives trying to strike the best bargain.	Post (1943); Lyon (1960); Ormrod (1995).
	ca. 1348 - ca. 1500: Majority voting is gradually adopted.	Lyon (1960).
– What prerogatives do the Commons enjoy?	1295 - ca. 1348: Extra-ordinary taxation must be given assent by the Commons in Parliament. Commons acquired some legislative initiative through common petitions.	Lyon (1960); Ormrod (1995).
	ca. 1348 - ca. 1500: Commons can start procedure of impeachment against ministers. Also, legislation initiated by either the Crown or the Commons must receive approval in Parliament. Executive power remains largely under the Crown's control.	Lyon (1960); Ormrod (1995).
How long does a Parliament sit?	For the duration of the parliamentary session: Two/Three weeks on average.	Lyon (1960).
How are decisions implemented in the localities?	Representatives announce outcome of the parliamentary session in local (county/borough) courts. Royal officials are dispatched to localities to assess/collect taxes with the cooperation of local administrators.	Mitchell (1951); Lyon (1960); Maddicott (1981).

Note: The table presents a brief account of the most important features of the English Parliament in the period going from the second half of the 13th century to the 15th century.

B.4. Background on Ordinary Tax Collection in Boroughs

This appendix section provides historical detail on how (ordinary) tax collection worked in medieval English boroughs, which, in turn, is closely related to their governance structure. We distinguish between boroughs' governance structure before and after 1348. By and large, the second period coincides with the age of municipal incorporation, for which more detailed information about boroughs' governance structure become available.

Borough taxation before 1348. The range of taxes that could be levied on burgesses were strictly related to the farm of the borough, which accrued to the monarch. As we describe in Section II. in the paper, these taxes included a fixed rent on land, tolls, and judicial fees. The rate at which these fees could be exacted was (to a large extent) set by the Crown (Britnell, 1978; Masschaele, 1997). Expenditures were also strictly regulated by the central administration: First, these taxes had to be used to pay the farm to the Crown. Second, any surplus was used to compensate civic officials for running law courts, and for repairing town walls, streets, and bridges. Often, extra-sums were needed to perform these public works. In such cases, the higher officials (e.g., bailiffs and mayor) could petition the Crown on behalf of the community of burgesses for a grant of murage/pavage/pontage – effectively the rights to collect extra-tolls and taxes on merchants and/or the local population to perform these duties (Harvey, 2010). The role played by the citizenry at large in "directly" deciding whether to petition the Crown for murage/pavage/pontage is unclear. In Farm Grant boroughs, however, it is likely that burgesses enjoyed at least some indirect influence over these choices through the appointment of the higher officials.

Borough taxation after 1348. Boroughs (especially those with Farm Grants) developed more sophisticated governance structures, allowing them to perform an increasing number of public functions. As a consequence, borough officials managed an increasing amount of resources. Through Charters of Incorporation, the Crown regulated boroughs' governance structure, public functions, and the range of resources available to perform them (Clark and Slack, 2007, p. 22). Importantly, municipal corporations could hold land, issue by-laws to regulate economic activity, and impose taxes on their members (see Appendix A.8.). Much of the decision-making power was concentrated in the hands of the (inner) council composed of mayor, bailiffs, and aldermen. The common council was involved in the selection of these, as well as other officials (e.g., auditors of financial accounts) through procedures that varied across boroughs. By and large, the inner council had to seek the consent of the common council to new ordinances and fiscal impositions (Britnell, 1986, pp. 218-9; Carpenter, 2000, pp. 215-8, Rigby and Ewan, 2000, pp. 306-7).

B.5. Background on the Direct Representation of Boroughs in Parliament

This appendix provides further historical background on the direct representation of boroughs in Parliament. We focus on the comparability of royal and mesne boroughs, complementing the discussions from Section II.C. (on the similarity of extra-ordinary taxation) and from Section IV.A.

(on the process of summoning boroughs to Parliament).

Similarity of royal and mesne boroughs in being summoned to Parliament. In 1295, Edward I summoned what would become known as the 'Model Parliament.'[43] The composition of Parliament was meant to be representative of all freeholders because they were all affected by the taxation of wealth (Jolliffe, 1937; Power, 1941). In the words of (Cam, 1953, p. 23), "the house of commons, when it finally comes into existence, is not a house...of the non-noble, but a house of communities, urban and rural." Parliament represented the various territorial subdivisions of the realm, including royal and mesne boroughs – the English monarchy was sufficiently strong to impose extra-ordinary taxes also in the latter, effectively by-passing mesne lords (Willard, 1934, p. 10; Mitchell, 1951). Accordingly, the procedure of summoning representatives to Parliament was the same for royal and mesne territories: The king instructed sheriffs to summon boroughs to Parliament. Sheriffs then delivered parliamentary *writs of summon* to selected boroughs within their shire. These writs did not distinguish between royal and mesne boroughs – c.f. McKisack (1962, p. 7), and Pasquet (1964, pp. 137-8).[44]

In the context of summoning boroughs to Parliament, the following issue comes to mind that is relevant for our empirical strategy: Would our argument not also imply that most mesne boroughs should be called to Parliament? After all, their ordinary administration was appointed by a lord rather than the sheriff, and in this sense they were also separated from the shire court – at least for the purposes of ordinary taxation (see Figure 2 in the paper). However, the shire court did have oversight of *extra*-ordinary taxation of mesne boroughs, by effectively bypassing the local lords' officials (Mitchell, 1951).[45] Importantly, local lords were themselves assessed and taxed by the royal administration (Mitchell, 1951). By the middle of the 13th century, England was unique in the degree of control exercised by the Crown over the feudal lords' territories in matters of extra-ordinary taxation and common law. In fact, it was not uncommon for mesne boroughs to

[43] In 1265, Simon de Montfort had set the precedent of summoning boroughs to a general assembly in an attempt to expand his coalition against the king during the Second Baronial Revolt. Towns' cooperation in the revolt was needed because De Montfort's rule over England was not supported by either a legitimate claim to the Crown or an effective control over local administrations. The list of towns that attended De Montfort's parliament has not survived – only York and Lincoln, two Farm Grant boroughs, are known to have participated (Ambler, 2015).

[44] Sheriffs likely enjoyed some discretion over which boroughs to summon. Unfortunately, no evidence exists regarding the criteria used by sheriffs. Arguably, the Crown and the sheriffs – who were personally responsible for the orderly collection of extra-ordinary taxes in their shire – had aligned incentives in summoning to Parliament those boroughs over which they exerted less administrative control. For a discussion see Tait (1936, pp. 356-7) and McKisack (1962, pp. 16-7).

[45] As Mitchell (1951, pp. 7-8) notes, referring to extra-ordinary taxation in mesne territories: "In this struggle between the central government and the local taxpayer the king seems to have come off victorious; at the beginning the local baron or his steward was present when the assessment was made and was also allowed to collect the tax, but ultimately the council put the whole work of assessment and collection in the hands of the county commissioners, the village jurors, and the knights of the hundred." Similarly, Denholm-Young (1964, p. 2) underlines the "similarity of method in private and public administration...in the thirteenth century," where local officials appointed by mesne lords often acted also as officials in the shire administration: "Those who administer seignorial households or estates are the men who become judges or sheriffs under the Crown."

be the seats of shire courts (with Leicester, Warwick and Buckingham as prominent examples). Thus, when it came to extra-ordinary taxation, (regular) royal and mesne boroughs were equally integrated in the shire system.

In addition, since mesne boroughs could (typically) not obtain Farm Grants, they did not become autonomous administrative units. Thus, in the context of extra-ordinary taxation, mesne boroughs resembled 'regular' royal boroughs without Farm Grants – both lacked the administrative capacity to assess wealth and levy extra-ordinary taxes on their burgesses independently (i.e., without the supervision of shire officials).

Parliamentary Representation of non-Farm Grant boroughs. About one-half of the boroughs that were represented in Parliament by 1348 had not received Farm Grants. Why were boroughs without Farm Grants – among these numerous mesne boroughs – also summoned to Parliament separately from their shire? The historical literature offers a variety of explanations. For some towns, other forms of administrative power led to their representation in Parliament. For example, many parliamentary boroughs without Farm Grants were the administrative centers of mesne lords' lands (c.f. Tait, 1936, p. 356). Occasionally these also enjoyed some degree of jurisdictional separation from the shire administration (Willard, 1934, pp. 31-2).[46]

Buying seats in Parliament? To what extent could our analysis be affected by rich boroughs 'buying' seats in Parliament or receiving these from the Crown in exchange for higher taxes? This is historically unlikely: During the late medieval period, seats in Parliament were not perceived as a highly valuable asset (McKisack, 1962). Boroughs did not demand to be summoned, and likewise, the Crown did not 'sell' parliamentary seats. In fact, seats in the medieval English Parliament were not considered a valuable 'right' or 'asset' by towns. In the words of Pasquet (1964, p. 225): "The nation did not demand representation in the king's parliament. It was the king who imposed on his subjects the duty of sending him their representatives. [...] If in the end he [Edward I] made a practice of summoning them almost regularly, this was because he perceived that the previous consent of the knights and burgesses greatly facilitated the collection of aids [extra-ordinary taxes] and even enabled the government to collect rather more than would otherwise have been possible." Seats in Parliament became a valuable asset only after the 15th century, when "the burden of representation had become a privilege, because people had grasped the fact that through it they could impose their will on the crown, instead of the crown through it imposing its will upon them" (Pollard, 1920, p. 159). This practice emerged after the 15th century, when "[a]ttendance is becoming less of a duty and more of a privilege" (McKisack, 1962, p. 45). During this later period,

[46]Examples of administratively important mesne boroughs include Bletchingley, Lostwithiel, and Downton – the administrative centers of the Clare Family's lands in Surrey, of the Duky of Cornwall, and of the 'liberty' of Downton Hundred, respectively (information from https://www.historyofparliamentonline.org). All three boroughs were summoned to Parliament by Edward I. Examples of boroughs that were separated from their surrounding shire include Bury St. Edmunds, which belonged to an abbot and was summoned to Parliament in 1301.

numerous boroughs were enfranchised because their local patrons struck mutually beneficial deals with the Crown (Clark and Slack, 2007). Patrons directly appointed MPs in these boroughs and the king ensured support for his policies in the Commons.

B.6. Case Study – A Tale of Two Towns

In this appendix, we complement our discussion in Sections III. – V. 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.

B.6..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.[47] The Domesday Book (1086) recorded Bridport as a royal settlement, with taxable wealth equal to 6.4 fiscal units (geld).[48] 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.[49] 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.[50] Elections of borough officials (e.g., bailiffs) were held annually at Michaelmas (a Christian festival on September 29th).[51]

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.[52] 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 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 century, Members of Parliament (MPs) were largely drawn from local traders and manufacturers. Over the 16th

[47] 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.

[48] http://opendomesday.org

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

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

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

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

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.[53]

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.[54] 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.

B.6..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.[55] 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 king (in accordance with the Earl) to the newly founded abbey.[56] After being granted to the abbey, Faversham was subject to the jurisdiction of the abbot in matters concerning the local administra-

[53] See the sources listed in Appendix A.11..

[54] 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.

[55] 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).

[56] Thus, Faversham is one of the 76 boroughs that experienced a change in their administrative control (from royal to mesne, or viceversa), as discussed in Section A.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 control that were administered by a mesne lord for more than 75% of the time period (see footnote 10 in the appendix).

tion. 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).[57] 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 et al., 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.[58] 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.[59]

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 control 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 administrative control by mesne lords and the late attainment of a Farm Grant.[60] 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 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.7. Historical Examples of Farm Grant Boroughs Jointly Opposing Royal Interference

Historical examples: Farm Grant boroughs opposing royal interference. Our results in Section V.A. show that Farm Grant boroughs were more likely to resist royal interference. In what follows, we

[57] http://opendomesday.org.

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

[59] 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).

[60] 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).

provide concrete examples how the broad governing bodies of self-governing towns resisted attempts of royal meddling.[61] Attempts of royal interference with municipal councils are observed as early as the 15th century.[62] In York – whose Farm Grant dated back to the 12th century – Richard III attempted to install a narrow oligarchy and exclude the freemen from choosing borough officials. The Common Council, which was representative of the body of freemen, reacted by introducing a bill that asserted that borough officials' offices were not for sale, but rather were "to be chosen and elect by the mayre and his brether and with thassent of the commons" (as cited in Carpenter, 2000, p. 238). A further example is available from the Civil War period: In 1628, Charles I started a legal proceeding (*quo warranto*) against the corporation of Great Yarmouth, whose Farm Grant dated back to 1208, and whose Charter of Incorporation dated back to 1608. The king issued a new Charter of Incorporation in 1629, which reduced the governing body by half and limited its membership to those members who favored Charles' policy. The town's council immediately assembled and decided to legally challenge the new Charter by majority voting, thereby opposing its implementation. Eventually, after more than 10 years of (legal) struggle, Charles I was forced to reconfirm the original Charter (Patterson, 2005).

Another example is Norwich, whose Farm Grant dated back to 1194 and whose electorate and municipal offices were open to the body of freemen. According to Evans (1974, p. 76), "[v]arious factors tended to promote oligarchy in English towns between 1500 and 1640, not the least of which was the Crown policy of concentrating officeholding in the hands of a few reliable men. [...] Norwich resisted these pressures [...]."

Cooperation between Farm Grant boroughs in legal disputes with the Crown. When disputes with the Crown arose, Farm Grant boroughs often coordinated to act collectively in Parliament (Hartrich, 2019). A concrete example is the parliamentary Committee for Privileges and Returns. This committee could rule, for example, over cases in which sheriffs interfered with borough MPs' returns (Keeler, 1994). It could thus be instrumented by enfranchised boroughs to protect their freedom in choosing MPs. Keeler (1994) reports that amongst the 17 borough MPs who were members of the 1604 Committee for Privileges and Returns, 9 were representatives of Farm Grant boroughs (despite the fact that Farm Grant boroughs were a minority in Parliament). Similarly, amongst the 9 borough MPs who were members of the 1605 Committee for Privileges and Returns, 6 were representatives of Farm Grant boroughs. By the early 17th century, the Commons

[61] There is ample evidence that Farm Grant boroughs continued to have broader and more inclusive governing bodies after the 14th century. For example, in 15th century Colchester – whose Farm Grant dated back to 1189 – burgesses at large participated in the political life of the borough (Britnell, 1986, pp. 218-9). In 16th century York (a Farm Grant borough), the "mayoral chair included men from a variety of [...] crafts and trades, among whom were three goldsmiths, two tanners, a fishmonger, an innkeeper, a chandler, a glover, a carver, and a glazier (Bartlett, 1959, p. 32)."

[62] For more information on the Crown's attempts to influence municipal administrations during the 16th and the first half of the 17th centuries see Howell (1967, p. 42), Rigby and Ewan (2000), Patterson (2005), Patterson (2008), and Withington (2005).

had developed the right to rule over the regularity of MP elections' returns through the standing Committee for Privileges and Returns (Keeler, 1982).

B.8. The English Civil War: Background

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).

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 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.

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. Further, MP elections were often subject to patronage.[63] 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.[64] 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

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

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

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.

C The Determinants of Farm Grants: Additional Results

This appendix section provides further historical background as well as numerous robustness checks and extensions of the empirical results in Section III. in the paper.

C.1. Comparability of Royal and Mesne Boroughs

The comparability of royal and mesne boroughs is important for our use of mesne boroughs as a 'control group' to check whether trade affected representation in Parliament via channels other than Farm Grants. To the best of our knowledge, very little information survived about the historical process that determined boroughs' status as royal versus mesne after the Norman Conquest. From Astill (2000, p. 44) and Campbell (2000, p. 60) we can infer that the king attempted to keep those boroughs under his control that were strategically important for administrative and military purposes. This resulted in royal boroughs being spread across the realm, ensuring a wide reach of the king's administration. This is reflected in Figure 1 in the paper, which shows that there does not seem to be spatial clustering – the 145 royal boroughs (solid squares), and the 410 mesne boroughs (hollow dots) are distributed relatively evenly across England.

While the geographical distribution is overall relatively even, there is a tendency for royal boroughs to be located on rivers or Roman roads. We examine this systematically in Table A.3.[65] Columns 1-3 in Panel A show that 31.2% of royal boroughs were located on a navigable river, as compared to 12.5% among the mesne boroughs. The proportions for Roman roads are 46.8% vs. 25.1%. These differences are statistically significant (while for location on the sea coast, there is no significant difference).

As we mentioned above, a likely explanation for these differences in trade geography is that the king needed to ensure that royal officials and troops could reach his boroughs to secure the administrative and military control over the realm (Astill, 2000, p. 44). This arguably favored strategically important locations on waterways and roads to become royal boroughs (Tait, 1936). In contrast, it is unlikely that the king specifically chose locations with trade potential in mind: By the time of the Conquest, the Commercial Revolution had not yet reached England (Britnell, 1981). In fact, easily accessible locations on the sea coast were initially *disadvantaged* because they were more likely to suffer from Scandinavian raids.[66] After the Conquest, the strong military

[65] We focus on the 549 boroughs that are included in our pre-1348 regression analysis, which drops the six boroughs that received Farm Grants *after* being summoned to Parliament (see footnote 3 in the paper and Appendix A.1.). The statistics in Table A.3 are almost identical if we instead include these six boroughs.

[66] Our data show that taxable wealth in 1086 was 35.8% lower in settlements on the sea coast, with a p-value of 0.06.

Table A.3: Balancedness of Geography and Wealth in Royal vs. Mesne Boroughs

	Raw Data					Values after Entropy Balancing‡		
Panel A: Trade-related geographic features of boroughs								
boroughs with data:	Royal Boroughs (overall 141)		Mesne Boroughs (overall 408)		p-value for difference in share	Mean for Royal Boroughs	Mean for Mesne Boroughs	p-value for difference in share
	#boroughs	share	#boroughs	share				
Navigable River	44	31.2%	51	12.5%	0.001	31.2%	30.9%	0.95
Sea Coast	34	24.1%	83	20.3%	0.361	24.1%	24.8%	0.99
Roman Road	66	46.8%	116	28.4%	0.001	46.8%	46.3%	0.93
Panel B: Taxable wealth of boroughs in 1086 (Domesday Book data)								
boroughs with data:	Royal Boroughs (overall 83)		Mesne Boroughs (overall 268)		p-value for difference	Mean for Royal Boroughs	Mean for Mesne Boroughs	p-value for difference
ln(taxable wealth in 1086)	1.900		1.630		0.093	1.900	1.899	0.995

Note: The table examines the balancedness of trade-related geography and taxable wealth for royal boroughs vs. mesne boroughs in our pre-1348 sample. While royal boroughs were *relatively* more likely to be located on trade-favoring locations, the *overall* number of boroughs with trade-favoring features was larger in mesne territories. In addition, the table shows that Entropy weighting can create balanced samples also in relative terms.
‡ Entropy balancing creates balanced samples by reweighing the observations in mesne boroughs to match the mean and variance of covariates in royal boroughs. In Panel A, these covariates are all three geographic variables jointly; in Panel B, taxable wealth only. See Hainmueller and Xu (2013) for details.

control by the Normans inhibited raids, and the resulting security of trade routes contributed to the Commercial Revolution in England (Tait, 1936, p. 136). However, by that time the division into royal and mesne boroughs had already been established – certainly so for the 'Domesday boroughs,' for which all our results go through (see Appendix D.5.).

The king did not systematically choose the *richest* boroughs either. To show this, we examine data on taxable wealth of boroughs from the Domesday Book in 1086 (see Appendix A.5.). Figure A.6 (sample 1) shows that the distribution of taxable wealth was overall similar across royal and mesne boroughs. Panel B in Table A.3 shows that royal boroughs were on average somewhat wealthier, with a p-value of 0.093. However, the average difference is mostly driven by the three richest boroughs (which were all royal).[67] Once these are excluded, the p-value drops to 0.29; and when excluding the richest five boroughs (four of which were royal), the p-value is 0.36. This suggests that there was no systematic selection on borough wealth per se. Nevertheless, we address the concern that borough wealth may confound our results in more detail in Appendix D.2. and E.7..

Balancing royal and mesne boroughs. In the paper, we use regression weights as one way to create balancedness between royal and mesne boroughs. As shown in Panel A in Table A.3, there are in fact *overall more* mesne boroughs on navigable rivers, Roman roads, and on the sea coast. It

[67]The three wealthiest boroughs in the Domesday Book are Stamford, Shrewsbury, and York – all with taxable wealth above 100 (as compared to a mean of 11.5). The wealth of London is not reported in the Domesday Book; thus, London is excluded from all our regressions that involve data on taxable wealth.

is merely the *proportion* that is higher in royal territories. Thus, we can achieve balancedness by assigning lower weights to those mesne boroughs that are not on rivers, roads, or the sea. This is implemented by the Entropy balancing algorithm of Hainmueller and Xu (2013). The right part in Table A.3 shows the results of rebalancing observations in the 'control group' (mesne boroughs) so that they match mean and variance of the three geography variables in the 'treatment group' (royal boroughs). After Entropy balancing, the means in the two groups are very similar and statistically indistinguishable, with p-values of 0.93 or higher. In Panel B, we show that balancing yields virtually identical means for taxable wealth (the higher precision results because now only one variable is involved, as opposed to three in panel A).

C.2. Farm Grants – The Role of Royal Borough Status

Figure A.3 provides an illustration of the salient pattern in the Farm Grant data: royal boroughs were much more likely to obtain Farm Grants than their mesne counterparts. Could the predominance of Farm Grants in royal territories be explained by differences between royal and mesne boroughs? The results in this section address this concern: first, by introducing numerous control variables, and second, by matching and balancing techniques.

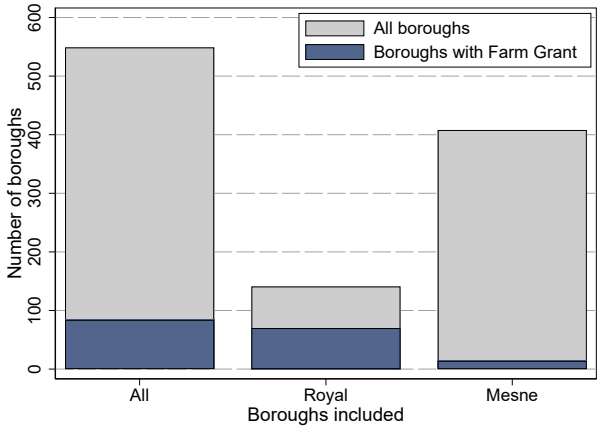

Figure A.3: Farm Grants before 1348 for Royal and Mesne Boroughs

Note: This figure shows that Farm Grants were granted almost exclusively to boroughs in royal territories, and to a much lesser degree to boroughs controlled by mesne lords (who administered smaller land areas). Overall, 84 out of 549 boroughs in our pre-1348 sample received Farm Grants. Among the 141 royal boroughs, 70 received Farm Grants (49.7%); among the 408 boroughs controlled by mesne lords, only 14 (3.4%).

Controlling for soil quality and regional differences. Table A.4 presents the first set of results. Column 1 shows that royal boroughs were 46 percentage points (p.p.) more likely to receive Farm Grants, relative to an average of 15 percent across all boroughs. The (highly significant) coefficient corresponds to the difference shown in Figure A.3. Column 2 shows that the coefficient remains

almost identical when we control for soil suitability[68] and include fixed effects for the four kingdoms that existed in England before the Norman Conquest: Wessex, Mercia, Northumbria, and East-Anglia (using information from Hill, 1981, p. 98, Map n. 174). In fact, all dummies for the pre-Norman kingdoms are individually statistically insignificant, and they are also jointly insignificant (with a p-value of 0.75). This suggests that there are no relevant regional differences dating back to the division of England before 1066 that later affected Farm Grants. Farm Grants are also unrelated to agricultural productivity – the coefficient on soil suitability is small and statistically insignificant. In column 3 we include fixed effects for the 39 medieval English counties (shires). The coefficient on *Royal* is unchanged, implying that our finding is not confounded by (unobserved) regional characteristics.

Accounting for differences in taxable wealth and trade geography. Could royal boroughs have obtained Farm Grants more frequently because – on average – they differed in terms of wealth or trade geography? We address this concern in several ways, showing that such differences do not affect our results. Taxable wealth is available for 351 boroughs in our pre-1348 sample, 83 royal and 268 mesne. Royal boroughs had slightly higher taxable wealth in 1086, but this difference is driven by a few very wealthy boroughs: While four of the five wealthiest boroughs were royal, the remaining boroughs were relatively balanced in terms of wealth (see Appendix C.1., which also provides further background on the assignment of royal vs. mesne after the Norman Conquest).

