

Law, Property Rights, and Economic Development in England: New Evidence from Acts of Parliament, 1600-1815

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(March 2006)

Abstract

During the eighteenth century Parliament passed increasing numbers of acts affecting property rights. The Acts enabled individuals to sell, mortgage, lease, and improve land previously bound by legal legacies; they granted rights to organizations, such as turnpikes, improvement commissioners, and canal companies, which supplied local public goods; and they replaced open or common rights with private property rights in agricultural land. Parliamentary legislation in these areas increased to such an extent that acts changing property rights became one of the main activities of Parliament during the years leading up to the Industrial Revolution. This essay documents these trends and discusses their likely effects on the economy.

There is growing evidence that differences in per-capita income are partly explained by differences in the ‘institutions’ of societies (see Acemoglu, Johnson, Robinson, 2004). New legislation is one type of institutional change that can affect economic growth by raising investment or productivity. Economic historians have long studied the effects of legislation on British economic development during the seventeenth and eighteenth centuries. Some focus on types of legislation, such as Enclosure Acts, while others focus on particular Acts, such as ‘the Bubble Act’ (Allen, 1992; Clark, 1998; Harris, 2000). No study, however, examines the big picture, how simultaneous changes in all types of legislation affected the British economy.

Work by historical social scientists, however, has been headed in that direction. Recent research by Julian Hoppit (1996) documents a growth in legislation over the eighteenth century. Hoppit employs a database constructed from all acts of Parliament passed between 1660 and 1800. The database contains counts of all acts passed in each year, across ten subject categories, such as personal, criminal, and communications. Hoppit argues that the growth of legislation reveals issues of fundamental importance for the eighteenth century economy, and should be on the agenda for future research.

Our essay extends Hoppit’s work temporally, by analyzing legislation from 1600 through 1815; topically, by analyzing trends in an array of legislation relating to property rights and the economy; and analytically, by encoding a vector of characteristics associated with Acts of Parliament. Our main data set is a list of the titles of all Acts of Parliament between 1600 and 1815. We use the titles to count the number of Acts of Parliament passed in each year. We also use the titles to assign each Act to ten mutually exclusive categories: constitutional, government finance, foreign, regulation, religion, criminal, personal, enclosure, statutory authority, and

miscellaneous. Lastly, we use the titles to encode the actions associated with three categories of legislation – personal Acts, statutory authority Acts, and enclosure Acts.

Our analysis confirms there was a tremendous growth in legislation during the eighteenth century. Specifically, the data reveals a sharp increase in Acts following 1690, and an even more rapid increase after 1750. We also show that most of the growth in Acts came from the personal, enclosure, and statutory authority categories.

Personal acts enabled individuals and families to do many things. The majority altered the property rights of individuals vis-à-vis their estate. The system of landholding prevented many (and perhaps most) landholders from using and disposing of property in the way they saw fit. Strict settlements, entails, and other limitations imposed as conditions of inheritance, marriage, purchase, and feudal incidence tied landowners' hands. These restrictions often required landholders to dedicate property to particular tasks and to devote the proceeds from these activities to certain beneficiaries, such charities, the support of extended families, and the fulfillment of ancestral and aristocratic duties. Personal acts eliminated restrictions on the uses to which property could be put and permitted the sale, lease, and mortgage of land.

Acts establishing *statutory authorities* created new organizations which constructed, operated, and maintained infrastructure such as turnpikes, bridges, ports, and canals. They also provided public services, such policing, poor relief, and dispute resolution between creditors and debtors. Statutory Authorities were given a variety of new rights, including the authority to charge user-fees, levy taxes, issue debt, issue shares, and purchase land. Some of these rights were previously held by local governments, like parishes, counties, and municipalities, but in most cases they were entirely novel.

Enclosure acts altered property rights in agricultural villages. Some villages operated in an open-field system, in which many individuals possessed rights to cultivate crops on certain sections of the open fields. Individuals also shared rights to pasture animals, glean grain, and conduct other activities. Enclosure Acts changed this system. Individuals received strong and specific rights to particular pieces of property, and they relinquished claims to shared assets.

We show that personal, statutory authority, and enclosure Acts had potentially important economic implications. First, we show there was a substantial increase in personal Acts authorizing the sale of land and other types of property. This finding suggests that personal Acts may have facilitated the reallocation of land to higher yield activities by eliminating restrictions associated with settlements and entails. Second, we document a large increase in Acts authorizing new infrastructure or public services. This finding is significant because it shows that statutory authority Acts may have led to greater provision of local public goods. Third, we show there was a growth in Acts that authorized the enclosing of open fields and the dividing of common pastures. The result was a new agricultural system where individuals made choices about which crops to plant, and how much livestock to produce.

Overall, our paper yields new insights on the relationship between law and economy in Britain. The main conclusion is that personal, enclosure, and statutory authority Acts changed property rights, and likely encouraged greater investment and productivity. We also provide a new perspective on the impact of the Glorious Revolution in 1688-89. Previous scholars have argued that the Glorious Revolution led to an increase in taxation or a change in the security of property rights (see O'Brien, 1988; North and Weingast, 1989). Our findings show that the number of personal and statutory authority Acts increased after 1690. They suggest, therefore,

that the Glorious Revolution contributed to investment and productivity by encouraging legislation that changed property rights.

Our analysis also illustrates the relationship between legislation and economic development in Britain. For example, we show that the trend growth rate of industrial production was closely related to trends in the number of Acts. This finding suggests that changes in the law and economic growth were potentially linked.

The rest of the paper is organized as follows. Section 1 describes the data sources and methods. Section 2 examines the trends in legislation across all categories of Acts. Section 3 analyzes personal, enclosure, and statutory acts in more detail. Section 4 studies the links with politics and economic growth. Section 5 concludes.

1. Data Sources and Methods

The House of Lords is the main repository for historical information about acts of Parliament.¹ The House of Lords' website, *Portcullis*, indicates the title, description, year, reference number, and status for all acts passed by Parliament during the period of our study.²

We acquired a copy of this electronic database, and it forms the foundation of our study. We convert the information in *Portcullis* into a matrix of data suitable for quantitative analysis. The initial step in this process is to categorize the acts. The variety and complexity of the legislation complicates this task. We draw upon the work of previous scholars, particularly Julian Hoppit (1996), who categorized all acts passed between 1660 and 1800. We begin with a similar set of categories, but modify Hoppit's taxonomy to group together

¹ A fire in 1843 burned most of the records of the House of Commons.

² See <http://www.portcullis.parliament.uk/DserveA/>.

acts with similar structures and economic effects. Our initial categories include constitutional rules, government finance, foreign, criminal laws, economic regulation, religion, enclosures, statutory authorities, personal, and miscellaneous.

