Justices of the Peace: Legal Foundations of the Industrial Revolution*

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Abstract

We show that state legal and collective capacity contributed to economic development during the Industrial Revolution. In England, the Parliament relied on local magistrates, known as Justices of the Peace (JPs), to enforce property rights, resolve disputes, and administer local public services. We find that areas with greater legal capacity, proxied by JP presence, in 1700 experienced greater population growth and more structural change over the following 140 years. Plausibly exogenous variation in the allocation of JPs suggests a causal interpretation of the findings and associated mechanisms. More legal capacity led to more human capital, fiscal capacity, and infrastructure development.

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1 Introduction

State capacity—the ability of a government to accomplish its goals—is often viewed as the *sine qua non* in creating the preconditions for economic development (Acemoglu, 2005; Besley & Persson, 2009, 2011). Yet the British Industrial Revolution is generally viewed as having occurred with the state playing—at best—a minor role (Gerschenkron, 1962; Clark, 2008). Indeed, the eighteenth-century British state appears, from a modern perspective, rather weak: it employed fewer than 10,000 paid officials, spent less than 10% of GDP, and lacked a paid police force.[1] Thus, while Britain has been lauded for its "good" institutions (North & Weingast, 1989; Acemoglu & Robinson, 2012), it remains unclear if, or how, the state contributed to Britain's precocious economic performance.

In this paper we argue that state capacity—particularly legal capacity—was, in fact, a critical ingredient in Britain's Industrial Revolution. We first document how Justices of the Peace ("JPs") provided the British state with market-supporting legal enforcement throughout the eighteenth century.[2] Using a novel historical dataset, we show that geographical heterogeneity in the strength of legal capacity following the Glorious Revolution had a plausibly causal effect on economic development during the Industrial Revolution period. Counties with more JPs—and hence greater legal capacity—in 1700 experienced faster growth in population density, greater urbanization, and more extensive structural change over the next 140 years. Moreover, more legal capacity led to higher rates of technology adoption, more advanced financial development, and more infrastructure expenditure in the mid-nineteenth century.

[1] Median annual government spending was 9.2% of GDP between 1700 and 1799 (Mitchell, 1988; Broadberry et al., 2015).

[2] Landau (1984, p.7) writes that"by the late seventeenth century most [other courts] were either nonexistent or insignificant. No local court now contested the justices' local rule". JPs have been the focus of many historical studies, and their importance to general state building and religious conformity is broadly accepted by historians (Landau, 1984). Yet, there is no empirical evidence as to the effectiveness of the JPs for economic development, and their role in the Industrial Revolution has received little attention in social science. For instance, neither the term "magistrates" nor "Justices" is referenced in standard texts such as Allen (2009b) or Floud et al. (2014). An exception is Weingast (1995).

Our findings suggest that the role of the state in the Industrial Revolution has been underestimated, and provide empirical evidence of the crucial role of legal capacity in underpinning economic development. The JPs provided the state with a cheap, flexible, and effective form of legal enforcement that underpinned Britain's shift into modern economic growth. The impact of the JPs demonstrates how decentralized, "street-level", legal institutions are a critical counterpart to the broad architecture of the legal and political system (Glaeser & Shleifer, 2002; La Porta et al., 2008). More generally, our results underscore the importance of legal institutions as a component of state capacity, alongside fiscal capacity (Dincecco & Katz, 2016; O'Brien & Palma, 2022), collective capacity (Goldin & Katz, 1999; Chapman, 2024), and administrative capacity (Mastrorocco & Teso, 2023; Aneja & Xu, 2024). In eighteenth-century Britain, key aspects of legal capacity were provided by unpaid local elites rather than government officials. A focus on central government capacity may overlook such institutions and distort our understanding of historical state capacity.

The JPs were the most important institution through which Britain's government could enforce market-supporting laws between the early seventeenth and mid-nineteenth centuries. The office of the JP was established in the fourteenth century to ensure law and order. Their role evolved over time and, as we demonstrate in Section 2.2, during the eighteenth century they enforced a raft of market-supporting legislation. Particular tasks included protecting property rights, resolving disputes, ensuring tax collection, policing regulation, and implementing a range of new laws necessitated by the economic changes of the Industrial Revolution (Bogart & Richardson, 2011). JPs also enhanced cooperative behavior and trust, for example by resolving disputes (King, 2004), and contributed to institutions that economic historians have highlighted as unique to Britain at this time (Mokyr, 2008). Conceptually, the JPs contributed to the state's ability to raise taxes ("fiscal capacity"), enforce contracts and protect property rights ("legal capacity") and augment markets through investment in public goods ("collective capacity") (Besley & Persson, 2011). An institution conceived of as a tool for legal enforcement in the pre-modern world thus became a central part of the

state's response to modern economic growth, providing the government with a flexible, and effective (albeit imperfect), tool to support the nascent industrial economy.

To study the contribution of legal capacity to the Industrial Revolution, we construct a novel dataset of local legal capacity. We use the number of JPs as a direct proxy for the legal capacity of a county, and use the presence of a resident JP to measure the legal capacity of a town. Easier access to a JP meant that citizens had low-cost access to the services provided by a JP, such as contract enforcement, regulation, and dispute resolution. More JPs also allowed for higher quality of governance, and increased the potential for forum-shopping between JPs. We then link this new dataset to datasets of local economic development both before and during the Industrial Revolution period, and a new dataset of local government spending between 1748 and 1841. This dataset provides a significant advance on previous studies of historical legal capacity.[3]

We use this dataset to test the effects of legal capacity on economic development, exploiting plausibly exogenous geographical variation in the number of JPs at the turn of the eighteenth century. Our main specifications test how legal capacity around 1700 affected outcomes in the mid-nineteenth century—the end of the classic Industrial Revolution period. By analyzing the effect of legal capacity over a long time horizon we capture the fact that the benefits of a strong state may emerge gradually due to a self-reinforcing cycle between growth and capacity investments (Besley & Persson, 2011). Further, the location of JPs in 1700 was determined by historical political factors, rather than any potential contribution to economic growth—the Industrial Revolution was not only unforeseeable, but also unimaginable even in 1700. In fact, the number of JPs in 1700 was a result of a long-run historical process with roots in political decisions two centuries previously during the Tudor era. In consequence, the number of JPs in 1700 was shaped by much earlier decisions that are plausibly orthogonal to the transformation of the British economy during the Industrial Revolution. To support

[3] In the absence of good historical measure of legal capacity, economic historians have relied on proxies—Johnson and Koyama (2014), for instance, use witch trials to capture weak legal institutions. See Koyama (2022) for a more general review.

this argument, we show that there is no evidence of a relationship between the number of JPs in 1700 and pre-trends in either population density and urbanization.

Our main results, in Section 5.1, show that more JPs in a county in 1700 led to greater economic development—proxied by population density—by 1840. We estimate that a 1% increase in the number of JPs in a county led to around a 0.3% increase in population density by 1840. This result is robust to the inclusion of a wide range of controls, to alternative empirical specifications, and checks for potential outliers. The results are also similar when instrumenting the number of JPs in 1700 with the number in 1544. Together, this analysis provides strong evidence that our findings are not driven by JPs being appointed in 1700 in reaction to economic or political factors emerging in the seventeenth century.

Having established the broad benefits of having more JPs in 1700, we investigate different ways in which legal capacity may have shaped Britain's economic transformation. The theoretical literature has stressed that state capacity can have dynamic consequences, both directly and indirectly (for example, Besley & Persson, 2011). In Section 5.2 we present evidence of such dynamic effects, using two way fixed effects specifications to estimate the effect of 1700 JPs at different points in time. We find that the number of JPs in 1700 had positive effects on population density as early as the mid-eighteenth century. Further, this pattern is mirrored by the development of county-level innovation, captured by the number of patents. We also demonstrate that having more JPs contributed to a movement away from agricultural and into tertiary occupations, and specifically led to more financial savings, railways stations, and property income. Street-level legal capacity thus provided a foundation for several economic changes central to the Industrial Revolution.

We next explore how legal capacity shaped Britain's urban revolution (Section 5.3). To do so, we use our town-level dataset, and test how the number of 1700 county JPs affected town population growth. An increase of 1% in county legal capacity is estimated to have led to approximately 0.4% greater urban population by 1840. Notably, the effects are largest in towns with access to coal, suggesting that legal capacity helped towns exploit (unforeseeable)

changes associated with the new industrial revolution technologies, such as the steam engine. Further, we find that the presence of a resident JP—and hence low-cost access to legal services—increased urban population by approximately 15–20% over this period. Moreover, this effect is distinct from the simple presence of a member of the aristocracy or gentry, and is robust to the presence of a large set of controls, and county fixed effects. These results thus support the causal interpretation of our main findings and, substantively, demonstrate that legal capacity contributed to transformation of the economy as well at its growth.

We see further evidence that legal capacity contributed to economic transformation in Section 5.4, in which we show that legal capacity had nuanced effects on town-level occupational structure. Towns with access to more legal capacity in 1700 had a lower share of male occupations in agriculture in 1851, consistent with our finding of a broad effect on economic development. However, the nature of these structural changes varied according to the pre-existing (and exogenously determined) characteristics of the town. For towns placed on an exposed coal field, greater legal capacity led to greater development of the secondary (industrial) sector, which relied on access to natural resources. For towns with harbors, greater legal capacity led to greater development of the tertiary (services) sector, which expanded as part of the general growth of commerce in this period. These results support legal capacity as providing a key input allowing local economies to benefit from the economic opportunities emerging from the Industrial Revolution.

Our final set of analyses, in Section 5.5, illustrates possible mechanisms through which more JPs may have affected the economy. We find that more JPs led to more apprenticeships, consistent with better contract enforcement, and suggesting that legal capacity influenced human capital development. Further, counties with more JPs had more local government spending on poor relief (social insurance), criminal justice, and infrastructure. These results point to possible complementarities between legal capacity and other forms of state capacity.

We conclude, in Section 6, by discussing the implications of our findings for the long-running debate regarding the causes of the Industrial Revolution, and the relationship between legal institutions and economic development. Our results suggest that the British government supported development through a wide range of market-supporting legislation, contrasting with the standard view that the market economy flourished with limited state involvement (Allen, 2009b; Mokyr, 2010).[4] However, we see our findings as largely complementary to earlier explanations, which often rely, implicitly, on the presence of well-functioning markets, including the importance of induced innovation (Allen, 2011), commercial activity (Heldring et al., 2021), and the presence of a high-skilled workforce (Kelly et al., 2023). Further, the JPs institution was implemented in many parts of the British Empire, suggesting an parallel with previous studies emphasizing the effects of legal origins and legislation (La Porta et al., 2008; Ash et al., Forthcoming). This paper emphasizes the importance of street-level legal enforcement as a complement to these higher level legal institutions.

[4] Authors who argue for passivity at best include Gerschenkron (1962), Mokyr (1985), Clark (2008), and McCloskey (2016); those arguing that the state made the Industrial Revolution slower include, for example. Williamson (1987). A minority of scholars have argued that the state actively contributed to the emergence of the Industrial Revolution (see, for example, O'Brien, 1988; Bogart & Richardson, 2011).

2 Justices of the Peace as Legal Capacity

In this section, we first show how Britain's state capacity and economic performance grew together during the Industrial Revolution period, drawing on previous measures of fiscal capacity and a new dataset documenting Parliament's use of JPs. We then analyze the duties assigned to JPs in detail and demonstrate how Parliament's role in the economy grew during the eighteenth-century. The third subsection describes the working of the institution of the JPs, highlighting its reliance on local elites to enforce centrally-generated laws, and discussing historical evidence of JPs' involvement in protecting market interactions.

2.1 State Capacity and the Industrial Revolution

The Justices of the Peace were a key part of Britain's state capacity throughout the Industrial Revolution period. The office of the JP was introduced in the fourteenth century to project the Crown's power across England and Wales.[5] JPs were locally powerful individuals tasked with maintaining order in their local jurisdictions. Over time their role expanded and they "gradually acquired a near monopoly of local judicial and administrative authority ... by the late seventeenth century most [other courts] were either nonexistent or insignificant" (Landau, 1984, p.7). At the end of the seventeenth century the number of JPs exceeded the number of central government employees by more than 40%.[6] Consequently, they were a crucial part of the state's ability to enforce laws throughout the transformative changes of the Industrial Revolution.

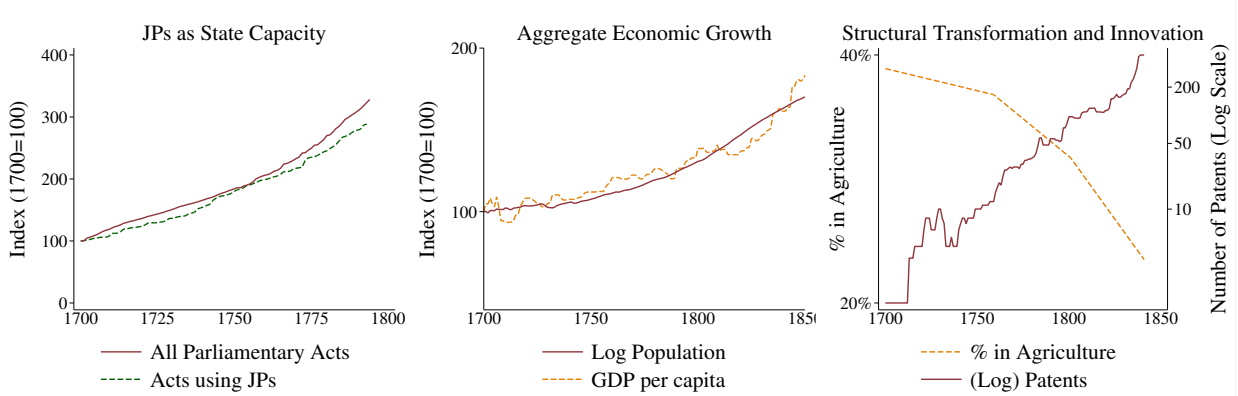
The left-hand panel of Figure 1 illustrates the British state's reliance on JPs to implement and enforce new legislation during the eighteenth century.[7] Here we plot the indexed stock of

[5] The historical discussion of the JPs in this section draws heavily on Landau (1984), Skyrme (1991), and Lemmings (2011). Scotland had JPs after 1609, but they operated under a different legal system and so are outside the scope of this paper.

[6] There were more than 3,800 county JPs in 1700 (see Section 3.1) compared to around 2,500 central government employees in 1690 (predominantly relating to revenue collection; see Brewer (2002, p.66)).

[7] From around 1700, when we begin our empirical analysis, Britain had a working form of ministerial responsibility, effectively fusing the interests of the Monarchy and Parliament into a unified state (Cox, 2012; Jha, 2015; Cox, 2016). The result is that policies of the state were reflected in Acts of Parliament.

Figure 1: Parliament relied on JPs to implement new laws throughout the Industrial Revolution period.



Notes: "All Parliamentary Acts" is the cumulative count of public Acts passed by Parliament, using data from Bogart and Richardson (2011). "Acts using JPs" is the number of such Acts relating to JP duties discussed in an 1794 manual for JPs—see the following subsection and Appendix B.3 for further details. Data on GDP per capita and population are taken from Broadberry et al. (2015). Data on patents is from Cox (2020) and on occupational shares is from Broadberry (2024). GDP per capita and number of patents are smoothed using a median smoother of span 5.

Parliamentary Acts linked to JP duties alongside the total stock of all public Parliamentary Acts. Strikingly, the number of Acts linked to JPs moves lock-step with the total stock of legislation passed by Parliament for most of the eighteenth century. The JPs were thus critical to the state's attempts to become increasingly involved in the economy.

The significance of JPs to the state waned towards the end of the period we study. The two series in the left-hand panel of Figure 1 begin to diverge at the end of eighteenth century, likely reflecting moves towards new forms of legal-state capacity from this point forward such as the formation of the London Marine Police Force in 1798 and the London Metropolitan Police Force in 1829. This shift was largely completed in the 1830s, as the role of gentry in governance was reduced as part of the "Age of Reform", including the franchise extensions of the 1832 Great Reform Act.[8] The JPs provided essential state capacity during the move to a more modern administrative system, better suited to the needs of an industrial economy.

See the following subsection, and Appendix B.3, for details of how we construct the series on Acts relating to JP duties. Our data indicate that around 15% of public Acts were relevant to JPs' duties.

[8] The JPs retained a role in rural governance, including the poor law, until 1894 (Chapman, 2023).

Crucially, the JPs provided the state with an important form of capacity during the transformations of the eighteenth century, as shown in the middle- and right-hand panels of Figure 1. The classic Industrial Revolution period, characterized by a wave of technological breakthroughs, growing urbanization, and a shift away from agricultural production, has traditionally been dated as starting around 1760. In particular, after this point Britain saw sustained growth in both GDP per capita and population for the first time, marking a shift away from Malthusian constraints into modern economic growth. At the same time, innovation accelerated and the percentage of the workforce in agriculture fell (right-hand panel). However, economic historians have increasingly pointed to the importance of earlier underlying trends that fed into the rapid changes of the second half of the eighteenth century—evident in the slight upward slope of GDP per capita in the first half of the eighteenth century (Broadberry et al., 2015). In our empirical analysis, we test how the presence of more JPs in 1700 contributed to this gradual process of broad economic development.

2.2 JPs and the Expanding Role of the State

JPs held an enormous range of responsibilities, including many of great relevance to economic activity. From at least the fourteenth century onwards, JPs' duties reached far beyond a narrow definition of legal capacity, and they also made important contributions to both fiscal capacity (tax collection) and collective capacity (providing public goods). Their duties included not only preserving law and order, but also enforcing social norms, implementing economic regulation, maintaining infrastructure, and aiding in the collection of local taxes.[9] The flexibility of the institution allowed Parliament to use the JPs to enforce

[9] One of the most complete descriptions is the following: "The business of local government under the JPs in early modern England can be divided into four areas. First [...] to keep the peace and deal with interpersonal offences; principally petty thefts, riots and assaults. Second, the JPs were charged with supervising the administration of the poor law and law of settlement, as well as [the regulation of] the habits, economic circumstances, and morals of the population at large [...] Thirdly, the justices were responsible for the unexciting (and relatively understudied) administration and development of what would be today called the local 'infrastructure': the maintenance of roads and bridges, gaols, houses of correction, courthouses and shire halls, and other public property. Since all of these responsibilities required the expenditure of money and the action of subordinate officers, a fourth area of activity was the raising and administration of public

a growing range of legislation to manage and support the economy over the course of the Industrial Revolution.

The JPs acted collectively and individually, both of which had important economic implications. At "Quarter Sessions", held four times a year, JPs in a county would gather to hear indictments, appeals, deliver the convicted to prison, and manage tax revenues and spending for the county. Outside of these occasions, JPs could make rulings wherever they were located, individually through "summary justice" or in small groups at "petty sessions". In this role, JPs can be seen as enforcing "market-supporting regulations" (Besley & Persson, 2011). For example, they enforced regulations related to weights and measures, and laws protecting property rights, especially relating to theft and factory embezzlement. JPs also took a growing role in safeguarding the financial sector, with duties in preventing forgery, apprehending bankrupts, and preventing fraud.

Figure 2 provides a more detailed breakdown of the role of the JP, and hence the involvement of the state in the economy, in 1642 and 1794. We identify JPs' duties using contemporary manuals that were produced privately as an aid for JPs wishing to understand their powers and responsibilities. Each manual lists different duties, accompanied by references to relevant legislation and legal texts.[10] To provide some structure to the dizzying array of tasks assigned to the JPs, we categorize each duty using eight keywords.[11]

A breakdown of the composition of the two manuals, shown in the left-hand panel of Figure 2, highlights how economically-relevant tasks were an important—and growing—part of JPs' duties. Four categories are of direct relevance to the economy. "Economic

funds, via rates, assessments and fines, and the appointment or supervision of the officers who collected the funds and carried out the duties, particularly the overseers of the poor, surveyors of the highways, and constables" (Lemmings, 2011, p.25-6).