In column 4 of Table A.4, we control for log taxable wealth. We find that the coefficient on $Royal_i$ is essentially unchanged. The same holds in column 5, where we exclude boroughs in the top and bottom 10 percentiles of the wealth distribution. Next, we perform a variety of exercises that achieve balanced characteristics for royal and mesne boroughs. In column 6 we use entropy weights from the balancing algorithm by Hainmueller and Xu (2013) so that the mean and variance of taxable wealth are the same for both types of boroughs (intuitively, in this exercise wealthier mesne boroughs receive a higher weight – see Appendix C.1. for detail). In column 7 we use propensity score matching, comparing royal vs. mesne boroughs with very similar or identical taxable wealth. In both cases, the coefficient on *Royal* is almost exactly the same as in our baseline specification in column 1.

In terms of geographic location, Figure 1 in the paper shows that royal and mesne boroughs were distributed relatively evenly across England. At the same time, there was a tendency for royal boroughs to be located on rivers or Roman roads (see Appendix C.1.). However, *overall* there were more mesne boroughs on rivers and Roman roads, allowing us to balance the sample by entropy weighting or propensity score matching. Column 8 in Table A.4 balances royal and mesne boroughs along both wealth and trade geography. We find that the coefficient on $Royal_i$ remains unchanged.

[68] See Appendix A.4. for data source and coding.

Overall, these results suggest that differences in wealth or trade geography across royal and mesne boroughs are not responsible for the fact that Farm Grants are almost exclusively observed in royal territories.

Table A.4: Farm Grants: The Role of Royal Borough Status

Dependent variable: Indicator for boroughs that obtained Farm Grants by 1348

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Boroughs included:	— all boroughs —			— boroughs with data on Taxable Wealth in 1086 —					
Notes:				Taxable Wealth available	Taxable Wealth in 10-90 pctile	Balancing Royal and Mesne Boroughs by: Taxable Wealth E-weights‡	PS Matching†	Wealth and Trade Geography E-weights‡	PS Matching†
Royal borough	0.462***	0.462***	0.467***	0.444***	0.410***	0.450***	0.465***	0.450***	0.453***
	(0.043)	(0.044)	(0.045)	(0.055)	(0.060)	(0.055)	(0.058)	(0.055)	(0.065)
Soil suitability		0.007	0.013						
		(0.013)	(0.016)						
ln(Taxable wealth in 1086)				0.047***	0.033*	0.072***	[mv]	0.072***	[mv]
				(0.013)	(0.020)	(0.020)		(0.020)	
Pre-Norman Kingdom FE		✓							
p-value for kingdoms		*[0.75]*							
County FE			✓						
Mean Dep. Var.	0.15	0.15	0.15	0.15	0.13	0.15	0.15	0.15	0.15
R^2	0.31	0.32	0.36	0.33	0.28	0.30		0.30	
Observations	549	549	549	351	293	351	351	351	351

Note: The table shows that royal boroughs were significantly more likely to receive Farm Grants, and that this pattern is not driven by differences in geography or wealth between royal and mesne boroughs. All regressions are run at the borough level. Robust standard errors in parentheses. Regarding fixed effects (FE): There are 39 counties, and 4 pre-Norman kingdoms: Wessex, Mercia, Northumbria, and East-Anglia.

‡ Entropy balancing generates weights for mesne boroughs such that the (weighted) mean and variance of the following variables are the same as in royal boroughs: in col 6, ln(Taxable Wealth); in col 8, ln(Taxable Wealth) as well as the three trade geography indicators (navigable river, sea coast, and Roman road). See Hainmueller and Xu (2013) for detail.

† Propensity score matching with one nearest neighbor. Matching variable is taxable wealth in col 7 (indicated by "mv"); in col 9, the three trade geography indicators (navigable river, sea coast, and Roman road) are used as additional matching variables.

C.3. Farm Grants – The Role of Territory Size

In Section III.A. in the paper we discussed that owners of larger territories – in particular the king – had greater need to delegate administrative control at the local level.[69] If this can explain the predominance of Farm Grants in the vaster royal territory, it should also apply to relatively large mesne territories. Figure A.4 shows that this is indeed the case: Among the lords with the smallest territories (seigneurs, abbots, and nunneries), there are essentially no Farm Grants. Boroughs in territories administered by bishops (which were of intermediate size) received some Farm Grants.

[69] One may think that royal boroughs closer to London would have suffered less from monitoring issues. However, the medieval English royal court was itinerant rather than permanently based in London. Moreover, the king himself was constantly on the move due to conflicts (c.f. Hindle, 1976). We also show in Table A.24 in Appendix E.6. that our results are robust to controlling for distance to London (while excluding London itself).

Finally, among the largest mesne lords (earls and archbishops), the proportion of boroughs with Farm Grants was significantly larger – albeit still only one-fifth of the frequency in the much bigger royal territories.

Figure A.4: Farm Grants before 1348, by Lord's Territory Size

Note: The figure shows that boroughs controlled by lords with larger territory were more likely to receive Farm Grants by 1348. The x-axis reflects the size of the lord's territory, from smallest to largest, including the 549 boroughs from our pre-1348 regression dataset: 1=seigneur/abbot/nunnery (overall 229 boroughs); 2=bishop (72 boroughs); 3=earl/archbishop (107 boroughs); 4=king (141 boroughs). The y-axis plots the proportion of boroughs in a lord's territory that received Farm Grants. Appendix A.2. describes the categorization of boroughs by the size of their lords' territories.

C.4. Farm Grants and Commercial Activity

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* 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.5 we use our first proxy for commercial importance described in Appendix A.6.: an indicator variable for "Freedom from tolls" – a grant of liberty that exempted a borough's burgesses from tolls (taxes on trade). This liberty was issued by the king or lord 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 21 percent of boroughs that purchased such liberties. In column 2, we add county fixed effects and soil quality, 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).

In columns 4-6 of Table A.5 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 vari-

Table A.5: Commercial Activity of Medieval Farm Grant Boroughs

Dependent Variable: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Freedom from Tolls by 1348†			Commercial Center in 14C‡		
Boroughs included:	all	all	royal	all	all	royal
Farm Grant 1348	0.519	0.529	0.531	0.375	0.375	0.429
	(0.054)	(0.052)	(0.071)	(0.054)	(0.054)	(0.066)
County FE		✓			✓	
Soil Quality		✓			✓	
Mean Dep. Var.	0.21	0.21	0.45	0.09	0.09	0.27
R^2	0.21	0.32	0.29	0.23	0.27	0.23
Observations	549	549	141	549	549	141

Note: The table shows that boroughs with Farm Grants were commercially more important in the 14th century, using the two indicators explained below. All regressions are run at the borough level. Robust standard errors in parentheses.
† Indicator variable for "Freedom from Tolls" – a grant of liberty that exempted a borough's burgesses from tolls (taxes on trade). See Appendix A.3. for detail.
‡ Indicator variable for whether a borough was a commercial center 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. See Appendix A.6. for detail.

able 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.5 corroborate our historical evidence that commercial activity was *associated* with Farm Grants.

C.5. Conservative Classification of Administrative Control of Boroughs

Our result on the determinants of Farm Grants (Section III. in the paper) and those on parliamentary representation (Section IV.) hold also when we use a conservative classification of boroughs' administrative control. In the results presented in Table A.6, we classify as royal those boroughs that were controlled by the king for more than 90% of the time period between their foundation and 1348.[70] This leaves us with 84 royal boroughs in our pre-1348 sample. In addition, we include as mesne boroughs only those that belonged to mesne lords for more than 90% of the time – altogether 375. We exclude mixed boroughs (based on the 90% criterion) and those with incomplete records of administrative control (i.e., the 23 boroughs for which the scattered evidence points

[70]Recall from Appendix A.2. that in our baseline coding, whenever we had boroughs with mixed ownership we used a threshold of 25% under royal control over the period between a settlement's first mention and 1348 to classify the borough as 'royal.' We made this choice because already short stretches of royal ownership could result in Farm Grants (see also our analysis in Appendix D.6.).

towards control by mesne lords – see Appendix A.2.).

Columns 1-3 in Table A.6 examine the determinants of Farm Grants, replicating our results from columns 1, 5, and 6 in Table 1 in the paper. We confirm all results obtained in our main sample.[71] Columns 4-7 in Table A.6 replicate our regressions for representation in Parliament from Table 2, confirming that our reduced-form and 2SLS results hold for the conservative coding of borough ownership.

D Farm Grants and Representation in Parliament: Additional Results

This appendix presents robustness checks and extensions of the empirical results in Section IV. in the paper.

D.1. Illustrating the Difference-in-Differences Setup for Representation in Parliament

Figure A.5 complements Figure 3 from the paper in illustrating our empirical strategy. We use a difference-in-differences setting for studying the role of Farm Grants in parliamentary representation (royal vs. mesne and trade vs. non-trade boroughs). The left panel in Figure A.5 includes only royal boroughs and differentiates between those with trade geography (i.e., location on at least one of the three means of transport – navigable river, the sea coast, or an ancient Roman road) and those without trade geography. The right panel includes only mesne boroughs.

The figure shows that among royal boroughs, boroughs with trade geography obtained Farm Grants much more frequently than boroughs without trade geography. Among the royal boroughs, those with trade geography were also much more frequently summoned to Parliament. This difference disappears when we exclude Farm Grant boroughs. That is, in the absence of Farm Grants, royal boroughs with and without trade geography were equally likely to be summoned. This supports our argument that Farm Grants in royal boroughs were a stepping stone for parliamentary representation. In contrast, among mesne boroughs (right panel), trade geography mattered neither for Farm Grants nor for enfranchisement, and excluding the few Farm Grant boroughs does not change this picture. Comparing the patterns in the two panels, it is only for royal trade boroughs (i.e., those most likely to obtain Farm Grants) that we see a significant increase in Farm Grants and enfranchisement compared to all other boroughs (royal non-trade, mesne trade, and mesne non-trade). This is the variation that we exploit when using the interaction of trade geog-

[71] In one specification – column 2 in Table 1 – the three coefficients on trade geography in levels (i.e., for mesne boroughs) are all negative and jointly statistically significant (albeit quantitatively small). This means that, if anything, mesne lords were *less* likely to give Farm Grants to their trading boroughs. We are reluctant to interpret this pattern because it is much weaker in our main sample, and because it also loses statistical significance here once we add soil quality and county fixed effects (column 3). However, a possible explanation is that mesne lords often had dwellings in the most important boroughs of their territories, giving them a strong degree of control over these towns. Thus, there were two opposing forces that can explain the (slightly) negative net effect of trade geography: On the one hand, trading towns had more to gain from Farm Grants. On the other hand, in mesne territories, they were more likely to be under direct control of local lords, which made it less likely that those lords would grant them liberties (as in the example of the borough Arundel, discussed in footnote 20 in the paper).

Table A.6: Conservative Classification of Boroughs' Administrative Control

Dependent variables: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dep. Var.:	Farm Grant by 1348			in Parliament by 1348			
Notes:		— First Stage —		– Reduced Form –		—— 2SLS ——	
Farm Grant 1348						0.572	0.592
						(0.208)	(0.192)
Navigable River	0.088	-0.039	-0.034	-0.056	0.023	-0.011	0.070
	(0.039)	(0.011)	(0.029)	(0.050)	(0.057)	(0.042)	(0.047)
Sea Coast	0.051	-0.002	-0.005	0.090	0.041	0.047	-0.003
	(0.032)	(0.025)	(0.031)	(0.050)	(0.053)	(0.044)	(0.043)
Roman Road	0.026	-0.024	-0.001	-0.007	0.033	0.018	0.042
	(0.028)	(0.018)	(0.022)	(0.038)	(0.041)	(0.035)	(0.035)
p-value joint significance River, Coast, Road	*[0.029]*	*[0.003]*	*[0.673]*	*[0.276]*	*[0.648]*	*[0.715]*	*[0.260]*
Royal borough (cons.)	0.472	0.155	0.145	0.178	0.159	0.087	0.065
	(0.055)	(0.079)	(0.074)	(0.097)	(0.091)	(0.123)	(0.113)
River x Royal (cons.)		0.413	0.403	0.314	0.320		
		(0.096)	(0.095)	(0.117)	(0.116)		
Sea Coast x Royal (cons.)		0.298	0.278	-0.057	-0.085		
		(0.123)	(0.132)	(0.146)	(0.152)		
Roman Road x Royal (cons.)		0.299	0.312	0.224	0.228		
		(0.097)	(0.097)	(0.114)	(0.111)		
p-value joint significance interaction terms		*[<0.001]*	*[<0.001]*	*[0.005]*	*[0.004]*		
County FE			✓		✓		✓
Soil Quality			✓		✓		✓
First Stage Effect. F-Stat						9.4	8.9
Mean Dep. Var.	0.13	0.13	0.13	0.21	0.21	0.21	0.21
R^2	0.35	0.42	0.48	0.16	0.31		
Observations	459	459	459	459	459	459	459

Note: This table verifies that our main results for Farm Grants and boroughs' representation in Parliament hold also for the conservative coding of royal boroughs in Appendix C.5.. Columns 1-3 replicate the regressions from columns 1, 5, and 6 in Table 1 in the paper. Columns 4-7 replicate our reduced-form and 2SLS results for parliamentary representation from columns 3-4 and 6-7 in Table 2 in the paper. Note that columns 2 and 3 in the table here represent the corresponding first stage regressions. All regressions are run at the borough level. Robust standard errors in parentheses. In the 2SLS specifications, the first stage uses the three interaction terms between trade geography (sea coast, navigable river, Roman roads) and royal borough status to predict Farm Grants, controlling for all variables in levels. We report the first-stage effective F-statistic from the Montiel Olea and Pflueger (2013) robust weak instrument test; the corresponding critical value for max. 20% relative bias is approximately 8.3 and 8.8 for the two 2SLS specifications.

raphy with royal borough status to predict Farm Grants and (in the second stage) parliamentary representation.

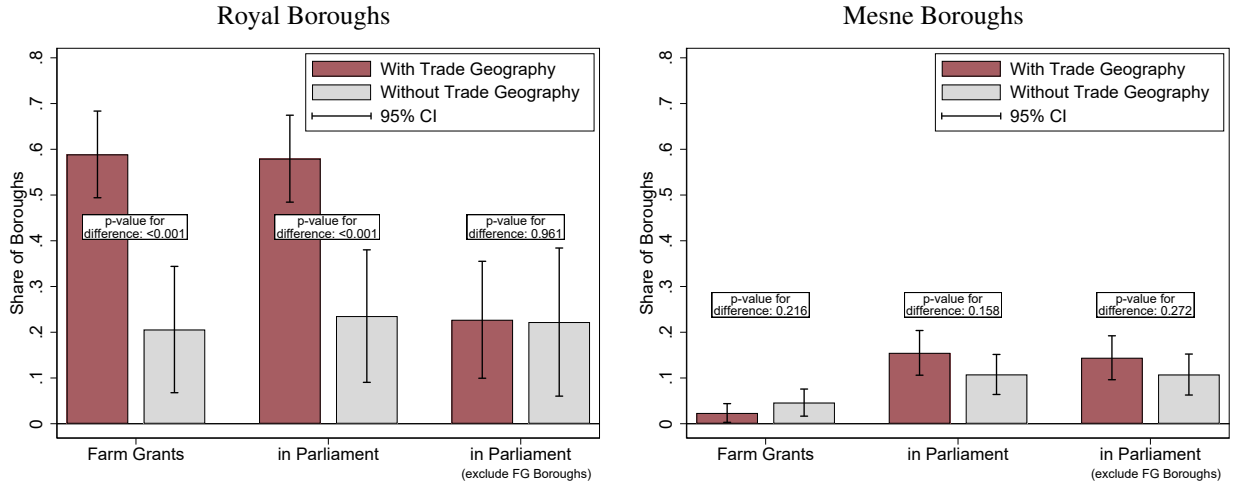

Figure A.5: Illustrating the Difference-in-Differences Design

Note: The figure illustrates our difference-in-differences design (royal vs. mesne and trade vs. non-trade boroughs). The left panel of the figure uses only the subset of 141 royal boroughs in our pre-1348 sample. Among these, 107 had trade-favoring geography (i.e., access to a navigable river, the sea coast, or an ancient Roman road). The right panel uses only the 408 mesne boroughs (among which 213 had trade-favoring geography). The columns on the right of each panel exclude all Farm Grant boroughs (70 royal and 14 mesne).

D.2. Sub-samples by Borough Wealth

One possible concern is that our results on Farm Grants and representation in Parliament may be confounded by borough wealth. For example, it is conceivable that the king "cherry-picked" wealthy towns after the Norman Conquest, and that wealth fostered both Farm Grants and enfranchisement. To address this issue, we use information that was available to the king when boroughs were split between royal and mesne after the Conquest: taxable wealth in 1086 (see Appendix A.5. for coding and data sources). Figure A.6 shows the distribution of (log) taxable wealth for royal and mesne boroughs for various samples. Sample 1 uses all boroughs in our pre-1348 dataset with information on taxable wealth in 1086 (83 royal boroughs and 268 mesne boroughs). In this sample, royal boroughs are slightly wealthier (with a p-value of 0.093). To see whether this difference affects our results on parliamentary representation, we create three subsamples. Sample 2 includes only boroughs between the 10th and 90th percentile of the taxable wealth distribution; sample 3 includes only the 10th to 50th percentile. In both these samples, wealth of royal and mesne boroughs is statistically indistinguishable, and actually smaller for royal boroughs in sample 3. Finally, sample 4 is particularly restrictive, using only the *poorest* 50 percent of royal boroughs and the *wealthiest* 50 percent of mesne boroughs. As shown in the lower right panel of Figure A.6, the two distributions barely overlap, creating two distinct sets of 'poor' royal boroughs and 'rich' mesne boroughs.

Next, we perform our baseline OLS and reduced-form regressions for representation in Parliament in each of the four samples. Figure A.7 visualizes the results. The left panel reports the OLS results from regression (1) in the paper, showing a remarkably stable relationship between Farm Grants and enfranchisement across the four samples.[72] The right panel visualizes the reduced-form results regressing parliamentary representation on trade geography.[73] Throughout the four samples, there is a strong and statistically highly significant relationship between trade geography and enfranchisement in royal boroughs, while the coefficients are close to zero and statistically insignificant for mesne boroughs. These remarkably stable results – even for the 'extreme' sample 4 – make it very unlikely that our findings are confounded by borough wealth.[74]

[72] The coefficients correspond to our baseline regression from column 1 in Table 2 in the paper.

[73] For illustrative purposes, the reduced-form results in Figure A.7 are based on a dummy for 'any trade geography' (i.e., location on navigable river or sea coast or Roman road).

[74] Table A.7 reports the regression results corresponding to Figure A.7. The footer of the table reports the number of royal and mesne boroughs in each sample, their wealth, as well as the p-value for the difference in wealth in royal vs. mesne boroughs. We do not report 2SLS coefficients because the first-stage F-statistic drops below the rule-of-thumb value of 10 in the small samples 3 and 4. However, the 2SLS coefficients (available upon request) are very similar to those in Table 2 in the paper.

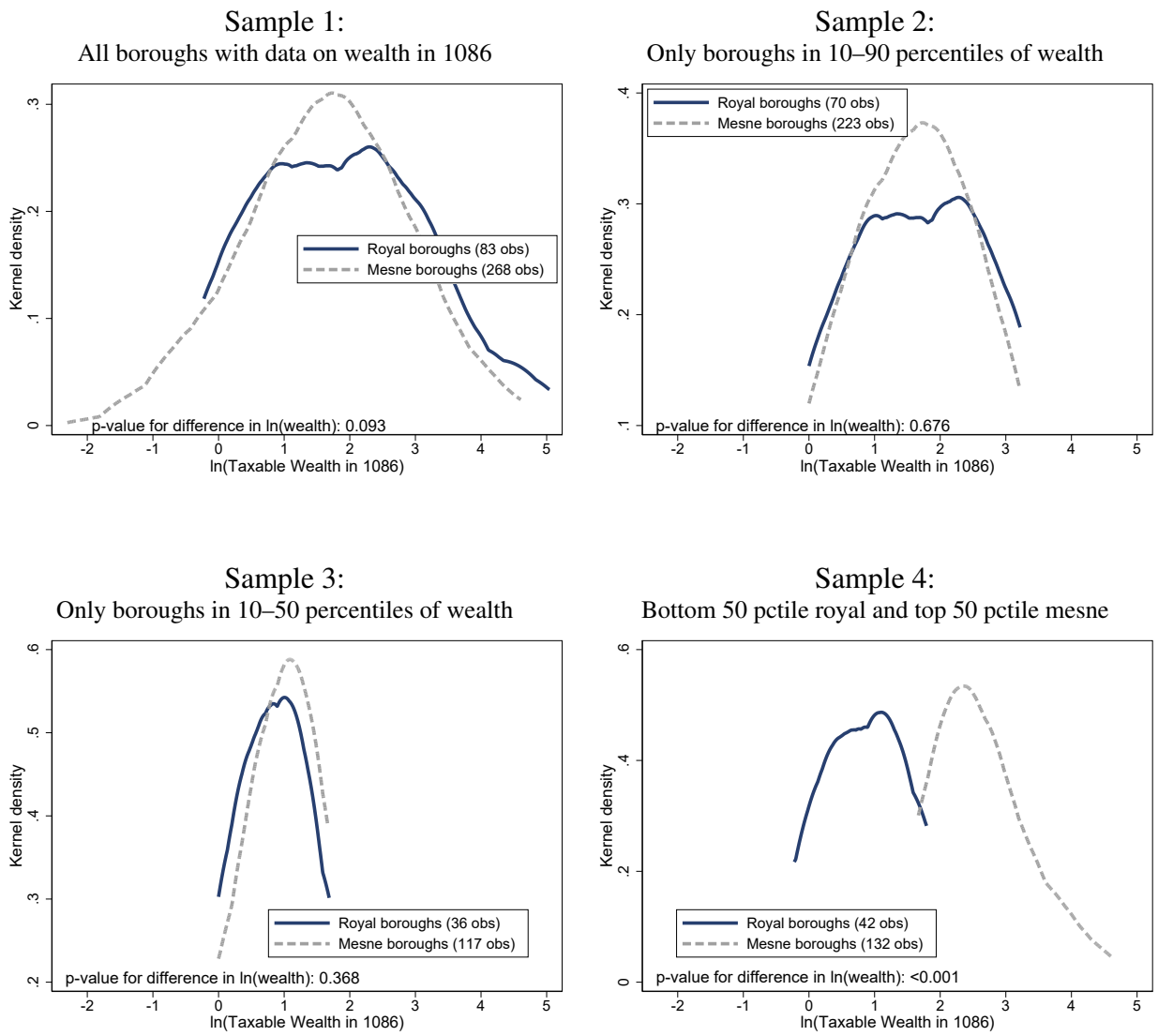

Figure A.6: Distribution of Taxable Wealth in 1086 in Different Samples

Note: The figure shows the distribution of (log) taxable wealth in 1086 from the Domesday Book for different subsamples of the wealth distribution across boroughs. Sample 1 includes the 351 boroughs with data on taxable wealth; sample 2 excludes the top and bottom 10 percentiles of the overall wealth distribution; sample 3 excludes the bottom 10 and the top-50 percentiles; sample 4 uses only royal boroughs with *below*-median wealth and mesne boroughs with *above*-median wealth.