Constitutional Acts were related to the authority of the Crown, Parliament, courts, or county and local governments. Government finance Acts dealt with taxation and public debt. Foreign Acts addressed colonies, trade, and relations with other countries. Criminal Acts changed the criminal code. Regulation Acts dealt with regulations in manufacturing, finance, transport, agriculture, or other sectors. Religious Acts pertained to the rights of religious groups. Enclosure Acts eliminated open or common rights in agricultural land. Statutory Authority Acts affected the provision of infrastructure or public services. Personal Acts addressed the rights of individuals.³

For reasons we discuss later, our analysis focuses on personal, statutory authority, and enclosure Acts. We apply a series of algorithms that separates these Acts into subcategories with similar structures and purposes. Next, we extract information from each act, and enter the information into a vector of variables. The consistency of form and function within subcategories allows us to apply algorithms to each subcategory tailored for extracting information from the particular type of act at hand.

An example should clarify the process. In 1724 there was an Act “to enable Stephen Hales Clerk, and Henry Carrington Gentleman, to sell their undivided Moieties of the Freehold, Leasehold and Copyhold Estates at Much Hadham.”⁴ The first pass of our

³ Assigning most acts to categories is straightforward. All enclosure acts, for example, stated that fields in particular places would be divided, allotted, and/or enclosed. All acts creating statutory authorities describe the infrastructure or public service affected in a particular location. All personal Acts identify an individual and th change in their rights. Classifying other acts is complicated, usually because their provisions span several categories. These ambiguous acts occur most often in the categories of government finance, foreign trade and international affairs, and economic regulation.

⁴ Private Act 11 George I, c. 12

algorithm identifies this as a personal Act, because it affected the rights of an individual.

Secondly, we identify that this Act dealt with an estate, which is one of the subcategories for personal Acts. Third, we identify that this Act authorized the sale of property.

In the case of statutory authorities, we also distinguished between Acts that created a new right to provide infrastructure versus Acts that amended previous statutory authority Acts. The following two titles provide an illustration of the different actions undertaken by canal Acts.

An Act for making and maintaining a Navigable Canal from the Calder Navigation, at or near Sowerby Bridge Wharf, in the Parish of Halifax in the West Riding of the County of York, to join the Canal of his Grace the Duke of Bridgewater, in the Parish of Manchester in the County Palatine of Lancaster; and also certain Cuts from the said intended Canal.⁵

An Act for altering and amending an Act passed in the thirty fourth Year of the Reign of His present Majesty, for making and maintaining the Peak Forest Canal; and for granting to the Company of Proprietors of the said Canal further and other Powers.⁶

According to our definition, the first Act authorized new infrastructure because it called for making and maintaining a navigable canal. The second Act would not authorize new infrastructure because it was for altering and amending a previous Act.

2. General Trends

In this section, we study the overall growth in legislation between 1500 and 1900. We show that personal, enclosure, and statutory authority Acts accounted for most of the growth in legislation between 1600 and 1815.

Scholars have long recognized that the eighteenth century witnessed a rapid rise in legislation. Using our database of Acts, we are able to confirm that there was a ‘regime shift’ starting in the late seventeenth century. Figure 1 plots the number of Acts of Parliament in ten-year intervals between 1500 and 1899. There were anywhere from 5 to 385 Acts passed each

⁵ Public Act, 34 George III, c. 78

decade between 1500 and 1690. The number of Acts increased to over 600 per decade in the 1690s, 1700s, and 1710s. Another shift occurred in the 1750s, as the number of Acts increased to around 1200 and then continued to climb during the second half of the eighteenth century. The peak occurred in the 1800s where 3860 Acts were passed. Afterwards, the number of Acts fluctuated between 2700 and 3800 per decade throughout the nineteenth century.

What types of Acts drove this growth in legislation? Table 1 addresses this question by showing the distribution of Acts across subject categories between 1600 and 1815. Personal was the largest category with 5064 Acts, or 24.5 percent of the total. Statutory authority was second with 4929 Acts or 23.8 percent of the total. Enclosure was third with 3687 Acts or 17.8 percent. The next largest categories were government finance, regulation, constitutional, and foreign, which accounted for 13.6 percent, 6.8 percent, 5.3 percent, and 4.8 percent between 1600 and 1815, respectively. The miscellaneous, religion, and criminal categories contain the remaining 3.5 percent.

The most striking feature of table 1 is that two thirds of all Acts belonged to the personal, statutory authority, and enclosure categories. There are two reasons why most Acts fell into these categories. First, they addressed a wide range of economic issues, including individual rights, common rights in agriculture, and the financing of infrastructure or public services. Second, all of these Acts were specific to either an individual or a location. As a result, each type of personal, enclosure, and statutory authority Act was replicated numerous times between 1600 and 1815.⁷

⁶ Local and Personal Act, 39 & 40 George III, c. xxxviii

⁷ Government finance Acts were also numerous because they defined taxation, public borrowing, and public expenditure in each year. The need to set such policies on an annual basis meant that numerous Acts had to be passed. Other categories, such as regulation, constitutional, and foreign tended to have unique legislation

Figure 2 shows the trends in personal and statutory authority Acts versus all other categories between 1600 and 1720. Figure 3 shows the trends between 1720 and 1815. Personal Acts were the largest category during the seventeenth century, but their growth was especially dramatic after 1690. Personal Acts comprised 43 percent of legislation between 1660 and 1690, while they accounted for 53 percent between 1691 and 1720. The relative size of personal Acts diminished after 1720, but they remained the largest category until the late eighteenth century.

Statutory authority Acts were a small proportion of all legislation before 1660. Their numbers increased slightly during the early 1660s, and again after the 1690s. Between 1660 and 1690, there were 58 statutory authority Acts compared to 160 between 1691 and 1720. The most substantial growth in statutory authority Acts came after 1750. They accounted for 13 percent between 1691 and 1749 versus 27 percent between 1750 and 1815.

There were very few Enclosure Acts prior to the 1720s. They increased between 1720 and 1750, but remained a relatively small proportion of all Acts. After 1750, Enclosure Acts had the highest growth of any category. They were either the first or the second largest category for most years between 1750 and 1800.

The remaining categories of legislation also experienced a surge after the 1690s, but they remained only slightly larger than in the early 1600s. It was not until after 1775 that other categories significantly increased. They reached their peak in the early nineteenth century, when they comprised nearly 40 percent of all Acts. Government finance, regulation, constitutional, and foreign Acts accounted for most of the growth between 1800 and 1815.

3. Analysis of Personal, Statutory Authority, and Enclosure Acts

The previous section showed that personal, statutory authority, and enclosure Acts accounted for around two thirds of all Acts between 1660 and 1815. In this section, we analyze these three categories in greater detail, starting with personal Acts.