[10] Skyrme (1991, V. III pp.280-81) specifies the list of duties at the height of JPs' power in 1700, including the following of relevance to the economy (our selection): annuities, apprentices, bankrupt, destroying banks, burglary, carriers, cattle, coals and coalpits, coin, corn, county rate, debtors, excise and customs, forestalling, hackney coaches, hay, fishery, forfeiture, forgery, fuel, highways, horses, land tax, leather, linen cloth, miller, partition, pewter, physicians, plague, poor, rivers, robbery, sail cloth, seamen, servants, ships, shoemakers, silks, stock of companies, tiles, tobacco, treasurer, turnips, weights, wine, woolen manufacture, and wrecks.

[11] The categorization was based on a detailed reading of the manuals, and aimed to provide a broad overview of the scope of JPs' duties. Each duty could be assigned to multiple categories. See Appendix B.3 for full details.

regulation" includes tasks such as the regulation of weights and measures, and licensing of businesses. "Contracts" includes making, maintaining, and regulation of contracts for employment, apprenticeships, and other relationships. "Taxation" covers duties related to local taxes used for poor relief and infrastructure, as well as tasks connected to customs and excise. Finally, "infrastructure" includes maintenance of items such as roads—vital to travel and communications in an era before railways—bridges, and prisons. Together, these four categories comprised 37% of duties in 1642, rising to 54% in 1794.[12]

Other dimensions of the JPs' duties also likely impacted local economies. Enforcing law and order ("criminal justice") can support economic activity through, for instance, protecting property rights. A significant component of "social" duties included the implementation of the old poor law—a rudimentary social insurance system which may have supported risk-taking during the Industrial Revolution (Solar, 1995; Greif & Iyigun, 2013).[13] "Legal" included JPs' role in appointing local government officials and holding them to account—a form of administrative capacity. In fact, the only category which seems possibly orthogonal to economic performance is "Military"—less than 2% of all duties by 1794.

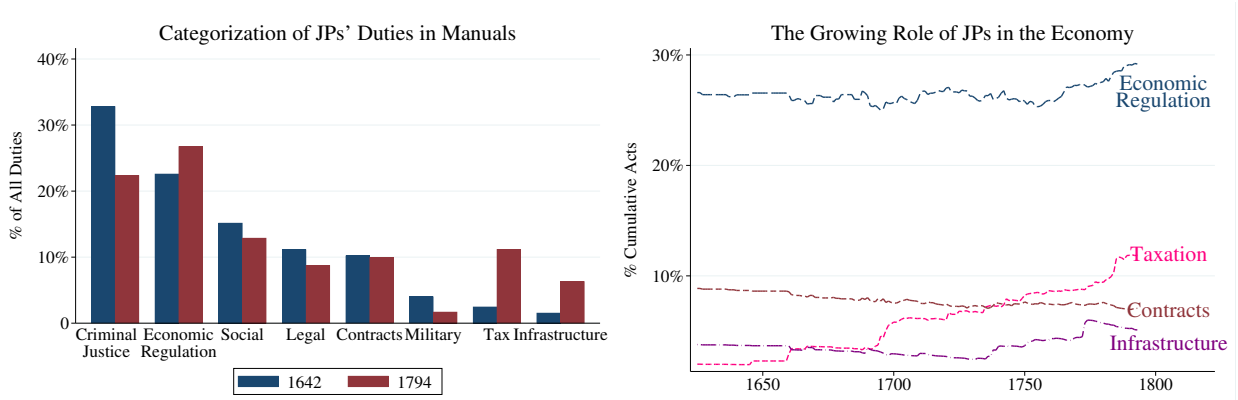
The right-hand panel of Figure 2 illustrates how the role of the JP became increasingly economic as the Industrial Revolution gathered pace. This chart plots the evolution of the composition of the stock of Parliamentary Acts applying to JP duties. We see that taxation begin to rise in relative importance following the emergence of Parliamentary sovereignty after 1688–89 Glorious Revolution, consistent with increased government revenues after this point (North & Weingast, 1989).[14] Infrastructure and economic regulation then rise in relative importance later in the century, reflecting the emergence of new industries and

[12] This finding is in line with qualitative studies arguing that regulatory control and the enforcement of economic policies were delegated to JPs after the Glorious Revolution (Root, 1994; Weingast, 1995).

[13] Specifically, JPs resolved disputes relating to questions such as the extent of relief to be provided, and which parish was financially responsible for individuals seeking relief. JPs also introduced innovations, such as the Speenhamland System, which effectively expanded poor relief when unemployment was high. Other social duties, likely less relevant to economic performance, included maintaining social norms and practices, such as preventing blasphemy.

[14] Prior social and cultural change provided underpinnings for these political reforms (Murrell, 2017; Grajzl & Murrell, 2024).

Figure 2: The role of the JPs evolved as the state became increasingly involved in the economy during the eighteenth century.



Notes: The left-hand panel displays a categorization of duties listed in the 1642 and 1794 JP manuals. The right-hand panel displays the passing dates of statutes related to the duties in the 1794 manual. See Appendix B.3 for further details.

issues—"coal" appears by 1794, for example. This is important, as it suggests that the growing stock of legislation passed during the eighteenth century involved on the ground intervention in the working of the economy. The JPs' provided Parliament with a flexible form of state capacity that could enforce and implement these laws.

The patterns in Figure 2 are also important in understanding the empirical strategy that we set out in Section 4.3. In the second half of the eighteenth century, economic tasks became more central to the JPs' role. At this point, the selection of JPs was likely endogenous to local economic growth and to the economic transformations of the Industrial Revolution. Prior to 1700, however, JPs were still being appointed largely for political reasons, with their role focused on enforcing the laws of a pre-industrial society. The strength of local legal capacity at this point is thus plausibly exogenous to future economic development.

2.3 The JPs in Practice

Parliament turned to the JPs to implement an expanding range of duties, many relevant to the economy. However, this does not automatically imply that JPs enforced these duties, nor that they fostered Britain's development. There are three key, interlinking, character-

istics of this institution, which contributed to it working effectively. First, JPs were almost exclusively drawn from local elites. Second, uniquely in Europe they were unpaid and served voluntarily, receiving only enhanced social standing and power in the local community as rewards (Goldie, 2001). Third, norms and the Common Law constrained the actions of JPs.

To understand the relationship between local elites and the composition of the JP bench, we linked a list of JPs in 1680 to a list of local elites in 1673 (see the following section for details). The vast majority of JPs (94%) were either aristocrats or non-titled landed elites. More than half (56%) of JPs were esquires, and almost a quarter were minor aristocracy (baronets or knights, 23%). The nobility, such as lords or dukes, comprised only a small share (6%) of JPs at this point in time, and likely played only a nominal role. Strikingly, 27% of all elites listed in 1673 were sitting or had family relations on the JP bench—rising to 42% for minor aristocrats, 30% for esquires, and 34% for nobles. The system thus pulled in a large proportion of available elites.

The close connection between local elites and the JPs was central to the functioning of the system. Elites had incentives to enforce the law in a context where magistrates were not paid a salary, and they had a social status to lose if they were exposed as corrupt (Allen, 2009a). JPs also had to have a minimum property income, which according to contemporaries made them more trustworthy. The famous Common Law jurist, Blackstone, argued that property qualifications avoided the selection of those "whose poverty made them both covetous and contemptible" (Blackstone, 2016). Elites could also leverage their influence in their own communities to enforce the law and resolve disputes without enforcement from the center. The use of elites thus provided local state capacity that was cheap and potentially effective in being able to carry out a broad range of legal capacity tasks.

The decentralized nature of the system raises the question of whether JPs truly followed the directions of Parliament or, indeed, if they sought to act in the public interest at all. JPs could carry out many duties autonomously and could use discretion in their decision-making—a fact that could have made them more effective given their local knowledge and

the rudimentary nature of legislation during this period. This autonomy could also have been used by JPs for rent-seeking. However, a range of historical evidence suggests that many JPs performed their duties diligently (Darby, 2015).[15] Indeed, the very existence of the manuals discussed above demonstrates the existence of a demand from JPs for knowledge of their legal duties and powers.[16]

Further, by the end of the seventeenth century, a range of checks and balances had been developed to ensure JPs used their power within the limits of the law. JPs could be fined or even gaoled for their decisions and—more likely in practice—in the eighteenth century they could be removed from the bench for misconduct. Individual decisions could be appealed either through writs presented to the judges at Kings' Bench, or to all the justices of a county at Quarter Sessions. Justices could also face civil suits. The eighteenth century also saw continuing governance reforms both centrally and locally—for instance, some counties imposed a term limit of one year for Chairmen of Quarter Sessions.

Surviving records suggest that, in practice, much of JPs' time was spent on tasks that could ease economic exchange and promote investment. There are no official records of JPs' actions outside of Quarter Sessions, some insight is provided by the notebooks left by some JPs. One eighteenth-century JP, for example, dealt mostly with cases of tax assessments or appeals, Poor Law matters, regulation, disputes, and property rights enforcement (Gray, 2013, p. 217). Appendix Figure B.2 demonstrates a Manchester JP's actions in collecting taxes to build and maintain local infrastructure. A recent meta study (Darby, 2015) found that the most common type of summary proceedings (one JP acting alone) were for poor law enforcement (32%), property offenses (19%), employment cases (14%), offenses against

[15] The social profile of people using the summary courts (manned by JPs) was similar to that of the population as a whole. A large range of issues were brought to these tribunals and common people were often "successful in obtaining judgments which curbed, to some extent at least, the powers of the local employers and vestrymen." (King, 2004, p.169).

[16] While, not surprisingly, examples of self-serving behavior by JPs exist, they are relatively rare. Landau (1984, p.126) estimates that around 100 JPs were removed from the bench in total between 1737 and 1757—compared to an stock of 3,500 JPs in any particular year. It should also be noted that self-interested behavior would not necessarily be economically harmful. For instance, JPs' use of powers to exploit workers (Skyrme, 1991, V. I, pp.244-45) or protect industrial machines may have transferred surplus rather than reducing efficiency.

the person (14%), and regulation (12%). Bastardy cases—arguably less fundamental to economic activities—were only 9%.

Studies of specific industries also reveal how the JPs supported trade and exchange. For example, as JPs gained increased jurisdiction over small debts claims, they settled disputes over the payment of weavers' wages (Mann, 1960; Brooks, 1998). The JPs also played a role in enforcing the Master and Servant law, which enforced labor contracts in industrializing areas in the nineteenth century (Naidu & Yuchtman, 2013). Finally, JPs enforced apprenticeship law, and so they contributed to the development of mechanical skills, such as those emphasized by Kelly et al. (2023)—a point we return to in Section 5.5.

The number of JPs in a county was, however, a critical factor in the quality of their governance. As early as 1485 a Chief Justice remarked upon the challenge of enforcing statutes with limited numbers of JPs, "How many Justices think you, may now suffice, without breaking their backs, to bear so many...stacks of statutes that have...been laid upon them."(Skyrme, 1991, p.73). By the mid-eighteenth century "[R]eports of a lack of active justices flowed in from county after county" (Landau, 1984, p.138). In the following section we show that there was considerable variation in the number of JPs—and hence the extent of legal capacity—both across and within counties.

In summary, until the mid-nineteenth century JPs were key agents of the state, providing legal, fiscal, and collective state capacity. Although appointed by the center, JPs were drawn from an elite who saw themselves as autonomous, especially since they were unpaid for their services. In the eighteenth century Parliament became increasingly involved in the economy and turned to JPs to implement new market-supporting laws. In Section 5, we examine the effect of having more local JPs in 1700 on economic development during the Industrial Revolution period. Beforehand, in the next section we introduce our data and then explain our empirical strategy in Section 4.

3 Data

This section introduces a new dataset of local legal capacity—the Justices of the Peace—in England and Wales at the turn of the eighteenth century. Our primary measure of legal capacity is the number of JPs in each county in 1700. We supplement this measure with a variable capturing whether individual towns had a resident JP, and hence had low-cost access to legal services, in 1680. The second subsection discusses our measures of county- and town-level development outcomes, and the third subsection discusses measures of other economic, political, and geographic characteristics that serve as important controls in our empirical analysis.[17]

3.1 Quantifying Legal Capacity

Our empirical analysis relies on variation in the strength of local legal capacity—captured by the presence of JPs—both across and within counties. The county is a natural unit of analysis because JPs were appointed for a particular county, sat on its governing body (the Quarter Sessions), and had the power to enforce laws anywhere within its borders, with the exception of municipal boroughs.[18] However, many of a JP's actions were carried out locally. As such the proximity of a JP could provide easy access to legal services, as well as acting as a potential deterrent for those contemplating breaking the law.[19] To capture both channels, we carry out separate analyses at the county- and the town-level.

[17] Further details of data construction and variable definitions are provided in Appendix A. Summary statistics are provided in Appendix A.3.

[18] Counties were stable political and geographic units from the fourteenth until the second half of the nineteenth century. Municipal boroughs were self-governing towns, governed under historic charters issued by the Crown (Lizzeri & Persico, 2004).

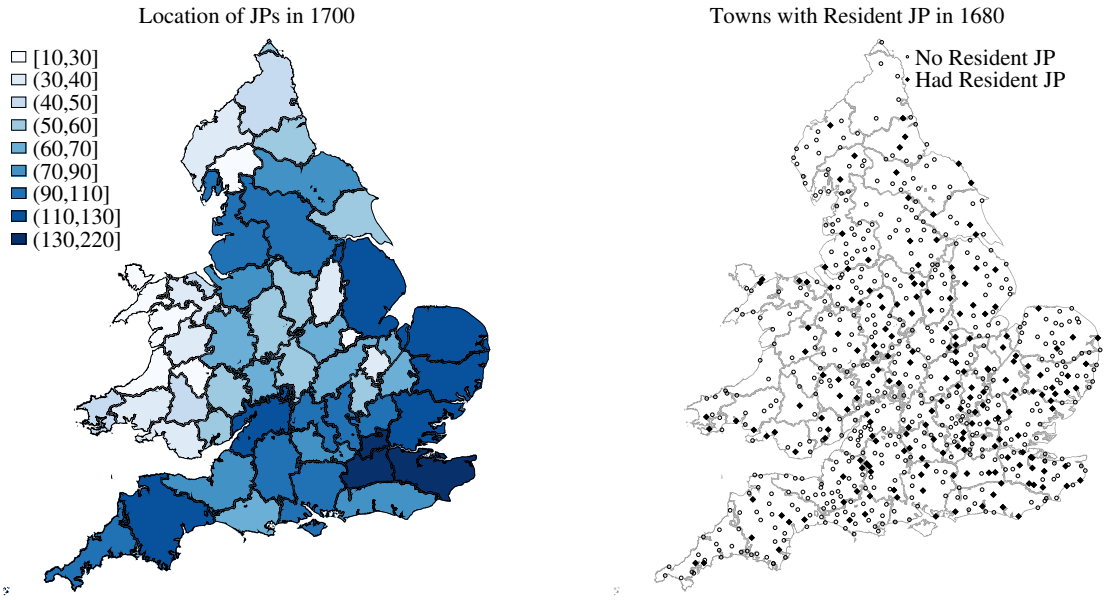
[19] In the absence of a JP, individuals could potentially turn to alternative dispute resolution mechanisms such as manorial courts or private arbitration. However, this was not possible for all issues, and may have incurred large costs and lengthy time delays. Further, over the course of the seventeenth century manorial courts declined in importance, alongside the rise of Quarter Sessions and central courts such as the Assizes.

County-Level Legal Capacity Our primary measure of legal capacity is the number of JPs in each county at the turn of the eighteenth century. We start by using Landau (1984), which provides comprehensive counts of JPs in 1701 based on an official national list published at that time, as well as counts for 28 of 54 English and Welsh counties from 1700–09 using local lists. We then add data from seven additional local lists between 1696 and 1710, based on a comprehensive archival search. Finally, we then add the number of JPs from Lancashire in 1702 using counts drawn from Glassey (1979). The number of JPs in 1544, which we use as an instrument for the number in 1700, is based on Skyrme (1991) and Wilkinson (1983).

Our measure excludes JPs that were listed in a purely honorary role, following Landau (1984). In particular, we include only individuals with minor aristocratic titles (barons and knights), untitled landed gentry (esquires or gentlemen), or other individuals (doctors, lawyers, or no titles at all). We exclude government officers such as the Lord Chancellor (often listed as JPs in every county) and the nobility (such as Earls or Dukes). Consequently, we capture the number of individuals in a county that, in principle, would carry out the duties listed in the previous section. However, one caveat is that JPs sometimes failed to take up their role, even if included on official lists. Moreover, we cannot account for heterogeneity in either effort or ability across JPs. As such, our measure is a proxy for legal capacity, measured with error. However, there is no reason to think this error varies systematically across counties.

The left-hand panel of Figure 3 shows the extent of variation across counties in the number of (non-honorary) JPs in 1700—the explanatory variable that we use in our county-level regressions. Middlesex, which covered most of London, had the most (212) JPs, while the small rural county of Rutland had just 14. Lancashire, destined to be at the center of the industrial economy, had 101 JPs—considerably above the mean of 71. Welsh counties had particularly low numbers of JPs around 1700, reflecting the slow assimilation of Welsh institutions after the completion of the English conquest in the 1540s (Gardner, 1985).

Figure 3: There was considerable geographic variation in the number of JPs at the start of the eighteenth century.



Notes: The left-hand panel displays the number of JPs appointed in each county at the start of the eighteenth century. The right-hand panel displays towns in England and Wales in 1680, with those where a JP was resident in black, and those where no JP was resident in white.

Town-Level Legal Capacity We construct a measure of legal capacity at the town level by identifying towns in which a JP was resident in 1680. To do so, we digitize two lists of all JPs in the 1680s, and link them to a list of the names and residences of all gentry, minor aristocracy, and nobility in 1673 (Blome, 1673).[20] We then link the residences of elites in Blome (1673) to the list of market towns which we detail below. This locates all JPs living in market towns (approximately around 30% of all JPs on the list). As these towns were hubs of economic activity, having a JP resident could reduce travel costs for a significant number of economic actors seeking JP services.

Only around a quarter of market towns had a resident JP in 1680, as we can see in the right-hand panel of Figure 3. Even counties with a large stock of JPs had a number of towns without a resident JP, meaning that—in an era before modern transportation—residents could have to travel a significant distance to access JP services.

[20] The lists are "The Justices of the Peace as they Stood on the Commission, 15th of March in the 2nd year of King James II" (1687) and Esquire (1680). We matched more than 95% of JPs in the elite list, using last name, first name, title, and county of residence. See Appendix A.2 for full details.

3.2 Measures of Long Run Economic Development

To estimate the effects of legal capacity on Britain's economic development we collect a large number of variables from original data sources and existing datasets.

County Population Density Our primary measure of economic development is population density, which is a commonly-used proxy when measures such as GDP per capita are unavailable.[21] In the English context, industrializing counties grew more in population after 1760. For example, (Wrigley, 2007) shows that seven (out of forty-one) industrializing counties account for 41.3 percent of all population growth in England between 1761 and 1801. London and its 3 neighboring counties, not considered part of the industrializing group, accounted for a further 20.4 percent of all English population growth. Other measures, such as industrial activity, indicate that the most productive counties of the English economy grew more in population during the Industrial Revolution (Kelly et al., 2023). We construct a new, long-run panel dataset of county population by combining data from the decennial censuses (from 1801 onwards) reported in Cheshire (1854) with earlier data for 1600, 1700, and 1750-1801 from Wrigley (2007, 2009), Owen (1959), and Marshall (1835). County area was taken from House of Commons (1840).

Town Population We investigate urban development using a dataset with historical town populations in England and Wales around 1680 and 1841. The 1680 populations are based on estimates made by Langton (2000) and are the most accurate available for approximately 1,000 market towns (towns holding at least one weekly market). 1840 populations are from the 1841 census, which has been digitized by Bennett (2012) and geo-located by Satchell et al. (2024). Our analysis focuses on a subset of approximately 700 of these towns for which we can control for pre-existing economic development (see below). These towns range from

[21] See, for example, Acemoglu et al. (2002) and Acemoglu et al. (2005). Ashraf and Galor (2011) provide a discussion of the relationship between population density and economic development.

very small (less than 100 population in 1680) to very large cities (including London).[22]

County-Level Government Spending We construct a new dataset of county-level government spending between 1748 and 1838, by digitizing an 1846 Parliamentary Paper (House of Commons, 1846). This source reports the total spending on different categories for various periods for each county. We use spending on the poor law (the main form of social insurance at this point), criminal justice (aggregated spending on prisons, prisoners, and prosecutions), bridges, and highways. The set of years with available data is different for each of these variables—see the notes to Table 7.