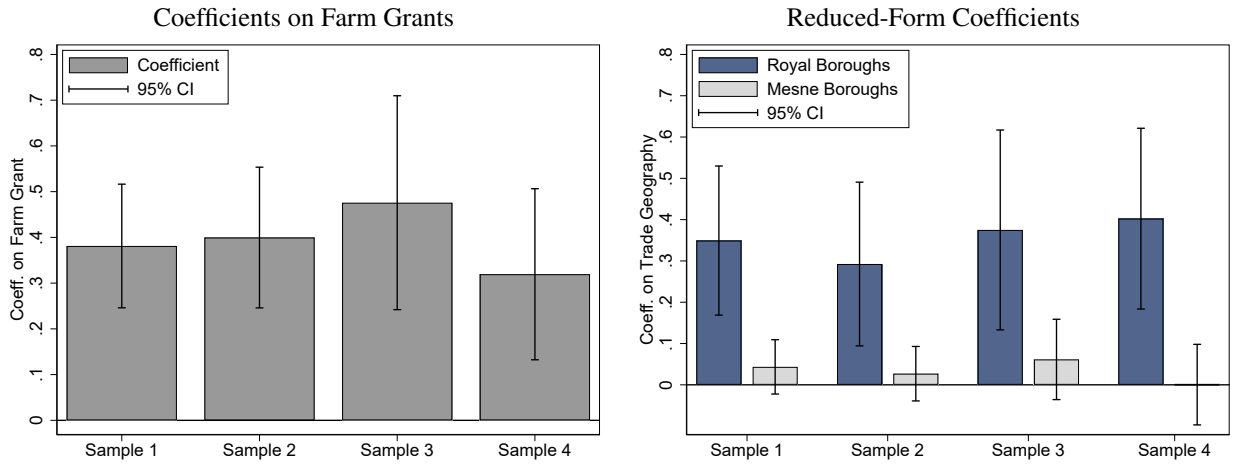

Figure A.7: Representation in Parliament – Results for the Four Samples from Figure A.6

Note: The left panel of the figure shows the coefficients on Farm Grant in our baseline regression for representation in Parliament (column 1 in Table 2), for the four subsamples depicted in Figure A.6. The right panel shows reduced-form results, separately for royal and mesne boroughs, regressing representation in Parliament on an indicator for 'borough with trade geography' (which takes on value one for boroughs located on a navigable river, the sea coast, or an ancient Roman road). The corresponding regression results and sample sizes are reported in Table A.7. Note that the depicted coefficients for royal boroughs result from adding the interaction term and the trade geography dummy in the table.

Table A.7: Representation in Parliament – Subsamples by Wealth

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Sample 1		Sample 2		Sample 3		Sample 4	
Boroughs included if taxable wealth in 1086:	wealth observed		wealth between 10th and 90th pctile		wealth between 10th and 50th pctile		top-50 pctile of mesne bottom-50 pctile of royal	
Estimation:	OLS	Red. Form	OLS	Red. Form	OLS	Red. Form	OLS	Red. Form
Farm Grant 1348	0.381		0.400		0.476		0.319	
	(0.082)		(0.093)		(0.141)		(0.113)	
Royal Borough	0.180	0.122	0.184	0.156	0.098	0.049	0.139	-0.011
	(0.063)	(0.090)	(0.067)	(0.097)	(0.079)	(0.090)	(0.076)	(0.089)
Trade Geography Dummy		0.043		0.027		0.061		0.000
		(0.040)		(0.040)		(0.059)		(0.059)
Trade Geography x Royal		0.306		0.266		0.314		0.402
		(0.115)		(0.125)		(0.153)		(0.141)
Mean Dep. Var.	0.20	0.20	0.18	0.18	0.16		0.18	0.18
R^2	0.22	0.18	0.24	0.18	0.19	0.14	0.13	0.13
Observations	351	351	293	293	153	153	174	174
# Royal Boroughs	83	83	70	70	36	36	42	42
# Mesne Boroughs	268	268	223	223	117	117	132	132
Wealth 1086 – Royal Boroughs	1.9	1.9	1.7	1.7	0.8	0.8	2.8	0.8
Wealth 1086 – Mesne Boroughs	1.6	1.6	1.6	1.6	0.9	0.9	17.9	2.6
p-value difference in ln(wealth)	*[0.093]*	*[0.093]*	*[0.675]*	*[0.675]*	*[0.366]*	*[0.366]*	*[<0.001]*	*[<0.001]*

Note: The table presents the regression results (OLS and reduced form) underlying Figure A.7, for the four subsamples based on borough wealth shown in Figure A.6. All regressions are run at the borough level. Robust standard errors in parentheses. The 'Trade Geography Dummy' takes on value one if any of the three variables navigable river, sea coast, or Roman road equal one.

D.3. Matching by Wealth in 1086 and Taxpayers in 1377

This section uses a different technique to create balanced 'control' groups for Farm Grants boroughs: propensity score matching. In Table A.8 we first use taxable wealth in 1086 as a matching variable (columns 1-3), and then also the number of taxpayers in 1377 in columns 4-6 (see Appendix A.5. for detail on the data). Thus, our first matching variable is measured right after the Norman Conquest, before Farm Grants were issued and before the Commercial Revolution took off in England; our second matching variable is measured three centuries later, shortly after the end of the period that we consider for the issuance of Farm Grants. The matching specifications compare each borough with a Farm Grant ('treated' borough) to a matched 'control' borough without Farm Grant. The 'treated' boroughs in columns 1 and 4 include all Farm Grant boroughs, while all remaining columns restrict these 'treated' observations to *royal* boroughs with Farm Grants. The 'control' observations are matched (as the nearest neighbor in terms of taxable wealth or number of tax payers) from the following subsamples: in columns 1 and 4, all boroughs without Farm Grants; in columns 2 and 5 all *mesne* boroughs without Farm Grants; in columns 3 and 6 all *royal*

boroughs without Farm Grants.

For each of these categories, in Panel A of Table A.8, we report the matching results when using all boroughs in our pre-1348 sample with available data on wealth in 1086 or the number of taxpayers in 1377. The coefficients on Farm Grants have a very similar magnitude as in our baseline OLS specifications: Farm Grant boroughs were approximately 50-60% more likely to be summoned to Parliament than the matched control boroughs. The results are also statistically highly significant and remarkably stable across the various specifications.

Table A.8: Farm Grants and Representation in Parliament – Matching Results

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

	(1)	(2)	(3)	(4)	(5)	(6)
Matching based on:	Taxable Wealth in 1086			Taxpayers in 1377		
'Treated' boroughs:†	All FG	Royal FG	Royal FG	All FG	Royal FG	Royal FG
Matched ('control') boroughs:‡	All non-FG	Mesne non-FG	Royal non-FG	All non-FG	Mesne non-FG	Royal non-FG
Panel A: Matching using the full sample with available data						
Farm Grant 1348	0.529	0.605	0.556	0.471	0.583	0.596
	(0.110)	(0.101)	(0.134)	(0.084)	(0.061)	(0.335)
Observations	351	299	83	154	127	52
Farm Grant boroughs	51	41	41	37	31	31
Control boroughs	300	258	42	117	96	21
Panel B: Trimmed samples – see Figure A.8 for distributions						
(exclude from the 'control' boroughs all those that are smaller (or less wealthy) than the smallest 'treated' (Farm Grant) borough... ...and exclude all Farm Grant boroughs that are larger (wealthier) than the largest control group borough)						
Farm Grant 1348	0.510	0.590	0.522	0.476	0.595	0.259
	(0.115)	(0.104)	(0.129)	(0.085)	(0.057)	(0.143)
Observations	327	276	73	146	121	27
Farm Grant boroughs	48	38	32	33	27	8
Control boroughs	283	238	41	113	94	19

Note: The table shows that our main results on Farm Grants and representation in Parliament (Table 2 in the paper) also hold when we use propensity score matching by wealth in 1086 (cols 1-3) or by the number of tax payers in 1377 (cols 4-6). Propensity score matching is performed with one nearest neighbor. Panel A uses all observations with available data; Panel B trims the sample, excluding all control group boroughs that are smaller (in terms of the matching variable) than the smallest 'treated' (Farm Grant) borough, and excluding all Farm Grant boroughs that are larger than the largest control group borough. See Figure A.8 for the corresponding distributions. All regressions are run at the borough level. Robust standard errors in parentheses.

† In cols 1 and 4, 'treatment' observations are all (royal and mesne) Farm Grant boroughs; in all other columns, 'treated' observations are only royal boroughs with Farm Grants (FG).

‡ 'Control' observations include the following boroughs: in cols 1 and 4, all boroughs without Farm Grants (FG); in cols 2 and, 5 all mesne boroughs without FG; in cols 3 and 6, all royal boroughs without FG.

One might worry that matches cannot be perfect if the wealthiest (or largest) boroughs obtained Farm Grants, so that there are no similarly wealthy boroughs in the control group.[75] We address this concern in Panel B of Table A.8. There, we trim the sample by excluding all 'control' group boroughs that are smaller (in terms of the matching variable) than the smallest 'treated' (Farm

[75] While the raw data reveal that this is a minor issue, we nevertheless address it for completeness: The wealthiest borough without Farm Grant had taxable wealth in 1086 of 100 'geld' units (see Appendix A.5.). There are three Farm Grant boroughs with higher wealth – two with 102.5 'geld' units and one with 155 'geld' units.

Grant) borough, and we exclude all Farm Grant boroughs that are larger than the largest control group borough. In other words, we make sure that for each 'treated' borough, the matching algorithm can find a 'control' borough that is at least as wealthy (or as large). The corresponding distributions are shown in Figure A.8. There is a very close overlap of taxable wealth (cols 1-3) and taxpayers (cols 4-6) for 'treated' and 'control' boroughs; the log-point differences (reported in each panel) are tiny, and the p-values are always well above the threshold of 0.1 for (marginal) statistical significance. At the same time, the results from Panel A hold: The coefficient on Farm Grants is of similar magnitude and remains statistically highly significant in all cases (except for column 6, where the sample becomes small).

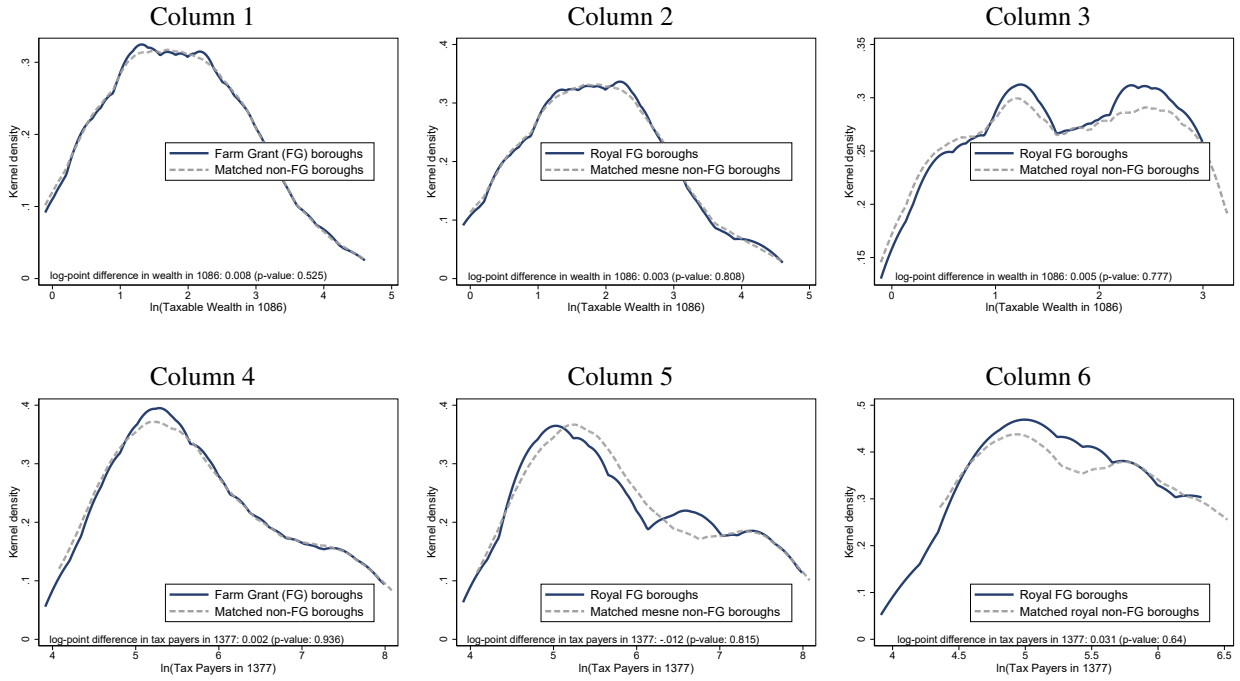

Figure A.8: Taxable Wealth for Farm Grant and Control Boroughs in Panel B of Table A.8

Note: The figure shows the distribution of the 'treatment' (Farm Grant) and 'control' observations corresponding to the trimmed sample matching in Panel B of Table A.8.

Note that the specifications that are closest in spirit to our difference-in-differences setup are those in columns 2 and 4, where we compare royal boroughs with Farm Grants to their nearest neighbors among mesne boroughs without Farm Grants. One concern that we discussed in Section IV.D. in the paper (and in the associated appendix sections) is the comparability of royal and mesne boroughs. In particular, regarding the matching results of columns 2 and 4, one may worry that institutional differences hampered the enfranchisement of mesne boroughs (although our historical discussion in Section IV.A. renders this unlikely). The matching results in columns 3 and 6 of Table A.8 further address this point: Here, we match to each 'treated' royal Farm Grant borough the most

similar *royal* borough without a Farm Grant. We still confirm our baseline results. Thus, even when we keep the institutional environment the same (i.e., only using boroughs owned directly by the king), we confirm the higher odds of enfranchisement for Farm Grant boroughs. Of course, in this analysis, one may be concerned that royal Farm Grant boroughs were different from royal non-Farm Grant boroughs. Figure A.8 addresses this for taxable wealth and number of taxpayers: the distributions of 'treated' and 'control' overlap very closely – that is, our matching specifications in columns 3 and 6 indeed compare very similar royal boroughs. The one observable dimension along which Farm Grant boroughs differ from other royal boroughs is trade geography – but this is exactly in line with our argument that trade led to self-government only in royal boroughs.[76]

D.4. Possible Royal-Mesne Differences other than Borough Wealth or Population

In light of the findings in Appendix D.3. that our results hold for closely comparably royal and mesne boroughs, one would have to make a very specific argument to remain skeptical about our results: One would have to argue that trade geography had different effects on enfranchisement in royal and mesne boroughs, independent of Farm Grants. We can think of two possible channels: i) selection on trade characteristics: that the king picked the best places with trade geography to become royal boroughs, and ii) institutional differences: that the king promoted trade particularly strongly in the royal territory or that mesne lords prevented trade geography from unfolding its potential in their territories. Before discussing each point in detail, we present evidence against both: If either point i) or ii) were fully responsible for our results, one should expect trade geography in mesne boroughs to be unrelated to economic outcomes, such as borough population or their importance as historical trade centers. This is not the case, as we show next.

Predictive Power of Trade Geography in Royal and Mesne Boroughs

In Table A.9, we document a statistically highly significant association between trade geography and economic outcomes in *both* royal and mesne boroughs. We use five 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.[77] 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 (see Appendix A.6. for data sources and coding). Columns 5 and 6 show that navigable rivers are a strong predictor of the number of tax payers in the poll tax of 1377 (see data sources in Appendix A.5.). The number of tax payers in 1377 is a proxy for borough population since all burgesses over the age of fourteen (excluding beggars) were required to pay

[76] Among the royal boroughs with Farm Grants, 90% were located on a navigable river, a Roman road, or the sea coast. Among the remaining royal boroughs, only about 60% had trade-favoring geography.

[77] 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.

the same fixed amount. Next, columns 7 and 8 use city population in the mid-17th century as dependent variable.[78] We find that city size is positively predicted by location on a navigable river and Roman roads in both subsamples. Finally, in columns 9 and 10 we show that location on the sea coast predicts the presence of a historic sea port (see Appendix A.4. for data and coding) in both subsamples. In other words, being located on the sea coast fostered trade equally in royal and mesne boroughs.

Importantly, the three trade geography variables are jointly highly significant in all specifications: p-values (shown in the bottom of Table A.9) are almost always below 0.01. Thus, trade geography predicts economic outcomes in both royal and mesne boroughs. This makes it unlikely that either point i) or ii) can explain our (non-)results for mesne boroughs in the reduced-form between parliamentary representation and trade geography (i.e., our use of mesne boroughs as the control group in our DD setup). In particular, the pattern documented in Table A.9 speaks against the possibility that institutional differences between royal and mesne territories may have interacted with trade potential, promoting trade *only* in the former and *not* in the latter.[79]

In what follows, we discuss points i) and ii) individually, focusing on the extent to which they are compatible with the historical record and with our empirical results.

Point i) Selection of Royal Boroughs Based on Trade Characteristics?

As we discussed in Appendix C.1., the historical context renders point i) unlikely: By the time of the Norman Conquest – when royal and mesne borough status was determined for most boroughs – the Commercial Revolution had not yet reached England (Britnell, 1981). Thus, the king had little reason to specifically consider trade characteristics when selecting royal boroughs. And by the time the Commercial Revolution reached England in the 12th century, the division into royal and mesne boroughs had already been established – certainly so for the 'Domesday boroughs,' for which all our results go through (see Appendix D.5.).

In Table A.10 we provide additional evidence against point i), showing that our results hold even when we compare royal and mesne boroughs with exactly the same trade characteristics. We build on our main matching specification, comparing 'treated' royal Farm Grant boroughs to matched mesne non-Farm Grant boroughs. The matching variable is taxable wealth in 1086. In addition, we restrict the sample by trade characteristics. The first four columns introduce restrictions

[78] 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).

[79] Recall that our results in Table 2 show no relationship between trade geography and representation in Parliament: The non-interaction coefficients on trade geography in columns 3-5 are quantitatively small and individually and jointly statistically insignificant. If this zero-relationship was driven by institutions suppressing trade potential in mesne boroughs, they would have to do so completely, i.e., not leaving any relationship between trade geography and trade-related outcomes. We documented that the contrary is true: Trade geography could unfold its potential also in mesne boroughs.

Table A.9: Trade Geography and Economic Outcomes in Royal and Mesne Boroughs

Dependent variable: As indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependent Variable:	ln(Taxable Wealth 1086)		Commercial Importance 14C†		ln(Tax Payers 1377)		ln(Population mid-17C)		Sea Ports 16-19C	
Boroughs included:	royal	mesne	royal	mesne	royal	mesne	royal	mesne	royal	mesne
Navigable River	1.220	0.606	0.994	0.156	1.643	1.192	0.911	0.450	0.006	0.001
	(0.341)	(0.213)	(0.253)	(0.125)	(0.340)	(0.315)	(0.249)	(0.133)	(0.028)	(0.027)
Sea Coast	0.375	-0.564	0.969	0.258	0.735	-0.106	0.276	-0.116	0.875	0.842
	(0.353)	(0.219)	(0.254)	(0.097)	(0.351)	(0.188)	(0.264)	(0.106)	(0.059)	(0.040)
Roman Road	0.207	0.143	0.684	0.077	0.173	0.347	0.465	0.221	-0.028	-0.005
	(0.265)	(0.157)	(0.215)	(0.077)	(0.310)	(0.227)	(0.190)	(0.095)	(0.031)	(0.014)
p-value: joint significance River, Coast, Road	*[0.005]*	*[0.003]*	*[<0.001]*	*[0.015]*	*[<0.001]*	*[<0.001]*	*[<0.001]*	*[0.001]*	*[<0.001]*	*[<0.001]*
Mean Dep. Var.	1.90	1.63	0.70	-0.24	6.27	5.55	7.19	6.74	0.21	0.17
R^2	0.18	0.05	0.22	0.03	0.37	0.17	0.17	0.07	0.85	0.81
Observations	83	268	141	407	52	102	122	278	141	408

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 the 'control group' in our DD setup – 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. See footnote 77 for an explanation for the negative coefficient on sea coast in 1086.

† 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 A.6. for detail.

based on trade geography: Column 1 includes only boroughs with trade geography (i.e., boroughs that feature at least one of the three trade characteristics), and the remaining 3 columns go even further, including only boroughs on navigable rivers (column 2), on the sea coast (column 3), or on Roman roads (column 4). Column 5 restricts the sample to boroughs that had obtained Freedom from Tolls – a clear sign of trade activity (see Appendix A.6.). Finally, column 6 restricts the sample to boroughs with both trade geography and Freedom from Tolls. In addition, within all subsamples, we trim wealth to ensure that for each 'treated' borough, there is a 'control' borough that is at least as wealthy.[80] The distributions of taxable wealth in 'treated' and 'control' boroughs for each subsample are shown in Figure A.9: The differences are minuscule, and in three of the four subsamples the 'treated' Farm Grant boroughs are actually slightly poorer than the 'control' boroughs. To illustrate the exercise in Table A.10, consider for example column 2: Here we compare royal Farm Grant boroughs located on a navigable river to mesne boroughs (without Farm Grants) that are also on a navigable river and have very similar wealth.[81] Even in this extremely restrictive exercise, we fully confirm the magnitude and statistical significance of our main result:

[80] Thus, the matching methodology corresponds to column 2 in Panel B of Table A.8, but with the additional sample restrictions based on trade characteristics.

[81] Note that, by construction, the navigability of the rivers in our sample cannot differ across royal and mesne boroughs. Using a variety of sources that we checked against each other, we coded only non-minor rivers with reported navigability (see Appendix A.4.).

Farm Grant boroughs were about 50% more likely to be enfranchised than comparable mesne boroughs with the same trade geography and wealth. The matching results are similar throughout Table A.10, notably also in column 5 where we use historical exemptions from tolls rather than trade geography to restrict the sample. These strong and coherent results make it very unlikely that systematic differences in trade characteristics between royal and mesne boroughs drive our findings.[82]

Table A.10: Matching Results with Trimmed Sample and Trade Geography Restrictions

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

	(1)	(2)	(3)	(4)	(5)	(6)
Matching based on:	Taxable Wealth in 1086, trimmed sample with further restrictions:					
Sample includes only boroughs with:	Any Trade Geography	Navigable River	Sea Coast	Roman Road	Freedom from Tolls	Freedom from Tolls & Trade Geography
Farm Grant 1348	0.623	0.560	0.689	0.782	0.486	0.452
	(0.095)	(0.175)	(0.147)	(0.094)	(0.147)	(0.162)
Observations	143	42	37	87	43	35
Farm Grant boroughs (treated)	32	12	12	19	20	20
Control boroughs	111	30	25	68	23	16

Note: The table repeats the matching exercise from column 2 in Panel B of Table A.8, introducing further restrictions based on trade geography. Estimates are from propensity score matching by wealth in 1086 with one nearest neighbor. Robust standard errors in parentheses. Col 1 includes only boroughs with trade geography (location on a navigable river, the sea coast, or Roman road); cols 2-4 further restrict the sample to boroughs with specific trade geography (i.e., one of the three trade variables).
'Treatment' observations are royal boroughs with Farm Grants; 'control' observations include all mesne boroughs without Farm Grants. The sample is trimmed, excluding all mesne boroughs that have lower taxable wealth in 1086 than the poorest Farm Grant borough, and excluding all Farm Grant boroughs with higher wealth than the wealthiest mesne borough. See Figure A.9 for the corresponding wealth distributions.

Point ii): Institutional Differences and Trade

We first note that the exclusion restriction does not require trade in general to be unrelated to *nationwide* institutional development. Our empirics focus on the cross-section of boroughs with direct representation. The exclusion restriction thus requires that trade geography affected boroughs' *direct* representation in Parliament only via their administrative autonomy, but not via other channels such as borough wealth. We already discussed historical evidence in support of the exclusion restriction in Section IV.A.: The role of Parliament was not directly tied to merchants or specific economic interests; instead, it was a 'general assembly' that served as a representative institution of *all* property holders.[83]

[82] A final objection that one may have is that the king may have picked more centrally located boroughs on trade routes. In our data, there is no support for this: As shown in Figure 1, royal and mesne boroughs are scattered across the realm. We also performed a specific check for this concern: We find no statistically significant difference in distance to London between royal and mesne settlements on navigable rivers, on the sea coast, or on Roman roads in the samples in columns 2-4 in Table A.10.