3.1 Personal Acts

Personal Acts changed the rights of individuals. They were unique in that they targeted specific individuals, usually landowners or wealthy merchants. Table 2 distinguishes personal Acts by the type of rights affected. Estate Acts were the largest subcategory with 3275 Acts or 64.7 percent of all personal Acts. They typically changed an individual's rights vis-à-vis their family estate. Naturalization Acts were the second largest subcategory with 1078 Acts or 21.3 percent of the total. Naturalization Acts gave an individual citizenship. The remaining subcategories were name Acts, divorce Acts, and a miscellaneous group. Together they contained 711 Acts or 14.1 percent of the total. Divorce Acts dissolved marriages and allowed individuals to remarry. Name Acts allowed an individual to take a different surname, usually for the purpose of inheriting property.

The passage of naturalization, name, and divorce Acts clearly impacted the individuals involved, but their effect on the broader economy was probably limited. The same cannot be said of estate Acts, because they affected the market for land and other types of property. To understand estate Acts, it is necessary to briefly review the English system of inheritance known as strict settlement. Settlements were legal contracts in which a landowner and his male heir agreed to become life-tenants for a particular property. As life-tenants they were not allowed to sell the land, or grant leases for a term longer than their life. The settlement also stated that the first unborn son of the male heir would assume control over the land as tenant in tail. When the unborn son reached the age of 21, they could enter into a similar agreement with their father by

resettling the land. If they chose to resettle, they become a life-tenant and the property remained in the family line; if not, the son assumed absolute ownership over the property.

Settlements also provided for wives, daughters, and younger sons in the event the landowner died. In particular, they often created a jointure, which was an annual stipend paid to surviving family members. The annual income was financed through rents from land held in the estate.

There were two facets of settlements which encouraged the involvement of Parliament. First, no part of a settlement could be changed until the person named as tenant in tail came of age. This fact meant that a settlement could be changed infrequently, as a family waited for the heir to come of age, and then for the father and son to reach an agreement on restructuring the estate. One solution was to get an Act of Parliament that altered the provisions of the settlement. An Act of Parliament superseded any legal contract between private parties, and thus it was able to alter settlements in a timely manner.

Second, settlements restricted the uses to which land could be put. The holder of a settled estate (i.e. the life tenant) could not grant leases lasting beyond his own life. They also could not grant leases from which they benefited at the expense of his successors (such as leases in which tenants paid lump sums up front in return for lower rents later). The holder of a settled estate was also prohibited from selling, exchanging, or mortgaging the property. Similarly, the holder of an estate could not alter, change, lay waste to, or attempt to improve a property. The basis of this rule was that the successor's rights must be protected, and in certain conditions, the removal of trees, hedges, and buildings; the opening of new mines, quarries, and peat bogs; and the conversion of arable lands into pasture (or vice versa) could be considered waste. Some actions, like granting leases and altering land, could be undertaken if a settlement contained specific clauses. In the event that enabling clauses were absent,

family members could obtain an Act of Parliament that authorized particular actions, like leases, sales, exchanges, and mortgages.

As the number of strict settlements expanded starting in the mid-seventeenth century, an increasing number of petitioners approached Parliament. Almost any difficulty arising in the management of a settled estate could be remedied by an Act of Parliament, and landowners both great and small applied for them. The Chancery Court provided an alternative venue in which settlements could be amended, but in practice an Act of Parliament was cheaper to obtain and much faster than a suit in Chancery (English and Saville, 1983, p. 50).

To see how settlements were amended by Parliament, we assigned each estate Act to a subcategory. Table 3 lists the number of Acts in each subcategory, and their percentage of all estate Acts. Vesting Acts were most common and included 989 Acts or 30.2 percent of the total. The typical vesting act placed property under the control of an individual for some stated reason. For example, an act from 1702 vested “certain lands and tenements of Montague Earl of Abingdon, in trustees, to be sold” and the proceeds employed in the purchase “of other lands of equal value” to be employed “to the same uses, as the lands to be sold are limited.”⁸ An act in 1759 vested “the inheritance of certain estates...of John Freeman Esquire, in him, in fee simple” in return for “settling other estates... in lieu thereof.”⁹

Enabling Acts were the second largest subcategory with 808 Acts or 24.7 percent of the total number of estate Acts. Enabling Acts allowed an individual to do something with a property in an estate. An example from 1692 enabled “Abel Atwood to sell some Lands for payment of debts and to make provision for younger children.”¹⁰ An act in 1788 enabled

⁸ Private Act, 1 Anne, c. 11

⁹ Private Act, 33 George II, c. 30.

¹⁰ Private Act, 4 William & Mary, c. 4.

Charles Earl Camden to grant “building leases of the prebendal lands at Kentish Town, in the County of Middlesex.”¹¹

Sale Acts were the third largest subcategory with 391 Acts or 24.7 percent of the total. They authorized the sale of some property (usually land within an estate) if certain conditions were met. For example, a 1725 Act permitted the “sale of several estates of Henry Grey Esquire...and for settling other estates of equal value...to the same uses.”¹²

The remaining subcategories for estate Acts are confirming, empowering, settling, exchanging, discharging, and a miscellaneous group. Together they accounted for 1087 Acts or 33 percent of the total number of estate Acts. Confirming Acts typically legalized a transaction that had already taken place. Empowering Acts empowered someone to sell or lease land in an estate. Acts for settling had a structure similar to acts for vesting, although acts for settling typically dealt only with property, which then entered into the confines of a strict settlement. Exchanging Acts authorized the exchange of some property within an estate for another. Lastly, the typical discharging act eliminated uses on one property, and placed them on another.

In most cases, estate Acts allowed the holders of settled estates – either a life tenant or trustees – to take some action that was restricted by the settlement. They authorized a wide variety of transactions including sales and long-term leasing of land, mortgaging of property, settling jointures upon spouses, cutting of old-growth timber, and sales of ores and minerals.

Perhaps the most important function of an estate Act was to enable the sale of land. We use a 10 percent random sample of all estate Acts to determine how many authorized property sales. The results suggest that 49.6 percent of all estate Acts authorized sales. We

¹¹ Private Act, 28 George II, c. 41.

¹² Private Act, 12 George I, c. 27.

also estimate how many Acts authorized property sales in each year. Specifically, we calculate the percentage of estate Acts in each five-year period that authorized a property sale, and then we multiply the percentage by the total number of estate Acts.

The results are reported in figure 3. They show that few Acts authorized property sales up to the 1640s. There was a sharp increase in such Acts following the Restoration in 1660, and again after 1690. The estimates suggest that between 10 and 20 sale Acts were passed each year during 1690s, 1700, and 1710s. The number of these Acts varied substantially after 1710. In some years over 15 were passed, while in others only 4 or 5 were passed.