Other County-Level Measures of Economic Development We examine the effect of legal capacity on a number of development outcomes. We construct a panel dataset of innovation using the number of patents registered to county residents between 1617 and 1841 using data from Cox (2020), which builds on Nuvolari and Tartari (2011). Occupational structure is estimated using 1841 male employment shares in agriculture, secondary, tertiary, and a residual occupational sector, derived from the Cambridge Group for the History of Population and Social Structure (CAMPOP)'s corrected versions of Gatley et al. (2022). Occupations are classified based on CAMPOP's Primary, Secondary, Tertiary scheme. We digitize a national assessment of property income in 1843 (House of Commons, 1845). County urbanization rates are the share of the population living in towns of 5,000 or more, a standard measure in historical studies (De Vries, 2013). We create an urbanization measure for 1600 using urban populations in Wrigley (1985) and for 1680 and 1800 using the town-level population discussed above. Financial development is measured using the value of deposits in savings banks in 1831, which we digitized using House of Commons (1832) and Marshall (1835). The number of rail stations in 1841 is created from Bogart et al. (2022). The number of apprenticeship contracts comes from Zeev et al. (2017) and Minns and Wallis (2013).

[22] The set of towns we study includes all towns above 2,500 population in 1680, with the exception of three areas that became part of London (Lambeth, Bermondsey, West Ham).

Town Occupational Structure: We measure occupational structure in 1851 using data from Bogart et al. (2022). This data gives information on male occupational shares within a set of standardized spatial units, which link parishes and townships across census and baptismal records. We link these units to towns in our data based on latitude and longitude coordinates. Occupational definitions and counts are based on census data, digitized by the Integrated Census Microdata project (Schurer & Higgs, 2014). Occupations are then classified into categories using the Primary, Secondary, Tertiary system (Wrigley, 2010). The primary sector includes occupations such as agriculture or estate work. The secondary sectors includes occupations such as manufacture and construction. The tertiary sector includes all services, including transport, retail, professional, and government amongst others. Excluded categories include mining and fishing, and an unspecified category.

3.3 Other Town and County Characteristics

We control for a wide range of county and town-level characteristics.

Local Elites Counts of the number of different types of elite in each county, and an indicator variable for the presence of such elites in a town, are constructed from Blome (1673). As a robustness test, we use a count of elites in each county based on Index Villaris (Adams, 1680; Gadd & Litvine, 2024).

Pre-1700 Town Political and Economic Characteristics We follow Bogart (2018) and Alvarez-Palau et al. (forthcoming) in using a rich dataset of town characteristics from Blome (1673). Aside from identifying elites, this publication gives a huge range of information on over 700 market towns, including economic characteristics (the presence of manufacturing, mining), characteristics of their governance (e.g., municipal incorporation status, being represented by MPs, the presence of elected town officials, free schools), whether towns had roads and rivers nearby, whether it was a post town or stage town, among others—see Appendix A for further details.

Pre-1700 County Political and Economic Development To control for political contestation, we use the average likelihood of a contested election across the seven elections for county MPs from 1660 to 1689 , using Henning (1983). To control for county politics, we use the share of county MPs aligned with the royal Court from 1660 to 1685, and the share of county MPs who voted for Exclusion in 1679—a common indicator for early Whig political allegiance (Dimitruk, 2021). We digitize a national assessment on property in 1660 (Hendriks, 1857) to measure mid-seventeenth century economic development. To capture pre-seventeenth century development, we use Heldring et al. (2021)'s replication dataset to construct three variables: the share of land held by monasteries in English counties before the dissolution, the number of mills in 1400, and the number of gentry in 1400.

Geographic Controls We use GIS shape-files for the ancient counties (Satchell et al., 2023) to construct a range of geographic variables. The county area on exposed coalfields is estimated using data from Satchell and Shaw-Taylor (2013). Satellite data is used to create variables for elevation, slope, and ruggedness across each county. FAO GAEZ data gives average low-input soil suitability for wheat across a county (FAO/IIASA, 2011). Average temperature and precipitation from 1600 to 1840 are calculated using data from Luterbacher et al. (2004), Xoplaki et al. (2005), and Pauling et al. (2007). The average area of a county which was coastal is taken from Satchell et al. (2017) and Bogart et al. (2022). Longitude and latitude are measured using the centroid of each county. We also match towns to geographic variables for parish and township units drawn from Bogart et al. (2022). These include distance to ports, indicators for being coastal, rainfall, temperature, elevation, slope of the terrain, wheat suitability, and an indicator for whether the town was on the exposed coalfield.

4 Empirical Strategy

We investigate the effect of greater legal capacity on economic development at both the county and town level. The county-level regressions provide our main results, as they allow us to test the importance of legal capacity for the entire county economy. We use town-level regressions to test the effects of legal capacity on urbanization, to address concerns about identification, and to examine the role of legal capacity in structural transformation. The first subsection outlines the conceptual framework underlying our analysis. We then introduce our main specifications, and then discuss our identifying assumptions.

4.1 Conceptual Framework

Our empirical analysis is based on four key ideas about how the role of legal capacity can support economic development.

First, and most straightforwardly, legal capacity underpins the effective functioning of markets by securing property rights and enforcing contracts. An expansion of legal capacity may also lead to the development of a better skilled workforce by encouraging training contracts for workers. Stronger legal enforcement can also incentivize innovation, and play a role in building a stronger financial system, making an economy better placed to benefit from growth opportunities.

Second, the benefits of legal capacity may emerge gradually and with a lag. Our empirical analysis investigates how more legal capacity in 1700 affected the development of counties and towns over the following 140 years. Focusing on the effects of legal capacity in 1700 provides a source of plausibly exogenous variation since, as we argue in Section 4.3, the geographical distribution of JPs in 1700 was determined by historical factors in the JP appointment process that were orthogonal to the factors driving economic development during the Industrial Revolution. We study the effects on development over different time windows to explore whether the benefits of legal capacity appear only gradually. Long-term effects of

stronger legal capacity are studied by looking at outcomes over a period of 140 years.

Third, legal capacity may have heterogeneous effects depending on the characteristics of local economies. If JPs play a role in supporting the efficient functioning of markets, then this should be particularly beneficial to towns that have clear potential for industrialization. For example, an area without access to a key resource, such as coal, is unlikely to develop an industry relying on that resource regardless of the support of a strong and supportive state. We test this idea by focusing on two sets of towns with characteristics determined prior to the eighteenth century: those with cheap access to coal and those with a harbor.

Fourth, legal capacity is endogenously determined, co-evolving with economic and political development. This captures the idea of circular causation (Myrdal, 1974). Thus, legal capacity in 1700 may directly affect the level of legal capacity available at a later date as the role of JPs became more focused on economic activities. We also expect feedback between growth and *future* investments in legal capacity (Besley et al., 2013). Moreover, there are potential complementarities with investments in other forms of state capacity. For instance, larger tax bases mean that the return from legal capacity investments are higher with a greater volume of contracts offsetting the fixed cost of court investments. Even if state capacity is endogenous, we avoid concerns about reverse causality by considering the effect of legal capacity in the period prior to the Industrial Revolution when the factors that led to investments in state capacity reflected different concerns than supporting industrialization.

4.2 Empirical Specifications

4.2.1 County-Level Analyses

We analyze the effect of legal capacity on a number of county-level outcomes, including measures of economic development (population density, innovation, and occupational shares) and also measures related to institutions in which JPs were directly involved (local government spending, number of apprenticeships). The structure of the data varies across outcomes, and hence the details of specific specifications necessarily vary as well. Here we

set out the main approaches we use, with full details provided alongside our results.

OLS Specification: Our first specifications test the effects of legal capacity, proxied by the number of county JPs in 1700, on economic development in 1840. We estimate specifications such as the following:

$$y_{c,t} = \alpha + \beta_1 logCountyJPs_{c,1700} + \delta logPopulationDensity_{c,1700} + \gamma' \mathbf{X}_c [+\mu_t] + \epsilon_{c,t} \qquad (1)$$

where c indexes counties, and t indexes time. y is a county-level outcome, such as population density, and $\mathbf{X}_c$ is a vector of control variables (see below for details). We study a range of outcomes at different points in the text. In some analyses—see Section 5.1 and Table 3—our outcomes are measured in a single cross-section, in order to identify the long-run effects of legal capacity. In other analyses—see Section 2.2—we study the effects of legal capacity at different points in time, allowing us to explore the channels through which legal capacity can affect development. In this case, we include period fixed effects, μ_t.

Our main explanatory variable, $logCountyJPs_{c,1700}$ is the natural log of the count of JPs in 1700. We focus on the number of JPs in 1700 because, as we explain in the following subsection, at this point in time the distribution of JPs was driven by political factors—avoiding concerns around reverse causality, whereby JPs were selected due to economic considerations. Moreover, initial advantages in legal capacity persisted over time—the Spearman rank correlation between JPs in 1700 and 1836 is 0.71 (p-value = 0.00). More JPs in 1700 meant more legal capacity at the time of the Industrial Revolution.

We focus on the total number of JPs, rather than the number per capita, for two reasons. First, the historical literature suggests that, at least until the late eighteenth century, the predominant issue was whether a JP was present, rather than them being overwhelmed by case work. More JPs would mean both that a greater part of a county's population would have access to a JP and, in particular, could benefit from the JP services that required multiple JPs to be present at once, such as the administration of infrastructure. Second,

a larger number of JPs may have had a further effect through improving the quality of governance in Quarter Sessions. More JPs may also have facilitated oversight, increased the possibility for "forum-shopping" between different JPs, or enabled diffusion of knowledge or best practice between JPs.[23]

We control for a range of economic and political factors that may confound our results. Our "baseline controls", included in all our specifications, are as follows. First, the (log of) county population density in 1700 is a summary state variable for initial economic development under the assumption that the economy was approximately Malthusian at this point. Second, the percentage of county land area on an exposed coalfield accounts for the importance of access to coal to industrial development (Wrigley, 2016). Third, we include a second order polynomial in latitude and longitude to flexibly account for spatial trends. As robustness, we then add a number of controls for the presence of local elites, geographic characteristics, local politics, and pre-1700 economic activity (see Table 1 and Figure 5).

Instrumental Variables: In a robustness check, we use the log number of JPs in 1544 as an instrument for log JPs in 1700, exploiting the fact that the number of JPs was highly persistent over time. The exclusion restriction here is that 1544 JPs did not affect long-run economic development after 1700 through any channel except influencing future legal capacity. This assumption is justified by, first, the limited role of JPs in the economy before 1700 and, second, the fact that the political and economic turmoil of the seventeenth century (most notably the Civil War) would likely have disrupted any effects in any case.

Two-way Fixed Effects: In Section 5.2, we analyze the dynamic effects of 1700 JPs on both overall economic development (population density) and innovation (the number of patents registered). We can measure these two variables before 1700, and consequently can

[23] There are interesting parallels between the diffusion of best practice between JPs and previous studies investigating the diffusion of legislation (see, for example, Ash et al., Forthcoming). As JPs were given a growing stock of (often poorly-worded) legislation to deal with, they would have faced challenges in interpreting and effectively enforcing the law. More JPs could mean more "experiments", and hence a large set of practices to draw upon.

carry out two-way fixed effects regressions that allow for differential time paths according to the (log) number of JPs in 1700, population density in 1700, and each of our baseline control variables. Specifically, we estimate the following specification:

$$y_{c,t} = \sum_{t \neq 1700} \beta_t \left(logJPs_{c,1700} \times year_t \right) + \gamma^{'} \mathbf{Z}_{c,t} + \theta_c + \mu_t + \epsilon_{c,t} \tag{2}$$

where y is either the log population density or number of patents registered in period t, θ_c are county fixed effects, and μ_t are year fixed effects. $\mathbf{Z}_{c,t}$ is a vector of controls, incorporating interactions between each of the year fixed effects and each of the baseline control variables—log population density in 1700, a second order degree in longitude and latitude, and the percentage of the county with exposed coal. The coefficients of interest are β_t, representing the effect of 1700 county JPs on the outcome, relative to the base period—1700 for population density, or 1690–1709 for the number of patents.

Tests for Spatial Autocorrelation: We carry out a number of checks to ensure that our results do not simply capture spurious correlations due to spatial autocorrelation in Appendix C.3. To flexibly account for possible spatial trends, all our specifications include a second-order polynomial in longitude and latitude (including an interaction term between the two). We then test directly for spatial autocorrelation by calculating Moran's I (Moran, 1948) as suggested by Conley and Kelly (2025). We find little evidence of spatial autocorrelation in the distribution of JPs, in our main outcome measures, or in regression residuals, at county- or town- level. Further, our results are robust to using Conley standard errors (Conley, 1999) with various spatial cut-offs—see Appendix C.3 for details.

4.2.2 Town-Level Analyses

In Sections 5.3 and 5.4 we analyze outcomes at town, rather than county, level. This approach offers a number of advantages. First, it allows us to test the extent to which more legal capacity contributed to the transformation of the economy during the Industrial

Revolution. Second, as we discuss in the following subsection, the town-level dataset allows us to weaken our identification assumptions, and hence strengthen a causal interpretation of our results. Third, we can include a wide range of county and town controls simultaneously in these regressions, and in some case county fixed effects, offering further reassurance that are findings are not confounded by underlying town or county-characteristics. Finally, we can estimate specifications with a town-level measure of legal capacity, and hence directly test whether legal capacity affected development through reducing the travel costs of accessing legal services. However, these advantages should be set against the fact that they do not account for any effect of legal capacity in rural areas, including possible spillovers as the growth of one town may generate broader effects on the county economy.

Specifically, we estimate specifications such as:

$$\begin{aligned} y_{j,c,1840} =& \alpha + \beta^{C} logCountyJPs_{c,1700}[+\beta^{T} hasJP_{j,c,1680}] \\ &+ \delta logTownPopulation_{j,c,1680} + \gamma_{\mathbf{1}}^{'}\mathbf{X_c^C} + \gamma_{\mathbf{2}}^{'}\mathbf{X_{j,c}^T} + \epsilon_{j,c} \end{aligned} \tag{3}$$

where j indexes a town within a county c. The outcome variable in these specifications is at town level—log town population in 1840, or occupational shares in 1851. We control for town population in 1680 to capture pre-existing town development, and also include a large suite of county-level ($\mathbf{X^C}$) and town-level ($\mathbf{X^T}$) control variables—see notes to Table 4.

These specifications include two measures of legal capacity. The first measure is the same as in Equation (1)—the log number of JPs within a county in 1700. This measure is important in capturing the full amount of legal capacity in a county available, in principle, to each town. The second measure, included in some specifications, is an indicator variable equaling one if a town had at least one resident JP in 1680. This measure captures whether a town had low-cost access to a JP in 1680.

We also use the town-level data to investigate heterogeneity in the importance of legal capacity, by including interactions between the number of JPs and pre-determined town

characteristics. In particular, we test whether the effects of legal capacity varied according to whether a town was located on an exposed coalfield. This allows us to determine whether legal capacity enabled towns to benefit from the growth opportunities offered by the Industrial Revolution. Moreover, it allows us to isolate a source of growth that is clearly exogenous to the number of JPs in 1700, given that coal was not a major input into production at this point. Similarly, we investigate whether there were differential effects of legal capacity according to the existence of locally-elected officials (a potential substitute for the state capacity offered by the JPs), town size, and towns with access to a harbor—and hence particularly exposed to the commercialization of the eighteenth-century economy.

4.3 Identifying Assumptions

Our core identifying assumption is that the location of JPs in 1700—either the number of JPs at county-level, or the presence of a resident JP at town-level—is exogenous to future economic development, conditional on control variables. This assumption is justified by the fact that the geographic distribution of JPs prior to the eighteenth century was determined by historic political factors that were orthogonal to future economic growth. To support this claim we first discuss how JPs were selected to the "Magistrates' Bench", and then show that there is no evidence of a relationship between the number of county JPs in 1700 and pre-trends in either population growth or urbanization.

The historical literature discusses how the number of JPs evolved over time. In 1390, it was stipulated that every English county have at least 8 Justices on the Bench. Moving forward, the number of JPs increased in some counties. According to (Skyrme, 1991, V. I p.68), there was no obvious reason for the considerable differences between counties by 1500. The Tudor monarchs (1485-1603) utilized JPs to expand their power and increased their numbers overall. In 1535, the Tudors firmly established the principle that JPs were appointed by the Crown (Skyrme, 1991, V. I p.118). Political considerations then became crucial in the formation of the Bench. The Lord Chancellor, a government minister, appointed JPs for

each county, although there was consultation with the most powerful local official, the Lord Lieutenant. Appointments were motivated by a combination of the candidate's ability to carry out the duties of a JP and their loyalty to the monarch and/or government in power.

Political considerations were particularly relevant during the Stuart monarchy (1603-1714).[24] The disruptions of the Civil War (1641-1648) and Interregnum (1648-1660) were followed by a period of intense party rivalry in which the Whigs and Tories sought to use the Magistrates' Bench to gain supporters whenever they had influence over the Government. Appointing an individual to the Bench could create an influential political ally as well as providing influence over voters and hence election outcomes. Moreover, it was easier to add new JPs to the Bench than remove old ones. Removing an individual implied "dishonor" and hence risked creating enemies just as appointing could create allies. Furthermore, it was expected that those with higher social status would be appointed first—thus removing a relatively high-ranked political opponent could preclude adding a lower-ranked political ally. Consequently there was considerable persistence in the composition of a county bench, as Lord Chancellors had to account for historical appointments and claims of sitting justices to stay on the bench in making their decisions. Practically, the Lord Chancellor could not start from scratch in selecting JPs at any moment. Thus, the number of county JPs in 1700 was shaped by the idiosyncrasies of local political allegiances and histories starting in 1390 and continuing throughout the post-Civil War period.[25]

The identifying assumptions are weaker in our town-level analysis (Equation (3). In these regressions, we assume that the number of county-level JPs is conditionally exogenous to each individual town within a county. This is plausible because even the largest towns were generally quite a small part of each county, and would not be of particular importance when considering where best to place JPs. There is no historical evidence that towns influenced

[24] See Landau (1984) and Glassey (1979) (especially page 331) for detailed discussion. After 1720 the administrative needs of each county became an increasingly important source of demand for JPs, in line with the expanding role of the JPs documented in Section 2.2.

[25] The size of the bench was also shaped by local demands, but these were also primarily political in nature, and appointment decisions were often driven by idiosyncratic factors, such as the political identities of the leading magnates in a county.

the seventeenth-century JP selection process, and the local magnates most likely to influence selection (such as the leading official in the county, the Lord Lieutenant)—or be selected purely based on their social status—resided on estates outside of urban areas. Finally, our results are very similar when excluding potentially-influential towns—large towns, those with resident elites, and those with MPs or charters (see Appendix Table C.5).

A further significant factor shaping the size of the Bench was the local supply of elites of sufficient status to act as a JP. As discussed in Section 2.3, formal property and status requirements meant only a small portion of society was eligible to join the Bench—a pool that narrowed further once considerations of political allegiance were taken into account. Moreover, there were local pressures in many counties to keep the number of JPs low as to preserve the social prominence of the office (Skyrme, 1991, V. I p.210). The close connection between the number of JPs and the number of elites threatens our identification strategy, given that elites, especially the gentry, may have played a role in financing the Industrial Revolution (Tawney, 1941; Heldring et al., 2021). We therefore carry out a number of robustness tests to address this concern, including controlling for the presence of elites, at both county-level and town-level. However, we find little evidence of any relationship between the presence of elites and the outcomes we study.[26]

Appendix Figure A.1 provides quantitative evidence that both the number of elites and political contestation of a county led to a larger JP cohort in 1700. In particular, we investigate the correlates between the number of JPs and other county characteristics. In the absence of controls, JPs in 1700 are correlated with several characteristics. Most of these correlations become statistically insignificant after controlling for contemporaneous economic development (1700 log population density) and our other baseline controls (access to coal

[26] This finding is consistent with studies suggesting that the gentry's role in finance may have been overplayed. For example, Ward (1974, p.74) estimates that landed gentlemen provided 17% of the capital for canals between 1760 and 1830. Capitalists (i.e., merchants) made the greatest contribution to canal capital at 21%. The gentry provided more capital in the first generation of canals between 1755 and 1788, accounting for 21%. Yet their role was similar to other wealthy individuals, such as nobles, who contributed 20%. Langton (1979, p.218) discusses how the gentry would often pull out of the financing for coal mining ventures based on a lack of capital.

and geographic coordinates). The number of county gentry in 1670 and political contestation remain strongly correlated with the number of JPs. Our data thus offers quantitative support to the historical evidence regarding the factors shaping the size of the Bench in each county. The results in the following section show that these factors do not appear to confound our estimates of the importance of legal capacity.