[83] When tax matters that specifically concerned merchants were to be discussed (e.g., taxes on wool), the Crown often summoned ad hoc assemblies outside of Parliament, such as the Estates of the Merchants (Power, 1941). After

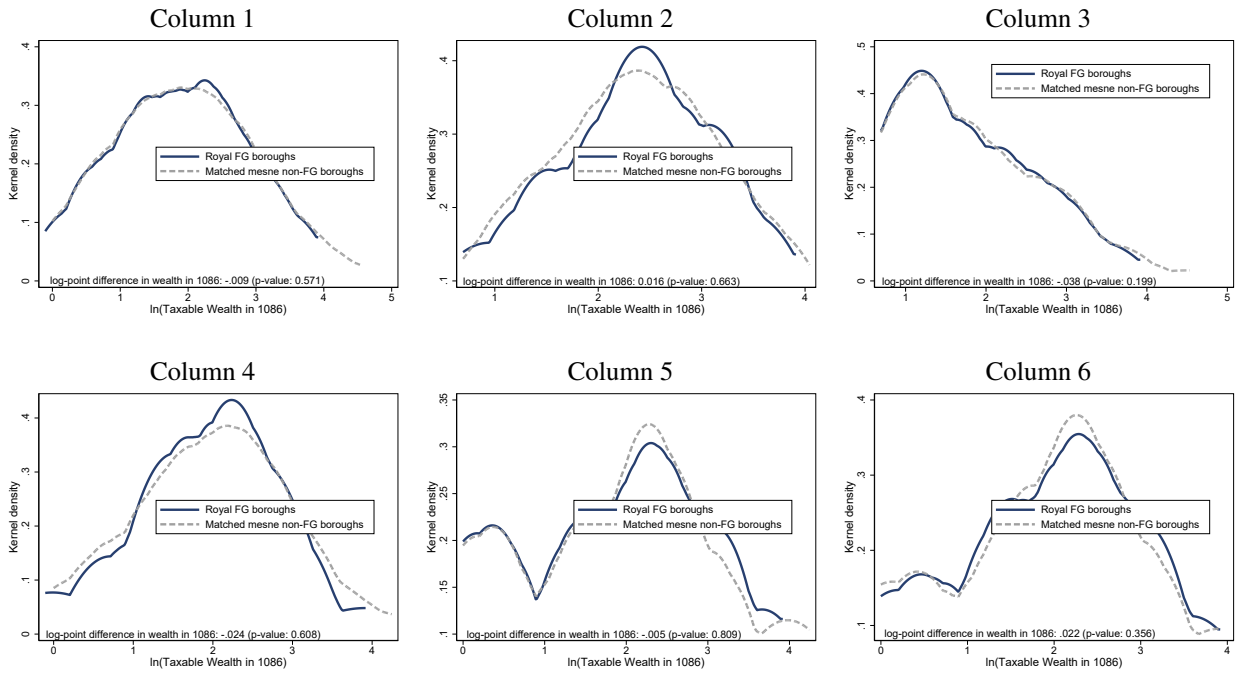

Figure A.9: Taxable Wealth for Farm Grant and Control Boroughs in Table A.10

Note: The figure shows the distribution of taxable wealth in 1086 for the 'treated' (Farm Grant) boroughs and the corresponding matched 'control' (mesne) boroughs, underlying the results in Table A.10.

Could it be that institutional differences fostered trade in royal boroughs, while suppressing it in mesne boroughs? We already presented evidence against this in Table A.9. In addition, the historical record is not compatible with this presumption: As Ballard and Tait (1923, lxxx) point out, mesne lords provided borough communities in their territories with "the concessions that were needed to make a settled trading life possible." The same authors emphasize that – in line with our argument – the main difference between royal and mesne boroughs was the (almost complete) absence of Farm Grants in mesne boroughs (see Section III.A.), such that even "the most fortunate mesne borough enjoyed a smaller measure of self-determination" (Ballard and Tait, 1923, p. lxxxi). Ballard and Tait (1923) also point out that the difference in self-governance and other privileges between royal and mesne liberties "must be traced to want of will as well as want of power on the part of its lord" (p. lxxxi). An example for "want of will" are Farm Grants, which local lords could grant, but typically chose not to (see Section III.A.). An example for "want of power" are liberties that institutionalized the separation of boroughs from the shire administration, such as *non-intromittat* or *direct relation with the Exchequer* (see Appendix A.3.). These could only be granted by the king.[84] The Crown rarely granted mesne boroughs liberties that institutionalized

the 14th century, these ad hoc assemblies disappeared and Parliament became the exclusive forum in which taxation was discussed.

[84]Regarding Freedom from Tolls throughout the realm, there is no clear distinction between royal and mesne bor-

their separation from shires for *extra-ordinary* taxation.[85] Rigby and Ewan (2000, p. 293) also underline administrative autonomy as the main distinguishing feature between royal and mesne (seigneurial) boroughs: "the majority of medieval English towns were seigneurial foundations, even the largest and wealthiest of which rarely equalled the royal boroughs in their autonomy." Bailey (2007, pp. 133-4) confirms this point. In sum, when historians discuss institutional differences between royal and mesne boroughs they typically underline autonomy-granting liberties, and this dimension is fully in line with our argument.

One difference in parliamentary representation is that the most important mesne lords were regularly summoned to Parliament as individuals (Jolliffe, 1937, p. 438). Could it be that these lords' own presence in Parliament muted the relationship between trade geography and enfranchisement among mesne boroughs? Specifically, one may worry that lords being themselves represented in Parliament reduced their boroughs' odds of also being directly summoned. If, in addition, the most important lords controlled the mesne boroughs with the highest commercial activity, such a mechanism would weaken a (potential) link between trade and parliamentary representation of mesne boroughs. However, the raw data speak against this possibility: if anything, mesne boroughs controlled by lords with larger territories were *more* likely to be summoned to Parliament than mesne boroughs controlled by less important lords. Among the 107 boroughs in our pre-1348 sample that were controlled by the most important lords (earls and archbishops), 24.3% were represented in Parliament, while this number is only 13.9% for boroughs administered by bishops, and 7.9% for boroughs belonging to seigneurs, abbots, or nunneries. Thus, the fact that many important lords had themselves seats in Parliament did not crowd out their boroughs' odds of being enfranchised.

Finally, a natural question to ask is whether other liberties that were not related to the administrative autonomy of boroughs (and were thus not related to our main argument) may also have been granted predominantly to royal boroughs, and whether these might drive our results. We examine such liberties in detail in Appendix D.9., focusing on the prominent examples of Murage and Pavage grants, as well as the right to elect local officials (independent from voting rights being bestowed by Farm Grants). Here, we use the matching exercise from Table A.8 for an additional check: We examine whether abstracting from Farm Grants, other liberties were relatively balanced across royal and mesne boroughs. We create an indicator for 'other liberties' that did not separate a borough from its shire administration – these comprise Murage/Pavage grants, the right to

oughs: On the on hand, only the king could grant these, since they comprised also exemptions from taxes in royal territories (Ballard and Tait, 1923, p. lxxxi). On the other hand, we find that Freedom from Tolls throughout the realm were frequent also among mesne boroughs: Among the 55 mesne boroughs that had obtained (any) Freedom from Tolls by 1348, 21 (38.2%) enjoyed these throughout the realm.

[85]This had several possible reasons: First, mesne boroughs rarely enjoyed autonomy in the collection of *ordinary* taxation (i.e., they rarely had Farm Grants) and therefore did not develop the administrative capabilities to organize extra-ordinary taxation. Second, the Crown had an incentive to keep boroughs – whose ordinary administration was appointed by lords – under the supervision of royal shire officials.

elect other officials, and Freedom from Tolls (see Appendix A.6.). We then examine the share of boroughs with other liberties in the 'control groups' of Table A.8. In particular, we compare the 'control groups' that include only *mesne* boroughs without Farm Grants (columns 2 and 5) and the 'control groups' that consist only of *royal* boroughs without Farm Grants (columns 3 and 6). The shares are 21.0% and 32.6% in columns 2 and 5, respectively, as compared to 26.2% and 28.6% in columns 3 and 6.[86] Thus, the share of other liberties is very similar in the mesne-only and the royal-only 'control groups' of our matching exercise. This is in line with the view of historians discussed above that the most salient difference in liberties between royal and mesne boroughs were Farm Grants and related autonomy-granting charters.

D.5. Sample Splits by Status as Domesday Borough

We have shown in various balancing exercises that our results are not driven by observable differences between royal and mesne boroughs, such as wealth or trade geography. However, a skeptical reader may still worry that our balancing exercises are performed with noisy variables, or that there are other relevant (unobserved) differences that affected the division into royal vs. mesne boroughs (and that these differences, in turn, may also be related to Farm Grants and enfranchisement). For example, after the Norman Conquest, the king may have picked the most important boroughs on trade routes, leaving less attractive locations with trade geography to the lords.[87] In what follows we use historical information on the most important urban settlements at the time of the Norman Conquest – locations that were explicitly listed as 'boroughs' in the Domesday Book.[88] Domesday boroughs were important military and administrative centers of the time; for example, many were the location of shire courts (Brooke, 1961, p. 127). If the king cherry-picked royal boroughs, Domesday boroughs were certainly the most attractive targets.[89]

In Table A.11, we use the status of Domesday borough to create various sample splits and check the robustness of the relationship between Farm Grants and parliamentary representation. For comparison, column 1 reports our baseline specification (from column 1 in Table 2), showing a coefficient on Farm Grants of 0.466. Next, in column 2 we restrict the sample to the 106 Domesday Boroughs, i.e., the most important settlements at the time of the Norman Conquest. This subsample includes 62 royal and 44 mesne boroughs. We find that the coefficient on Farm Grants is very

[86] None of the pairwise differences (col 2 vs. 3 and col 5 vs. 6) is statistically significant. We report the results for Panel A in Table A.8. The share of other liberties is very similar in Panel B, where we also established balancedness in taxable wealth.

[87] Note, however, that we have shown that trade geography does predict trade-related outcomes in both royal and mesne boroughs (see Table A.9). Thus, our trade geography proxies cannot just be 'noise' for mesne boroughs.

[88] These are listed in Darby (1977). There are overall 112 Domesday Boroughs in Darby's list. We have excluded 6 settlements whose 'borough status' in 1086 is not supported by the evidence reported in Letters et al. (2003), but none of our results depend on this correction. The remaining 448 settlements in our dataset achieved the status as 'boroughs' after 1086 (but before 1348).

[89] Royal Domesday boroughs included important towns and cities such as London, Bristol, Oxford, Cambridge, York, Norwich, Ipswich, and Nottingham.

similar to our baseline result. In column 3, we *exclude* all Domesday boroughs from our dataset. Again, the coefficient on Farm Grants is essentially unchanged. Together, these findings make it unlikely that our results are confounded by the king picking the most important boroughs.

Table A.11: Sample Splits by Status as Domesday Borough

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

Boroughs included:	(1) All Boroughs	(2) Domesday Boroughs	(3) non-Domesday Boroughs	(4) non-Domesday Royal and Domesday Mesne
Farm Grant 1348	0.439	0.401	0.366	0.497
	(0.065)	(0.114)	(0.079)	(0.098)
Royal Borough	0.161	0.204	0.039	-0.235
	(0.051)	(0.127)	(0.046)	(0.082)
Mean Dep. Var.	0.23	0.58	0.14	0.29
R^2	0.24	0.30	0.12	0.18
Observations	549	106	443	123
Royal boroughs	141	62	79	79
Mesne boroughs	408	44	364	44
Farm Grant boroughs	84	39	45	31

Note: The table uses the status as Domesday borough (particularly important urban settlements at the time of the Norman Conquest) to perform various sample splits, showing that the coefficient on Farm Grants remains very similar. All regressions are run at the borough level. Robust standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

In column 4 we perform a particularly restrictive exercise, using only non-Domesday royal boroughs and Domesday mesne boroughs. That is, the restricted sample in these columns *excludes* the most important royal boroughs, while *including only* the most important mesne boroughs. If our findings were driven by the king cherry-picking royal boroughs, the correlation between Farm Grants and representation in Parliament should disappear – or at least be much weaker – in this subsample. This is not the case; the coefficient is actually slightly larger in column 4, and it remains statistically highly significant. Note also that the coefficient on royal borough in column 4 is *negative* and significant. Thus, after accounting for Farm Grants, royal boroughs in this subsample were actually *less* likely to be enfranchised than mesne boroughs.[90]

The particularly restrictive sample used in column 4 also has another attractive feature: It is fully balanced along all relevant observable characteristics for royal and mesne boroughs. Table A.12 shows that royal and mesne boroughs had very similar rates of parliamentary representation, they had similar trade geography, as well as taxable wealth. All differences between royal and

[90]In this subsample, the overall share of parliamentary boroughs is very similar for royal and mesne boroughs – about 31%. However, none of the mesne boroughs had a Farm Grant. Among the 83 royal boroughs, 35 had Farm Grants, and among these, 22 (62.9%) were in Parliament. Among the remaining 48 royal boroughs without Farm Grants, only 4 (8.3%) were enfranchised. The relatively high rate of parliamentary representation among the mesne boroughs in this sample is likely due to their administrative importance, as discussed in Appendix B.5..

mesne are quantitatively small and statistically insignificant, with p-values above 0.5 throughout. Nevertheless, even in this balanced subsample, there is a stark difference for Farm Grants: These were only granted to royal boroughs, of whom 42.2% received Farm Grants. In contrast none of the mesne boroughs received Farm Grants. Finally, the royal and mesne boroughs in this subsample are also geographically relatively evenly distributed across England, as shown in Figure A.10.

Table A.12: Balancedness of Royal vs. Mesne Boroughs in Col 4 of Table A.11

	Royal Boroughs Excluding Domesday (overall 79)	Mesne Boroughs Only Domesday (overall 44)	p-value for difference
Charters of liberties (share)			
Farm Grants	39.2%	0.0%	<0.001
Other liberties‡	44.3%	40.9%	0.718
in Parliament (share)			
Among all boroughs	27.8%	31.8%	0.646
Among Farm Grant boroughs	58.1%	[none]	–
Trade Geography (shares):			
Any Trade Geography	64.6%	68.2%	0.687
Navigable River	24.1%	20.5%	0.652
Sea Coast	24.1%	25.0%	0.907
Roman Road	32.9%	31.8%	0.902

Note: The table shows that in the subsample used in column 4 of Table A.11, royal and mesne boroughs have very similar rates of parliamentary representation and trade geography. Yet, only royal boroughs in this subsample received Farm Grants.
‡ "Other liberties" include freedom from tolls, Murage/Pavage, and rights to elect officials received by 1348 (see Appendix D.9. for a description of the latter two).

Given the balancedness in this subsample, the results in columns 4-6 of Table A.11 complement our analyses above, where we achieved balancedness using econometric techniques (entropy weights and propensity score matching). In all cases, we find very stable and robust coefficients on Farm Grants, underlining that it is unlikely that our results are driven by systematic differences between royal and mesne boroughs.

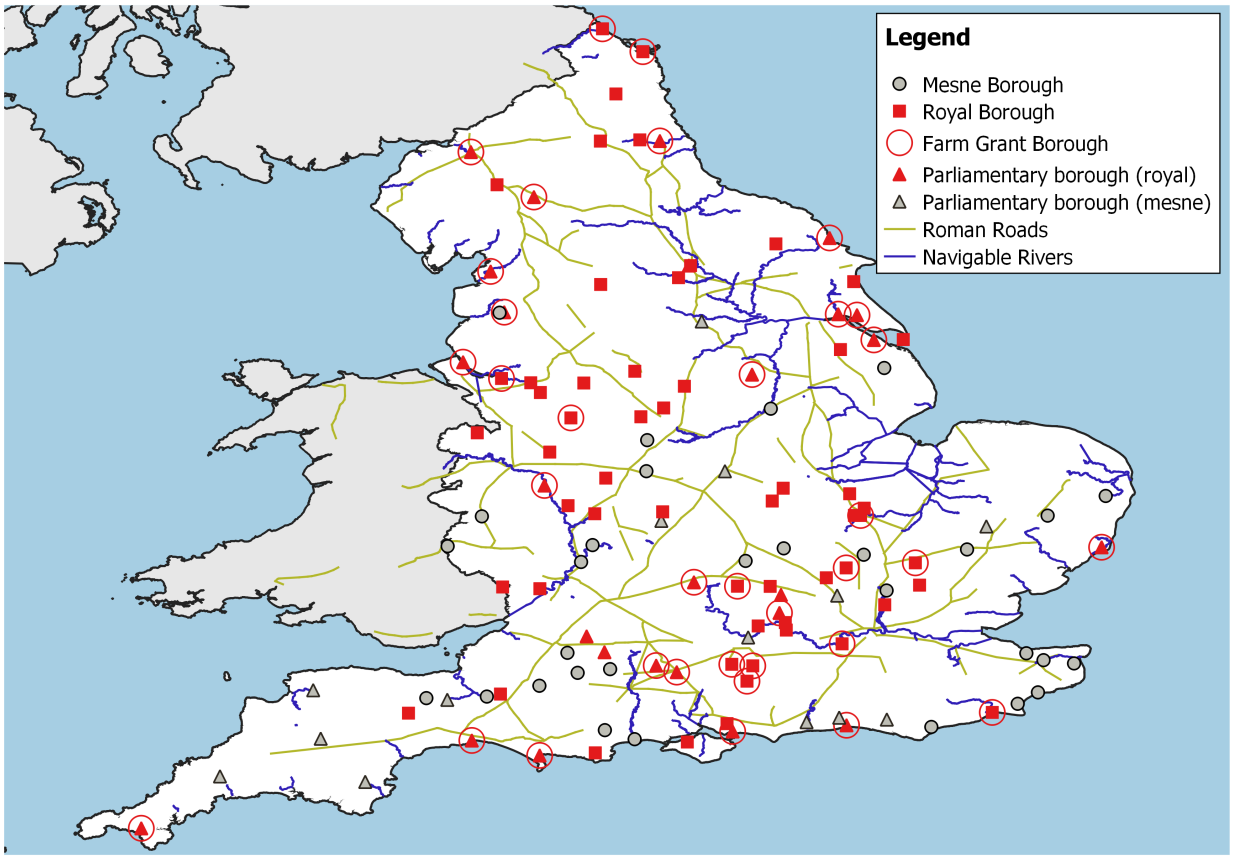

Figure A.10: Boroughs in the Subsample in Columns 4-6 of Table A.11

Note: The figure shows that the royal and mesne boroughs in the subsample in columns 4-6 of Table A.11 are distributed relatively evenly across England. The figure also shows the location of navigable rivers and of Roman roads that were usable in the 11th and 12th centuries.

D.6. Exploiting Changes in Borough Ownership

In this section, we restrict attention to boroughs that changed ownership – either from royal to mesne or from mesne to royal – between their foundation and 1348. Ownership changes occurred for a variety of reasons, often multiple times. The most common reasons included inheritance issues (whereby mesne lands without heirs reverted to the Crown), royal seizures following rebellions by lords, and grants to ecclesiastical organizations. To illustrate, consider the case of Northampton, which was part of the Earldom of Northampton granted to Simon de Senlis immediately after the Norman Conquest. The borough became royal from 1184 onward, when Simon III de Senlis died without heirs. Only one year after becoming a royal borough, Northampton received a Farm Grant from the Crown in 1185. The borough was also summoned to the Model Parliament in 1295.[91] We obtain information on the year of ownership switches from the individual accounts of towns reported in British History Online and from Tait (1936). The resulting 'switching sample' consists of 73 boroughs.[92] Within this sample, we register 41 ownership switches from mesne to royal, and 51 from royal to mesne.[93]

Ownership switches allow us to further address the concern that the king may have selected royal boroughs after the Norman Conquest (see Section IV.D. in the paper).[94] We begin by examining Farm Grants for switching boroughs. Overall 17 out of 41 boroughs (41.5%) that switched from mesne to royal ownership received Farm Grants, as compared to only 2 out of 51 (3.9%) that switched ownership from royal to mesne. These numbers are very similar to those in the full sample, where 51% of royal, and 4% of mesne boroughs obtained Farm Grants.

Figure A.11 (left panel) further examines this pattern, highlighting both dimensions of our difference-in-differences setting (royal vs. mesne and trade geography vs. no trade geography). Among the 41 boroughs that switched from mesne to royal, 29 had trade-favoring geography (i.e., location on a Roman road, a navigable river, or on the sea coast). Out of these 29 trade boroughs that switched from mesne to royal, 16 (55.2%) were awarded Farm Grants subsequently, and six of these boroughs received their Farm Grant within four years of becoming royal. This is in stark contrast to ownership switches from royal to mesne: Among the corresponding 51 boroughs, 38 had trade geography. Out of these, only 2 (5.3%) subsequently obtained Farm Grants. Among the switching boroughs without trade geography, the proportion of Farm Grants is very low, and it is not related to the direction of the ownership switch in a statistically significant way: 12 boroughs

[91] A detailed history of the borough is available from the British History Online.

[92] Since this section is explicitly concerned with the *timing* of Farm Grants and representation in Parliament, we do not exclude the few boroughs that were enfranchised before receiving Farm Grants (see footnote 3 in the paper). This concerns four of the 73 boroughs with ownership changes. However, we discard a small number of temporary switches where a royal borough belonged to a mesne lord or vice versa for less than 10 years, and where this period did not coincide with administrative changes such as Farm Grants or enfranchisement.

[93] Nineteen boroughs switched ownership in both directions.

[94] While we cannot rule out that (some) ownership transfers were motivated by unobservable borough characteristics, we discuss numerous features below that render a systematic bias towards our results unlikely.

without trade geography switched from mesne to royal, with only one (8.3%) obtaining a Farm Grant, and 13 non-trading boroughs switched from royal to mesne, with none receiving a Farm Grant.

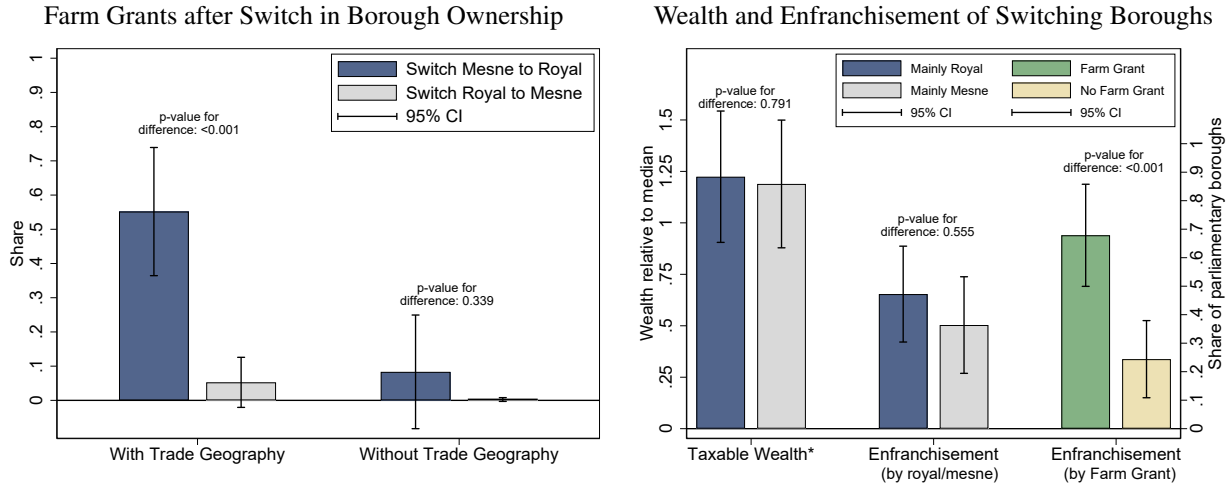

Figure A.11: Only Boroughs that Switched Ownership

Note: The figure visualizes the data for 73 boroughs that switched ownership from royal to mesne or vice-versa between their foundation and 1348. The left panel illustrates the main mechanism that led to boroughs obtaining Farm Grants, highlighting the interaction between trade geography and the status as a royal borough. "With trade geography" indicates that the borough was located on a Roman road, a navigable river, or on the sea coast. Trading boroughs that switched ownership from mesne to royal often obtained Farm Grants, while ownership switches of trading boroughs in the opposite direction were significantly less likely to be followed by the borough obtaining a Farm Grant. For boroughs without trade geography, ownership switches in neither direction had a significant effect on Farm Grants. The right panel shows that switching boroughs that were royal vs. mesne for the majority of the time period had very similar taxable wealth and enfranchisement. The crucial feature that predicts enfranchisement was not ownership status, but whether boroughs had Farm Grants.
* Taxable wealth is normalized, relative to the median across all boroughs that switched ownership and have data on taxable wealth in 1086 (overall 50 boroughs).

To what extent could this striking pattern be driven by selection, i.e., by more important mesne boroughs becoming royal and then receiving Farm Grants? We can address this concern in three ways: First, if this concern was valid, we should not observe switches of Farm Grant boroughs (i.e., important boroughs) from royal to mesne. This is not the case: 15 royal boroughs switched ownership to mesne *after* they had received a Farm Grant (as compared to only 3 mesne boroughs with Farm Grants becoming royal). Second, taxable wealth from the Domesday Book (see Appendix A.5.) is very similar for boroughs switching in both directions: Taxable wealth in 1086 (relative to the full-sample median) was 1.24 for boroughs that switched (at least once) from mesne to royal, and 1.20 for the opposite direction. Third, we can turn to the parliamentary representation of switching boroughs. Among the 73 switching boroughs, 33 were enfranchised by 1348. The timing of switching and subsequent enfranchisement helps us to address the concern that more important boroughs may have become royal and were then also summoned to Parliament. If anything,

the ownership-switch data support the opposite: Among the 33 parliamentary switching boroughs, only 10 had previously switched from mesne to royal, while 20 had switched from royal to mesne prior to being summoned to Parliament (three boroughs were enfranchised while being mesne and later became royal).