Perhaps the most striking result is that Acts authorizing property sales increased dramatically after 1690, and remained high throughout much of the eighteenth century. This finding could be due to several factors. First, the system of strict settlement emerged in the mid-seventeenth century, and therefore, some estate Acts may have corrected errors that were made by lawyers who were still learning about the settlement process. It is also possible that many landed families experienced financial difficulties between 1690 and 1720. In such a case, property sales may have been a mechanism by which families became financially solvent (see Habakkuk, 1994). Last, the Glorious Revolution of 1688-89 may have contributed to Acts authorized property sales. Julian Hoppit (1996) has demonstrated that the failure percentage for legislative initiatives declined dramatically after the Glorious Revolution, and suggests that Parliament became more effective in passing Acts. We cannot distinguish between any of these hypotheses at this point, but we can say something changed after 1690, which led to greater numbers of sale Acts.

Unfortunately our data does not specify how much land was sold through Estate Acts. English and Saville suggest that at least one-quarter, and as much as three-fourths, of land

was strictly settled (1983, p. 30). If this estimate is accurate, then a large proportion of land could have been affected by estate Acts. We argue that the implications for the land market were significant, regardless of how much land was transacted. Estate Acts reduced transaction costs associated with the settlement system, and as a result they likely contributed to economic development.

3.2 Statutory Authority Acts

Sidney Webb and Beatrice Webb (1963) coined the term ‘statutory authorities for specific purposes’ when they described the myriad of organizations providing infrastructure or public services under the authority of Act. We borrow their terminology and refer to this legislation as statutory authority Acts. Table 4 distinguishes statutory authority Acts according to the type of infrastructure or public service affected. Turnpike Acts were the largest subcategory with 2692 Acts or 55.5 percent of the total. Urban was the second largest subcategory, with 553 Acts or 11.4 percent of the total. Canal, port, church, river, and bridge Acts were next. Together they accounted for 1057 Acts or 29.1 percent. Poor relief, drainage, courts of small request, county administration, and railways were less frequent and amounted to 550 Acts or 9.1 percent of the total.

Statutory authority Acts addressed a broad range of infrastructure. Canal, river, port, turnpike, bridge, and railway Acts all dealt with transport infrastructure. Urban Acts affected street paving, water supply, marketplaces, and public squares. Drainage Acts addressed embankments and water levies. County administration Acts dealt with gaols, debtors’ prisons, courthouses, and shire halls. Church Acts affected churches and burial grounds. Lastly, poor relief Acts dealt with workhouses.

Statutory authority Acts also addressed a wide range of public services. Urban Acts created a street watch and removed nuisances and annoyances in cities. Poor relief Acts dealt with assistance to the poor. Court of small request Acts provided dispute resolution for credit contracts valued at less than 40 shillings. The miscellaneous subcategory also contained Acts dealing with public services, such as the post office, theatres, and playhouses.

Statutory authority Acts typically made an organization responsible for the provision of infrastructure or public services. The organizations could be municipalities, parishes, or counties. In most cases, however, they were separate from local governments. Turnpike, bridge, river, poor relief, drainage, port, court of small request, and church Acts usually created a body of trustees or commissioners. These individuals did not have an ownership stake in the organization, and generally served without direct compensation. Canals and railway Acts were different because they created joint stock companies.

The body of trustees or the directors of joint stock companies were given a number of privileges. One of the most important was the right to levy user-fees or other types of taxes. Turnpike Acts gave trustees the right to levy tolls on road-users and claim statute labor from inhabitants along the road. The tolls marked a significant departure from the existing system, in which parishes paid for road improvements with local labor and property taxes. Canal, river, port, bridge, and railway Acts were similar because they introduced tolls. In some cases, they also replaced property taxes levied by municipalities and counties. Court of small requests Acts introduced special fees for different types of cases. The fees could be different from county courts, which served as an alternative venue for the adjudication of credit contracts valued at less than 40 shillings. Urban, drainage, poor relief, and church Acts authorized property taxes that

targeted specific individuals, or applied to jurisdictions that overlapped with different municipalities and parishes.¹³

Trustees or commissioners were also given the right to issue debt or shares. In turnpike, bridge, river, and port Acts the debts were often secured by the tolls. This meant that if interest payments were not met, the bondholders had the right to seize the toll revenues. Church Acts authorized the issuance of annuities, known as tontines, which promised to pay dividends as long as the annuitant was alive. Canal and railway Acts authorized both bonds and shares. These securities, along with the others mentioned above, had the additional advantage that they could be traded in secondary markets.

Statutory authority Acts also defined the procedures by which land could be purchased. Typically trustees or directors were authorized to negotiate with landowners individually. If they could not agree on a price, the trustees or directors could appeal to the local Justice of the Peace, who had the authority to compel landowners to sell. These procedures provided the foundations for eminent domain law during the nineteenth century.

Statutory authority Acts also restricted the body of trustees or directors. Transport Acts usually restricted the tolls by defining a maximum schedule. The schedules distinguished between different types of traffic or goods, and were unique to each organization. Limits on the interest rate and the amount of outstanding debt or shares were other examples of restrictions.

The provisions of a statutory authority Act could always be revised through another Act. Canal Acts were often amended in order to add branch lines or to increase the authorized capital. Many turnpike Acts renewed the provisions of previous Acts, which expired after 21 years.

¹³ Lighthouse Acts are a well known example of a statutory authority Act that introduced user-fees. Ronald Coase (1974) drew on British history to challenge the argument that lighthouses were the quintessential example of a non-excludable public good. He based his argument on the fact that ships paid tolls for

Some turnpike Acts also added roads to the authority of an existing body of trustees, or changed the maximum schedule of tolls that could be levied. Urban and poor relief Acts sometimes made an existing body of commissioners responsible for additional services. In other cases, they clarified and amended the existing responsibilities of commissioners. Clarifications and amendments were also included in drainage, church, port, and river navigation Acts.

Statutory authority Acts thus performed one of two functions. They authorized new infrastructure and services, or they amended previous Acts that authorized new infrastructure and services. We determine how many Acts authorized new infrastructure or services by studying a 10 percent random sample of all statutory authority Acts. Table 5 shows the estimated percentage of Acts in each subcategory that authorized a particular type of infrastructure or public service. Thirty-seven percent of canals Acts authorized the construction of a canal. The other 63 percent amended various provisions of previous canal Acts. Forty-six percent of turnpike Acts authorized the making of a new road, or the repair, widening, or turning of an existing road. The other 54 percent renewed earlier Acts and amended their provisions.