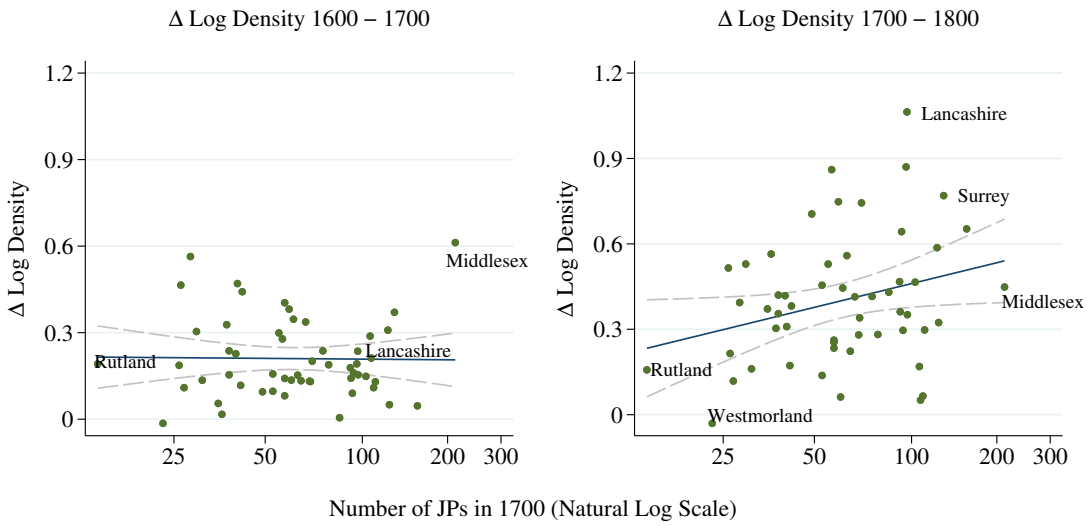
Critically, the number of county JPs in 1700 is uncorrelated with pre-trends in economic development, as shown in Figure 4. Each panel in this figure shows the log number of JPs in 1700—our main explanatory variable—on the x-axis, and 1700 changes in either county population (Figure 4a) or urbanization (Figure 4b).[27] We observe—see the left-hand side panels—little evidence of any relationship between 1700 JPs and pre-1700 economic development. The correlation between 1700 JPs and 1600–1700 population growth is -0.01 (s.e. = 0.14), and with 1600–1680 urbanization it is -0.09 (0.14). The number of JPs in 1700 thus does not appear to reflect the (limited) economic change that occurred in the seventeenth century—a claim we test more formally in Section 5.2.

In contrast, the right-hand panels in Figure 4 indicate a clear positive relationship between JPs in 1700 and development over the following century. The correlation between log 1700 JPs and population growth between 1700 and 1800 is 0.28 (s.e.=0.13) and the correlation with the change in urbanization between 1680 and 1800 is also 0.28 (0.13). Most notably, the counties most associated with the Industrial Revolution, Lancashire and the West Riding of Yorkshire, were among those with the most JPs at the start of the century. Those counties with few JPs, such as Rutland, Westmorland, and parts of Wales, remained relatively undeveloped even in the mid-nineteenth century. The empirical analysis in the following section demonstrates that this relationship is causal.

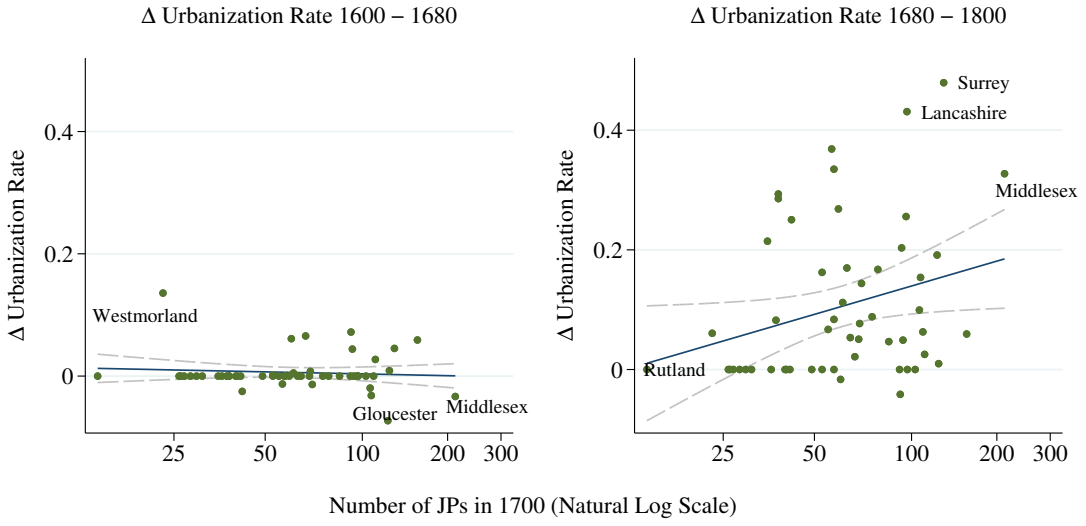
[27] Urban population is available for 1680 and county population is available in 1700. To approximate an urbanization rate, we estimate county population in 1680 using linear interpolation. See Appendix A for further details.

Figure 4: The number of JPs in 1700 is associated with population growth and urbanization after 1700, but not before.

(a) 1700 JPs and Change in Population Density



(b) 1700 JPs and Change in Urbanization



Notes: Panel (a) plots the relationship between the log number of JPs in 1700 (x-axis) and the change in population over the previous century (left-hand side) and the following century (right-hand side). The bottom panel repeats the analysis using the change in urbanization rates, where urbanization is measured as the share of the county population living in towns with at least 5,000 inhabitants.

5 Legal Capacity and Economic Development

In this section we demonstrate that local economies with greater access to legal capacity—in the form of JPs—in 1700 led to broad economic development over the following century and a half. We first examine the long run effects of legal capacity on aggregate economic growth, proxied by population density. We then investigate the ways legal capacity affected economic development throughout the transformations of the Industrial Revolution period. The second subsection shows that legal capacity affected a range of county-level development outcomes, including innovation, occupational change, and financial development. These effects emerged gradually during the eighteenth century, and then persisted. The following subsections show that more legal capacity contributed to both urbanization and structural transformation during the Industrial Revolution. Finally, we show that JPs aided investments in human capital, and contributed to the development of fiscal and collective capacity.

5.1 Legal Capacity and Aggregate Economic Growth

This subsection provides evidence that counties with more legal capacity experienced greater economic growth over the course of the Industrial Revolution. The estimated effect of legal capacity is robust to the inclusion of a range of controls for county economic and political characteristics reaching back to 1400. An instrumental variables analysis produces similar results, offering further support for a causal interpretation of our findings.

Our headline results, in Table 1, show that counties with more JPs in 1700 grew more over the following 140 years. In the first column we estimate Specification 1, including our baseline controls—1700 log population density (proxying for pre-1700 economic development), the percent of land area on a coalfield, and a polynomial in latitude and longitude. The coefficient relating to 1700 JPs is positive and statistically significant, indicating that a 1% increase in the number of 1700 JPs led to a 0.3% increase in population density in 1840.

These estimates imply that the legal capacity achieved by 1700 had a significant impact

on the spatial pattern of growth during Britain's industrialization. A one standard deviation increase in JPs is estimated to have just under 80% of the effect of a one standard deviation increase in the proportion of a county exposed to coal. Alternatively, the coefficient in column 1 implies that if the number of 1700 JPs in Lancashire had the sample median number of JPs (62, compared to 101 in reality) then, its population in 1840 would have been approximately 12% lower. If Cumberland—located close to Lancashire, and with similar access to coal—had been blessed with as many JPs as Lancashire, its population would have been 31% higher in 1840. In sum, the results imply that more legal capacity enabled counties to take advantage of the economic opportunities that emerged during the Industrial Revolution period.

The remaining four columns of Table 1 demonstrate that the coefficient relating to 1700 JPs is robust to controlling for possible confounding variables. We sequentially add four variables that remain correlated with the number of JPs after accounting for our baseline controls (see Appendix Figure A.1). The statistical significance and magnitude of the coefficient is stable across the specifications (if anything, the magnitude increases when area is included). Further, none of the coefficients related to these potential confounds is large or statistically significant. Most notably, we do not find that the amount of gentry in a county predicts future economic growth during this period. That is, to the extent the presence of gentry was important, it may have been through providing a supply of JPs. We will see further evidence of this in Table 5.

The finding that JPs in 1700 had a positive and significant effect on population density in 1840 is robust to the inclusion of alternative control variables—see Figure 5—alternative specifications, and the exclusion of possible outliers.[28] In Figure 5, we report the results from adding a series of additional control variables one-by-one. In the left hand panel, we can see that the results are similar when controlling for a range of variables capturing pre-1700 economic development, including pre-trends in urbanization and population density. Similarly, the estimates are very stable when controlling for a range of geographic characteristics

[28] Appendix Figure C.3 we show the estimates are similar after removing counties one by one. Appendix Table C.3 further shows that estimates are robust to excluding individual regions.

Table 1: Counties with greater legal capacity in 1700 experienced faster economic growth during the industrial revolution period ($N = 54$).

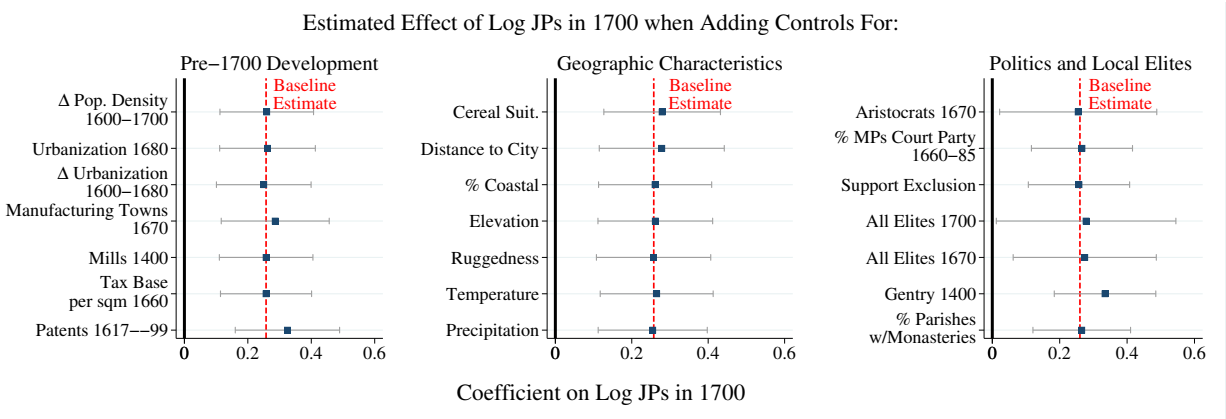
	DV = 1840 Log Population Density				
(Log) JPs 1700	0.26***	0.24**	0.29***	0.39***	0.31***
	(.074)	(.093)	(.043)	(.066)	(.115)
(Log) Population Density 1700	1.00***	1.00***	1.03***	0.93***	0.99***
	(.042)	(.042)	(.043)	(.066)	(.052)
% of Area Exposed Coal	0.19***	0.19***	0.18***	0.20***	0.19***
	(.044)	(.045)	(.046)	(.047)	(.045)
(Log) Gentry 1670		0.02			
		(.102)			
Contested Elections 1660–89			−0.05		
			(.045)		
Area of County				−0.08	
				(.063)	
Number of Towns in 1670					−0.04
					(.072)
Coordinates	Y	Y	Y	Y	Y

Notes: "Coordinates" include a second order polynomial in longitude and latitude. The number of gentry in 1670 is based on Blome (1673) and includes all individuals classified as either an esquire or a gentleman. Variables not reported in logarithms are standardized. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

(middle panel), and political variables (right-hand panel). Importantly, these controls relate to both possible changes during the seventeenth century and also longer run characteristics that could—in principle—have been pre-conditions for economic development during the eighteenth century. We find no evidence that such an effect confounds the estimated relationship between legal capacity and long-run economic development.

Instrumental variable specifications, reported in Table 2, provide further support for a causal interpretation of the results. Here we exploit the fact that, as discussed in the previous section, the presence of JPs was persistent over time due to difficulties associated with removing families from the bench. We thus instrument the log number of JPs in 1700 with

Figure 5: The effect of legal capacity is not explained by other county economic, geographic, or political characteristics..



Notes: The figure displays the regression coefficient on log JPs 1700 when estimating specification 1 in Table 1 adding each of the controls above one-by-one (that is, in separate regression specifications). The red dotted line reflects the coefficient from column 1 of that table. "Urbanization" is the proportion of the county population living in towns with above 5,000 inhabitants. "Manufacturing towns" is the number of towns with any manufacturing, based on Blome (1673). Tax base per square mile is based on Hendriks (1857). "Patents 1617–1699", is the total number of patents registered in each county, based on (Cox, 2020). Cereal suitability is based on GAEZ's rain-fed agriculture database (FAO/IIASA, 2011). "Distance to city" is the distance from the county centroid to one of the five largest cities in 1600 (London, Bristol, Norwich, York, Newcastle). Average Elevation and Ruggedness are estimated via GIS. Temperature and precipitation are averages between 1700 and 1840, using data from Luterbacher et al. (2004), Xoplaki et al. (2005), and Pauling et al. (2007). "% coastal" is the average area of a county which was coastal (Bogart et al., 2022). "Aristocrats 1670" and "All Elites 1670" are counts from Blome (1673). "% MPs Court Party" is the share of county constituency MPs aligned with the monarch. "Support Exclusion" is the percentage of votes in support of the exclusion of James II in 1679, based on Dimitruk (2021). "All Elites 1700" are counts from Index Villaris (Adams, 1680). Data on the number of mills in 1400, the number of gentry in 1400, and the percentage of parishes with monasteries are constructed using Heldring et al. (2021)'s replication dataset. These variables are only available for counties in England; missing values are replaced with the sample average and a separate Wales dummy is included in the regressions. Measures of elites, gentry, tax base per square mile, patents 1617–1699, and percent of parishes with monasteries are logged (plus one to allow for zero values where necessary). Bars represent 95% confidence intervals.

the log number from 1544, and hence isolate any variation in JPs that was determined long before 1700—addressing any lingering concern that economic trends during the eighteenth century could jointly determine both 1700 legal capacity and economic growth moving into the Industrial Revolution period. As expected, the number of JPs was highly correlated over time (column 1). The reduced form (column 2), OLS (column 3), and IV (column 4) estimates are all similar in magnitude and statistically significant from zero. This suggests there is little bias in the OLS estimate.

These results demonstrate strong and robust effects of legal capacity on long-term growth in economic development—as proxied by population density—during the Industrial Revolution period. Our dataset allows us to control for, and hence rule out, a number of potential confounding factors. The instrumental variables analysis is evidence that the core results are

Table 2: The estimated effect of 1700 JPs on economic development is similar when instrumenting with the number of JPs in 1544 ($N = 54$).

	DV = (Log) 1840 Population Density			
	First Stage	Reduced Form	OLS	2SLS
(Log) JPs 1544	0.97***	0.23*		
	(.227)	(.118)		
(Log) JPs 1700			0.26***	0.23***
			(.042)	(.052)
Baseline Controls	Y	Y	Y	Y
Coordinates	Y	Y	Y	Y
First Stage F-Stat				18.4

Notes: "Baseline Controls" include (log) 1700 population density and the percent of a county with exposed coal. "Coordinates" include a second order polynomial in longitude and latitude. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

not due to reverse causality whereby faster growing counties acquired higher JP counts during the seventeenth century. The only remaining potential threat to a casual interpretation of the findings is the existence of an unobserved county characteristic, that was determined before the time of Henry VIII and correlated with both having more JPs in 1700 and population growth after 1700. Moreover, as will see in the following subsection, the effect of that variable would have to have remained latent throughout the seventeenth century, before emerging as an important factor in the first half of the eighteenth century. It is very hard indeed to imagine any plausible economic or political factor that would have that property.

5.2 Dynamic Effects of Legal Capacity

The results in the previous subsection demonstrate that 1700 legal capacity contributed to county-level economic performance over 140 years. The remaining four subsections shed further light on the ways in which legal capacity could shape economic development. In this subsection, We show that the effect of legal capacity emerged gradually over the eighteenth

century. Further, we show that more 1700 legal capacity contributed to a range of development outcomes, including innovation. These findings are consistent with the idea that having more JPs 1700 "kick-started" a positive cycle of self-reinforcing growth.

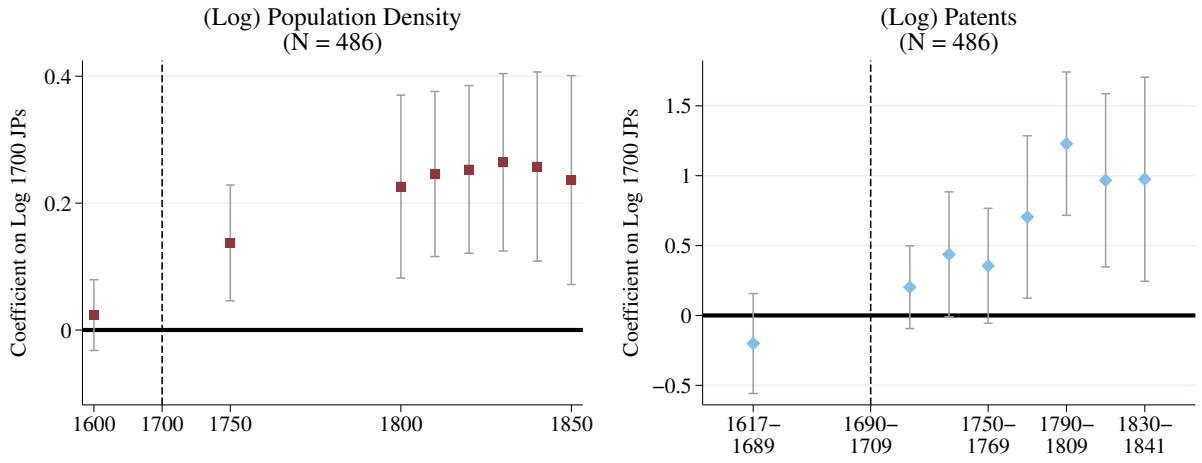
To analyze the dynamic effects of JPs we study two development outcomes—population density and the number of patents—for which we have a long-run panel dataset. This data allows us to estimate two-way fixed effects regressions (see Equation 2), allowing for log 1700 JPs to have differential effects at different points in time. Doing so identifies at what point we observe the effect of legal capacity on growth. The analysis also offers a further test of our identifying assumptions by investigating whether the number of JPs in 1700 affected economic growth in the prior century.

The results, displayed in Figure 6, indicate that the effect of legal capacity emerged gradually after 1700. The left-hand of the figure plots the relationship between legal capacity and county population density. The estimated effect of more JPs on economic development is evident by 1750, reached its full magnitude by 1800, and then persisted up until 1850.

The right-hand panel of Figure 6 shows a similar pattern for county innovation, as proxied by the the number of registered patents. Here we aggregate patents into several periods. The initial period includes patents from 1617 and 1689—when relatively few patents were granted. Subsequent periods are then twenty years each, culminating in a final period between 1830 and 1841 (the last year available). Again, we see a gradual increase in the magnitude of the estimated coefficients after 1700. The coefficients become statistically significant (at a 95% level) after 1770, and reach a peak around 1800.

The results in Figure 6 also provide further support for our identifying assumptions. We do not observe any evidence of a relationship between 1700 JPs and economic development 1700. This suggests—consistent with the earlier evidence in Figure 4—that the number of JPs in 1700 did not reflect underlying pre-trends in the economy. Further, this pattern reinforces the point in the previous subsection that it is difficult for a latent county-level variable to confound our results. The effect of such a variable would have to emerge in the

Figure 6: The effect of 1700 legal capacity emerged gradually and was persistent over time.