Farm Grants played an important role in this pattern, even among mesne boroughs: Among the 51 boroughs that switched from royal to mesne, 17 had Farm Grants.[95] Out of these 17 boroughs, 11 (65%) were summoned to Parliament by 1348. This is very similar to the proportion of 71% enfranchisement among all Farm Grant boroughs in the full sample. Thus, our analysis of switching boroughs underlines the comparability of royal and mesne boroughs in terms of representation in Parliament, complementing our discussion in Section IV.A. of the paper and in Appendix B.5..

A possible concern with the figures discussed above is that the *timing* of switches in ownership may have been related to unobserved (time-varying) characteristics of boroughs. To complete our analysis of switching boroughs, we thus also present statistics by the majority of ownership of switching boroughs. We define the indicator variables *Switching, Mainly Royal* and (*Switching, Mainly Mesne*) for boroughs with more than 50% royal and 50% mesne ownership, respectively, between their foundation and 1348. The resulting switching sample is balanced, with 37 *Switching, Mainly Royal* and 36 *Switching, Mainly Mesne* boroughs. The right panel of Figure A.11 shows that taxable wealth was also very similar for these two categories. The same holds for parliamentary representation, with 48.6% of *Switching, Mainly Royal* and 41.6% of *Switching, Mainly Mesne* boroughs being summoned to Parliament. Finally, the right panel of Figure A.11 shows that even in this balanced subsample, Farm Grants retain their predictive power for enfranchisement: 71.9% of the Farm Grant boroughs were enfranchised, as compared to 24.4% of non-Farm Grant boroughs. Finally, we replicate our specification from column 1 in Table 2 in the paper for the switching sample. We regress parliamentary representation on Farm Grants and *Switching, Mainly Royal* and obtain a coefficient on the former of 0.475 (s.e. 0.108). This is very similar to our baseline coefficient of 0.466. In addition, the coefficient on *Switching, Mainly Royal* is statistically insignificant and quantitatively very small and negative: -0.0026 (s.e. 0.106)), highlighting the comparability of royal and mesne boroughs in the switching sample.

D.7. Sample Splits by Status as "Taxation Borough"

In this section we perform an additional analysis for a more restrictive definition of 'boroughs,' relying on information contained in Willard (1933). In the period 1294-1336, a number of settlements occasionally paid extra-ordinary taxation on movable wealth at a higher "urban" rate relative to the rest of the realm. For example, in 1332, many urban settlements paid a tenth of their movable wealth, while the rest of the realm paid a rate of a fifteenth. Royal "chief taxers" were in

[95] As mentioned above, 15 boroughs already had Farm Grants when they became mesne, and 2 obtained Farm Grants after becoming mesne.

charge of selecting the settlements that paid the higher rate. They classified these settlements as "cities," "boroughs," or as "vills," with vills being less important (often rural) settlements that were occasionally selected to pay the higher rate. Willard (1933, pp. 418-424) observes that important and commercially active boroughs were more likely to be selected as "taxation boroughs" – urban settlements paying the higher rate.[96]

Willard (1933) provides the list of overall 212 settlements that – at least occasionally – paid the higher rate over the period 1294-1336. Moreover, he reports the nomenclature used by chief taxers when referring to these settlements: "borough," "cities," or "vills."[97] Unfortunately, the list of settlements reported by Willard (1933) is incomplete, and the loss of data likely affected settlements that only occasionally paid the higher rate (i.e., less important settlements).[98] To ensure consistency we use a conservative coding of "taxation boroughs," which also excludes less important settlements: We code as "Taxation boroughs" those 141 settlements in our pre-1348 sample that were explicitly named either "borough" or "city" in at least half of the instances in which they were subject to extra-ordinary taxation between 1294 and 1336.[99] These taxation boroughs include 71 royal and 70 mesne boroughs. They arguably represent the most important settlements for extra-ordinary taxation during the period when Parliament was established. Correspondingly 70% of these boroughs were represented in Parliament by 1348. This underlines the close connection between extra-ordinary taxation and parliamentary representation that we emphasized in Section II.C. of the paper.

Taxation boroughs can help us to further address the concern that extra-ordinary taxation may have differed for royal vs. mesne boroughs, either because the boroughs themselves were different or because the taxation procedure was not the same. If the same underlying differences led to Farm Grants, they would confound our results.[100] While we have already addressed this possibility both

[96]One reason for this higher rate was arguably the fact that movable wealth in commercial activity was harder to assess than the value of land in more rural communities. To compensate for the lower observability, the Crown imposed a higher tax rate (Willard, 1934, p. 9). Note that this differential taxation does not violate the principle of uniform extra-ordinary taxation across royal and mesne boroughs discussed in Section II.C.. All "taxation boroughs" – royal and mesne – contributed at the same (high) tax rate, and likewise all non-taxation boroughs contributed at the same (lower) rate).

[97]Note that virtually all the settlements listed in Willard (1933) were characterized by the presence of burgage tenure and are thus classified as 'boroughs' in our pre-1348 dataset (see footnote 8 in the paper, as well as Ballard, 1913; Ballard and Tait, 1923; Tait, 1936; Letters et al., 2003). Thus, the settlements defined as 'boroughs' for the purpose of taxation are a subset of the settlements with burgage tenure.

[98]This is highlighted by the author himself, who reports that "There are too many gaps in the records of taxation...for any satisfactory investigation of the matter." (Willard, 1933, p. 428). We confirmed this somewhat negative assessment by verifying the number of settlements that paid the higher rate in the county of Staffordshire: Slater (1985) lists 9 settlements that paid the higher rate, 3 more than those listed in Willard (1933).

[99]Our results are similar (but somewhat noisier) when we also include the less important settlements that were characterized as "vills" in the majority of cases.

[100]For example, Willard (1933) suggests that the criteria used by "chief taxers" to select settlements for the higher urban rate of extra-ordinary taxes may have been similar to the criteria used by sheriffs to select boroughs for parliamentary representation. If royal and mesne boroughs differed systematically along these criteria (e.g., economic

historically and empirically, the data on taxation boroughs allow us to perform additional checks.

In column 1 of Table A.13, we report our main results on parliamentary representation for the subsample of taxation boroughs. This sample also includes the majority of Farm Grant boroughs (overall 54), and it is relatively balanced, including 71 royal and 70 mesne boroughs. Even within this subsample, Farm Grant boroughs are significantly more likely to be summoned to Parliament, with a (highly significant) coefficient of 0.325. This further addresses the concern that our results may be driven by Farm Grant boroughs merely being the (economically or militarily) most important boroughs that would have made it to Parliament anyway: When we restrict the sample to the most important urban settlements in the eyes of the chief taxers, our results still go through.

One could still object that Farm Grant boroughs may have been the most important boroughs *among* the taxation boroughs. As a first pass at this issue, we exclude all taxation boroughs: Column 2 restricts the subsample to the remaining 408 boroughs in our main dataset. The coefficient on Farm Grants remains highly significant (but is somewhat smaller in magnitude). Again, one may object that within this subsample of less important boroughs, those with Farm Grants were the most important ones. This leads to the particularly restrictive subsample in column 3 of Table A.13, where we use only non-taxation *royal* boroughs and taxation *mesne* boroughs. In other words, we stack the odds against our results by dropping all royal boroughs that were deemed important by medieval tax assessors, while keeping only the important mesne boroughs in the sample. Even in this subsample, we find a statistically highly significant coefficient on Farm Grants with a magnitude of 0.297, which is similar to our baseline results. Note also that the coefficient on royal borough status is significant and *negative*: In the particularly restrictive subsample in column 3, royal boroughs without Farm Grants were actually much *less* likely to be summoned to Parliament than their mesne counterparts. Overall, the results in column 3 underline that it is unlikely that our findings on Farm Grants and parliamentary representation are confounded by differential importance or by different extra-ordinary taxation for royal vs. mesne boroughs.

D.8. Administrative Separation: Restrictions on Royal Officials

In Section IV.A. in the paper we argued that Farm Grants made representation in Parliament more likely because they forged autonomous bodies with whom the king could (and often had to) cooperate to collect extra-ordinary taxes. We expect this to be particularly true for boroughs that did not only have Farm Grants but also additional liberties that explicitly restricted the entry of royal officials and thus reinforced these boroughs' separation from the shire administration. We consider

importance), then this selection procedure could mechanically lead to our results. However, Willard's (1933) view has been criticized by other historians, mainly by Tait (1936, pp. 356-7) and McKisack (1962). McKisack (1962, pp. 77-8) argues that "For purpose of taxation, the term 'borough' seems to have been interpreted in the widest possible sense, and many small towns which seldom or never returned members to parliament paid the rate of a tenth. [...] On the contrary, it was through the co-operation of the borough representatives with the knights of the shire that control of taxation might best be maintained." Note that the argument by McKisack is in line with our reasoning that autonomous boroughs were enfranchised to ensure their cooperation in extra-ordinary taxation.

Table A.13: Sample Splits by Status as "Taxation Borough"

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

Boroughs included:	(1) only Taxation Boroughs	(2) only non-Taxation Boroughs	(3) non-Taxation Royal Boroughs and Taxation Mesne Boroughs
Farm Grant 1348	0.325	0.164	0.297
	(0.096)	(0.076)	(0.096)
Royal Borough	0.111	0.039	-0.468
	(0.106)	(0.036)	(0.066)
Mean Dep. Var.	0.70	0.06	0.33
R^2	0.19	0.04	0.23
Observations	141	408	140
Royal boroughs	71	70	70
Mesne boroughs	70	338	70
Farm Grant boroughs	54	30	22

Note: The table uses the status as "Taxation borough" to perform various sample splits, showing that the coefficient on Farm Grants remains similar. Building on Willard (1933), we define as "Taxation boroughs" those important urban settlements that royal chief taxers (i) selected to pay the higher rate of extra-ordinary taxation and (ii) explicitly named as "boroughs" or "cities" in the majority of instances in which a settlement was subject to extra-ordinary taxation between 1294 and 1336. Overall, there are 141 taxation boroughs; 71 royal and 70 mesne. All regressions are run at the borough level. Robust standard errors in parentheses.

three liberties that prohibited shire officials from entering the borough i) in their judicial functions (*non-intromittat*), ii) in financial functions (*direct access to the Exchequer*), and iii) to enforce royal orders (*return of writs*). Figure A.12 analyzes this dimension. By 1348, 84 boroughs in our sample held Farm Grants, and among these, 36 had obtained additional liberties that restricted the entry of shire officials – all of these were obtained after the Farm Grant (or, in a few cases, in the same year as the Farm Grant). In these 36 towns, it was in practice very difficult for the king to levy extra-ordinary taxes without the local community's cooperation. Correspondingly, we find that 86.1% of the boroughs with Farm Grants *and* restrictions on royal officials were represented in Parliament by 1348. Among the 48 boroughs that had Farm Grants but no restrictions on entry by shire officials, 56.3% were represented in Parliament. Finally, only 14.2% of the non-Farm Grant boroughs were summoned to Parliament by 1348.

D.9. 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. Appendix A.3. describes the sources and coding of both variables.

Boroughs' separate rights to elect officials. Our first proxy for organizational capacity is whether

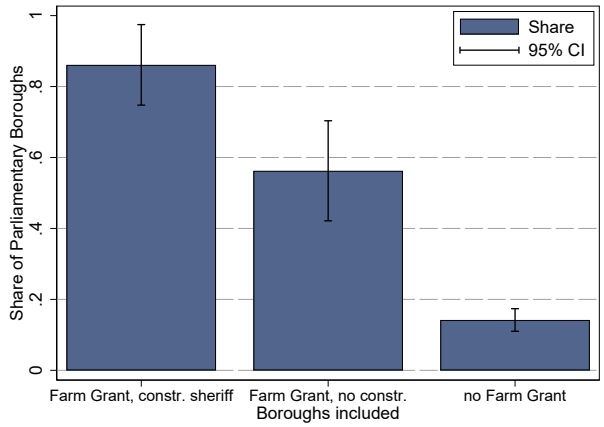

Figure A.12: Representation in Parliament: The Role of Restrictions on Entry by Shire Officials

Note: The figure shows that boroughs with Farm Grants were significantly more likely to be represented in the English Parliament by 1348. This relationship is particularly strong for boroughs that also had constraints on shire officials entering the borough (and thus reinforcing these boroughs' separation from the shire administration). Restrictions on entry comprise a borough's liberties that prohibited shire 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*).

boroughs obtained the right to elect officials. Recall that Farm Grants included the right to elect local officials for the collection of ordinary taxes. Many boroughs (both with and without Farm Grants) also obtained separate election rights, i.e., the right to elect local officials who were not directly involved in 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).[101] 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.[102] 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.

Boroughs' rights to collect Murage or Pavage. Our second proxy for organizational capacity is whether boroughs obtained the right to collect Murage or Pavage. In the Middle Ages, the burden

[101] 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.

[102] See http://historyofparliamentonline.org/volume/1386-1421/constituencies/salisbury and http://historyofparliamentonline.org/volume/1604-1629/constituencies/salisbury.

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 building and 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.

Empirical results: Controlling for organizational capacity. We now present the empirical results that control for organizational capacity in our regression of parliamentary representation on Farm Grants. For notational purposes, we label the variable "D_1: Farm Grant by 1348."[103] 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 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.14 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 parliamentary representation – may be confounded by organizational capacity. We use the baseline regression from column 1 in Table 2 in the paper as a reference point (where the coefficient on Farm Grant is 0.439). Column 1 in Table A.14 reports results when we control for the right to elect officials. Two findings stand out: First, the coefficient on D_1 is very similar to our main results in Table 2 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 0.01. 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.

Column 2 in Table A.14 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 parliamentary representation. 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).[104]

In column 3 of Table A.14 we restrict the sample to the 90 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, 45 boroughs had both Farm Grants and the right to elect

[103] For direct comparability with our previous results, we keep all boroughs with Farm Grants in a single category, whether or not the borough had additional election or Murage/Pavage rights. For the right to elect officials, this choice is additionally motivated by the fact that Farm Grants already included important election rights.

[104] There was a tendency for boroughs near the borders with Scotland and Wales to request Murage/Pavage rights because of the frequent warfare in the area. The results in column 2 are almost identical when we control for log distance to Scotland or Wales (whichever was nearer to a borough).

Table A.14: Proxies for Organizational Capacity: Right to Elect Officials and Murage/Pavage

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

	(1)	(2)	(3)	(4)
Boroughs included:	all	all	only boroughs with separate rights to...	
			elect local officials	Murage/Pavage
D_1: Farm Grant 1348	0.465	0.463	0.379	0.521
	(0.065)	(0.066)	(0.150)	(0.145)
D_2: Right to elect officials / no Farm Grant	0.228			
	(0.073)			
D_3: Murage or Pavage / no Farm Grant		0.158		
		(0.066)		
p-value for difference between D_1 and $D_{2/3}$	*[0.012]*	*[<0.001]*		
Royal Borough	0.155	0.153	0.217	0.014
	(0.050)	(0.052)	(0.156)	(0.151)
Number of boroughs with $D_1 = 1$	84	84	45	45
Number of boroughs with $D_2 = 1$	45	55		
Mean Dep. Var.	0.23	0.23	0.62	0.53
R^2	0.26	0.25	0.33	0.28
Observations	549	549	90	100

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 result (i.e., the coefficient on Farm Grants in col 1 in Table 2) does 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 2. All regressions are run at the borough level. Robust standard errors in parentheses.

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 summoned to Parliament. 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 100 boroughs that obtained Murage/Pavage rights, among which 45 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.

D.10. Pre-Norman Towns

During the 10th century, the Anglo-Saxon kings summoned general assemblies (*witans*) to take counsel on matters such as customs, legislation, and warfare. These assemblies were typically composed of lay and religious power holders: earls, archbishops, bishops, abbots and *thegns* –

militarily powerful men who exercised authority in rural and (some) urban localities (i.e., similar to Norman barons in the 11th century). The historical record includes no indication of direct representation of towns in *witans* (Loyn, 1984; Maddicott, 2010).[105] In one occasion (in ca. 965), historians suggests that *thegns* from the militarily powerful Anglo-Saxon *burhs* (fortified towns) were explicitly summoned to attend the witan (Maddicott, 2010, pp. 5-11). While this does not constitute a *direct* representation of towns, it nevertheless could imply that important military centers had a history of representation before the Norman Conquest. This could confound our results if two conditions hold: i) there was a "legacy of representation," i.e., towns that were (indirectly) represented in assemblies before the Norman Conquest were also more likely to be summoned to Parliament after the 13th century; and ii) pre-Norman military centers were more likely to obtain Farm Grants after the 11th century.

To address this concern, we create an indicator for the 52 fortified pre-Norman towns (*burhs*) listed in Hill (1981, Figures 150 and 235); 26 of these received Farm Grants by 1348. Table A.15 presents our main results on Farm Grants and representation in Parliament, controlling for pre-Norman towns. For direct comparison, column 1 replicates our baseline result (from column 1 in Table 2). Column 2 adds the control for pre-Norman fortified towns (*burhs*). We find that the coefficient on Farm Grants is essentially unchanged; the coefficient on *burhs* is also statistically significant, but smaller than the one for Farm Grants. The positive coefficient on *burhs* is compatible with our reasoning in Appendix B.5. – many of them were the centers of provincial government and/or enjoyed a degree of administrative independence from the shire (Jolliffe, 1937, p. 314). Column 3 excludes the 52 *burhs* from the sample, showing an almost identical coefficient on Farm Grants as in our baseline. This underlines that our results are not driven by pre-Norman towns. In column 4, we use an alternative, broader, control for pre-Norman urban settlements – locations that were explicitly listed as 'boroughs' in the Domesday Book (see Appendix D.5.).[106] The results are remarkably similar to those in column 2.

Overall, the results in Table A.15 are in line with power holders being summoned to assemblies and parliaments (North, Wallis, and Weingast, 2009) – where "power holders" before the 11th century included predominantly military and religious authorities, while merchant towns (especially those with self-governance due to Farm Grants) ascended to parliaments in the late medieval period.

D.11. The 'Model Parliament' of 1295

Table A.16 shows that our results for parliamentary representation hold also when we focus on the 'Model Parliament' of 1295. For this purpose, we restrict the sample to settlements that had

[105] Towns were directly represented in assemblies in Western Europe only after the 11th century (Marongiu and Woolf, 1968).

[106] The vast majority of *burhs* (46 out of 52) became Domesday Boroughs.

Table A.15: Proxies for Pre-Norman Military and Administrative Towns

Dep. var.: Indicator for boroughs summoned to Parliament by 1348

Note:	(1) Baseline	(2)	(3) Exclude *burhs*	(4)
Farm Grant 1348	0.439	0.400	0.420	0.396
	(0.065)	(0.064)	(0.073)	(0.062)
pre-Norman Fortified Towns		0.329		
		(0.067)		
Royal Borough	0.161	0.096	0.072	0.079
	(0.051)	(0.047)	(0.048)	(0.046)
Domesday Borough				0.307
				(0.051)
Mean Dep. Var.	0.23	0.23	0.18	0.23
R^2	0.24	0.29	0.16	0.31
Observations	549	549	497	549

Note: The table controls for two proxies for pre-Norman towns: Fortified military towns (*burhs*) and Domesday Boroughs (i.e., settlements that were explicitly listed as 'boroughs' in the Domesday Book in 1086). Columns 2 and 4 show that our main result (i.e., the coefficient on Farm Grant in col 1) remains almost identical when controlling for these indicator variables. The same is true when we exclude *burhs* from the sample (column 3). Robust standard errors in parentheses.

obtained borough status by 1295, which reduces the number of observations to 455 (135 royal boroughs and 320 mesne boroughs). Our main explanatory variable is whether a borough had received a Farm Grant by 1295 (overall 79 boroughs).[107] Column 1 shows that Farm Grant boroughs were significantly more likely to be represented in the 'Model Parliament,' with a coefficient that is similar to our baseline results for 1348. This results holds when we include county fixed effects and control for soil quality (col 2). Next, column 3 shows that there is a strong (reduced-form) relationship between trade geography and parliamentary representation in royal boroughs. Column 4 reports our 'control group' exercise – the reduced-form relationship does not hold in mesne boroughs, where Farm Grants were largely absent.

D.12. Include Boroughs that Lost Parliamentary Representation

Table A.17 provides a robustness check that uses an alternative, broader coding of the dummy for parliamentary representation, related to the issue explained in footnote 24 in the paper: In order to provide continuity with our post-1348 results, our baseline analyses code as enfranchised only boroughs that had seats in Parliament also in 1830 (not counting those boroughs as enfranchised that were not re-summoned to Parliament and/or let their franchise expire after 1348). In contrast, Table A.17 codes as enfranchised *all* boroughs that were represented in Parliament at least once by

[107] Among the Farm Grant boroughs, 46 were represented in the Model Parliament. All of these had received their Farm Grants before being enfranchised. Thus, we do not need to drop any boroughs from the sample (as we did in our main pre-1348 sample due to our conservative coding choice – see footnote 3 in the paper and Appendix A.1.).

Table A.16: Farm Grants and Representation in the Model Parliament in 1295

Dep. var.: Indicator for boroughs summoned to Parliament by 1295

	(1)	(2)	(3)	(4)
Boroughs included:	——- Boroughs founded by 1295 ——-			
	all	all	royal	mesne
Farm Grant 1295	0.357	0.365		
	(0.068)	(0.067)		
Royal borough	0.137	0.131		
	(0.051)	(0.049)		
Navigable River			0.261	0.021
			(0.086)	(0.057)
Sea Coast			0.229	0.049
			(0.091)	(0.052)
Roman Road			0.350	-0.031
			(0.078)	(0.039)
p-value joint significance River, Coast, Road			*[<0.001]*	*[0.585]*
County FE		✓		
Soil Quality		✓		
Mean Dep. Var.	0.21	0.21	0.42	0.13
R^2	0.19	0.31	0.19	0.01
Observations	455	455	135	320

Note: The table shows that our results for representation in Parliament (Table 2 in the paper) also hold for the Model Parliament of 1295. All regressions are run at the borough level. Robust standard errors in parentheses.

1348, even if they later lost the franchise. This gives 32 additional parliamentary boroughs. Table A.17 replicates all specifications from Table 2 in the paper. Both the size and statistical significance of the coefficients is essentially unchanged. Consequently, our results hold independent of how we code boroughs that lost their seats in Parliament after having been summoned in the medieval period.

Table A.17: Representation in Parliament: Include Boroughs that Later Lost Franchise

Dependent variable: Indicator for boroughs summoned to Parliament by 1348

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regression type	—- OLS —-		—— Reduced Form ——			———- 2SLS ———-		
Boroughs included:	all	all	all	all	all	all	all	all
Notes:					E-weights§			E-weights§
Farm Grant 1348	0.426	0.401				0.534	0.580	0.666
	(0.065)	(0.066)				(0.185)	(0.171)	(0.186)
Royal Borough	0.204	0.204	0.191	0.169	0.158	0.146	0.103	0.099
	(0.055)	(0.053)	(0.075)	(0.070)	(0.075)	(0.097)	(0.089)	(0.100)
Navigable River			0.019	0.067	-0.003	0.021	0.085	-0.016
			(0.061)	(0.061)	(0.057)	(0.048)	(0.051)	(0.044)
Sea Coast			0.022	-0.003	-0.046	0.011	-0.023	-0.061
			(0.050)	(0.055)	(0.046)	(0.042)	(0.045)	(0.038)
Roman Road			-0.034	0.019	-0.071	0.017	0.044	0.012
			(0.042)	(0.043)	(0.043)	(0.036)	(0.038)	(0.042)
p-value joint significance River, Coast, Road			*[0.799]*	*[0.682]*	*[0.190]*	*[0.927]*	*[0.225]*	*[0.408]*
River x Royal			0.161	0.241	0.182			
			(0.104)	(0.101)	(0.102)			
Sea Coast x Royal			0.168	0.145	0.236			
			(0.108)	(0.116)	(0.106)			
Roman Road x Royal			0.258	0.218	0.295			
			(0.092)	(0.090)	(0.093)			
p-value joint significance interaction terms			*[0.007]*	*[0.002]*	*[0.001]*			
County FE		✓		✓			✓	
Soil Quality		✓		✓			✓	
First Stage Effect. F-Stat						14.1	13.8	14.0
Mean Dep. Var.	0.28	0.28	0.28	0.28	0.23	0.28	0.28	0.23
R^2	0.23	0.34	0.18	0.32	0.23	0.22	0.34	0.28
Observations	549	549	549	549	549	549	549	549

Note: The table replicates all specifications from Table 2 in the paper. Here, parliamentary representation is defined more broadly, coding as enfranchised also those boroughs that lost their franchise after being summoned to Parliament at least once in the medieval period (see footnote 24 in the paper). This gives 32 additional enfranchised boroughs in our pre-1348 dataset. In the 2SLS specifications, the first stage uses the three interaction terms between trade geography (sea coast, navigable river, Roman roads) and royal borough status to predict Farm Grants, controlling for all variables in levels. We report the first-stage effective F-statistic from the Montiel Olea and Pflueger (2013) robust weak instrument test; the corresponding critical value for max. 10% relative bias is approximately 11.2 for all three 2SLS specifications.