The 10 percent sample suggests that approximately one-half of canal and turnpike Acts did not authorize new infrastructure, and instead they amended past Acts. A similar conclusion applies to bridge, river, and port Acts. Sixty-five percent of bridge Acts made or repaired a bridge. Fifty-four percent of river Acts made a river navigable. Fifty-four percent of port Acts built or repaired a harbor, dock, or pier.

In the urban subcategory, a higher percentage of Acts authorized new infrastructure or services. Sixty-six percent cleansed, watered, lighted, or paved city streets. Twenty seven percent introduced a street watch, twenty-nine percent removed nuisances and annoyances,

lighthouses when they arrived in British ports. Coase did not mention, however, that lighthouses were just one example of this phenomenon.

twelve percent provided fresh water, and seven percent moved or constructed a marketplace. Overall, eighty-five percent of urban Acts authorized new infrastructure or services in cities.

It was also the case that a high percentage of drainage, poor relief, county administration, church, and court of small request Acts authorized new infrastructure or services. Sixty-three percent of drainage Acts authorized the drainage of land, while 12 percent authorized embankments. Twenty percent of poor relief Acts called for a workhouse to be built, while 47 percent authorized better relief of the poor. In total, 67 percent of poor relief Acts performed at least one of these two functions. Sixty percent of county administration Acts authorized that gaols or debtors prisons be built, while 40 percent enabled the building of a shire hall or courthouse. Overall, eighty percent of county administration Acts authorized at least one of these projects. Seventy-six percent of church Acts built or repaired a church, and 29 percent built church yards and burial grounds. Eighty-eight percent of court of small request Acts called for more ‘speedy and easy recovery of small debts in a particular city.’ In practice this meant that a new court would hear cases on disputed credit contracts worth less than 40 shillings.

We also estimated the percentage of statutory authority Acts that authorized any type of new infrastructure or public service. Our estimate is listed in the bottom row of table 5. We find that 55 percent of statutory authority Acts authorized some type of new infrastructure or public service. This figure shows that the time series on total statutory authority Acts overstates the number of new infrastructure projects or services authorized each year. This is perhaps not surprising because statutory authority Acts contained detailed regulations, which needed to be updated as the economy changed. For example, in the early nineteenth century, high inflation made it necessary to revise the toll schedules for many statutory authorities. This is one reason why so many statutory authority Acts were passed in the early 1800s.

Our 10 percent random sample also allows us to directly estimate the number of statutory Acts that authorized new infrastructure and public services. In each five-year period, we estimate the proportion of Acts authorizing new infrastructure and public services, and then multiply by the total number of statutory Acts. Figure 5 plots the results over the period between 1600 and 1815. The estimates show that few Acts authorized new infrastructure or services before 1690. The number slowly increases up to the 1750s, at which point the series shows a sharp acceleration. The number of Acts authorizing new infrastructure or public services declines somewhat during the 1780s, probably in response to the American Revolution. The dip is only temporary, however, as the series continues its rapid growth up to 1815.

The growth in new infrastructure projects was important because it led to the growth of social overhead capital, which was crucial in the early Industrial Revolution. Ron Harris has provided some estimates of the nominal value of stocks and bonds issued via turnpike, canal, port, river, and urban Acts (2000). According to Harris, the value of capital raised for canals, rivers, turnpikes, water works, docks, and gas lighting totaled 41 million pounds in 1810 (p. 195). Forty-one million pounds is large considering that the value of capital in the East India Company, the Bank of England, and the South Sea Company were around 15 million pounds combined. Harris also shows that the market value of capital/debt for canals, rivers, turnpikes, water works, docks, and gas lighting equaled 6.3 percent of the value of capital stock in 1810. If we taken into account that some investment was financed through current revenues, then it follows that the value of infrastructure capital associated with statutory authority Acts would equal an even higher percentage of the capital stock. Overall, it is clear that statutory authority Acts greatly contributed to infrastructure investment and expanded public services.

3.3 Enclosure Acts

Enclosure Acts changed property rights in land by eliminating open or common rights and creating private or exclusive property rights. Enclosure Acts have been closely studied by several scholars, including Robert Allen (1992), Mark Overton (1998), and Greg Glark (1998). Here we provide a brief overview and present some new evidence from our database of Acts.

Nearly a quarter of all land in England at the beginning of the eighteenth century belonged to what was known as the common or open field system (Clark, 2001). When an enclosure Act was passed it eliminated common or open rights in a particular parish. In some cases, private property rights were established for most of the land in a parish, and in others only a few acres were affected.

There were 3 characteristics of the open or common field system. First, parishes contained open fields that were farmed by several individuals. Decisions about which crops to plant were made collectively by the parish, or the group of individuals with holdings in the field. Second, open fields contained scattered plots. Scattering meant that an individual farmed several ‘strips’ within one or more of the open fields. Third, there was a common pasture, where several individuals had the right to let their animals graze in the field. In some cases, they could release as many animals as they wanted, and in other cases the number was restricted by custom.

Enclosure Acts eliminated the open or common field system through specific actions. We identify which actions were most common by analyzing a 10 percent random sample of the titles. The results show that enclosing, dividing, and allotting were the most typical actions in enclosure Acts. Specifically, we find that 95 percent enclosed open or common land, 67 percent divided open or common land, and 24 percent allotted open or common land.

Enclosing eliminated the open field and created individual plots that were fenced off from others. The new plots consolidated the holdings of a single individual, so that scattering was

eliminated. Enclosing also gave the individual control over which crops to plant, or whether to use the land as pasture.

Allotting also eliminated open fields and created plots controlled by individuals. Allotting was similar to enclosing, and it is not obvious from the titles why it was a distinct action. Allotting may have been necessary when Acts dealt with waste or fields in which individual holdings were absent.

Dividing called for common pastures to be divided into separate holdings. The new holdings were controlled by individuals, who had the sole authority to put animals in the pasture. Dividing thus eliminated the practice in which several individuals shared the same pasture.

Enclosure Acts contained other actions, such as improving and draining land, but the vast majority included some combination of enclosing, dividing, and allotting. These three actions were similar in that they eliminated open or common rights and created exclusive or private property rights in land.

To measure the frequency of enclosing, dividing, and allotting, we estimate the number of Acts each year that authorized these three actions. Specifically, we calculate the percentage of Acts in each five-year period that enclosed, divided, or allotted, and then we multiply the percentage by the total number of enclosure Acts. The results are presented in figure 6 for the years between 1726 and 1815. In the late 1770s, over 50 Acts a year enclosed open or common land and around the same number divided common land. The number of enclosing and dividing Acts declined dramatically during the 1780s, and then returned to over 50 Acts a year in the 1790s. It is worth noting that the number of enclosing Acts and divided Acts were nearly identical before 1800. This is because enclosing and dividing were usually included in the same enclosure Act.