Notes: The figure displays coefficients from the specification in Equation (2). Specifically, each coefficient in the plot relates to the interaction between 1700 county JPs and an indicator for a particular year. All specifications also include county- and year-fixed effects, and interactions between the year fixed effects and the set of baseline controls—log population density in 1700, the second order degree polynomial in longitude and latitude, and the percent of a county with exposed coal. Patent data is from Cox (2020). A constant of one is added to account for the fact several counties had zero patents in each period. Figures for patents reflect the log of the number of patents granted in that county in the relevant period. The missing category in the left-hand panel is log population density in 1700, and in the right-hand panel it is patents registered between 1690 and 1709. Bars represent 95% confidence intervals, with standard errors clustered by county.

first half of the seventeenth century but *not* before. Further, it must have affected growth before 1750—ruling out factors that became relevant only after the inventions of the classic Industrial Revolution period became available.

The dynamic estimates also offer suggestive evidence regarding the channels through which legal capacity influenced growth. The limitations of historical data preclude being precise about different channels. However, the gradual evolution of the effect is consistent with the JPs stimulating self-reinforcing cycles of growth. Further, the increase in innovation alongside economic growth is suggestive of possible agglomeration economies. Alternatively, it could be that the increase in magnitude over time reflects the growing economic importance of JPs after 1750 (see Figure 2). As counties with more JPs in 1700 likely also had more JPs at this point, they may have been better able to take advantage of these changes. We return to this point in Section 5.5.

The broad economic impact of legal capacity is also evident in Table 3. Here we repeat

Table 3: Higher legal capacity in 1700 positively affected a broad range of development outcomes in 1840 ($N = 54$).

				% Male Occupations:		
	Property Income/area	Bank Deposits	Railway Stations	Primary	Secondary	Tertiary
(Log) JPs 1700	0.23***	4.08***	0.70**	−0.04*	0.02	0.02**
	(.080)	(1.308)	(.303)	(.024)	(.022)	(.007)
(Log) Population Density 1700	0.99***	−0.05	0.49***	−0.09***	0.04***	0.06***
	(.064)	(.553)	(.157)	(.022)	(.014)	(.012)
% of Area Exposed Coal	0.14***	0.12	0.39*	−0.06***	0.06***	−0.01**
	(.037)	(.256)	(.204)	(.013)	(.012)	(.005)
Coordinates	Y	Y	Y	Y	Y	Y

Notes: Property income in logs is from the 1843 land assessment (House of Commons, 1845). Bank deposits in logs are measured in 1830 and are from Marshall (1835). The number of rail stations in logs is measured in 1841, based on Henneberg et al. (2017) and Bogart et al. (2022). For the latter two variables, 1 is added due to zero-valued observations.Occupational shares are measured in 1841, based on Gatley et al. (2022). "Primary" includes agriculture and fishing, "Secondary" includes manufacturing and other industry, and "Tertiary" includes services—transport, retail, wholesale, professional, clerical, hospitality, government, and military. A fourth category of "Other" comprised approximately 15% of occupations nationally. "Coordinates" include a second order polynomial in longitude and latitude. % of Area Exposed Coal is standardized. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Specification (1)with a range of different development outcomes as outcome variables. We see that more county JPs in 1700 led to higher property (largely housing) income, consonant with the effects on urban development below. More 1700 legal capacity also increased bank deposits, suggesting an effect on financial development, and the adoption of new technology—measured by the number of railway stations. Greater legal capacity also appears to have contributed to a shift away from agricultural and into tertiary occupations. There is, however, little evidence that legal capacity influenced the growth of the secondary sector at county level—a point we return to in Section 5.4.

5.3 Legal Capacity and Urbanization

We now use our town-level dataset to examine the effect of 1700 legal capacity on urban growth. Rapid urbanization is one of the most salient changes of the Industrial Revolution, and so is of conceptual interest. Using town-level data also allows us to weaken our identifying assumptions and hence support a causal interpretation of our findings. Finally, analyzing town-level legal capacity supports our argument that low cost access to legal services was an important contributor to economic development.

Table 4 shows that 1700 county JPs—the same variable as analyzed in the previous subsection—had a strong and robust effect on town population in 1840. Here we estimate Specification (3), including controls for 1680 town population, a range of town geographic characteristics, and the county-level controls included in Table 1. The following columns then add town-level economic controls—including variables capturing seventeenth-century economic activity, access to trade routes, and local institutions—and controls for local political factors. Interestingly, we see that growth was higher in towns that were self-governing (had local town officials) and those that were "stage towns". However, including these variables does not significantly affect the estimated coefficient relating to legal capacity.

The remaining three columns of Table 4 explore possible heterogeneity in the effect of legal capacity. In column 4, we see that the effect of legal capacity appears independent of town size—that is, the benefits were not limited to towns that were relatively large before 1700. However, column 5 shows that the effects were much greater for towns on an exposed coal field. This finding is consistent with legal capacity assisting towns in benefiting from the economic changes of the Industrial Revolution. Further it is notable in so far as there is no way in which JPs in 1700 could be chosen to take advantage of such opportunities. As such, this fact offers support for causal interpretation of our results. Finally, in column 6, we see no evidence of lower growth in self-governing towns, suggesting that the JPs offered benefits distinct from those provided by other forms of local state capacity.

Table 4: Greater county legal capacity led to urban development.

	DV = (Log) 1840 Town Population					
(Log) JPs 1700	0.40**	0.41**	0.42**	0.43***	0.29*	0.43**
	(.159)	(.166)	(.167)	(.151)	(.168)	(.170)
x Large Town				−0.02		
				(.136)		
x Had Coal					0.77**	
					(.311)	
x Self-Governing						−0.06
						(.113)
Had Coal	0.40***	0.35***	0.37***	0.37***	0.57***	0.37***
	(.135)	(.127)	(.127)	(.126)	(.151)	(.127)
Stage Town		0.26***	0.23***	0.23***	0.24***	0.23***
		(.091)	(.087)	(.086)	(.089)	(.088)
Self-Governing			0.16**	0.16**	0.16**	0.16**
			(.076)	(.075)	(.074)	(.074)
(Log) Town	0.96***	0.82***	0.79***	0.81***	0.78***	0.79***
Population 1680	(.054)	(.066)	(.071)	(.083)	(.070)	(.072)
Towns	703	703	703	703	703	703
Counties	54	54	54	54	54	54
Coordinates	Y	Y	Y	Y	Y	Y
County Controls	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Economic Controls	N	Y	Y	Y	Y	Y
Political Controls	N	N	Y	Y	Y	Y

Notes: Log JPs 1700 is scaled so 0 is the sample mean. "Coordinates" include a second order polynomial in longitude and latitude. "Geographic Controls" include (at town level) elevation, slope, temperature, rainfall, wheat suitability, and whether coastal. "County Controls" include 1700 log population density, % county area exposed coal, average political contests 1660–89, (log) county gentry 1670, and county area. "Economic Controls" include distance from a port in 1565 (square-rooted), whether had a harbor, mining, manufacturing, a navigable river, a stream, a free school, an almshouse, a large market, a small market, was on a main road in 1700, was a post town, or was a stage town. "Political Controls" include whether a town had a resident member of the gentry, a resident member of the aristocracy, was represented in Parliament (had MPs), had a charter, or had elected town officials. Town-level controls are measured in 1670, unless stated otherwise. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

To better understand how JPs may have affected town development, in Table 5 we investigate the effects of a JP being resident in a town. Having a JP close by could reduce the cost of accessing legal services, and serve as a deterrent against illegal activity. Consistent with this hypothesis, the results suggest that towns with a resident JP in 1680 were (conditional on 1680 population) 13–19% larger by 1840.[29]

The results in Table 5 also provide further reassurance that we are capturing causal effects of legal capacity on development. First, this analysis allows us to directly compare the effects of having a resident JP to those of having resident elites or to the town being represented in Parliament. Adding these controls (columns 2 and 5) does not significantly affect the coefficient relating to having a resident JP. In fact, we see little evidence that the presence of other elites predicts town growth at all. Second, in columns 4 to 6 we add county fixed effects, and hence focus on variation in legal capacity within counties. Doing so leads to only a slight reduction in the size of the coefficients relating to having a resident JP.

Appendix C.2 presents further robustness tests for the results in this subsection. In particular, we show that the results are robust to excluding particular counties or towns that may be most likely to bias the results. We also re-produce Table 5, restricting the sample to towns that have resident elites—by doing so we exclude the possibility that the effect is driven the fact that towns with elites were (potentially) fundamentally different to those with elites. The estimated effect is then driven by the factors—likely driven by historic politics—determining whether elites were selected as JPs. The findings are similar to those using the full sample. We thus find strong and robust evidence that greater legal capacity contributed to urban expansion over the course of the Industrial Revolution.

[29] Further, if we split the sample based on the presence of a JP, we find that the number of county JPs affected growth only in towns without a resident JP. This finding is consistent with more county JPs affecting development through increasing the number of areas with easy access to legal services.

Table 5: Having a resident JP in 1680 led to higher town population in 1840.

	DV = (Log) 1840 Town Population					
Had Resident JP 1680	0.19***	0.17**	0.14**	0.18**	0.16**	0.12*
	(.073)	(.074)	(.068)	(.073)	(.073)	(.066)
(Log) JPs 1700	0.43***	0.40**	0.42**			
	(.158)	(.160)	(.165)			
Had Aristocrat		−0.00	−0.01		−0.02	−0.03
		(.050)	(.045)		(.052)	(.046)
Had Gentry		0.06	0.05		0.10	0.08
		(.097)	(.085)		(.098)	(.087)
Had MPs		0.11*	0.02		0.09	−0.01
		(.061)	(.064)		(.057)	(.061)
Self-Governing 1670			0.15**			0.15*
			(.073)			(.077)
Towns	703	703	703	703	703	703
Counties	54	54	54	54	54	54
County FE	N	N	N	Y	Y	Y
Baseline Controls	Y	Y	Y	Y	Y	Y
County Controls	Y	Y	Y	N	N	N
Geographic Controls	Y	Y	Y	Y	Y	Y
Economic Controls	N	N	Y	N	N	Y
Political Controls	N	N	Y	N	N	Y

Notes: "Baseline Controls" include 1680 log town population, whether a town had exposed coal, and a second order polynomial in longitude and latitude. "Coordinates" include a second order polynomial in longitude and latitude. "Geographic" controls include (at town level) elevation, slope, temperature, rainfall, wheat suitability, and whether coastal. "County Controls" include 1700 log population density, % county area exposed coal, average political contests 1660–89, (log) county gentry 1670, and county area. "Economic Controls" include distance from a port in 1565 (square-rooted), whether had a harbor, mining, manufacturing, a navigable river, a stream, a free school, an almshouse, a large market, a small market, was on a main road in 1700, was a post town, or was a stage town. "Political Controls" include whether a town had a resident member of the gentry, a resident member of the aristocracy, was represented in Parliament (had MPs), had a charter, or had elected town officials. Town-level controls are measured in 1670, unless stated otherwise. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5.4 Legal Capacity and Structural Transformation

We now use the town-level data to investigate how legal capacity contributed to the structural transformation of the British economy during the Industrial Revolution. Greater legal capacity in 1700 led to a general shift of occupations away from agriculture. However, the precise effects of legal capacity on economic structure varied according to underlying town characteristics: towns on coalfields experienced greater expansion of the secondary sector, while towns with harbors—with potential exposure to the growing international trade of the eighteenth century—experienced greater expansion of the tertiary sector.

The first column of Table 6 indicates that towns with access to more county legal capacity in 1700 had lower shares of the male population employed in agriculture in 1851. Both towns on coal fields and those with harbors had smaller shares employed in agriculture by 1851, consistent with these towns experiencing particular opportunities for structural change.

The results in the remaining columns in Table 6 demonstrate the nuanced relationship between legal capacity and structural change. Consistent with the earlier county-level results in Table 3, we see that more legal capacity led to a higher share of the population in the tertiary sector. However, as with those results, we see little, if any, evidence that legal capacity led to a general increase in secondary sector employment.

The picture changes, however, once we account for heterogeneity according to pre-existing town characteristics. As predicted, in column 4 we observe a positive coefficient on the interaction term between 1700 legal capacity and whether a town was on coal field. Towns on coal fields had more occupations in the secondary sector in general, and this difference was magnified in the presence of greater legal capacity. Similarly, in column 6, we see that harbors generally had a greater share of occupations in the tertiary sector—again, this difference was magnified in the presence of greater legal capacity.

Table 6: Legal capacity had heterogeneous effects on occupational structure depending on town characteristics.

	DV = % Male Occupations in:					
	Agriculture		Secondary		Tertiary	
(Log) JPs 1700	-0.06^{**}	-0.04	0.03	0.01	0.03^{**}	0.03^{**}
	(.030)	(.033)	(.020)	(.020)	(.014)	(.014)
x Had Coal		-0.10^{**}		0.14^{***}		-0.01
		(.048)		(.039)		(.018)
x Had Harbor		-0.00		-0.05^{*}		0.05^{**}
		(.034)		(.025)		(.025)
Had Coal	-0.08^{***}	-0.11^{***}	0.04^{**}	0.08^{***}	-0.01	-0.02
	(.022)	(.028)	(.020)	(.025)	(.010)	(.011)
Had Harbor	-0.06^{**}	-0.06^{**}	0.03^{*}	0.03^{**}	0.05^{***}	0.05^{***}
	(.025)	(.025)	(.016)	(.014)	(.014)	(.016)
Towns	691	691	691	691	691	691
Counties	54	54	54	54	54	54
Coordinates	Y	Y	Y	Y	Y	Y
County Controls	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Economic Controls	Y	Y	Y	Y	Y	Y
Political Controls	Y	Y	Y	Y	Y	Y

Notes: Log JPs 1700 is scaled so 0 is the sample mean. "Coordinates" include a second order polynomial in longitude and latitude. "Geographic Controls" include (at town level) elevation, slope, temperature, rainfall, wheat suitability, and whether coastal. "County Controls" include 1700 log population density, % county area exposed coal, average political contests 1660–89, (log) county gentry 1670, and county area. "Economic Controls" include distance from a port in 1565 (square-rooted), whether had a harbor, mining, manufacturing, a navigable river, a stream, a free school, an almshouse, a large market, a small market, was on a main road in 1700, was a post town, or was a stage town. "Political Controls" include whether a town had a resident member of the gentry, a resident member of the aristocracy, was represented in Parliament (had MPs), had a charter, or had elected town officials. Town-level controls are measured in 1670, unless stated otherwise. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The findings in this subsection provide further evidence that the JPs contributed to the Industrial Revolution through providing market-supporting legal capacity. As we might imagine, the presence of more JPs was not enough to spark industrial development in the absence of the necessary raw materials. However, our results suggest that legal capacity assisted towns in taking advantage of the opportunities presented by economic change. As they did so, JPs acted as an accelerant for economic development.

5.5 Mechanisms

The previous subsections have shown wide-ranging effects of greater legal capacity on economic development. In this final substantive subsection we examine possible mechanisms underpinning these effects. The breadth of the JPs' role means that we cannot pin down all the ways in which they may have influenced the economy. However, we can study particular institutions that they were directly involved in—the apprenticeship system, the poor law, and highway maintenance—at county level. In these roles, the JPs could directly impact human capital, social insurance, and infrastructure—all of which plausibly lead to positive development outcomes.

The first column of Table 7 presents evidence that greater legal capacity underpinned contract enforcement, and hence contributed to the development of county human capital. The JPs had a significant role in resolving disputes related to apprenticeship contracts, placing them at the center of attempt to create a "national skilled labor market" (Wallis, 2019). As we see, counties with more JPs in 1700 had more apprenticeships between 1710 and 1804, suggesting that greater enforcement capability supported the success of such a market and hence skill development. Moreover, this channel is potentially of substantive importance, as the apprenticeship institution may have contributed to industrialization in England and Europe more generally (De la Croix et al., 2018).

Table 7: JPs positively impacted outcomes that were directly related to their duties.

	Dependent Variable = (Log) Expenditure On:				
	(Log) Apprentices	Poor Relief	Criminal Justice	Bridges	Highways
(Log) JPs 1700	1.39***	1.61***	1.33***	2.03***	1.26***
	(.124)	(.216)	(.151)	(.338)	(.164)
(Log) JPs 1700 x_post-1750	−0.02	−0.31			
	(.075)	(.193)			
Baseline Controls	Y	Y	Y	Y	Y
Coordinates	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
N	4,940	1,188	1,896	1,896	150
Counties	52	54	54	54	54
Period	1710– –1804	1748– –1839	1792– –1839	1792– –1839	1812– –1838

Notes: The table reports regressions with dependent variables at county level. "(Log) JPs 1700 x_post-1750" is the interaction between (log) JPs 1750 and an indicator variable for the period after 1750. "Apprentices" are the number of apprenticeships in each year, based on data from Minns and Wallis (2013) and Zeev et al. (2017). Apprenticeships data is not split between the three Ridings of Yorkshire, and so all apprenticeships are assumed to occur in the West Riding. Spending on "Criminal Justice" includes spending on prosecutions, prisons, and police. A constant of 1 is added to each variable to account for 0 values. "Baseline Controls" include (log) 1700 population density and the percent of a county with exposed coal. "Coordinates" include a second order polynomial in longitude and latitude. The specifications in the first two columns also include interactions between the post-1750 indicator variable and all control variables. Data on spending is from House of Commons (1846). Poor law spending is available for 1748–1750 (3-year average), 1776, 1783–85 (3-year average), and 19 cross-sections between 1803 and 1839. Highway spending is available for 1812–1814 (3-year average), 1827, and 1839. Spending on criminal justice is available annually from 1792 to 1838. Standard errors are clustered by county and reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The remaining columns of the table suggest that stronger legal capacity may have complemented other kinds of state capacity, particularly fiscal capacity and collective capacity, through improved administration of public programs. Here we assess spending in areas where JPs had particular roles. Specifically, JPs managed many aspects of spending on poor relief; they decided spending on criminal justice and bridges at Quarter Sessions; and could ensure funds were raised for highway maintenance.[30] Consistent with this role, in the three final columns of Table 7 we see that more JPs in 1700 were associated with greater spending on the poor law—potentially encouraging risk taking and innovation (Greif & Iyigun, 2013)—on critical transport infrastructure (highways and bridges), and on gaols—another form of legal capacity. We interpret these findings as indirect benefits from building legal capacity operating through a general improvement in the competence of the state.

Finally, Table 7 offers further evidence that the effect of 1700 legal capacity emerged in the first half of the eighteenth century, and then persisted. For the number of apprenticeships and poor law spending, data is available before and after 1750, allowing us to test whether the effect of legal capacity varied over time. Reassuringly, there is clear evidence of a strong and positive relationship between the number of JPs in 1700 and both outcomes even in the first half of the century. The estimated effect on poor relief spending—but not the number of apprenticeships—declines after 1750, but the overall effect remains strong and statistically significant. In neither case do we we see an increase in the effect over time. This fact offers suggestive evidence that the dynamic effects we observed in Figure 6—whereby the effect strength grew over time—may be explained by agglomeration economies rather than the growing importance of JPs. However, as we cannot measure key dimensions of the JPs' role—such as enforcing market regulation—we cannot draw strong conclusions.

[30] Many local highways did not get improved by turnpike trusts, a different statutory body. JPs played a key role in ensuring local highway maintenance was funded to some degree, and without the aid of tolls which only turnpike trusts could levy.

6 Discussion

The Justices of the Peace provided the British state with a form of cheap, flexible, legal capacity throughout the eighteenth century. Prior to the advent of a modern bureaucracy, the JPs served as the state's "boots on the ground," with a broad range of duties. Alexis de Tocqueville noted in 1835 that the English were remarkable in their administration of justice (Tocqueville, 2017), and much of that justice was meted out not by legal professionals, but by local elites who could command the respect and obedience of their less illustrious neighbors. As an administrative authority, the JPs also played a key role in the intensification of government (Webb & Webb, 2019). Our results suggest that this system provided an effective, if imperfect, institution through which the state could enforce market-supporting legislation, such as protecting property rights and enforcing contracts. Consequently, counties constrained by history to have fewer JPs—less legal capacity—in 1700 experienced weaker economic development over the following century and a half. Our findings thus suggest that the state played a critical role in shaping Britain's economic development through the Industrial Revolution period.