§ 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.

E Farm Grants and Institutional Outcomes after 1400: Additional Results

This appendix provides additional results on our post-1348 outcomes, complementing Section V. in the paper.

E.1. Justices of the Peace: Reduced-Form and 2SLS Results

As we said in the opening paragraphs of Section V., we focused on OLS regressions for our post-1348 outcomes in order to document persistence over time.[108] We refrained from presenting 2SLS results for the post-1348 outcomes because i) we have numerous long-run outcome variables, so that discussing the exclusion restriction for each case would have gone beyond the scope of this paper; ii) the majority of long-run outcomes are only observed for a smaller subsample of boroughs, limiting the identifying variation (see footnote 28 in the paper for further detail). For two post-1348 outcomes (Justices of the Peace and Volunteers during the Civil War), data are available for the full sample of boroughs. In what follows we present the reduced-form and 2SLS results for Justices of Peace grants, which proxies for boroughs' administrative separation in the early modern period. While the difference-in-differences setup allows us to control for a potential direct effect of trade, we refrain from further exploring the exclusion restriction in the case of Justices of Peace grants. Our results should be interpreted as an exploratory analysis in the case where data availability allows us to perform our difference-in-differences strategy, and as suggestive – but not conclusive – evidence for a causal relationship between Farm Grants and administrative separation of boroughs after the Black Death.

Table A.18 presents the results for administrative separation.[109] For completeness, columns 1 and 2 report also the OLS coefficients. The reduced-from results in columns 3 and 4 show strong interaction coefficients between royal borough status and the three trade geography variables. At the same time, the coefficients on trade geography in levels are smaller and statistically insignificant (both individually and jointly). Next, columns 5-6 show our 2SLS results. The coefficient on Farm Grants is similar to the OLS results, and the Montiel Olea and Pflueger (2013) first stage F-statistic is comfortably above the threshold for max. 10% bias. One (small) caveat is that the trade geography variables in levels are marginally jointly significant in column 5, which is due to a potential direct effect of navigable rivers on Justice of Peace grants. While our difference-in-differences strategy controls for this potential channel, it nevertheless may raise concerns. This illustrates why we are careful in using our instrumental variable strategy from Section IV. (representation in Parliament) for long-run outcomes after the 14th century. Nevertheless, we note

[108] To disentangle potential direct effects of trade from those of local institutions, we conducted the placebo exercise with trade obstructions in Section V.F..

[109] Note that the sample now has 530 observations, as compared to 600 observations in Table 3 (cols 1 and 2). The reason for this difference is that our 2SLS strategy relies on trade and borough status *before* 1348 determining medieval Farm Grants. Thus, we exclude the settlements that obtained borough status after 1348 from the analysis. The sample is the same as the one used in the robustness checks in Table A.27, Panel B, with further detail given in Appendix E.9..

that once we control for county fixed effects (column 6 in Table A.18), there is no more statistically or economically meaningful direct relationship between trade geography and administrative separation.

Table A.18: Administrative Separation: Reduced-Form and 2SLS Results

Dep. var: Indicator for boroughs with Justices of the Peace grants

	(1)	(2)	(3)	(4)	(5)	(6)
Regression type	—- OLS —-		Reduced Form		—- 2SLS —-	
Farm Grant 1348	0.385	0.394			0.551	0.592
	(0.064)	(0.063)			(0.162)	(0.153)
Royal Borough	0.112	0.093	0.077	0.041	0.004	-0.025
	(0.045)	(0.045)	(0.064)	(0.066)	(0.085)	(0.082)
Navigable River			0.100	0.087	0.106	0.065
			(0.056)	(0.060)	(0.046)	(0.048)
Sea Coast			0.024	0.038	0.025	0.040
			(0.037)	(0.043)	(0.036)	(0.036)
Roman Road			-0.009	0.007	0.024	0.044
			(0.029)	(0.034)	(0.030)	(0.033)
p-value joint significance River, Coast, Road			*[0.271]*	*[0.362]*	*[0.094]*	*[0.214]*
River x Royal			0.175	0.150		
			(0.103)	(0.103)		
Sea Coast x Royal			0.231	0.254		
			(0.105)	(0.103)		
Roman Road x Royal			0.190	0.247		
			(0.085)	(0.085)		
p-value joint significance interaction terms			*[0.008]*	*[0.002]*		
County FE		✓		✓		✓
Soil Quality		✓		✓		✓
First Stage Effect. F-Stat					15.3	15.1
Mean Dep. Var.	0.15	0.15	0.15	0.15	0.15	0.15
R^2	0.23	0.32	0.20	0.28	0.22	0.30
Observations	530	530	530	530	530	530

Note: The table complements our results on administrative separation from Section V.A., showing reduced-form and 2SLS results for Justices of Peace grants. Robust standard errors in parentheses. In the 2SLS specifications, the first stage uses the three interaction terms between trade geography (sea coast, navigable river, Roman roads) and royal borough status to predict Farm Grants, controlling for all variables in levels. We report the first-stage effective F-statistic from the Montiel Olea and Pflueger (2013) robust weak instrument test; the corresponding critical value for max. 10% relative bias is approximately 11.6 for the two 2SLS specifications.

E.2. Volunteer Troops During the Civil War

Directly following the analysis in the previous appendix section, we now examine reduced-form and 2SLS results for the second post-1348 outcome variable that is available for the full sample of boroughs: Volunteers troops in support of parliamentarians during the Civil War. Table A.19

presents the results, beginning with the OLS coefficients in columns 1 and 2, which repeat our findings from Table 4 in the paper: Farm Grant boroughs were particularly likely to support parliamentarians during the Civil War.[110] Turning to the reduced form, columns 3 and 4 shows a strong relationship between trade geography and volunteer troop for royal boroughs – the interaction terms are jointly significant with a p-value below 0.001. In contrast, there is no reduced-form relationship for mesne boroughs (i.e., for the trade geography variables in levels). However, in the 2SLS results, there is some indication for a possible direct relationship between trade geography and volunteer troops. As stated in the previous appendix section, our difference-in-differences setup controls for this direct effect. Nevertheless, it may raise concerns, so that – as above – we view the 2SLS results as exploratory rather than conclusive evidence for a causal relationship.

E.3. MP Elections 1604-1831

This section complements our analysis of local MP elections from Section V.D. 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 A.10. 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.20 uses a modification of the openness index that was defined for values 1 to 3 in Table 5. 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).[111] Also, Table A.20 examines a longer time period, using the openness measure for five sub-periods between 1690 and 1831. Column 1 begins with the earliest period with available data on open MP elections: 1690-1715. 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 more than 25 p.p. more likely to have open MP elections, relative to a sample mean of 0.37. Next, we repeat the analysis using the election openness dummy for the periods 1715-54 (cols 3-4), 1754-1790 (cols 5-6), 1790-1820 (cols 7-8), and 1820-31 (cols 9-10). We find highly significant coefficients on Farm Grants of broadly similar magnitude throughout.[112] Note that even columns include county fixed effects for

[110] The sample restrictions explained in appendix footnote 109 apply here as well.

[111] This addresses concerns about the implicit linearity assumption when using the full index (as in column 1 of Table 5 in the paper).

[112] While both the coefficient and the mean of the dependent variable decline somewhat, the relative magnitude of the Farm grant coefficient, if anything, increases. The declining mean after 1690 (i.e., the falling proportion of boroughs with open MP elections) is in line with historical evidence: 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

Table A.19: Support for Parliamentarians during the Civil War: Reduced Form and 2SLS

Dep. var.: Volunteer troops raised by borough in 1642

	(1)	(2)	(3)	(4)	(5)	(6)
Regression type	—- OLS —-		Reduced Form		—- 2SLS —-	
Farm Grant 1348	0.169	0.158			0.275	0.304
	(0.042)	(0.040)			(0.127)	(0.121)
Royal Borough	0.043	0.038	-0.036	-0.048	-0.027	-0.046
	(0.019)	(0.024)	(0.034)	(0.034)	(0.055)	(0.053)
Navigable River			0.003	-0.009	0.052	0.039
			(0.021)	(0.026)	(0.030)	(0.029)
Sea Coast			0.010	0.011	-0.026	-0.035
			(0.018)	(0.023)	(0.022)	(0.025)
Roman Road			0.002	0.005	0.048	0.047
			(0.015)	(0.018)	(0.019)	(0.020)
p-value joint significance River, Coast, Road			*[0.946]*	*[0.908]*	*[0.008]*	*[0.057]*
River x Royal			0.199	0.219		
			(0.074)	(0.071)		
Sea Coast x Royal			-0.010	-0.027		
			(0.063)	(0.063)		
Roman Road x Royal			0.200	0.210		
			(0.061)	(0.058)		
p-value joint significance interaction terms			*[<0.001]*	*[<0.001]*		
County FE		✓		✓		✓
Soil Quality		✓		✓		✓
First Stage Effect. F-Stat					15.3	15.1
Mean Dep. Var.	0.05	0.05	0.05	0.05	0.05	0.05
R^2	0.12	0.23	0.17	0.29	0.12	0.21
Observations	530	530	530	530	530	530

Note: The table complements our results on supports for Parliamentarians during the Civil War from Section V.C. in the paper, showing reduced-form and 2SLS results. Robust standard errors in parentheses. In the 2SLS specifications, the first stage uses the three interaction terms between trade geography (sea coast, navigable river, Roman roads) and royal borough status to predict Farm Grants, controlling for all variables in levels. We report the first-stage effective F-statistic from the Montiel Olea and Pflueger (2013) robust weak instrument test; the corresponding critical value for max. 10% relative bias is approximately 11.6 for the two 2SLS specifications.

each period, absorbing potential differential changes in socio-economic conditions across regions over time. Overall, 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.20: Openness of MP Elections 1690-1831

Dependent variable: Indicator for Open MP elections

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Period considered	1690-1715		1715-54		1754-90		1790-1820		1820-31	
Farm Grant 1348	0.275	0.254	0.191	0.155	0.208	0.192	0.193	0.175	0.153	0.145
	(0.079)	(0.101)	(0.070)	(0.075)	(0.069)	(0.070)	(0.067)	(0.068)	(0.060)	(0.063)
County FE		✓		✓		✓		✓		✓
Soil Quality		✓		✓		✓		✓		✓
Mean Dep. Var.	0.37	0.37	0.25	0.25	0.22	0.22	0.20	0.20	0.15	0.15
R^2	0.08	0.30	0.05	0.35	0.06	0.32	0.05	0.35	0.04	0.30
Observations	160	160	183	183	183	183	182	182	183	183

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 A.10.. All regressions are run at the borough level. Robust standard errors in parentheses. The number of observations varies across the different time periods, depending on the availability of the necessary information in the sources listed in Appendix A.10..

Table A.21 extends our *Broad Franchise* measure from Table 5 in the paper for six additional time periods, reaching back to 1604.[113] 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 p.p. more likely to have a broad franchise, with all coefficients being statistically highly significant.[114] In combination, the results from Tables A.20 and A.21 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.

and aldermen sympathetic to the royal cause (Porritt, 1909; Howell, 1982; Miller, 1983). Following the Glorious Revolution in 1688, boroughs petitioned the monarch 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. This can explain why the proportion of boroughs with open MP elections was particularly high around that period.

[113]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.

[114]As in Table A.20, 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.

Table A.21: 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	1604-29	1660-90	1690-1715	1715-54	1754-90	1790-1820	1820-31
Farm Grant 1348	0.144	0.302	0.242	0.200	0.200	0.210	0.147
	(0.074)	(0.064)	(0.058)	(0.069)	(0.068)	(0.068)	(0.071)
County FE	✓	✓	✓	✓	✓	✓	✓
Soil Quality	✓	✓	✓	✓	✓	✓	✓
Mean Dep. Var.	0.70	0.71	0.75	0.73	0.72	0.72	0.69
R^2	0.33	0.37	0.34	0.30	0.32	0.32	0.29
Observations	174	182	183	184	182	183	183

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 A.10.. All regressions are run at the borough level. Robust standard errors in parentheses. The number of observations varies across the different time periods, depending on the availability of the necessary information in the sources listed in Appendix A.10..

E.4. Great Reform Act – MP-Level Results

In this appendix we shed light on the mechanisms behind our findings in Section V.E. in the paper. We documented an increased vote share in support of the Great Reform Act in Farm Grant boroughs in December 1831. Did MPs who voted against the Reform Act in March change their mind in Farm Grant boroughs, or were they replaced by new pro-Reform Act MPs? To answer this question, we examine the voting behavior of *individual* MPs for or against the Great Reform Act in both the March and December 1831 votes.

Sources for individual MP-level data. We collect data from the Parliamentary Papers (available at https://parlipapers.proquest.com/parlipapers) on the identity and voting behavior of 344 English borough MPs sitting in Parliament in March 1831 (who had been elected in July-August 1830), representing 182 different boroughs.[115] Among these, 158 (45.9%) voted in favor of the Reform Act. Out of the 344 MPs, 190 were re-elected in April-May 1831 and voted again in December 1831. For this later vote, we observe the voting behavior of 306 MPs (with 178 (58.2%) voting for the Reform Act).

Main MP-level results. The first important finding in our MP-level data is the high persistence of voting behavior of re-elected MPs: Among the 190 MPs who were confirmed after their March

[115]We complement this information with the individual biographies of MPs found in The History of Parliament. We resort to this source whenever the Parliamentary Papers had missing information or whenever we fortuitously spotted inconsistencies with constituency accounts. This is the case for the vote of only four MPs. We do not include MPs from boroughs that are not in our post-1348 regression sample (for example, because they are from boroughs that received Farm Grants after 1348 – see Appendix A.1. for detail).

vote, 189 cast the same vote again in December.[116] This implies that the change in pro-Reform Act votes between the two dates must have been driven by a disproportionate election of pro-candidates in April-May 1831. Next, we examine how this (re-)election varied depending on boroughs having medieval Farm Grants. Figure A.13 illustrates the main insights from our MP-level analysis. The left panel examines how voting behavior in March 1831 affected the re-election of MPs in boroughs with and without medieval Farm Grants. In Farm Grant boroughs, MPs who voted in favor of the Great Reform Act in March 1831 were significantly more likely to be re-elected: Among the MPs who voted 'yes,' 81.2% were re-elected, as compared to only 33.9% of those who voted 'no.' In contrast, in boroughs without Farm Grants, MPs' earlier vote in support for the Reform Act did not influence their odds of being re-elected (with the proportion of confirmed MPs being 51.7% and 53.0% for 'yes' and 'no' votes, respectively).

The right panel of Figure A.13 shows the voting behavior of MPs in December 1831. In Farm Grant boroughs, both confirmed and newly elected MPs overwhelmingly voted for the Reform Act, with nearly identical probabilities of voting 'yes.' For confirmed MPs, this is explained by the finding in the left panel that re-election was much more likely for pro-Reform Act candidates. For newly elected MPs, the finding implies that Farm Grant boroughs were much more likely to elect new candidates who supported the Reform Act. Thus, overall, the increase in support for the Reform Act in Farm Grant boroughs (see Section V.E. in the paper) is explained by the replacement of opponents of the Reform Act with supporters. In boroughs without Farm Grants, newly elected MPs were more likely than confirmed MPs to support the Reform Act, but the support of both fell short of that of MPs in Farm Grant boroughs. Thus, the lower support for the Reform Act in non-Farm Grant boroughs results from i) less replacement of opponents and ii) a lower proportion of newly elected MPs supporting the Reform Act.

For completeness, Table A.22 shows that our main results on the Reform Act also hold when using the individual MP data. We replicate the regressions from Table 6 in the paper, with the only difference being that now the outcome variable is measured at the individual MP level (as opposed to the *share* of pro-Reform Act votes across all MPs of a borough). Note that all explanatory variables are measured at the borough level (including the March 1831 vote, which reflects each borough's pro-Reform vote share). Thus, we cluster standard errors at the borough level. We obtain statistically highly significant results of very similar magnitude as those in Table 6 in the paper.

The results from Table A.22 allow us to perform a simple back-of-the envelope calculation to shed light on the quantitative importance of Farm Grant boroughs for the outcome of the Reform Act. According to the results in column 4 (i.e., controlling for the borough-level vote share in

[116] Only one MP – Sir G. Warrender of Honiton in Devon – switched from 'no' to 'yes.' In addition, three MPs who had been absent during the March vote were re-elected. All of them voted in favor of the Reform Act in December.

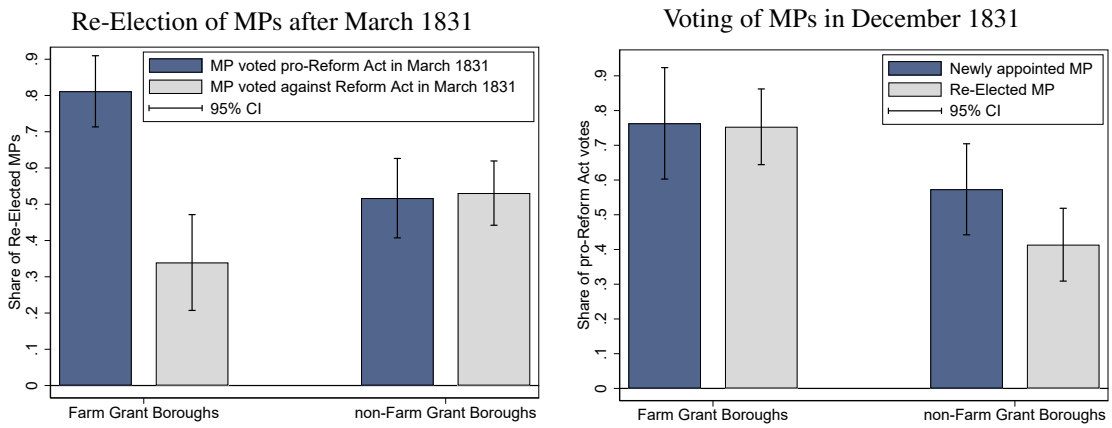

Figure A.13: Re-Election and Voting of MPs for the Great Reform Act

Note: The figure visualizes MP-level data for voting behavior and re-election in March 1831 and December 1831. The left panel shows that in Farm Grant boroughs, MPs who voted for the Great Reform Act in March 1831 were significantly more likely to be re-elected. In contrast, in non-Farm Grant boroughs, support for the Reform Act did not influence the odds of being re-elected. The right panel shows voting behavior of MPs in the December 1831 vote, illustrating that in Farm Grant boroughs, both confirmed and newly elected MPs overwhelmingly voted for the Reform Act. In non-Farm Grant boroughs, newly elected MPs were more likely than confirmed MPs to support the Reform Act, but the support of both fell short of that of MPs in Farm Grant boroughs. The figure also shows 95% confidence intervals. The underlying standard errors are clustered at the borough level.

March 1831), the support for the Reform Act among MPs from Farm Grant boroughs increased by 12.9 p.p. in December 1831 relative to the March vote. Since 37.6% of all borough-level MPs came from Farm Grant boroughs, the overall increase in the pro-Reform vote share is 4.9 p.p. Overall, the pro-Reform vote share among borough MPs increased from 46% to 58% (see the means in cols 1-2 vs. cols 3-6 in Table A.22. Thus, about 40% (4.9/12) of the increase in support for the Reform Act is explained by Farm Grant boroughs.

Table A.22: Individual MP Votes Supporting the Great Reform Act

Dep. var.: Dummy for vote in favor of the Reform Act in March and December 1831

	(1)	(2)	(3)	(4)	(5)	(6)
Vote in:	March 1831		— December 1831 —			
Farm Grant 1348	0.066	0.068	0.174	0.129	0.125	0.126
	(0.061)	(0.063)	(0.068)	(0.058)	(0.054)	(0.059)
Disenfranchise	-0.269	-0.239	-0.318	-0.169	-0.162	-0.191
	(0.058)	(0.071)	(0.073)	(0.058)	(0.057)	(0.067)
Share pro-Reform Act votes 03/1831				0.729	0.721	0.718
				(0.057)	(0.057)	(0.068)
Swing Riot within 10km					0.140	0.134
					(0.054)	(0.099)
County FE		✓				✓
Soil Quality		✓				✓
Additional Controls[#]		✓				✓
Mean Dep. Var.	0.46	0.46	0.58	0.58	0.58	0.58
R^2	0.09	0.24	0.17	0.50	0.52	0.57
Observations	344	344	306	304	304	304

Note: This table replicates Table 6 from the paper, with the outcome variable in all regressions measured at the individual MP level (a dummy for the MP supporting the Reform Act). All explanatory variables are measured at the borough level. Robust standard errors in parentheses (clustered at the borough level).

[#] Additional controls include market integration, distance to urban center, and connection to London (see note to Table 5 for detail).

E.5. Obstructions to Trade

This section provides detailed information on our coding of trade obstructions and presents robustness checks of the results shown in Table 7 in the paper.

Background and data description. For each parliamentary 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 1386-1832 available at History of Parliament. 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."[117] 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.[118]

Obstructions to 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 lands. 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.[119]

We obtain information on obstructions to navigable rivers from Jones (2000) and Langdon (2000).[120] By the 14th century, the obstructions caused by the numerous water mills prompted

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

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

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

[120] 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).

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).[121] 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 84 boroughs in our pre-1348 dataset that had received Farm Grants, we count 15 boroughs that filed petitions after suffering trade obstructions. All obstructions occurred *after* these boroughs had obtained their Farm Grants.

Data sources for outcome variables. Most outcome variables that we use in Table 7 in the paper are described throughout the text. The exception are the two population variables in the post-1400 plausibility checks in Panel A (columns 4 and 6): The dependent variable in column 4 – the share of employment in trade-related professions – is from the 1831 census, and has been collected for parliamentary boroughs by Aidt and Franck (2015). The dependent variable in column 6 – borough population in 1851 – is from Bennett (2012).[122]

Additional results on trade obstruction. Among the 15 boroughs that suffered trade obstructions after receiving Farm Grants, five obstructions occurred before 1348 (but after Farm Grants were obtained by these boroughs). Table A.23 replicates Table 7 in the paper, excluding these five boroughs. For the plausibility check in Panel A, the results are similar to those in the paper. In fact, boroughs that later had their trade obstructed started off with significantly *higher* taxable wealth (col 1) and poll tax payers (col 2). Yet, they have significantly lower population and trade employment in the 17th-19th centuries (cols 4-6). The long-run outcomes in Panel B are very similar for Farm Grant boroughs with and without trade obstruction. In the one case where the two coefficients are (almost) statistically distinguishable (in column 6), the predictive power of Farm Grants is actually stronger for the 10 boroughs that experienced trade obstructions after 1348.

E.6. Clustering and Spatial Correlation

Table A.24 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

[121] 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).

[122] Data available at https://discover.ukdataservice.ac.uk/catalogue?sn=7154.

Table A.23: Obstructions to Trade after Farm Grants: Robustness

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)
			PANEL A: Plausibility checks			
		Pre-1400 outcomes			Post-1400 outcomes	
Dependent variable:	ln(Taxable Wealth in 1086)	ln(Poll Tax Payers in 1377)	Commercial Importance 14C†	ln(Population in 17C)	Trade employment share in 1831	ln(Population in 1851)
Trade not obstructed after Farm Grant	0.672	1.490	1.502	1.028	0.087	0.932
	(0.219)	(0.213)	(0.179)	(0.155)	(0.021)	(0.199)
Trade obstructed after Farm Grant	1.686	2.321	1.211	0.307	0.013	0.133
	(0.389)	(0.093)	(0.387)	(0.400)	(0.032)	(0.357)
p-value: test for equality of coefficients	*[0.021]*	*[<0.001]*	*[0.493]*	*[0.091]*	*[0.030]*	*[0.046]*
Mean Dep. Var.	1.69	5.79	[s.d.=1]	6.84	0.38	9.01
R^2	0.06	0.28	0.28	0.16	0.09	0.13
Observations	346	152	544	420	178	226
			PANEL B: Long-run institutional outcomes			
Dependent variable:	Justices of the Peace	Crown's Influence on appointments	Broad Municipal Elections	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Trade not obstructed after Farm Grant	0.476	-0.117	0.358	0.218	0.724	0.261
	(0.062)	(0.083)	(0.085)	(0.052)	(0.171)	(0.073)
Trade obstructed after Farm Grant	0.317	-0.187	0.460	0.183	0.568	0.441
	(0.156)	(0.162)	(0.144)	(0.127)	(0.243)	(0.106)
p-value: test for equality of coefficients	*[0.341]*	*[0.678]*	*[0.495]*	*[0.797]*	*[0.563]*	*[0.109]*
Mean Dep. Var.	0.14	0.39	0.54	0.05	[s.d.=1]	0.56
R^2	0.20	0.02	0.13	0.12	0.11	0.09
Observations	595	161	135	595	178	171

Note: The table replicates Table 7 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.

and outcome variables (such as parliamentary representation) 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 following Conley (1999). This addresses the concern that spatial patterns may be associated 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 A).[123] The results are almost identical in Panel D, where we allow for arbitrary spatial clustering, following Colella, Lalive, Sakalli, and Thoenig (2019). Finally, Panel E controls for log distance of each borough to London (thus also excluding London itself). London is a poster child of our mechanism. It possessed favorable trade-geography, received a Farm Grant in 1131, and it was summoned to Parliament as early as 1283. London also had relatively open elections for both municipal officials and its MPs; it provided volunteers during the Civil War and its MPs voted in favor of the Great Reform Act. By dropping London, we address possible concerns that

[123]Results are robust to using larger (or smaller) distance cutoffs. In Panel C, we use the spatwmat and spatreg commands in Stata.

it may disproportionately affect our results. Again, the results are essentially unchanged. Overall, the results in Table A.24 suggest that our baseline specification with robust standard errors is sufficient.