After 1805 the number of enclosing Acts increased to over 100 per year, while the number of divided Acts declined dramatically. There are two explanations for the divergence between enclosing and dividing. First, there may have been a change in the information contained in the title.¹⁴ In this period, nearly all titles stated that the Act was for enclosing land in a particular parish. This may imply that the term enclosing included dividing as one of its components. The second possibility is that common pastures become rare by the early nineteenth century because earlier enclosure Acts eliminated them. In this case, the decline in dividing Acts would not be due to a change in our information, but rather a change in the economic environment. Whatever the explanation, dividing was not included in most enclosure Acts after 1805.

The figure also shows that very few enclosure Acts enabled allotting before 1770. Allotting Acts became more common in the 1770s, before declining in the 1780s. Allotting Acts accelerated dramatically in the 1790s, and especially in the 1796 to 1800 period. In the late 1790s around 50 Acts per year called for allotting, which is similar to the number for enclosing and dividing. Allotting Acts declined dramatically after 1805, perhaps for the same reasons that dividing Acts also declined.

The evidence in figure 6 suggests that open and common rights were eliminated in a large number of parishes between 1760 and 1815. Greg Clark (2001) estimates that 25 percent of agricultural land was subject to open or common rights in 1700, and that by the mid-nineteenth century virtually no land was subject to open or common rights. The implication is that the growth in enclosure Acts between 1760 and the 1820s established private property rights for a significant portion of agricultural land.

¹⁴ After 1800, Parliament considered enclosure Acts as Local and Personal Acts rather than private Acts, which may have affected the way titles were written.

The establishment of private property rights is often considered to be a key factor in agricultural improvement. The argument rests upon the idea that the open field system inhibited agricultural productivity. For example, it is often suggested that collective decision making in the open fields created barriers to the introduction of new crops, like turnips and clover. There is also an argument that scattering reduced agricultural efficiency by increasing labor inputs. Finally, some suggest that common rights limited the size and quality of livestock by encouraging the over-grazing of pastures (see Overton, 1998).

Robert Allen (1992) and Greg Clark (1998) have investigated these claims by evaluating the effects of enclosure Acts. Allen finds that enclosures did not raise the value of farm output or wheat yields per acre. Allen does find that new crops, like turnips and clover, were often introduced after enclosures, but he argues they had little effect on productivity. Clark has shown that land rents increased after enclosures, but he finds that the rent gains were modest, especially considering the costs of enclosure. Like Allen, Clark argues that enclosures increased agricultural productivity somewhat, but they did not revolutionize English agriculture.

The findings of Allen and Clark suggest that enclosures were not the only factor leading to productivity growth in agriculture. That being said, it is hard to imagine that agricultural productivity would have reached such a high level if open or common rights were not eliminated. The establishment private property rights made it easier for farmers to introduce new crops, improve their livestock, and adjust to changes in markets. Such flexibility is likely to be a necessary condition for an efficient agricultural sector.

4. Links with Politics and Economic Growth

Earlier we showed that the number of Acts of Parliament grew significantly starting in the 1690s. The 1690s were an important period in English political history because they followed the Glorious Revolution of 1688-89. In 1660, King Charles II was restored to the throne after the monarchy was abolished in the English Civil War. Political instability reemerged, however, during the 1680s when James II took the throne. His reign came to an end when William of Orange invaded England in 1688 and was named king. Afterwards, William was forced to sign the Declaration of Rights, which assured that Parliament would have the right to convene, and that the King would have to consult Parliament on legislative matters.

Figure 7 illustrates the impact of these political changes by plotting the number of Acts passed each year between 1601 and 1710. The annual number of Acts ranged between 0 and 74 between 1601 and 1640, in part because Parliament met infrequently, but also because Parliament passed few Acts when it was in session. There were no Acts during the 1640s and 1650s, but there was legislation passed under the so-called Long-Parliament. All of this legislation was nullified by the Restoration in 1660. The early 1660s witnessed an increase in Acts, ranging between a low of 12 in 1665 to a high of 75 in 1662. The expansion in legislation did not last, however, because Parliament met less frequently during the 1670s and 1680s, and failure rates for bills were high (Hoppit, 1996). The turning point occurred after 1689, when Parliament was called into session each year. In addition, the number of Acts passed per session increased from an average of 39 between 1660 and 1689 to 75 between 1690 and 1710.

The growth in legislation after the Glorious Revolution yields new insights on how this political event affected the law and the economy. Many well known Acts were passed in the 1690s, including the Act that established the Bank of England. But as we have seen there was also a large increase in personal and statutory authority Acts. The explanation for the rise in

legislation after 1690 is beyond the scope of this essay, however, it is apparent that the shift in power from King to Parliament played some role.

The rise in legislation was also related with economic growth. Figure 8 plots the annual the annual number of Acts passed between 1700 and 1850 against the trend growth rate of industrial production from Crafts and Harley (1992). The trend growth rate of industrial production ranges between 0.5 and 1 percent between 1700 and 1770. It rises to between 1 and 2 percent between 1770 and 1800, around the same time that the number of Acts begins to accelerate. The trend growth rate increases further to between 2 and 3 percent during the 1800s, 1810s, and 1820s, when the number of Acts reaches its peak. Thereafter the two series diverge as the number of Acts decline and the growth rate of industrial production remains high.

Based on this evidence there appears to be a correlation between the number of Acts passed and economic growth. Once again, it is beyond the scope of this essay to identify whether legislation drove growth or vice versa, but it is clear that the two were closely related.

5. Conclusions

Scholars have long been interested in the relationship between laws and British economic development during the Industrial Revolution. Our evidence suggests that in some subject categories the law was relatively static in the seventeenth century, but experienced significant changes during the eighteenth century. We confirm the results of previous scholars who show that the number of Acts grew after 1690, and especially after 1750. We also confirm Hoppit's conclusion that much of the growth was due to personal Acts, enclosure Acts, and local legislation dealing with communications. In the latter case, we used the label statutory authority

Acts to include all legislation that created organizations with the right to provide infrastructure or public services.

Our paper pushes the analysis further by focusing on three categories of legislation: personal Acts, statutory authority Acts, and enclosure Acts. We show that estate Acts were the most common type of personal Act. Estate Acts changed individual's rights vis-à-vis the property in their estate. They performed a variety of functions but the most common was to allow the owner to sell or lease property. These Acts were necessary because some properties fell under the strict settlement system, which meant that the owner agreed to become a life-tenant with limited ability to sell or sign long-term leases. The goal of strict settlements was to keep land within the family line, but it was costly because it introduced constraints on the use of property. Estate Acts relaxed these constraints by allowing families to amend or dissolve certain provisions of their settlement. They increased rapidly in the decades after 1690, and expanded individual rights to sell or lease property.