The finding that the state made an important contribution to the Industrial Revolution complements previous explanations for Britain's growth. As we have seen, the JPs played an important role in institutions that economic historians have highlighted as unique to Britain during this period (Kelly et al., 2014). Further, the presence of well-functioning markets is implicit in studies emphasizing the importance of induced innovation (Allen, 2011), or the presence of a high-skilled workforce (Kelly et al., 2023). We also identify an alternative channel through which the gentry, emphasized by Heldring et al. (2021), contributed to economic growth—they formed a key source of state capacity.

Our focus on "street-level" legal enforcement adds to the large literature regarding the importance of legal institutions to economic development. One branch of that literature emphasizes the value of judicial flexibility in development of legal canon (Glaeser & Shleifer, 2002). This paper suggests that flexibility in enforcement can also be valuable—the ability of

JPs to apply "common sense" in local decision-making allowed them to overcome legislative shortcomings in a rapidly changing economic environment. Further, as with the common law, the JP system spread internationally through Britain's imperial expansion, with "the spread of the office...one of the leading features...by which English institutions and English laws have been given a worldwide significance" (Hazeltine, 1932). Our findings also suggest that the extent of legal enforcement, as well as the number of laws, can improve economic performance (Ash et al., Forthcoming).

An interesting question that we leave to future research is why the JP system was so effective and whether similar institutional structures could be relevant in other contexts. In theory, rulers may fail to make costly state capacity investments unless they believe they will reap the rewards of greater investment in the future (Besley & Persson, 2009). The JPs, however, provided a low cost form of capacity, as they were unpaid, untrained, and largely unsupervised. In modern-day development settings however, the use of local elites as agents of the state has sometimes been linked to negative development outcomes (Acemoglu et al., 2014). One possibility is that norms of social standing as to "gentlemanly", socially-appropriate, behavior supported productive action (Mokyr, 2010). Another is that the autonomy of JPs may have aided the central government from throttling nascent industrial development either by design or by accident (Skyrme, 1991, V. I p.211). A deeper study of the factors underpinning the success of the JP system is needed to understand how to build a cadre of competent and honest bureaucrats that can carry through state policies—a significant challenge, and one that is of contemporary relevance in large parts of the world that struggle to build prosperous market economies.

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Appendix—For Online Publication Only

A Data Appendix

A.1 Variable Definitions

In this subsection we give additional details of the construction of variables used in our empirical analysis.

A.1.1 County-Level Variables

Number of JPs: The number of 1700 JPs is identified based on lists from Landau (1984), supplemented with information from seven additional local lists between 1696 and 1710, obtained as part of a comprehensive archival search. Where several lists are available for a county, we use the mean number. For idiosyncratic reasons, Lancashire's JPs are generally missing from national lists, and so we use a count of the number of JPs from Lancashire in 1702 from Glassey (1979). In each case, we count only JPs that listed in a non-honorary role.

We treat one county, Lincolnshire, differently in our analysis. This county had three divisions, with the same individuals serving on multiple divisions. Analysis of the 1625 and 1680 lists shows that 25 percent of JPs in Lincolnshire served in more than 1 division. Therefore, we assume Lincolnshire had effectively 75 percent of total count of JPs in each list.

Our main source for the list of JPs in 1544 is Skyrme (1991), who provides counts for 52 counties in 1544. For Durham, we use Skyrme's count for 1625 (Vol III., p. 256). For Lancashire, we use Wilkinson (1983, p.42).

County Population: The censuses, summarized in Cheshire (1854), provide county-level population estimates in each decade starting in 1801. We use Wrigley (2007, 2009), which give the best estimates for each English county in 1600, 1700, and 1750 based on archival records of births and deaths. There is no equivalent to Wrigley's estimates for Welsh county populations before 1801. However, Owen (1959) gives estimates for the late sixteenth and seventeenth centuries based on hearth taxes and religious censuses. We use these for Welsh county populations in 1600 and 1700, and use Marshall (1835, p.22) for an approximate population for each Welsh county in 1750.

Urbanization: We estimate urbanization rates as the share of the population living in towns of more than 5,000 inhabitants in 1600, 1680, and 1800. Urban population is available for 1680 and county population is available in 1700. To approximate an urbanization rate, we estimate county population in 1680 using linear interpolation. 1600 town population is from Wrigley (1985). 1680 and 1800 urban population is from the database constructed by Bennett (2012) and Alvarez-Palau et al. (forthcoming), based on Langton (2000). One complication is that London is part of Middlesex, but the population of Middlesex is less than that of London in 1800. Further, Langton lists no towns in Surrey with population over 5,000, but many towns in Surrey could be considered part of London. Consequently, we set Middlesex's 1800 urban population equal to its county population and assume that the part of London's population not in Middlesex is in Surrey.

County Elites: Our primary measures of county elites is taken from Blome (1673), who lists different categories of elites in around 1670. Our main measure includes members of the gentry, which includes all elites that were "esquires" or "gentlemen", who were particularly likely to serve as JPs. We also include measures of "aristocrats"—nobles, barons, and knights—and all elites (gentry and aristocrats combined). As robustness, we also include a count of all elites in Index Villaris (Adams, 1680).

County Area: Total area in square miles is taken from House of Commons (1840).

Number of Towns: The number of towns in each county listed in Blome (1673).

Contested Elections: Contested elections are those which had multiple candidates seeking the same office, say 4 candidates running for 2 MP seats. The average likelihood is the count of contested elections in the county divided by total elections from 1660 to 1689. These variables are our digitization from Henning (1983), Appendix IX.

% MPs Court Party: The share of county constituency MPs aligned with the Court / monarch, based on Dimitruk (2021).

Support for Exclusion: This variable is the percentage of votes by MPs in the county constituency that supported the exclusion of James II from the Throne in 1679. These are taken from Dimitruk (2021).

Tax base per square mile 1660: The assessed property value is taken from Hendriks (1857), and divided by county area.

Mills 1400, Gentry 1400, and % Parishes with Monasteries: These variables are constructed using the replication dataset of Heldring et al. (2021). Their dataset is at parish level for all counties in England. We aggregate by county, replace values for Wales with the sample average, and include a separate indicator variable for Wales in regressions using these variables. Specifically, "Mills 1400" (actually 1399-1477) is based on their variable "mills" and "Gentry 1400" (also 1399-1477) is based on their variable "NrGentry". "% Parishes with Monasteries" is based on their variable "valordummy" which indicates if a parish contained a manor owned by a monastery.

Number of Patents: We construct the number of patents registered in each county in various periods using data from Cox (2020). This dataset lists the name, year, and location (town, county) of each patentee between 1617 and 1841. The dataset does not distinguish the three Ridings of Yorkshire, and so we assign based on town names. We then construct counts for each county within each period, as discussed in the text.

Property Income per Square Mile 1843: Property income is taken from a national assessment in 1843 (House of Commons, 1845). Income is then divided by county area.

Bank Deposits: The value of deposits in savings banks in 1830 is digitized from House of Commons (1832) and Marshall (1835).

Railway Stations: The number of rail stations in 1841 is constructed based on Bogart et al. (2022), based on Henneberg et al. (2017).

Occupational Shares: County occupational shares are derived from CAMPOP's corrected versions of Gatley et al. (2022). Categories are based on the Primary, Secondary, Tertiary scheme developed by CAMPOP.

Apprenticeships: We construct an annual dataset of the number of apprenticeships in each county 1710–1805 using data from Zeev et al. (2017) and Minns and Wallis (2013). County-years in which no apprenticeships are listed are treated as zero. Apprenticeships are not separated between the three Ridings of Yorkshire, and so we assign all contracts to the West Riding. Consequently, there are only 52 counties in regressions using this variable.

County-Level Government Spending: We digitize an 1846 Parliamentary Paper House of Commons (1846). This source reports the total spending by different local authorities for various time periods. Spending on the poor law is reported for 1748–1750 (three-year

average), 1776, 1783–1785 (three-year average), 1803, annually between 1813 and 1819, then 1821, 1824, 1828, 1832, and then annually for 1834 to 1839. Spending on several items out of the county rate (directly controlled by the JPs) is available annually from 1792 to 1838. We use this information to construct two variables: spending on criminal justice (aggregating spending on "gaols", "prisoners' maintenance", "prosecutions", and "constables and vagrants") and spending on "Bridges". Highway expenditure is available for 1812–1814 (three-year average), and 1839. For 1827, we approximate expenditure on highways with the total amount of highway rates raised, which is available for English counties only. Some observations are missing for each spending category, leading to an unbalanced panel.

Geographic Characteristics: We construct a number of county-level variables using GIS software. We start with the base map of ancient counties from Satchell et al. (2023). Counties at this point included various detached parts; we amalgamate these into surrounding counties to create continuous areas. Longitude and latitude are the centroids of the counties. Distances to major cities are measured from this point. County-level precipitation and temperature series are constructed using seasonal grid-cell data from Luterbacher et al. (2004) and Xoplaki et al. (2005), and Pauling et al. (2007). Cereal suitability is for low-input, rainfed agriculture, from the FAO GAEZ database. (FAO/IIASA, 2011). Average elevation, slope, and ruggedness are estimated using satellite data.

The average area of a county which was coastal and number of miles of navigable inland waterways in 1680 are taken from Satchell et al. (2017) and Bogart et al. (2022).

A.1.2 Town-Level Variables

Had Resident JP 1680: The presence of a resident JP in 1680 is based on matching a list of JPs to the list of elites in Blome (1673). See the main text and the following subsection for details.

Had Gentry or Aristocrat(s) 1670: We identify whether a town had a resident member of elite using the lists in Blome (1673). "Aristocrats" include nobles (dukes, earls, etc.), barons, and knights. "Gentry" include esquires and gentlemen.

Town Population: 1680 town population is based on estimates made by Langton (2000), derived from sources such as the Hearth tax. 1840 town population is from the 1841 census originally made by Langton (2000), digitized by Bennett (2012), and geo-located by Satchell et al. (2024).

Occupational Structure 1851: We take information on town-level occupational structure from Bogart et al. (2022). This dataset provides information on male occupational shares within a set of standardized spatial units. These units are linked to towns in our data based on latitude and longitude coordinates. Occupational definitions and counts are based on census data, digitized by the Integrated Census Microdata project (Schurer & Higgs, 2014). Occupations are then classified into categories using the Primary, Secondary, Tertiary system (Wrigley, 2010). The primary sector includes occupations such as agriculture or estate work. The secondary sectors includes occupations such as manufacture and construction. The tertiary sector includes all services, including transport, retail, professional, and government amongst others. Excluded categories including mining and fishing, and an unspecified category.

Geographic Characteristics: We match towns to geographic variables for parish and township units drawn from Bogart et al. (2022). Variables include whether the town had coal (was located on an exposed coalfield), was coastal, the average elevation across the unit, average slope, low input wheat suitability, temperature and precipitation.

Economic and Political Characteristics: We use a number of measures based on the classification of town characteristics in Bogart (2018) and Alvarez-Palau et al. (forthcoming) (largely drawing on Blome (1673). Variables include whether a town had mining, manufacturing (cloth, brewing, or other), had a large or small market, had a navigable river, was on a stream, had a harbor, was a post town, was a stage town, had a charter, had MPs, was self-governing (had elected town officials), had free schools, or an almshouse. The data also identify whether a town was on the road network in 1700, and the distance from a port in 1565 Bogart (2018) and Alvarez-Palau et al. (forthcoming).

A.2 Identifying Locations of JPs in 1680

To identify the residences of JPs in 1680, we link of JPs in 1680 from Esquire (1680) to the list of elites (and their residences) in Blome (1673). The list of JPs was made for political purposes, but it is taken as accurate by historians (see Landau, 1984, for a detailed discussion). For Lancashire, we digitize a list obtained from the Lancashire county archive.

In particular, we link the two lists using the Levenshtein method, which accounts for possible variation in spellings of names.

An eight step procedure is used to maximize the number of matches:

1. Match using first and last names, title of elite, county by county, with Levenshtein

distance less than or equal to 1.

2. Repeat Step 1 without title requirements, with Levenshtein distance less than or equal to 1.

3. Repeat Step 1 without title and county requirements, with Levenshtein distance less than or equal to 1.

4. Repeat Step 2 with Levenshtein distance less than or equal to 2.

5. Repeat Step 3 with Levenshtein distance less than or equal to 2.

6. Repeat Step 2 using only last names.

7. Repeat Step 3 using only last names.

8. Repeat Step 6, with Levenshtein distance less than or equal to 2.

9. Repeat Step 7, with Levenshtein distance less than or equal to 2.

A separate strategy was used for the the aristocracy, to account for their titles as well as names. First, they are matched based on both first name and title. In a second step, they are matched if only their titles match—indicating they are linked by family title, but are not personally named in the elite dataset.

A small number of JPs were listed in administrative areas other than counties (Isle of Ely, Southampton, and Westminster Liberty). In this case only steps 2, 4, 6, and 8 were performed.

A.3 Summary Statistics

Table A.1 displays summary statistics for the main county-level variables used in the analysis. Table A.2 displays summary statistics for the main town-level variables.

A.4 Correlates of the Number of JPs

Figure A.1 displays correlations between the log number of JPs in 1700 and a range of observable characteristics. The left-hand panel displays univariate correlations, and shows that the number of JPs was correlated with a number of observable characteristics. Most notably, more developed (densely populated) counties had more JPs. More elites and more contested elections also predict the number of JPs—consistent with the historical literature as to the determinants of the number of elites. A number of other characteristics are also

Table A.1: Summary Statistics for Main County-Level Variables.

Variable	N	Mean	St. Dev	Min	Median	Max
JPs 1700	54	71.2	39.0	14.0	61.5	212.0
JPs 1544	54	37.8	11.9	19.0	35.0	77.0
Population Density 1840	54	332.6	745.3	59.3	207.2	5,590.9
Population Density 1700	54	118.0	242.1	32.7	87.0	1,852.5
% Coal	54	11.3%	16.5%	0.0%	1.7%	53.8%
Gentry in 1670	54	103.1	53.7	30.0	91.0	243.0
Area of County	54	1,077	602	149	880	2,777
Average Contests	54	0.3	0.3	0.0	.	0.9
Number of Towns	54	14.5	9.6	2.0	12.5	47.0

Notes: Area is measured in square miles. Population density is population per square mile. is the number of esquires and gentlemen, from Blome (1673).

correlated with the number of JPs however, once we control for our baseline characteristics—see the right hand panel—many of the correlations are no longer statistically significantly different from zero. The exceptions form our main controls in Table 1.

Importantly, there is little evidence that pre-trends in either density or urbanization are correlated with the number of JPs in 1700. These correlations are displayed in the bottom rows of the figure. The relevant coefficients are close to zero and far from statistically significant in both panels.

B Additional Historical Background

B.1 The Justices of the Peace

As mentioned in the body of the paper, Alexis Tocqueville remarked in 1835 that the English were remarkable in their centralization of the administration of justice (Tocqueville, 2017). There was a long process to reach that point. The magistrates known as Justices of the Peace (JPs) "gradually acquired a near monopoly of local judicial and administrative authority ... by the late seventeenth century most [other courts] were either nonexistent or insignificant. No local court now contested the justices' local rule" (Landau, 1984, p.7). The intensification of government which took place happened thorough the JPs, as they concentrated much administrative authority (Webb & Webb, 2019; Sweet, 2014, p.40). As

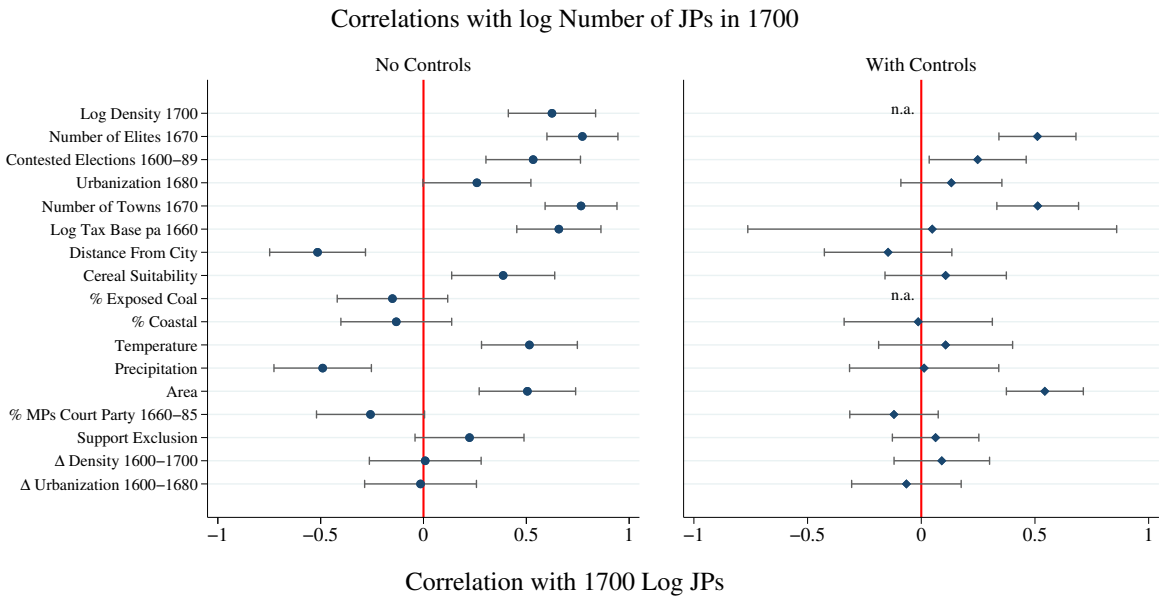
Table A.2: Summary Statistics for Main Town-Level Variables.

Variable	N	Mean	St. Dev	Min	Median	Max
Had Resident JP 1680	703	0.3	0.4	0.0	0.0	1.0
Population 1840 ('000s)	703	9.8	76.2	0.1	2.7	1,948.4
Population 1680 ('000s)	703	1.6	11.8	0.1	0.8	310.9
Primary 1851	703	28.9%	17.9%	0.0%	27.5%	79.5%
Secondary 1851	703	34.5%	11.6%	5.4%	33.3%	71.8%
Tertiary 1851	703	24.3%	9.9%	6.7%	22.3%	80.6%
Had Coal 1670	703	0.1	0.3	0.0	0.0	1.0
Coastal 1670	703	0.1	0.3	0.0	0.0	1.0
Had Harbor 1670	703	0.1	0.3	0.0	0.0	1.0
Had Mining 1670	703	0.0	0.2	0.0	0.0	1.0
Had Manufacturing 1670	703	0.2	0.4	0.0	0.0	1.0
Had Free School 1670	703	0.1	0.3	0.0	0.0	1.0
Had Almshouse 1670	703	0.0	0.1	0.0	0.0	1.0
Had Large Market 1670	703	0.5	0.5	0.0	1.0	1.0
Had Small Market 1670	703	0.3	0.5	0.0	0.0	1.0
Had River 1670	703	0.2	0.4	0.0	0.0	1.0
On Main Road 1700	703	0.6	0.5	0.0	1.0	1.0
Had Stream 1670	703	0.6	0.5	0.0	1.0	1.0
Post Town 1670	703	0.4	0.5	0.0	0.0	1.0
Stage Town 1670	703	0.2	0.4	0.0	0.0	1.0
Had Gentry 1670	703	0.4	0.5	0.0	0.0	1.0
Had Aristocrat 1670	703	0.1	0.3	0.0	0.0	1.0
Had MPs 1670	703	0.3	0.4	0.0	0.0	1.0
Had Charter 1670	703	0.2	0.4	0.0	0.0	1.0
Self-Governing 1670	703	0.3	0.4	0.0	0.0	1.0
Distance From Port (km)	703	32.2	23.0	0.1	28.0	96.8

Notes: The table displays summary statistics at town level. "Primary", "Secondary", and "Tertiary" are the share of male occupations in each sector. Distance from a port is measured in 1565. See Section 3 for further details.

manorial courts declined over the seventeenth century, leading to the rise of quarter sessions and central courts (Brooks, 1998, p.192), local communities lost "the power of selecting their

Figure A.1: Correlates of the Number of JPs in 1700.