Table A.24: All Outcomes: Clustering and Spatial Correlation

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	In Parliament by 1348	Justices of the Peace	Crown's Influence on appointments	Broad Municipal Elections	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Reg. in paper:	Table 2, col 1	Table 3, col 1	Table 3, col 3	Table 3, col 5	Table 4, col 1	Table 5, col 5	Table 6, col 3
Panel A: Main Results (OLS with robust standard errors)							
Farm Grant 1348	0.439	0.383	-0.220	0.362	0.169	0.669	0.162
	(0.065)	(0.065)	(0.124)	(0.118)	(0.042)	(0.149)	(0.070)
R^2	0.24	0.21	0.02	0.15	0.12	0.10	0.17
Observations	549	600	165	140	600	183	175
Panel B: Clustered Standard Errors (at the county level)							
Farm Grant 1348	0.439	0.383	-0.220	0.362	0.169	0.669	0.162
	(0.084)	(0.056)	(0.112)	(0.116)	(0.046)	(0.124)	(0.060)
R^2	0.24	0.21	0.02	0.15	0.12	0.10	0.17
Observations	549	600	165	140	600	183	175
Panel C: Accounting for Spatial Correlation (Conley, 1999)							
Farm Grant 1348	0.439	0.383	-0.219	0.390	0.169	0.548	0.168
	(0.052)	(0.046)	(0.113)	(0.109)	(0.029)	(0.136)	(0.070)
Observations	549	600	165	140	600	183	175
Panel D: Accounting for Arbitrary Spatial Clustering (Colella et al., 2019)							
Farm Grant 1348	0.439	0.383	-0.220	0.362	0.169	0.669	0.161
	(0.019)	(0.051)	(0.152)	(0.053)	(0.042)	(0.064)	(0.072)
Observations	549	600	165	140	600	183	175
Panel E: Controlling for ln(distance to London)							
Farm Grant 1348	0.435	0.379	-0.240	0.386	0.160	0.662	0.173
	(0.065)	(0.064)	(0.123)	(0.117)	(0.041)	(0.148)	(0.069)
R^2	0.24	0.21	0.04	0.16	0.13	0.11	0.19
Observations	548	599	164	139	599	182	174

Note: The table replicates our main results (which are run by OLS with robust standard errors and reported in Panel A), using different approaches to adjust standard errors: Panel B uses clustering at the county leve; Panel C accounts for spatial correlation using Stata's *spatreg* command; Panel D allows for arbitrary spatial clustering; Panel E controls for the log distance of each borough to London. 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. For the estimation in Panels C and D, all boroughs with distance less than 2 degrees ($\approx$ 220km) are considered spatially contiguous and are assigned a nonzero spatial weight. Standard errors in parentheses.

E.7. Controlling for Taxable Wealth in 1086

This appendix section shows that all our results hold when we control for taxable wealth in 1086 from the Domesday Book – despite the fact that this reduces the sample size. Table A.25 checks the robustness of our results on representation in Parliament (Table 2 in the paper) and on long-run institutional outcomes (Tables 3-6).

Panel A in Table A.25 controls for log taxable wealth, using all boroughs with available data on taxable wealth in 1086. Panel B includes only boroughs whose taxable wealth was between the 10th and 90th percentile.[124] All coefficient estimates on Farm Grants confirm our main results (see Panel A of Table A.24 for comparison). In addition, the coefficients on log taxable wealth are quantitatively small throughout, and statistically insignificant in most regressions in Table A.25. This makes it unlikely that our long-run results are confounded by borough wealth at the time of the Norman Conquest (or correlates thereof).

Table A.25: All Outcomes: Controlling for Taxable Wealth in 1086

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	In Parliament by 1348	Justices of the Peace	Crown's Influence on appointments	Broad Municipal Elections	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Reg. in paper:	Table 2, col 1	Table 3, col 1	Table 3, col 3	Table 3, col 5	Table 4, col 1	Table 5, col 5	Table 6, col 3
Panel A: Controlling for taxable wealth in 1086							
Farm Grant 1348	0.359	0.283	-0.250	0.358	0.137	0.477	0.171
	(0.084)	(0.086)	(0.138)	(0.146)	(0.048)	(0.191)	(0.097)
ln(Taxable wealth in 1086)	0.026	0.000	-0.091	0.048	0.009	0.078	0.063
	(0.018)	(0.014)	(0.035)	(0.040)	(0.009)	(0.072)	(0.036)
R^2	0.23	0.17	0.11	0.16	0.12	0.08	0.19
Observations	351	394	98	79	394	103	99
Panel B: Taxable wealth in 1086 between 10th and 90th percentile							
Farm Grant 1348	0.400	0.343	-0.213	0.327	0.160	0.385	0.247
	(0.094)	(0.098)	(0.148)	(0.151)	(0.057)	(0.220)	(0.106)
ln(Taxable wealth in 1086)	-0.002	-0.015	-0.113	0.039	-0.002	0.122	0.108
	(0.023)	(0.021)	(0.059)	(0.070)	(0.010)	(0.100)	(0.051)
R^2	0.24	0.18	0.10	0.12	0.15	0.06	0.27
Observations	293	330	78	60	330	81	78

Note: In Panel A, the table replicates our main results (see Panel A of Table A.24), controlling for each borough's (log) taxable wealth from the Domesday Book in 1086. Panel B includes only boroughs whose taxable wealth was between the 10th and 90th percentile. See Sample 1 and Sample 2 in Figure A.6 for the corresponding distributions of wealth). Robust standard errors in parentheses.

E.8. Matching Estimation for Long-Run Results

In Table A.26 we perform propensity score matching by trade geography for all our outcome variables. The 'treatment group' are royal boroughs with Farm Grants – altogether 70 in our pre-1348 dataset, and 69 in the post-1348 dataset.[125] For each 'treated' borough, we use propensity score matching to identify a mesne boroughs that had exactly the same trade geography (for example,

[124]The maximum number of observations in Panel A is 351 boroughs in our pre-1348 sample and 394 boroughs in our post-1348 sample. Note that the latter includes locations that were merely settlements at the time of the Norman Conquest and obtained borough status after 1348. The wealth distributions corresponding to the samples in column 1 in Panel A and B are shown in Sample 1 and 2 in Figure A.6, respectively.

[125]The merged borough "Weymouth and Melcombe Regis" is not included in our post-1348 analysis, reducing the number of Farm Grant boroughs by one (see Appendix A.1.).

location on navigable river and Roman road, but not on the sea coast).[126] The coefficient on *Farm Grant* in Table A.26 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), administrative separation as proxied by Justices of the Peace grants (col 2), volunteer troops during the Civil War (col 5), and openness of MP elections (col 6) we fully confirm magnitude and statistical significance of the results in the paper. Only for influence of the king (col 3) and broad municipal elections (col 4) – where the sample is the smallest – the coefficients are smaller in magnitude fall short of standard levels of statistical significance. This is not surprising, given the particularly restrictive type of (identical) matching. On the other hand, for votes supporting the Great Reform Act (col 7) we find a coefficient that is larger than in our baseline regression (column 1 in Table 6 in the paper). Overall, the results with (exact) matching confirm our main findings.

Table A.26: All Outcomes: (Exact) Matching by Trade Geography

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	In Parliament by 1348	Justices of the Peace	Crown's Influence on appointments	Broad Municipal Elections	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Reg. in paper:	Table 2, col 1	Table 3, col 1	Table 3, col 3	Table 3, col 5	Table 4, col 1	Table 5, col 5	Table 6, col 3
SATE	0.463	0.357	-0.115	0.183	0.136	0.529	0.263
	(0.086)	(0.091)	(0.116)	(0.116)	(0.034)	(0.238)	(0.110)
Mean Dep. Var.	0.22	0.14	0.35	0.60	0.05	0.07	0.58
Observations	464	522	143	117	522	155	148
Treated obs. (royal Farm Grant)	70	69	55	52	69	59	58
Control obs. (mesne non-FG)	394	453	88	65	453	96	90

Note: The table replicates our main results (see Panel A of Table A.24), performing propensity score matching with one (exact) match. 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.

[126]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 14 mesne boroughs that received Farm Grants by 1348 (but none of our results depend on this). This leaves a maximum of 464 (=549-71-14) observations, which includes 70 royal boroughs with Farm Grants and 394 mesne boroughs without Farm Grants.

E.9. Sample Composition

Table A.27 shows the robustness of our results to different choices of sample composition. As described in Appendix A.1., our pre-1348 regression sample excludes six boroughs that obtained Farm Grants *after* being summoned to Parliament (see also footnote 3 in the paper). Column 1 in Panel A shows that our results on parliamentary representation by 1348 are essentially identical when we include these boroughs. In addition, our post-1348 regression sample excluded boroughs that received Farm Grants *after* 1348 because our main 'treatment' variable is *medieval* Farm Grants (i.e., pre-1348). Columns 2-7 in Panel A of Table A.27 present our results when not imposing this restriction for the post-1348 sample (and also not dropping the six boroughs mentioned earlier). That is, columns 2-7 in Panel A use all settlements that received borough status by the 17th century.[127] We confirm all our results.

Panel B in Table A.27 present results for a more conservative sample choice: As explained in Appendix A.1., our baseline results for the post-1348 period also included settlements that received borough status between 1348 and the 17th century. Now, we drop all those that received borough status after 1348 from our post-1348 analysis. In addition, for the pre-1348 analysis (column 1 in Panel B), we drop boroughs that are excluded from our post-1348 regressions because they disappeared, merged with another borough, or received a Farm Grant *after* 1348. Again, all our results are confirmed in terms of both magnitude and statistical significance.

F Municipal Liberties and Parliaments: Detail on Individual Countries

This appendix complements Section VI. in the paper. Here, we provide a detailed discussion of the relationship between municipal autonomy and parliaments across individual countries and regions in Western Europe.

F.1. France

In contrast with England, the 11th century French kings were relatively weak and controlled only a small territory compared to the French local lords, who governed relatively large territories (Henneman, 1971, p.8; Glaeser and Shleifer, 2002). In the 12th century, the territory was administratively divided into bailiwicks headed by royal officials. In towns, either the king or local lords appointed *prévôtes* who farmed taxes (Baldwin, 1986, pp. 43). The initial path of town liberties partially mirrors that of England. On the one hand, the Commercial Revolution led to urban growth and demand for an efficient administration of taxes on trade. By the 13th century, many trading towns – *bonnes villes* – received Charters of Liberties granting them the right of self-governance and, in some cases, the right to exclude royal officials (Baldwin, 1986, pp. 60-63; Challier, 2011, p. 18). Towns received charters in both royal and lords' territories. This finding is compatible with

[127] Note that this includes the 14 boroughs that received Farm Grants after 1348 in the 'control' group instead of dropping them, as in our core results .

Table A.27: Sample: Boroughs that are in Both the pre-1348 and post-1348 Regression Dataset

Dependent variable as indicated in table header

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	In Parliament by 1348	Justices of the Peace	Crown's Influence on appointments	Broad Municipal Elections	Volunteer troops during Civil War	Openness of MP elections 1820-31‡	Vote share for Great Reform Act 1832
Reg. in paper:	Table 2, col 1	Table 3, col 1	Table 3, col 3	Table 3, col 5	Table 4, col 1	Table 5, col 5	Table 6, col 3
Panel A: Include all settlements with borough status							
Farm Grant 1348	0.466	0.413	-0.216	0.332	0.201	0.669	0.153
	(0.063)	(0.062)	(0.105)	(0.103)	(0.045)	(0.149)	(0.065)
R^2	0.26	0.21	0.03	0.12	0.12	0.10	0.17
Observations	555	621	186	158	621	183	194
Panel B: Baseline samples, but only settlements with borough status by 1348							
Farm Grant 1348	0.462	0.385	-0.237	0.364	0.169	0.669	0.170
	(0.066)	(0.064)	(0.122)	(0.118)	(0.042)	(0.151)	(0.071)
R^2	0.26	0.23	0.03	0.16	0.12	0.11	0.16
Observations	530	530	145	133	530	171	165

Note: The table replicates our main results (see Panel A of Table A.24), for different sample compositions: Panel A uses all settlements that had obtained borough status by 1348 (i.e., not excluding any boroughs as per the conservative sample choices described in Appendix A.1.). Panel B combines the conservative sample choices for our pre- and post-1348 regression samples: It includes only settlements that obtained borough status by 1348 and remained in our regression sample post-1348 (i.e., did not disappear later, merged with another borough, or obtained Farm Grants after 1348).

our argument, since French lords ruled over much larger territories than their English counterparts and had similarly complex layers of administration as the king. On the other hand, and unlike England, the rivalry between lords and the frequent conflicts with England also led both the king and lords to favor the emergence of *communes* – a bond between locals who provided a militia to defend their town (Petit-Dutaillis, 1947, pp. 82-3, 105-108; Tait, 1936, p. 256).

By the beginning of the 14th century, the autonomous trading towns and *communes* were summoned to general assemblies, mainly to discuss and give consent to extra-ordinary taxation, from which the nobility was largely exempt (Hervieu, 1876; Post, 1954; Lewis, 1962). In contrast to England, the 'nationwide' assembly (Estates General) met only intermittently and had very limited power. Regional assemblies, on the other hand, emerged earlier and were more prevalent than national ones, arguably because of the fragmentation of the territory and the autonomy of local lords (Lewis, 1962; Major, 1980). As in other parts of Europe, in the 16th century, the rising expenses for warfare led the king to demand an increasing amount of extra-ordinary subsidies from his subjects. Towns' resistance to these demands coincided with a surge in royal interference and patronage (Beik, 2005). Royal *reformateurs* and *intendants* were appointed to administer towns alongside closed local elites (Henneman, 1971, p. 18; Saupin, 1996; Roberts, 2007). In Bordeaux, the king almost entirely removed the local merchant elite who opposed royal taxation: in its place, he established a narrower oligarchy mainly composed of 'gens du roi' belonging to local noble families (Petit-Dutaillis, 1947, pp. 268-70). Similar instances of a reduction in the size of mu-

nicipal governing bodies and electoral franchises occurred in numerous towns from the reign of Henry IV onwards (Major, 1980, pp. 381 and 669). Starting in the reign of Francis I (1515-47), venality of municipal offices went hand in hand with the spread of the farming of indirect taxes to finance war efforts (Temple, 1966; Major, 1980; Bossenga, 1991; Doyle, 1996): "society took the form of a late, recharged feudalism" (Beik, 2005). In some areas (*pays d'état*), the regional estates – which were by now representative of a narrow and mainly landed elite – remained active. Under Louis XIV, their deputies were however under the influence of royal patronage and thus successfully opposed the introduction of more equitable direct taxes until the 18th century (Major, 1980, p. 636; Beik, 2005; Kwass, 2006). By then, the inefficiencies of tax farming came to the fore and the ever-increasing war expenses obliged the king to introduce the property tax known as the *dixiéme*, which mainly fell on the nobles (McCollim, 2012). The Crown's recurrent reneging on the terms entered with office-holders and the lack of an effective parliament in which property righs could be negotiated were key in explaining the elites' behavior during the French Revolution (Root, 1994).

F.2. Spain

In the 11th century, Spain was highly fragmented. The south of the Iberian Peninsula was composed of Muslim polities, and the north, of separate Christian kingdoms. The latter resembled the English case, with royal and lords' territories. The king and local lords oversaw the administration of justice, taxes, and military affairs in their respective territories (O'Callaghan, 2013). As in England, urban life flourished with the Commercial Revolution. The rising urban bourgeoisie was a major source for taxes to finance the Reconquista. By the 12th century, trading towns in the different kingdoms obtained charters (*fueros*) granting them local autonomy over tax collection and the administration of justice (Ladero Quesada, 1994; Daileader, 1999). As in England, towns belonging to local lords gained fewer liberties than their royal counterparts (Font i Rius, 1945; Ladero Quesada, 1994). In contrast to England – and similar to French communes – *fueros* had a military emphasis because of towns' importance during the recurring conflicts between the various polities (O'Callaghan, 2013; Morales Arrizabalaga, 2010). A particularly important subset of the towns' oligarchies were the *caballeros* (knights), who were also exempt from taxation (Ladero Quesada, 1994; Sanz, 1994; Diago Hernando, 1997).[128]

At the end of the 12th century, assemblies (*Cortes*) emerged in all the Christian kingdoms of Spain. Similar to England, self-governing towns were represented in these assemblies, mainly to discuss extra-ordinary taxation (García Díaz, 2015). The *Cortes* reached the height of their influence at the beginning of the 14th century (Olivera Serrano, 1987). By the end of the 14th century, many towns began to lose part of their autonomy as well as their representation in the

[128] In Aragon, because of the Reconquista, the *caballeros* were so important that they sat in a separate section (*brazo*) in the Cortes (Gil, 1993).

Cortes. This was driven by multiple factors. First, the ownership of many royal towns was transferred to local lords (O'Callaghan, 2013; Ladero Quesada, 1994; Sanz, 1994). Second, the Crown increasingly meddled with towns' internal affairs by appointing *regidores* – high-level local officials, mostly chosen from the local nobility – who often held this office for life and could bequest it (Hernando, 2002). Third, the *caballeros* took over almost entirely the towns' municipal councils (Ladero Quesada, 1994; Sanz, 1994; Moreno Nieves, 2008). In Castille, the narrow oligarchies of the most important towns obtained jurisdiction over the surrounding communities, and arguably as a result of this process became the only towns represented in assemblies (Olivera Serrano, 1987). The number of towns included in the Castillian *Cortes* fell to 18 and their representatives lacked *plena potestas* (Jago, 1981). These towns' narrow and closed oligarchies entered deals with the Crown to farm the indirect royal taxes imposed on fellow townsmen (Merriman, 1911; Ortiz, 1961; Ladero Quesada, 1994). Similar dynamics took place in the Crown of Aragon (Sánchez Martínez, 2010). By the end of the 15th century, the Catholic Kings unified much of the Spanish territory. The jurisdiction of the Crown over these historic territories remained fragmented, with many royal towns sold to local lords (Nader,1990, pp. 103, 128, 129; Grafe, 2012). The Crown continued to rely on local oligarchs to act as (hereditary) tax farmers until well into the 18th century (Zamora, 1998a,b; Furió, 1999; Sanz, 1994; Irigoin and Grafe, 2008). The old (regional) *Cortes* survived and exerted a constraint on monarchs until the 17th century, although they were rarely summoned. By then, the system of tax farming aligned the interests of local oligarchies so strongly with those of the Crown that consent in the *Cortes* was virtually assured (Jago, 1981).

F.3. Sicily

In a period lasting less than three hundred years, Sicily underwent four conquests, each associated with large changes in land ownership. The Normans founded the Kingdom of Sicily in c. 1130, at the onset of the Commercial Revolution. Similar to England, the Norman king divided the territory between himself and lay and ecclesiastical Norman lords. He appointed officials to collect taxes in the royal territory and enforce the law throughout the realm. In contrast to England, the king kept the highly efficient pre-existing (Arab) bureaucracy (Mack Smith, 1968, p. 27). This can help to explain why town liberties are rarely observed in the period immediately following the conquest. Only Palermo and Messina, two large royal trading towns, gained limited autonomy during the 12th century. In the first half of the 13th century, the new king Frederick II faced a rebellion from local barons. Once control was re-established, Frederick kept a tight grip on the local administration and did not grant autonomy to towns. After his death in 1250, a state of near-anarchy prevailed. On the one hand, in royal trading towns, some municipal autonomy was encouraged by the king to gain support against the barons (Mack Smith, 1968, pp. 43-46); whether trade was also a factor

that facilitated self-governance is unclear.[129] On the other hand, local lords acquired control of a large number of towns that, as a consequence, lacked local community control over municipal institutions (Mack Smith, 1968, p. 100).

Concomitant with the emergence of self-governance in royal towns, the Sicilian parliament was established, where trading towns' representatives discussed extra-ordinary taxation. However, the long-lasting lack of self-governance, which had hampered the formation of a strong class of merchants, meant that powerful barons had significant influence over these towns' administrations and representation in parliament (Mack Smith, 1968; D'Alessandro and Corrao, 1994). When, in the course of the 15th and 16th centuries, the Spanish kings' increasing reliance on extra-ordinary taxes allowed the (regional) parliament to gain power, trading towns lacked the necessary independence from the king and local lords to exert any meaningful influence. This status quo lasted until the 18th century (Mack Smith, 1968; Koenigsberger, 1978; Sabetti, 2014).

F.4. Holy Roman Empire

In the Holy Roman Empire (roughly modern-day Germany), heterogeneous regions – each ruled by princes and bishops – were under the formal authority of the emperor. In 11th century Germany, urbanization was low compared to that of Northern Italy and the Low Countries. The Commercial Revolution led to an expansion in the number and size of towns. In the course of the 13th century, a number of towns exploited their increasing commercial importance and the weakness of the Crown during the *Interregnum* to gain a measure of autonomy, acquiring the title of *imperial* cities in the process (Jacob, 2010). Similarly, some of the towns under the rule of bishops exploited the political instability to obtain autonomy mostly by force, and they became *free* towns. By the end of the 13th century, *Imperial* cities and *free* towns purchased the privilege to exclude imperial bailiffs from entering the town walls and enjoyed princely prerogatives within their territories (Moraw, 1989; Jacob, 2010).[130] Urban administration in both types of towns was mostly in the hands of the merchant elite, but craft guilds also played a role (Jacob, 2010; Ribhegge, 2003). Towns in the *territorial* states had a lower and less enduring degree of autonomy compared to *imperial* cities and *free* towns (Moraw, 1989).

Representative assemblies emerged both at the imperial level and within the princely territories. By the 15th century, imperial cities and free towns joined nobles and clergy in the imperial *diets* to give their consent to extra-ordinary taxes. The composition of the *diets* fluctuated over time

[129] Although merchants were not excluded from office-holding in Palermo during the 13th and 14th centuries, the local nobility – the *miles* – dominated the local administration (Pasciuta, 1998).

[130] By the end of the 13th century, there were ca. 100 *imperial* cities and 7 *free* towns, mostly located in Southern Germany. The fiscal relationship between the emperor and the *imperial* cities is reminiscent of the English Farm Grant boroughs. Much like the English Crown, the emperor collected ordinary and extra-ordinary taxes from the *imperial* cities. Compared to English Farm Grant boroughs, the *imperial* cities enjoyed more freedom in the levying of local taxes for the financing of local public goods (e.g., repairs of town walls). Unlike English boroughs, a number of these towns acquired jurisdiction over their surrounding territories (Isenmann, 1999).

and, compared to England, their effectiveness in coordinating the administrations of this large territory was limited (Prak, 2018). Within the princely territories, rulers created regional Estates to which semi-autonomous *territorial* towns were summoned. In either type of assemblies, towns only played a minor role in decision-making (Moraw, 1989; Isenmann, 1999; Chilosi and Volckart, 2011). This led them to form competing urban leagues at both the imperial and the territorial state levels. Urban leagues served a variety of purposes: i) Foster cooperation for better law enforcement and trade, ii) coordinate towns' actions in assemblies, and iii) defend urban autonomy in the face of the emperor's recent attempts at pledging *imperial* cities to nobles in exchange for military support. Urban leagues soon became dysfunctional, primarily because of the geographic distance between the members and the shifting patterns of alliances over different issues (Moraw, 1989; Isenmann, 1999; Prak, 2018).