Statutory authority Acts affected a broad range of infrastructure and public services. Many dealt with transport infrastructure, like highways, streets, rivers, bridges, canals, ports, and railways, while others dealt with buildings, like churches, courthouses, workhouses, and prisons. In terms of public services, statutory authority Acts affected poor relief, policing, sanitation, and dispute resolution for credit contracts worth less than forty shillings. Our analysis shows that around half of all statutory authority Acts authorized the provision of new infrastructure or public services. We also estimate that the number of Acts authorizing new infrastructure or public services grew rapidly after 1750.

Like estate Acts, we interpret statutory authority Acts as creating a new set of property rights. Specifically, they gave an organization the right authority to charge user-fees, levy taxes, issue

debt, issue shares, and purchase land. These rights were not always new, but they were certainly rare before the eighteenth century. We argue that the change in rights associated with statutory authority Acts played a crucial role in the expansion of infrastructure investment and public services during the eighteenth century.

Enclosure Acts changed property rights over agricultural land by eliminating open or common rights and creating private or exclusive property rights. Their 3 main functions were to enclose, divide, and allot. Enclosing and allotting were similar in that they eliminated open fields and created a plot of land under the exclusive control of an individual. Dividing also led to individual holding by eliminating the common pasture. Our evidence from the titles of Acts shows that enclosing and dividing were joint in most enclosure Acts before 1800. Allotting Acts followed a different pattern, and were especially common in the 1790s.

We view enclosure Acts as another example of legislation that altered property rights. In this case, control and land use were affected, rather than the ability to sell land as in the case of personal Acts. The recent literature has tended to downplay the benefits of enclosure Acts, but we believe that they had some effect on agricultural productivity by making it easier for farmers to introduce new crops, improve their livestock, and adjust to changes in markets.

This paper represents a first step in a larger project aimed at understanding the links between law, property rights, and economic development in England. In the future, we plan to study how personal, statutory authority, and enclosure Acts affected the economy. In particular, we want to investigate how estate Acts impacted the land market, and how statutory authority Acts contributed to investment in capital. We also plan to analyze the causes of the rise in legislation over the eighteenth and early nineteenth century. Political changes associated with the Glorious Revolution appear to have influenced the initial growth in legislation. Identifying which political

changes were most relevant is something that we plan to investigate. The time-series patterns also suggest that faster economic growth partly contributed to the rise in legislation dealing with property rights. Identifying how growth led to legislation and vice a versa is also one of our main objectives in the future.

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Tables

Table 1: The Distribution of Acts across Subject Categories, 1600-1815

Category	Number of Acts	Percentage of total
Personal	5064	24.5
Statutory Authority	4929	23.8
Enclosure	3687	17.8
Government Finances	2821	13.6
Domestic Regulation	1404	6.8
Constitutional	1101	5.3
Foreign	992	4.8
Other	327	1.6
Religion	226	1.1
Criminal	161	0.8

Sources: see text.

Table 2: Subcategories for Personal Acts, 1600-1815

Subcategory	Number of Acts	Percentage of total
Estate	3275	64.7
Naturalization	1078	21.3
Name	272	5.4
Divorce	181	3.6
Other	258	5.1

Source: see text.

Table 3: Subcategories for Estate Acts, 1600-1815

Subcategory	Number of Acts	Percentage of all Estate Acts
Vest	989	30.2
Enable	808	24.7
Sale	391	11.9
Confirm	220	6.7
Empower	129	3.9
Settle	109	3.3
Exchange	101	3.1
Discharge	53	1.7
Other	475	14.5

Sources: see text.

Table 4: Subcategories for Statutory Authority Acts, 1600-1815

Subcategory	Number of Acts	Percentage of total
Turnpikes	2692	55.5
Urban	553	11.4
Canals	255	5.3
Ports	248	5.1
Churches	198	4.1
Rivers	188	3.9
Bridges	168	3.5
Poor Relief	153	3.2
Drainage	123	2.5
Courts of Small Request	83	1.7
County Administration	57	1.2
Railway	24	0.5
Miscellaneous	110	2.3

Source: see text.

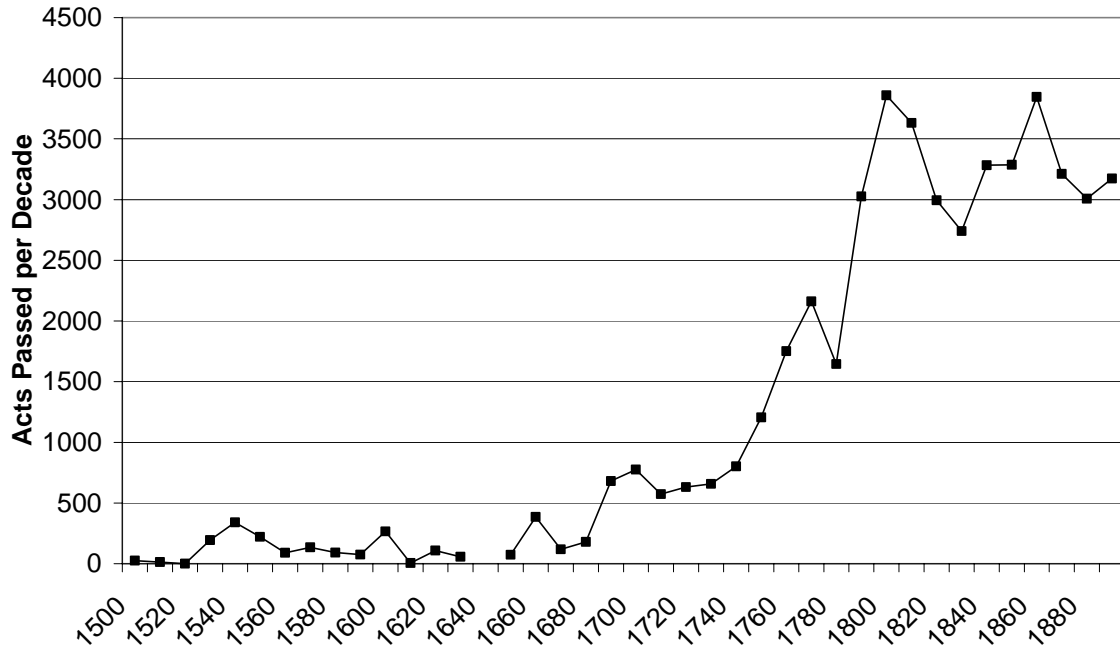
Table 5: Estimated Percentage of Statutory Authority Acts Authorizing New Infrastructure or Public Service, 1600-1815