Note: The left-hand panel displays uni-variate correlations between log JPs in 1700 and each variable. The right-hand panel displays partial correlations, after controlling for baseline regression controls (see Section 4.2)—log population density in 1700, % county exposed to coal, and a second order polynomial in longitude and latitude. These control variables are, consequently, excluded from the right-hand panel. Bars reflect 95% confidence intervals. The wide confidence interval relating to the 1660 tax base per acre reflects a very high (r=0.82) correlation with 1700 log population density.

own constables (police), and much of the responsibility for the regulatory functions of the court were shifted to the justices of the peace" (Brooks, 1998, p.90).[1]

JPs were appointed by the central government but unpaid, and their office accrued honor "to its possessor and his family" (Landau, 1984, p.301).[2] Throughout our period, local JPs were appointed centrally (Hoppit, 2017, p.27).[3] Each JP was, by the late seventeenth century, both a judicial and administrative officer: "he insured that he alleged miscreants appeared to answer for their offences; sitting either in or out of Quarter Sessions, he heard and determined charges of all but the most major offences; he supervised parish government; and he administered county government" (Landau, 1984, p.7). According to Strayer (1998, p.64), the only alternative to the state compromising with the propertied classes by making

[1] The JPs continued to use chief constables as their executive officers, as these provided the link between the court of Quarter Sessions which made judicial decisions and the parochial officials who implemented them; and they also monitored service among petty constables (Maddison, 1986, p.35). There is evidence that by the eighteenth century, such officers were serving in a disciplined and efficient manner not seen in prior centuries (Maddison, 1986, p.36).

[2] They could also often derive some private benefits from serving (Maddison, 1986, p.51).

[3] Conflicts of interest were accounted for, as JPs could not act in cases involving their own property or business interests (Landau, 1984, pp.356-7). But the likelihood that a conflict of interest occurred or that rules against such situations were enforced varied over time, as we discuss in detail below.

reductions in financial demands or some grants of exceptions and privileges "was to turn over local administration and local justice to local leaders, such as the English Justices of the Peace".[4] Additionally, the JPs were involved in enforcing the law and regulations of various professions and activities (Landau, 1984, p.23).

Early JP manuals of the sixteenth and seventeenth centuries simply emphasized protection of rights and violence via the moral behavior of JPs themselves. Yet from the eighteenth century, moral counsel was replaced by an explicit emphasis on English law. JPs no longer needed to be major landowners even though they were still selected from the upper strata of English society: gentleman proto-bureaucrats (Landau, 1984, pp.15, 359). The main manual of the time that JPs read, Richard Burn's *The Justice of the Peace and Parish Officer* (Burn, 1820), first published in 1755 and with successive editions for more than a century afterwards, reminded "the justice that he was preeminently a part of the English legal system", while outlining in detail the expected tasks and steps to be followed in chronological order, according to the law (Landau, 1984, pp.340-3, 359).

The early eighteenth century shift from the image of JPs as patriarchal governors of their community to officers of the law more distanced from the local communities that they served also meant that conflicts of interest were less likely to arise and rules against potential conflicts of interest were more systematically enforced as well. Alterations done by JPs in the administrative system of counties which benefited its inhabitants became more frequent (Landau, 1984, pp.356-7, 360). Through increased jurisdiction over hearing and determining small debts, JPs had influence over the nascent Industrial Revolution, for instance helping settle disputes over the payment of weavers' wages (Mann, 1960; Brooks, 1998, p.45).

Prior to the Glorious Revolution, JPs were selected from the local landed elite corresponding to the regions that they served, while afterwards this was no longer the case and they symbolized "the monopoly of the increasing powers of formal government" (Landau, 1984, p.318). While associated with an increased percentage of justices that did not act, especially peers (Landau, 1984, p.323), this change also led to a growth in the overall number of JPs with overlapping responsibility over some parishes. Importantly, it implied a more impartial acting for those who did act (Landau, 1984, p.342). Overall, "it is likely that many of the greater gentry and a large proportion of the lesser gentlemen ... who acted did so because they desired good governance for their neighborhoods" (Landau, 1984, p.331).

[4] "By the end of the fourteenth century ... [justices of the peace], country gentry and urban oligarchs were responsible for the enforcement of statutes and administrative orders at the local level, for the arrest of lawbreakers, and for the trial of minor offenses. Local notables also retained responsibility for the collection of taxes" (Strayer, 1998, p.73). The first Elizabethan poor law, passed in 1563, "forced villagers and townspeople to pay towards the upkeep of the local poor, with those that refuse being handed over to JPs" (Mortimer, 2013, p.61).

Property qualifications played a further role in excluding those that might have been most likely to use the JP's role for personal profit. Specifically, JPs were required to possess land of an annual value of £20 per annum or more in 1700, increasing to £100 per annum in 1720 (Maddison, 1986, p.39-40).

Parliament expanded the powers of the JPs over time, and in particular during the initial decades of the eighteenth century. For example, the offences that could be summarily adjudged by the JPs increased from seventy in 1663 to more than two hundred by 1776 (Landau, 1984, p.346). From 1792, the JPs gradually lost comparative importance as Parliament passed an act appointing professional, stipendiary magistrates (Landau, 1984, p.362). This happened first slowly, and only more clearly from the 1830s.

B.2 The Political Context

The rise of party politics had made the nation more sensitive to partiality in local government, which made conflicts of interest less common (Landau, 1984, p.360).[5] James II, during his brief reign prior to the Glorious Revolution, appointed justices according to political and religious criteria that "flouted the tradition of rule" (Landau, 1984, p.302). As mentioned in the main text, most of the James II's appointed JPs were purged in 1689 (Landau, 1984, p.303). Prior to the Glorious Revolution, JPs were selected from the local landed elite corresponding to the regions that they served, while afterwards this was no longer the case and they symbolized "the monopoly of the increasing powers of formal government" (Landau, 1984, p.318). While associated with an increased percentage of justices that did not act, especially peers (Landau, 1984, p.323), this change also led to a growth in the overall number of JPs with overlapping responsibility over some parishes. Importantly, it implied a more impartial acting for those who did act (Landau, 1984, p.342).

Welsh counties are notable for having particularly low numbers of JPs around 1700.[6] Following the English conquest, Welsh institutions were only slowly assimilated with their English counterparts, and the introduction of JPs was completed only under Henry VIII in the 1540s, with the number of JPs limited by statute to eight per county. In practice this limit was not followed for much of the seventeenth century, but was strictly enforced for a brief period between the 1689 Bill of Rights and the statute's repeal in 1693. This requirement led to only six JPs sitting in Denbighshire between 1689 and 1697, compared to between 25 and 32 between 1660 and 1688 Gardner (1985). Across Wales as a whole, our data show that the number of JPs was approximately 10% lower in the 1700s than the

[5] There is a good amount of evidence for judiciary independence during the eighteenth century (Lemmings, 1993; Hoppit, 2017, p.27).

[6] The historical discussion in this paragraph draws on Hazeltine (1932, Section IV) and Gardner (1985).

1680s, whereas the number in English counties grew by more than 25%.[7]

B.3 Categorizing the Duties of JPs

This subsection explains the data underlying the series of JP Acts in Figure 1 and the breakdown of JPs' duties in Figure 2.

Classification of JP Manuals: We investigated two manuals of JP activities: Annotated (1642) and Glasse (1799).[8] Each of these books provides guidance for JPs for a list of different activities. Specifically the manuals explain the nature of each duty (approximately 300 in total), accompanying legislation, the powers and responsibilities of the JPs in some depth (the 1794 manual is approximately 800 pages long). To aid understanding the role of a JP, we distill this array of duties into the following eight categories:

1. Criminal (Justice): relating principally to criminal justice, such as crimes of "burglary" or dealing with "stolen goods".

2. Economic (Regulation): relating principally to businesses, crafts, labour, and trade (not including issues specific to contracts). Examples include allowed dimensions of "bricks and tiles", the regulation of "auction" .

3. Contracts: relating principally to the making, maintaining, and regulation of contracts for employment, apprenticeships, marriages, land-transfer, trusteeships, sales, annuities etc.

4. Legal: relating principally to the enactments of warrants, recognisances, bail, indictments, etc.

5. Social: relating principally to motions for dealing with poverty, disability, infants, youths, the elderly, and misdemeanours of a moral nature.

6. Infrastructure: relating principally to the maintenance, repair, creation, and use of infrastructure that's primarily non-military and non-legal. This includes, for instance, duties relating to roads, bridges, and markets. It excludes infrastructure such as castles, city walls, prisons, or court houses.

[7] Between 1660 and 1680, in contrast, the number of JPs in Welsh counties grew faster than those in England.

[8] Specifically, we categorize the main text of Glasse (1799) which repeats the material in the 3rd edition from 1794. Additional material after 1794 is included in the Appendix of Glasse (1799): we have not categorized this information.

7. Military: relating principally to preparing for war or dealing with military insurrection.

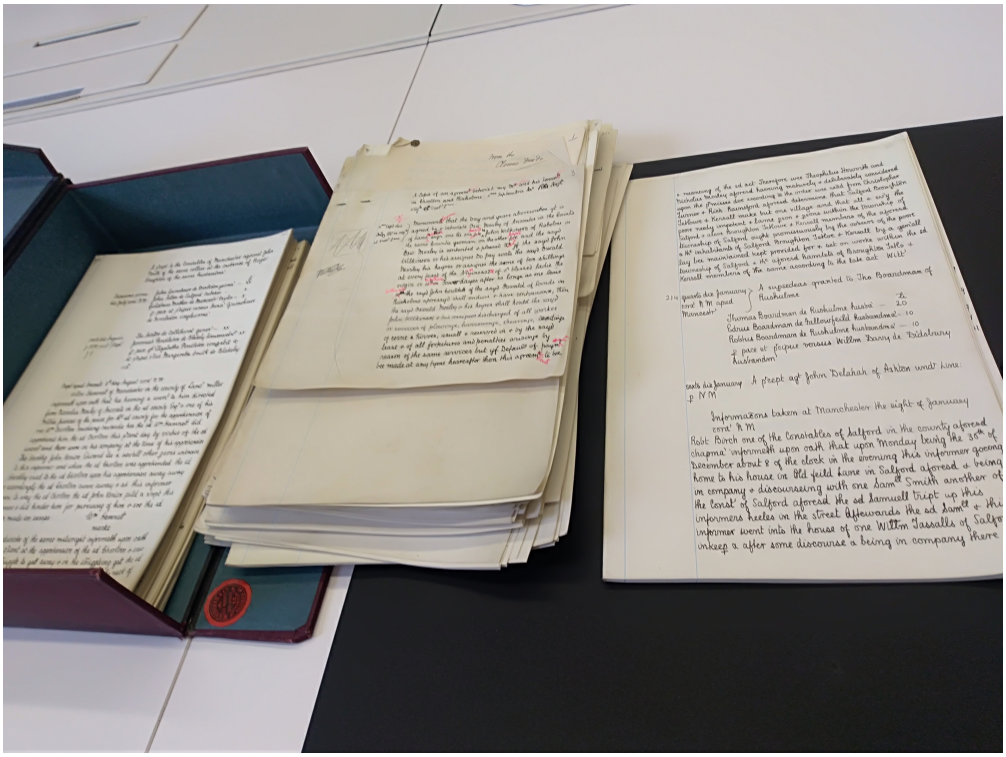
8. Taxation: relating principally to the assessment, collection and dealing with the non-payment of rates, duties and other forms of taxation.

We categorize only duties and responsibilities JPs were asked to do are included, meaning that we exclude a) definitions of legal terms and points of law, as explained to them (e.g. "Accessory"), and b) powers and tools of JPs (e.g., Arraignment). Duties could be classified to multiple categories. For instance, the entry "bankrupt" is classified as both economic and contracts, and "coin"—relating to counterfeit money—is classified as both "economic" and "criminal". For the purposes of Figure 2, we weight each duty according to the number of classifications. For instance, if a duty has two classifications, each classification is given a weight of 1/2 when constructing the figure.

Series of JP Acts: After the classification was complete, we identified the dates of the Parliamentary Acts listed next to each duty in the 1794 manual. This gives us an estimate of the total stock of Acts relating to JPs in each year. This estimate is likely imperfect for two, counterbalancing, reasons. On one hand, the manual may overlook Acts that were repealed or superseded by later Acts. However, some Acts may have been double counted, if they applied to multiple duties within the manual.

B.4 Example of a JP's Notebook

Figure B.2: JP diary demonstrating the JP's role in levying taxes to repair infrastructure



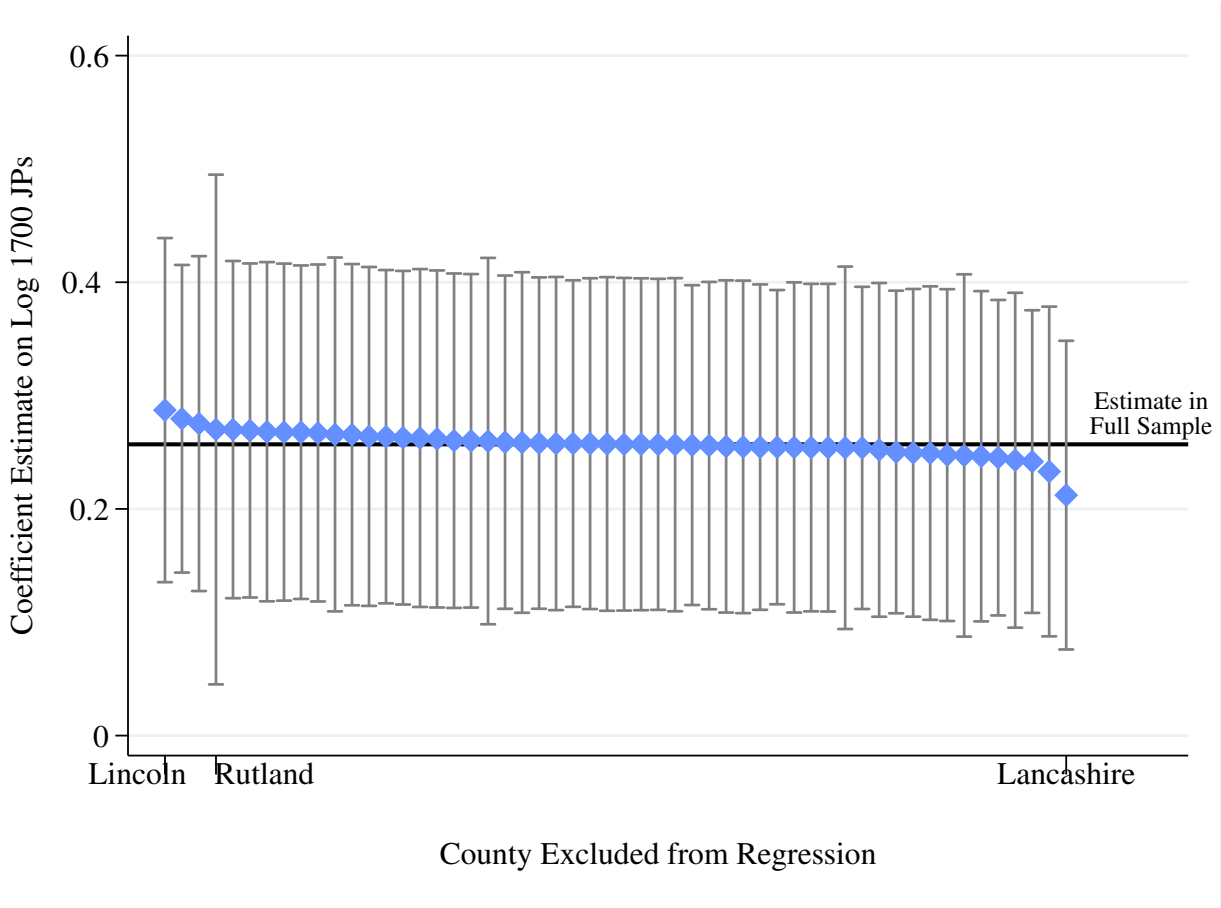
Source: "Original manuscript of the Manchester Sessions (ref: GB127.MS f 347.96 M2)" (n.d.)

C Robustness

C.1 Robustness of County-Level Results

Figure C.3 shows that the results are not driven by particular counties. Here we re-estimate specification (1), excluding each county in turn. As we can see, the estimated coefficient on log JPs in 1700 is very stable—the results are not driven by particular counties.

Figure C.3: The estimates in Table 1 are robust to removing outliers.



Notes: Figure shows the coefficient estimates from estimating specification 1 in Table 1 excluding each county in turn. Bars represent 95% confidence intervals.

Table C.3 re-estimates the main specification in Table 1 excluding different regions of England and Wales. The results are similar in each case.

Table C.4 re-estimates the specifications in Table 1 allowing for non-linearities in the effects of legal capacity. Rather than including the number of JPs logged, here we use the terciles of the distribution of JPs in 1700 as our main explanatory variable. AS we can see, we see a strong effect of JPs. Further, the coefficient on "high JP" is consistently higher than that on "medium JPs", supporting the use of a linear specification.

Table C.3: The results in Table 1 are robust to excluding different regions.

	DV = (Log) 1840 County Population					
(Log) JPs 1700	0.26*** (.078)	0.22*** (.078)	0.27*** (.074)	0.36** (.178)	0.15** (.076)	0.23*** (.069)
Counties	48	43	46	45	46	42
Region Excluded	South-West	South-East	West Midlands	East Midlands	North	Wales
Baseline Controls	Y	Y	Y	Y	Y	Y
Coordinates	Y	Y	Y	Y	Y	Y

Notes: Each column in the table replicates the first specification in Table 1, excluding a different group of counties. "Baseline Controls" include 1700 log population density and the percentage of the county with exposed coal. "Coordinates" include a second order polynomial in longitude and latitude. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.2 Robustness of Town-Level Results

Figure C.4 shows that the results in Table 4 are not driven by particular counties.

Table C.5 demonstrates that the results in Table4 are not driven by towns which seem most likely to have been able to influence JP appointment. The identification assumption for these specifications is that the log number of county JPs in 1700 is (conditionally) exogenous to each individual town. This table offers a check of that assumption by investigating whether the results are robust to excluding towns that might plausibly have influenced the central government's decision-making. Specifically, we exclude the largest towns (first two columns), towns with elites (columns 3 and 4), and towns which may have had political influence (last two columns). The estimates are stable across these specifications. The regression excluding any town with a resident elite (column 4) offers a particularly strong test, as a) it removes almost half the sample and b) this excludes towns likely to have a resident JP in 1700. Yet if anything the effects are even greater in this subsample.

Table C.6 investigates the importance of legal capacity when limiting the sample to towns in which member of the elite was resident. Here we replicate the specifications in Table 5 within this restricted subsample. Restricting the sample in this way addresses the potential concern that the effect of having a resident JP captures the fact that towns with elites—and hence with the potential to have a JP—were (potentially) fundamentally different to those without elites. As we can see, the results are similar to those in the main text, although slightly weaker once the full suite of controls or county fixed effects are included—likely reflecting the smaller sample size.

C.3 Tests for Spatial Autocorrelation

Figure C.5 suggests that spatial autocorrelation is not an issue in our county-level data. Here we investigate serial autocorrelation in our main dependent variable (1840 log population density, left-hand

Table C.4: The results in Table 1 are robust to allowing for effect of legal capacity to be non-linear ($N = 54$).