The period going from the 1470s to the Peace of Westphalia in 1648 marked a new phase in the history of the Holy Roman Empire. The military threats posed by the Turks, the French, the Burgundians and the Hungarians significantly increased fiscal pressure. This led to a process of state-building which, unlike in England, occurred at both the imperial and territorial state levels (Ogilvie, 1992). The emperor attempted to cope with these crises by coordinating the various jurisdictions (including the towns) in the imperial *diets*. These attempts failed, also due to a further divergence in interests after the Reformation (Prak, 2018). Eventually territorial princes gained the upper hand: The emperor sold them numerous imperial cities in exchange for military support, and these cities lost part of their autonomy in the process. In contrast to English autonomous towns, German towns had little weight in representative assemblies and therefore lacked the ability to resist this form of patronage (Moraw, 1989; Ribhegge, 2003).

The Peace of Westphalia (1648) weakened the empire and its institutions, while it sanctioned the emancipation of the territorial states. Lords and central bureaucrats meddled with urban administrations, who often came under the control of narrow oligarchies (Liebel, 1965; Wahl, 2019). By the 18th century, craft guilds had lost much of their power within medium-sized and large *Imperial* cities and *free* towns, whereas they continued to exert influence in smaller towns (Liebel, 1965; Walker, 1971). In more centralized territories (e.g., Prussia), territorial *Estates* were increasingly bypassed and lost control over taxation (Ogilvie, 1992; Neu, 2010).

The German case illustrates the importance of a centralized representative assembly where towns could coordinate their interests. In its absence, towns that had obtained autonomous and relatively open governance structures in medieval times could not defend their liberties against imperial and territorial interests after the 15th century. This process contributed to the *Kleinstaaterei* (extreme territorial fragmentation), which took hold of the German territories until the 19th century.

F.5. Northern Italy

At the end of the 10th century, the Kingdom of Italy belonged to German kings and emperors. The royal authority was very weak: The kingdom was divided into highly autonomous domains belonging to dukes, counts, and bishops, from which royal officials were often excluded. The weakness of the central authority also forced the German king to increasingly rely on townsmen to form sworn associations (*communes*) in order to defend towns against raids by Hungarians and Saracens (Tabacco, 1989, pp. 151-7).

During the 11th and 12th century, a handful of urban trading *communes* (e.g., Florence) enjoyed significant military power, which they used to subject the surrounding towns and rural areas to their jurisdiction (Comba, 1991). A conflict between *communes* and emperor Frederick 'Barbarossa' arose when the latter attempted to limit towns' autonomy. The Peace of Constance (1183) resulted in wider royal concessions of autonomy to urban *communes*, some of which evolved into city-states (Tabacco, 1989). By and large, these powerful towns were under the control of assemblies in which nobles and merchant guilds – often intertwined (as in Venice) – were represented (Jones, 1979; Artifoni, 1986). Overall, in contrast to England, military considerations rather than trade seem paramount when analyzing the emergence of self-governing trading towns.

Because of internal conflicts between various factions of nobles and merchants, many large autonomous towns evolved into a *signoria*, in which the *signore* (often a local noble) rather than town assemblies appointed local officials (Chittolini, 1979; Ventura, 1979). The *signoria* paved the way to the formation of stable and relatively small regional states (e.g., the Duchy of Milan), in which most towns enjoyed limited self-governance and, with few exceptions (e.g., the County of Savoy) were almost never represented in regional – let alone national – assemblies (Gamberini, 2008; Astuti, 1979).[131]

F.6. Low Countries

In the Middle Ages, the Low Countries were composed of several semi-autonomous provinces, each under the rule of different lords (e.g., counts) who enjoyed a large degree of *de facto* autonomy from the King of France. A divide emerged early on – economically and politically – between the main southern provinces of Flanders and Brabant, and the main northern province of Holland (Israel, 1995, p. 12). In what follows, we focus on the two provinces of Flanders and Holland. The institutional dynamics in Brabant were very similar to those of Flanders.

In Flanders, the territory was divided into castellanies – military and judicial territorial subdivisions headed by bailiffs (Nicholas, 1992, pp. 80-7). As in England, in the course of the 11th and 12th centuries, trade increased the need for specialized and autonomous municipal adminis-

[131]The Republics of Venice and Genoa stand out from this account. Arguably because noble families were also involved in trade, these two towns never evolved into *signorie* and instead came to be controlled by the town's closed oligarchy of wealthy merchants (Tabacco, 1989, pp. 292-4; Puga and Trefler, 2014).

trations. Trading towns obtained the right to have an administration (urban *échevinage*) separate from that of the rural castellanies (Ganshof, 1951). By the end of the 12th century, townsmen elected magistrates (aldermen), although their overlord – the count – maintained influence over this choice (Nicholas, 1992, pp. 120-3 and 132-5; Dumolyn, Declercq, and Haemers, 2018, p. 138). By the beginning of the 14th century, guilds – which were the backbone of the town militias – acquired formal representation in towns' governing councils (Prak, 2018). Unlike England, the *Trois Villes* exploited their military strength to extend their jurisdiction over the surrounding communities (Nicholas, 1978). As a result of this dominance, by and large, they were the only towns summoned to general assemblies throughout the 12th to 15th century (Nicholas, 1992, pp. 162, 186).

Compared to Flanders, towns in Holland were smaller and more homogeneous in their size. A measure of municipal autonomy developed at the beginning of the 14th century, induced by towns' growing commercial importance and the temporary weakness of the count (Tracy, 1990, p. 11). During this period, large town councils in charge of selecting magistrates (e.g., burgomasters) included wealthy merchants, guild members, and members of the town militias (Israel, 1995, pp. 25-6). Concomitantly, a provincial assembly (States of Holland) developed, to which towns sent representatives (Prak, 2018, p. 125). Within these assemblies, towns cooperated in implementing common policies to a larger extent than in Flanders (Israel, 1995, p. 16).

In the 15th century, the Dukes of Burgundy acquired lordship over all the provinces in the Low Countries. The dukes embarked on a policy of state-building, in part through the establishment of the Estates General for the Low Countries in 1464. These policies had distinct consequences for the various provinces. In Flanders, the dukes aimed at weakening the power of the major towns by introducing provincial courts (e.g., the Council o Flanders) to implement central policies and better control town administrations (Stein, 2017). In Holland, the dukes appointed a provincial governor – the *stadtholder* – and marginally intervened in the composition of town councils to ensure stability and compliance with central policies (Israel, 1995).

These centralization policies and the dukes' increasing requests for money from the Estates were met with towns' resistance.[132] Flemish towns rebelled at the time of Charles the Bold's death in 1477, by exploiting a succession crisis that paved the way to the Habsburgs' rule over the Low Countries. The Habsburgs crushed the rebellion by 1492, causing i) towns' loss of jurisdictional power over their surrounding territory, and ii) magistrates to be appointed by dukes' commissioners (at the expense of the guilds) (Tracy, 1990; Israel, 1995; Nicholas, 1992).

The mounting fiscal pressure in the mid-16th century increased the Habsburgs' dependence on the provincial Estates, who had further expanded their influence in the collection and expenditures

[132]In the 1440s, social unrest within towns induced the duke to meddle with urban governance by reducing the number of councillors so as to weaken the role of guilds in the selection of municipal magistrates (Tracy, 1990; Israel, 1995, pp. 23-26).

of extra-ordinary taxes, reaching virtually full control by 1558 (De Schepper, 1994; Israel, 1995, pp. 133-6). By 1561, religious issues became central to political conflicts in the Low Countries. The Crown wished to implement a strict anti-heresy policy meant to curb the advance of Protestantism in the localities. In 1565, a group of nobles – the *Beggars* – forced the Crown to concede religious tolerance. This, in turn, spurred violence by Calvinist iconoclasts in many towns, especially in the southern provinces (e.g., Flanders). The central government restored order in 1567, and it imposed harsh punishments against nobles and urban elites who had cooperated with the Protestant movements. To meet the costs associated with keeping order in the Low Countries, the Crown demanded the consent of the Estates to further taxes. The Estates' refusal to comply, the coercive and unilateral extraction of taxes by the Crown, the presence of Spanish troops in the Low Countries, and the Crown's religious policies eventually led to the Revolt of 1572 (De Schepper, 1994; Israel, 1995, pp. 141-69). The Revolt led to different outcomes in the southern and northern provinces. By 1648 (Peace of Westphalia), the Northern Provinces (Holland, Zeeland, Guelders, Friesland, Groningen, Drenthe, Overijssel, and part of Brabant) had established the Dutch Republic – a parliamentary regime in which the strength of the provincial Estates exceeded that of both the Estates General and the *stadtholder* (Prak, 2018). The southern provinces (Flanders, Hainaut, Namur, Luxembourg, and part of Brabant) remained under the Spanish Crown. In the Spanish Netherlands, the Flemish provincial assembly continued to exist, but failed to develop additional prerogatives.

Scholars have listed a number of potential reasons to explain these various outcomes. Of primary interest to us is the possibility that success in the Northern provinces was in part due to the strength of the provincial assembly in Holland, in which self-governing towns could effectively coordinate their actions. This was in contrast to Flanders, where frictions across and within the large towns (mainly Bruges and Ghent) prevented their elites from organizing collective action against the Crown. Moreover, urban elites in Flemish towns were subject to stricter royal control compared to their counterparts in Holland. Consistent with this, the Revolt benefitted from the support of part of the urban elites (and town militias) to a larger extent in Northern towns than in southern ones (Tracy, 1990; Israel, 1995; Marnef, 2001). Overall, the interaction between local and 'nationwide' institutions in Holland resembles that observed in England: The elites in administratively autonomous towns could benefit from their presence in a relatively well-functioning assembly to defend their autonomy and strengthen parliamentary prerogatives. Unlike England, however, *provincial* Estates continued to play a key role in the decision-making process of the Dutch Republic. By the end of the 18th century, this feature hampered the effectiveness of the Estates General and contributed to the eventual fall of the Republic (Prak, 2018).

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Challenges to a Causal Interpretation and Ways to Address Them

Sections IV.C. and IV.D. in the paper presents empirical evidence that supports a causal relationship between Farm Grants and representation in Parliament. This is complemented by rich historical evidence that we discuss in Section II.. Table A.28 below provide a summary of potential challenges to a causal interpretation, together with references to the empirical and historical evidence that renders them unlikely.

An important part of the information in Table A.28 concerns the comparability of royal and mesne boroughs – an important precondition for our use of mesne boroughs as the 'control group' in our difference-in-differences approach. The following institutional similarities for royal and mesne boroughs are particularly relevant: First, burgesses in both royal and mesne towns had equal access to royal justice, regularly participated in shire courts, and elected the Knights of the Shire. Second, when it came to extra-ordinary taxes, all boroughs (royal and mesne) were under the shire court's jurisdiction (which effectively bypassed local lords), and mesne boroughs had to pay the *same* extra-ordinary tax rate as royal boroughs (Willard, 1934). Third, the procedure by which the Crown summoned boroughs to Parliament was the same for royal and mesne territories (Mitchell, 1951). Finally, historians have documented that not only the Crown, but also local lords promoted trade in their boroughs. Correspondingly, we have shown that trade geography predicts economic outcomes such as commercial importance or population in *both* royal and mesne boroughs.

Table A.28: Summary: Challenges to a Causal Interpretation and Ways to Address Them

Did Farm Grants have a Causal Effect on Direct Representation in Parliament? *Our argument in Sections III. and IV. is that royal trading boroughs obtained Farm Grants, and that the resulting administrative autonomy of Farm Grant boroughs fostered their direct representation in Parliament. We use three proxies for trade activity of boroughs: location on navigable rivers, on the sea coast, and on Roman roads. The exclusion restriction is that trade geography affected direct representation of boroughs only via Farm Grants, but not via other channels. We account for this in a difference-in-differences (DD) setting that uses mesne boroughs as the 'control group,' where trade did not lead to Farm Grants, and thus not to parliamentary representation.*	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
Historical Evidence Supporting the Exclusion Restriction	
H: Section IV.A.	The historical record does not suggest a direct relationship between boroughs' trade activity and their representation in Parliament. Parliament was not directly tied to merchants or specific economic interests; instead, it was a 'general assembly' that served as a representative institution of *all* property holders, meant to facilitate the collection of extra-ordinary taxes. Note: Our argument does not require trade in general to be unrelated to *aggregate* outcomes. In particular, the fact that the Commercial Revolution coincided with the emergence of parliaments across Europe does not violate our exclusion restriction because we focus on the *composition* of Parliament in a cross-section of all English boroughs.
Parliamentary Representation: Mesne Boroughs as Control Group in DD Setting	
E: Section IV.C.; Table 2, columns 3-5	We use mesne boroughs as a the control group in our DD setting. In mesne boroughs, Farm Grants were very rare because of the historical reasons described in Section III.A.. Correspondingly, we find that the relationship between trade geography and Farm Grants holds only in royal boroughs (Table 1). We then test the exclusion restriction in Table 2: Columns 3-5 show that there is no relationship between trade geography and parliamentary representation among mesne boroughs (the non-interaction terms), i.e., in the absence of Farm Grants. Note: The validity of mesne boroughs as a control group depends on them being comparable to royal boroughs along other dimensions that may have mattered for parliamentary representation (wealth, location, extra-ordinary taxes being collected by the same procedure, access to Parliament, etc). We discuss these in detail below.
table continued on next page	

Do Differences between Royal and Mesne Boroughs Drive our DD Results? *Our DD results use mesne boroughs as control group, for which there are (almost) no Farm Grants and, correspondingly, there is no relationship between trade geography and direct representation in Parliament. Could this absence of a relationship be driven by different institutional or political characteristics of mesne boroughs? That is, are mesne boroughs a valid control group for our DD setting?*	
Type of evidence: **H**istorical/**E**mpirical	Description of Evidence
Institutional Differences in Royal vs. Mesne Boroughs?	
H: Sections II.C. and IV.A.; Appendix B.5. and D.4. Point ii).	Burgesses in royal and mesne boroughs had equal access to royal justice, regularly participated in shire courts, and elected the Knights of the Shire. We discuss in Sections II.C. andIV.A. that uniform extra-ordinary taxes were collected from both royal and mesne boroughs, and that both types of boroughs were subject to shire courts for extra-ordinary taxation (see also Figure 2). In addition, the procedure of summoning representatives to Parliament (where extra-ordinary taxes were negotiated) was the same for royal and mesne territories (see Appendix B.5.). In Appendix D.4. Point ii) we cite and quote numerous historians who discuss royal and mesne boroughs. Where institutional differences are mentioned, these are exclusively about royal boroughs being able to obtain autonomy-granting liberties, while mesne lords rarely granted such liberties to their boroughs. The main difference that these historians point to is in line with our argument. We also show empirically that liberties other than Farm Grants were relatively balanced across royal and mesne boroughs.
H: Section IV.D. and Appendix D.4. Point ii): Role of lords in parliamentary representation?	One may think that, because the most important lords were individually summoned to Parliament as military tenants-in-chiefs, the direct representation of their boroughs was unnecessary. However, the English Crown was sufficiently strong to ensure that for *extra-ordinary* taxation, mesne boroughs were integrated within the shire system (which was run by royal officials). Mesne lords were in no position to directly affect the selection of boroughs for direct representation. In fact, local lords could *not* give consent to extra-ordinary taxation on behalf of their tenants (Mitchell, 1951), and they were themselves taxed at the same rate. We also show in Appendix D.4. Point ii) that mesne lords' personal attendance in Parliament did not reduce the odds of their boroughs also being summoned: The boroughs in the most important lords' territories were actually *more* likely to be summoned to Parliament.
Institutional Differences Interacting with Trade?	
H/E: Appendix D.4..	In Appendix D.4. we ask "Did institutional differences foster trade predominantly in royal boroughs?" For example, did the Crown promote trade particularly strongly in royal territories, or did mesne lords prevent trade geography from unfolding its potential in their territories? We present both empirical and historical evidence that speaks against this possibility in Appendix D.4.. For example, we show in Table A.9 that trade geography predicts economic activity and population in *both* royal and mesne boroughs. Appendix D.4., Point ii) provides more evidence and a detailed discussion.

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Do Differences between Royal and Mesne Boroughs Drive our DD Results? [ctd.]	
Differences in Wealth between Royal and Mesne Boroughs?	
H: Section IV.A.	Could it be that wealth confounds our results because the king "cherry-picked" the richest boroughs to become royal? If that was true, a concern could be that rich royal boroughs obtained Farm Grants and they also 'bought' seats in Parliament. Or, similarly, one may speculate that in order to increase his tax revenues, the king first 'sold' Farm Grants to the richest boroughs and then gave them seats in Parliament in exchange for additional taxes. Such arguments are not only at odds with the empirical evidence summarized in the next few points; they are also at odds with the historical evidence discussed in Section IV.A.: Boroughs were summoned to Parliament by the Crown; they did not 'demand' representation. In fact, during the late medieval period, seats in Parliament were not perceived as a valuable asset (McKisack, 1962). Boroughs did not demand to be directly represented in Parliament, and likewise, the Crown did not sell parliamentary seats. This practice emerged only after the 15th century (see Appendix B.5., which includes a paragraph on "Buying seats in Parliament?").
E: Section IV.D. and Appendix D.2.. In particular: Subsamples by borough wealth in Figure A.6 with corresponding results in Figure A.7 / Table A.7.	As shown in the top left panel of Figure A.6, in the full sample, royal boroughs had slightly higher taxable wealth than mesne boroughs in 1086 (data from the Domesday Book). When trimming the sample (Samples 2 and 3), there is no more difference in wealth. Finally, Sample 4 in Figure A.6 uses only the *poorest* royal boroughs and the *richest* mesne boroughs. If our results were confounded by borough wealth, they should change (dramatically) in Sample 4. As Figure A.7 shows, all our results on parliamentary representation (OLS regressions on Farm Grants and reduced form regressions on trade geography) are very similar for all subsamples. Appendix D.2. discusses these exercises in detail.
E: Propensity score matching in Appendix D.3.	We use propensity score matching to create balanced 'control' groups for Farm Grant boroughs, using two different matching variables that span a three-century horizon: Taxable wealth in 1086 (before Farm Grants were issued and before the Commercial Revolution took off in England), and the number of taxpayers in the poll tax of 1377 (i.e., shortly after the end of the period that we consider for the issuance of Farm Grants). For both matching variables, we confirm the magnitude and significance of the coefficient on Farm Grants, and the results are almost identical when we use either mesne boroughs or (non-Farm Grant) royal boroughs as the matched 'control' group (see the results in Table A.8). Figure A.8 illustrates the quality of the matching exercise, showing a tight overlap in the distributions of the matching variables for Farm Grant boroughs and the 'control' group. Appendix D.3. provides further detail.
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Do Differences between Royal and Mesne Boroughs Drive our DD Results? [ctd.]	
Differences in Trade Potential or Trade Activity?	
E: Entropy balancing by trade geography in Table 2, col 5	As discussed in Section III.B. and Appendix C.1., royal boroughs were more frequently located on navigable rivers or Roman roads than mesne boroughs.* However, *overall* there were more mesne boroughs on rivers and Roman roads, allowing us to balance the sample by entropy weighting (matching both the mean and variance of the three trade geography variables – see the statistics after matching in Table A.3). Comparing the results in cols 4 and 5 in Table 2 shows that we fully confirm the control-group results of our DD setting (i.e., the non-relationship between trade geography and parliamentary representation in mesne boroughs) when using entropy weights.
E: Sample restrictions in Appendix D.4.	Table A.10 further addresses the possible issue of differences in trade geography: We restrict the sample to boroughs with identical trade characteristics (e.g., only boroughs on a navigable river, or only boroughs that had obtained Freedom from Tolls) and then compare royal Farm Grant boroughs to matched mesne boroughs with the same wealth in 1086 (Figure A.9 shows the corresponding distributions). Even within these highly restricted subsamples, we fully confirm our results on parliamentary representation.
H: Selection based on (unobserved) trade potential? Appendix D.4.	Did the king strategically pick the places with highest trade *potential* to become royal boroughs? To the extent that our three proxies for trade geography capture trade potential, the above exercises address this point. However, if there was selection based on *unobserved* trade potential, this could still confound our results. As we discuss in Appendix D.4. Point ii), the historical context renders this unlikely: By the time of the Norman Conquest, the Commercial Revolution had not yet reached England, and when trade became important later on, the division into royal and mesne boroughs had already been established. Also, Figure 1 shows that royal and mesne boroughs were distributed relatively evenly across England.
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*As we discuss in Appendix C.1., these differences in trade geography are unlikely to be the result of the king strategically selecting boroughs by trade potential. Instead, a likely explanation is that the king needed to ensure that royal officials and troops could reach his boroughs to secure the administrative and military control over the realm (Astill, 2000, p. 44). This arguably favored strategically important locations on waterways and roads to become royal boroughs (Tait, 1936).

Do Differences between Royal and Mesne Boroughs Drive our DD Results? [ctd.]	
Other (Unobserved) Differences Between Royal and Mesne Boroughs?	
E: Sample splits using Domesday boroughs in Appendix D.5.	Are there other (unobserved) differences that affected the division into royal vs. mesne boroughs which, in turn, may also be related to Farm Grants and parliamentary representation? Appendix D.5. addresses this remaining potential concern by using historical information on the 106 'Domesday Boroughs' – the most important economic, military, and administrative centers at the time of the Norman Conquest (Brooke, 1961, p. 127; Darby, 1977). If the king cherry-picked royal boroughs, Domesday boroughs would certainly have been the most attractive targets. Table A.11 performs various sample splits, showing that our results on parliamentary representation hold when i) we use only Domesday boroughs, ii) when excluding all Domesday boroughs from the full sample, iii) and even in a particularly restrictive exercise, using only non-Domesday royal boroughs and Domesday mesne boroughs. The third exercise *excludes* the most important royal boroughs, while *including only* the most important mesne boroughs. If our findings were driven by systematic differences in the importance of royal vs. mesne boroughs, the correlation between Farm Grants and representation in Parliament should disappear (or at least be much weaker) in this subsample. Instead, we fully confirm the magnitude and statistical significance of our main results. Note: The third sample split (reported in col 4 of Table A.11) yields *full balancedness* for royal and mesne boroughs along all relevant observable characteristics (see the statistics in Table A.12). That is, we obtain balancedness without having to rely on weighting or matching techniques – and we fully confirm our main results.
E: Exploiting changes in borough ownership in Section IV.D. and Appendix D.7.	Appendix D.6. focuses only on boroughs that switched ownership – often due to arguably exogenous reasons such as the absence of an heir. We fully confirm the results that are at the core of our DD strategy in the subsample of switching boroughs: For trade boroughs, Farm Grants were much more likely to be issued for switches from mesne to royal, but not for ownership switches in the opposite direction (Figure A.11). Also, for boroughs without trade geography, ownership switches almost never led to Farm Grants, irrespective of the direction of the switch. We also confirm in this switching subsample that Farm Grant boroughs were much more likely to be summoned to Parliament. In addition, the switching sample is balanced: switching boroughs that were royal vs. mesne over the majority of time had very similar wealth and parliamentary representation.
E: Sample splits using "taxation boroughs" in Appendix D.7.	Our results on parliamentary representation hold within the subsample of 141 "taxation boroughs" – commercially important urban settlements (71 royal and 70 mesne) that were occasionally selected by royal assessors to pay a higher rate of extra-ordinary taxation (Willard, 1933). Moreover, our results hold even when we drop all royal "taxation boroughs" while including only mesne "taxation boroughs." These results render it unlikely that our findings are confounded by other features of extra-ordinary taxation (e.g., the commercially most important boroughs being summoned to Parliament because they occasionally paid higher rates of extra-ordinary taxation).
E: Organizational capacity in Appendix D.9.	Could our results be driven by (unobserved) organizational capacity? We use two types of Charters of Liberties as proxies for the organizational capacity of boroughs: the right to elect officials (other than via Farm Grants) and rights to collect Murage or Pavage (funds used to repair town walls and streets). Table A.14 shows that controlling for these variables does not change our results on representation in Parliament, and the coefficients on the two proxies are significantly smaller than those for Farm Grants.
E: Pre-Norman institutions in Appendix D.10.	We show that our results are robust to controlling for pre-Norman fortified towns and for towns that already had the status of 'borough' at the time of the Norman Conquest. In addition, there is no relationship between Farm Grants and pre-Norman kingdoms: Column 2 in Table A.4 shows that fixed effects for the four kingdoms are individually and jointly statistically insignificant.