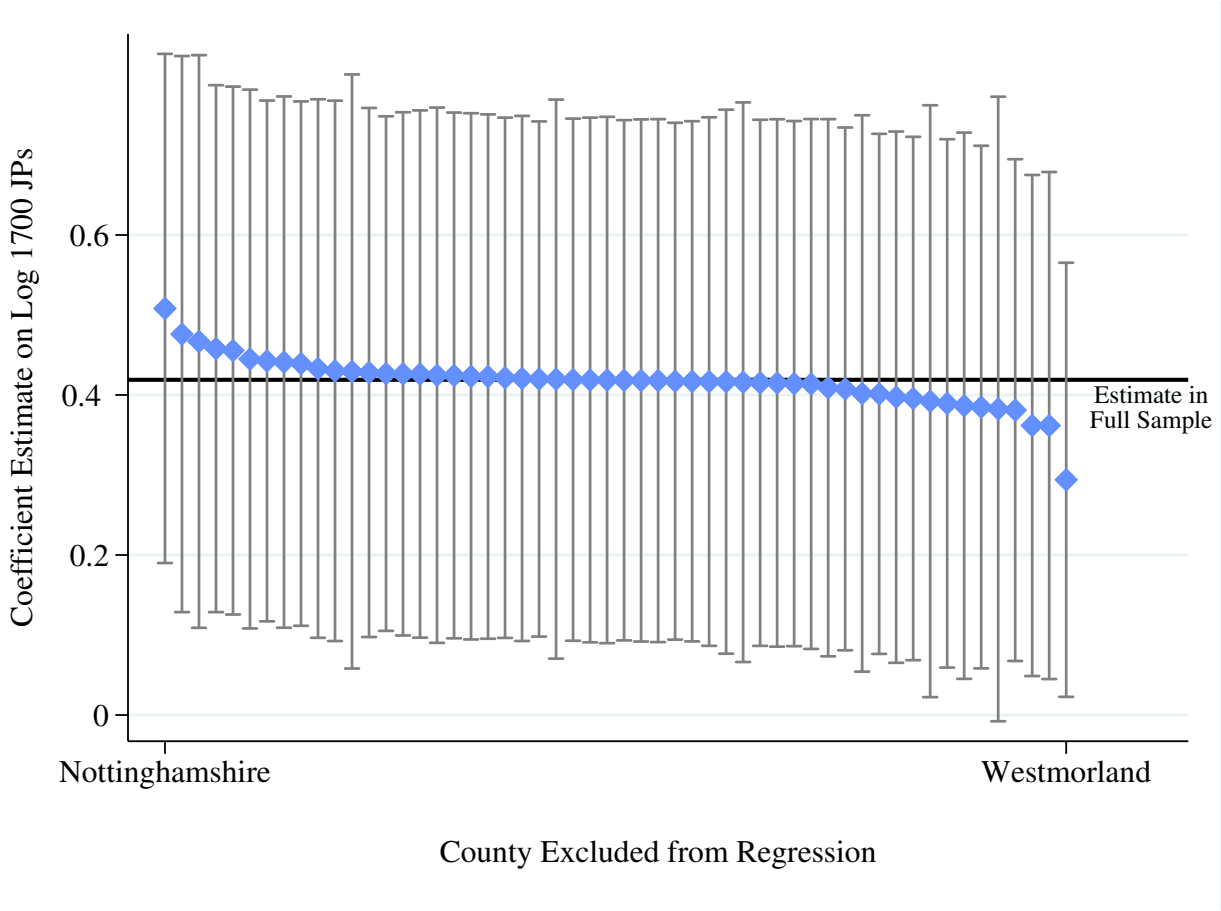
	DV = 1840 Log Population Density				
Medium JPs 1700	0.22*	0.21	0.23*	0.28**	0.25*
	(.119)	(.129)	(.128)	(.132)	(.141)
High JPs 1700	0.35***	0.34**	0.39***	0.50***	0.42**
	(.124)	(.156)	(.137)	(.182)	(.176)
(Log) Gentry 1670		0.01			
		(.098)			
Contested Elections 1660–89			−0.04		
			(.042)		
Area of County				−0.08	
				(.061)	
Number of Towns					−0.04
					(.069)
Baseline Controls	Y	Y	Y	Y	Y
Coordinates	Y	Y	Y	Y	Y

Notes: Medium and High JPs refer to the second and third terciies of the distribution of JPs in 1700. "Baseline Controls" include 1700 log population density and the percentage of the county with exposed coal. "Coordinates" include a second order polynomial in longitude and latitude. The number of gentry in 1670 is based on Blome (1673) and includes all individuals classified as either an esquire or a gentleman. Variables not reported in logarithms are standardized. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

panel), our main explanatory variable (log 1700 county JPs, middle-panel), and in the regression residuals from our main regression specification (see column 1 in Table 1). In all cases, we use residuals after adjusting for our baseline control variables. We then plot each variable against its spatial lags (that is, the values in the surrounding areas), and estimate Moran I's test statistic. There is very little evidence of any spatial autocorrelation in any of the three panels.

Figure C.6 shows that the estimates of 1700 legal capacity on county-level economic development are robust to using Conley standard errors (Conley, 1999) with various spatial cut-offs. The left-hand panel relates to the OLS estimates in Table 1, while the right-hand panel relates to the IV estimates in Table 2. The horizontal lines on each plot provide useful benchmarks—"robust SEs" is the standard error presented in the main text, while "significant at 5%" and "significant at 10%" identify standard errors for which the estimate in the main text would no longer be statistically significant. We can see, first, that the standard errors are not very sensitive to spatial adjustments—which is as we might expect, given the limited evidence that spatial autocorrelation plays a major role in this data. Second, we can see that the estimates are always

Figure C.4: The estimates in Table 4 are robust to removing outliers.



Notes: Figure shows the coefficient estimates from estimating specification 3 in Table 4 excluding each county in turn. Bars represent 95% confidence intervals.

statistically significant at a 10% level, and generally at a 5% level, even when correcting for possible spatial autocorrelation.

Figure C.7 investigates spatial autocorrelation in the town-level data.[9] In each case, we present residuals after adjusting for county and town-level control variables (see column 3 of Table 4 for details). The top three panels display key town-level variables (residualized), while the bottom three panels show residuals from the town-level regressions. As we can see, there is evidence of weak, but statistically significant, spatial auto-correlation in each of the three regression specifications. This reflects the spatial autocorrelation in the two dependent variables which also appear weakly spatially-autocorrelated. We do not see, however, much evidence of spatial autocorrelation in the variable capturing whether a JP was resident in 1680.

Figure C.8 shows that the main estimates of 1700 legal capacity on town-level economic development are robust to using Conley standard errors (Conley, 1999) with various spatial cut-offs. The panels display

[9] The total number of observations in this analysis is 694, rather than 703 in the main regression tables. This is because a small number of towns are matched to identical geographic units, meaning that they have identical coordinates, preventing Moran's I from being estimated.

Table C.5: The results in Table 4 are similar when excluding potentially influential towns.

	DV = (Log) 1840 Town Population					
(Log) JPs 1700	0.48***	0.49***	0.46***	0.58***	0.47**	0.46**
	(.173)	(.169)	(.171)	(.195)	(.187)	(.175)
Towns	632	649	620	362	524	560
Counties	54	54	54	54	54	54
Exclude:	Largest 10%	Largest In County	Has Aristocrat	Has Elite	Corporation	Has MPs
Baseline Controls	Y	Y	Y	Y	Y	Y
Coordinates	Y	Y	Y	Y	Y	Y
County Controls	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Economic Controls	Y	Y	Y	Y	Y	Y
Political Controls	Y	Y	Y	Y	Y	Y

Notes: The table re-estimates the specification in column 3 of Table 4 for different sub-samples. "Largest 10%" excludes the largest 10% of towns according to 1680 population across the whole sample. "Largest In County" excludes the largest town in each county. "Has Aristocrat" and "Has Elites" excludes towns with a resident aristocrat or any elite. "Corporation" are towns with a charter in 1670. "Has MPs" are towns represented in Parliament in 1670. See Table 4 for details of control variables. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

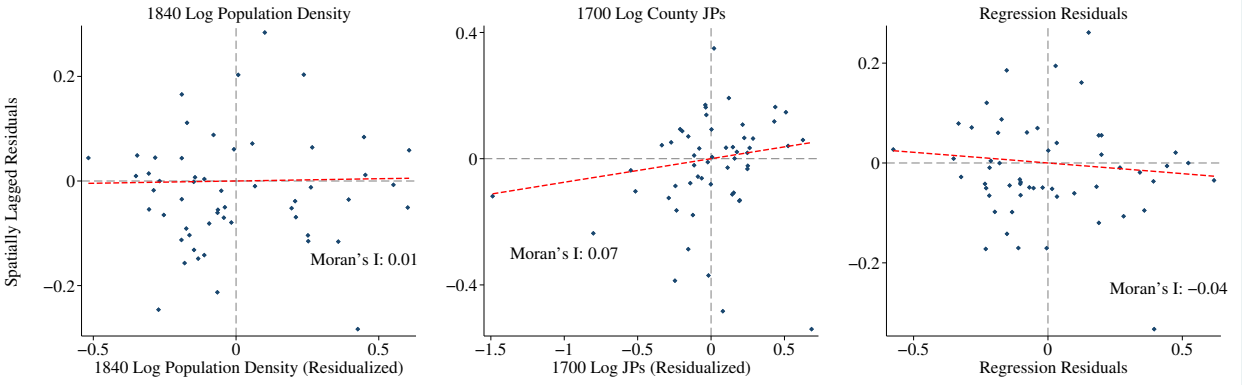
standard errors from the estimates in Table 5, with the left-hand panel relating to log county JPs in 1700, and the right-hand panel relating to the indicator variable for a JP being resident in a town in 1680.As above, the horizontal lines on each plot provide benchmarks—"clustered SEs" is the standard error clustered by county (as presented in the main text). "significant at 5%" and "significant at 10%" identify standard errors for which the estimate in the main text would no longer be statistically significant. Accounting for spatial autocorrelation in this way does not affect the finding that legal capacity made an important contribution to town development.

Table C.6: The results in Table 5 are similar when restricting to towns with a resident member of the elite.

	DV = (Log) 1840 Town Population					
Had Resident JP 1680	0.19**	0.18*	0.13	0.18*	0.16*	0.10
	(.088)	(.091)	(.084)	(.094)	(.096)	(.087)
(Log) JPs 1700	0.25	0.20	0.25			
	(.196)	(.199)	(.199)			
Towns	356	356	356	356	356	356
Counties	52	52	52	52	52	52
County FE	N	N	N	Y	Y	Y
Baseline Controls	Y	Y	Y	Y	Y	Y
County Controls	Y	Y	Y	N	N	N
Geographic Controls	Y	Y	Y	Y	Y	Y
Economic Controls	N	N	Y	N	N	Y
Political Controls	N	N	Y	N	N	Y

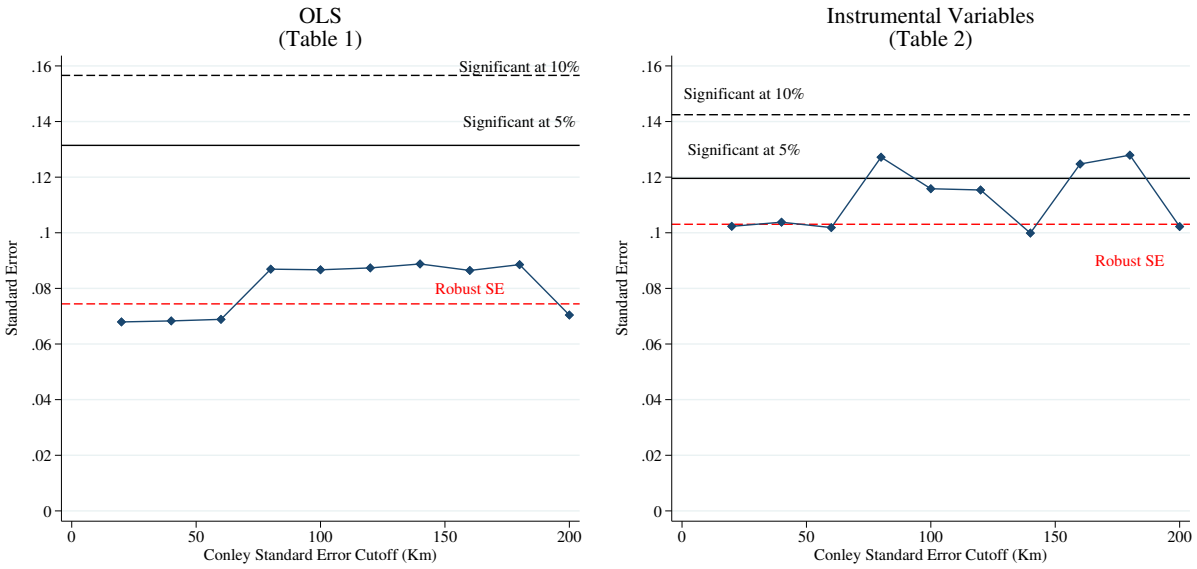
Notes: The table replicates Table 5, restricting to towns with a resident member of the elite (aristocrat or gentry) in 1670. See notes to Table 5 for details of control variables. Standard errors are clustered by county and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure C.5: There is little evidence of spatial autocorrelation in the county-level data..



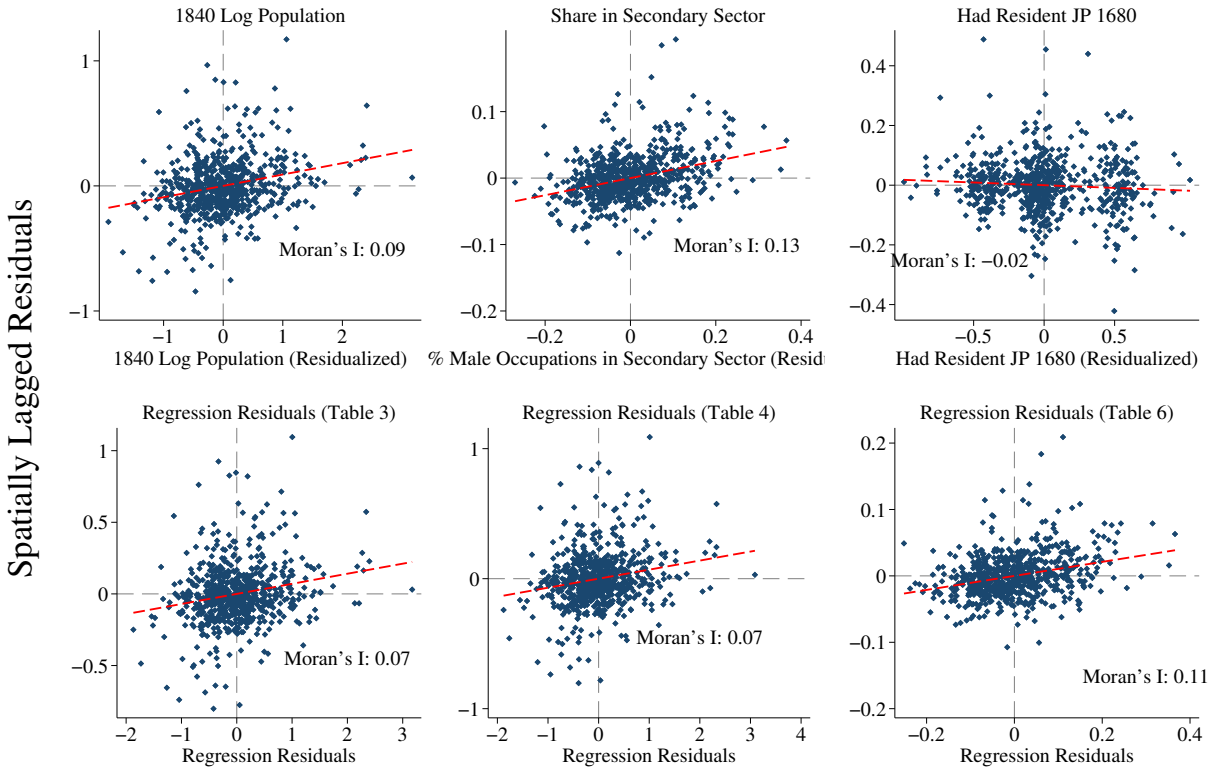
Notes: Each panel of the figure plots residuals against its spatially-lagged residuals (i.e., the residuals from neighboring locations). Red dashed lines represent linear fits. The left-hand panel plots the residuals from regressing the dependent variable (log population density in 1840), after residualizing it to account for the baseline control variables—log population density in 1700, a second order polynomial in longitude and latitude, and the percentage of the county area on an exposed coal field. The middle panel plots (residualized) log 1700 JPs. The right-hand panel plots the regression residuals from the specification in column 1 of Table 1. The Moran's I statistic is a measure of spatial autocorrelation, ranging from -1 to 1. Spatial lags are estimated using a 100km cut-off and a power weighting matrix with distance decay parameter of 2.

Figure C.6: The results in Tables 1 and 2 are robust to using Conley standard errors with various cut-offs..



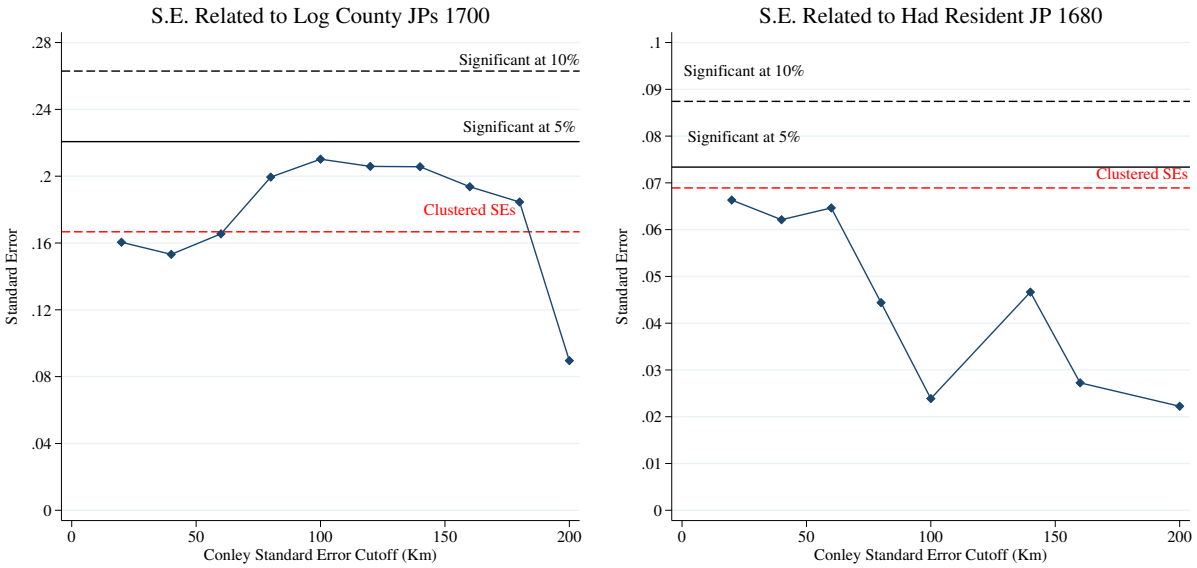
Notes: The figure plots Conley standard errors (Conley, 1999) relating to log JPs in 1700 at different cut-offs for the regressions reported in column 1 of Table 1 (left-hand panel) and in column 4 of Table 2 (right-hand panel). "Robust SEs" are heterokedasticity-robust standard errors reported in those tables. "Significant at 5%" and "Significant at 10%" are thresholds for which the reported coefficient (on log 1700 JPs) is statistically significant at each significance level.

Figure C.7: There is evidence of, at most, weak spatial autocorrelation in the town-level data.



Notes: Each panel of the figure plots residuals against its spatially-lagged residuals (i.e., the residuals from neighboring locations). Red dashed lines represent linear fits. The top-left-hand panel plots log population in 1840), after residualizing it to account for county and town control variables—see column 3 of Table 4. The middle panel plots (residualized) town share of male occupations in the secondary sector in 1851, and the top-right-hand panel plots the residualized dummy for whether a town had a resident JP in 1680. The bottom panel plots residuals from the regressions in Table 4 (column 3), Table 5 (column 3), and Table 6 (column 4). The Moran's I statistic is a measure of spatial autocorrelation, ranging from -1 to 1. Spatial lags are estimated using a 100km cut-off and a power weighting matrix with distance decay parameter of 2.

Figure C.8: Results in Tables 4 and 6 are robust to using Conley standard errors with various cut-offs.



Notes: The left-hand panel plots Conley standard errors (Conley, 1999) at different cut-offs relating to coefficients from the specification in column 3 of Table 5. The left-hand panel plots standard errors relating to log county JPs in 1700, and the right-hand panel plots standard errors relating to "Had Resident JP in 1680". "Clustered SEs" are standard errors clustered by county, as reported in those tables. "Significant at 5%" and "Significant at 10%" are thresholds for which the reported coefficient (on log 1700 JPs) is statistically significant at each significance level.