Subcategory	Percentage of Acts that authorized what?
Canal	
Make Canal	37
Turnpike	
Repair road	39
Widen road	22
Make road	7
Turn or Alter road	3
Any of the Above	46
Bridge	
Build or repair bridge	65
River Navigation	
Make river navigable	54
Railway	
Make or maintain railway	0
Ports	
Build or repair harbor	31
Build or repair Pier	31
Build or repair Docks	19
Any of the Above	54
Urban	
Cleanse, water, light, or pave streets	66
Street watch	27
Remove nuisances and annoyances	29
Supply fresh water	12
Move or construct marketplace	7
Any of the Above	85
Land Drainage	
Draining land	63
Embanking land	12
Any of the Above	66
Poor Relief	
Build Workhouse	20
Better Relief of Poor	47
Any of the Above	67
County Justice and Administration	
Build or Repair Gaol or Debtors Prison	60
Build or Repair Shire Hall or Court House	40
Any of the Above	80
Church	
Build or repair church	76
Build or repair churchyard or burial ground	29
Any of the Above	88
Courts of Small Request	
Easy and Speedy Recovery of Small Debts	88
All Subcategories	55

Source: 10% random sample of all Statutory Authority Acts

Figures

Figure 1: Total Number of Acts of Parliament, 1500 and 1900



sources: see text.

Figure 2: Subject Categories of Acts, 1601-1720

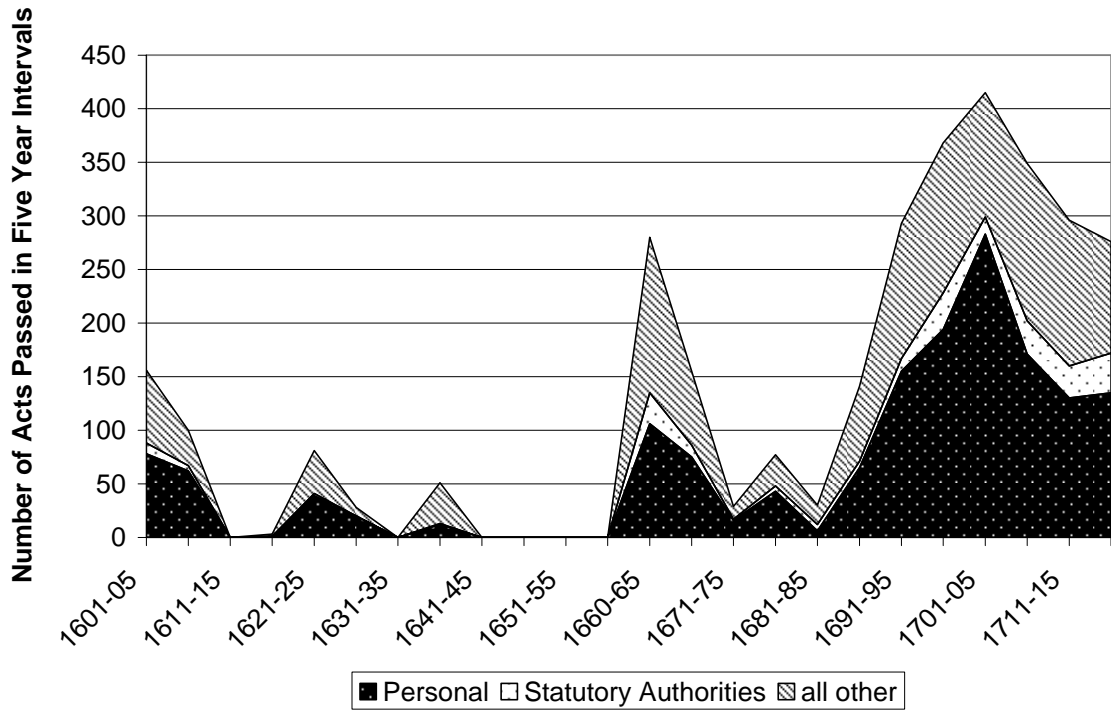


Figure 3: Subject Categories of Acts, 1720-1815

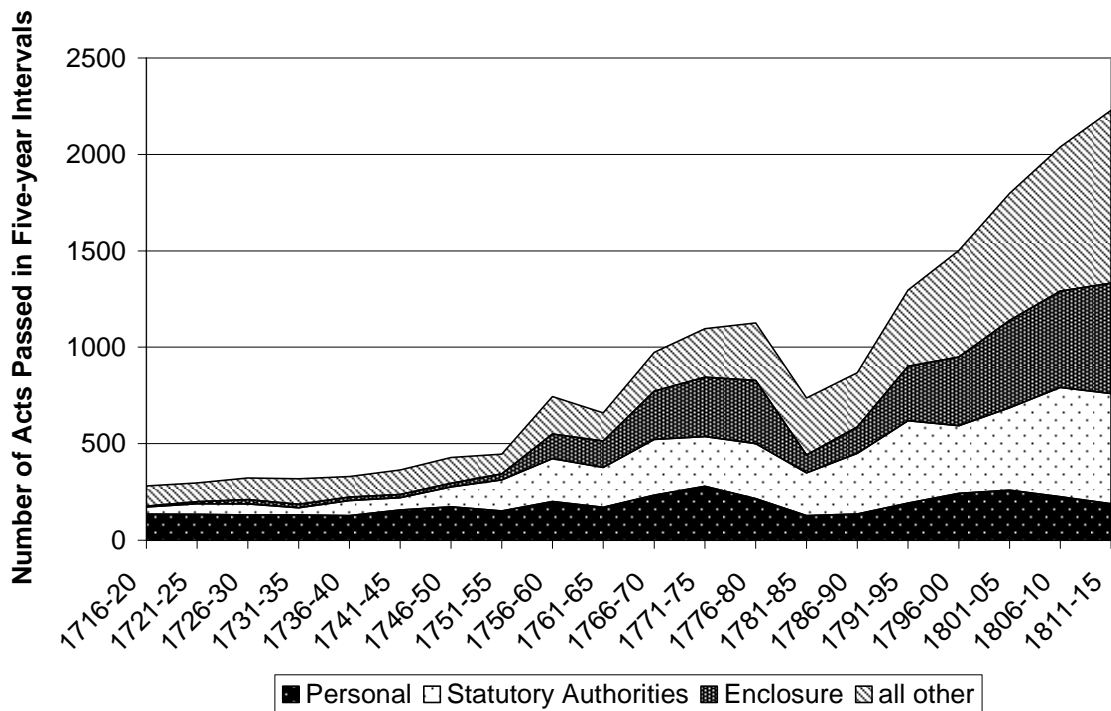


Figure 4: Estimated Number of Acts that Authorized Property Sales

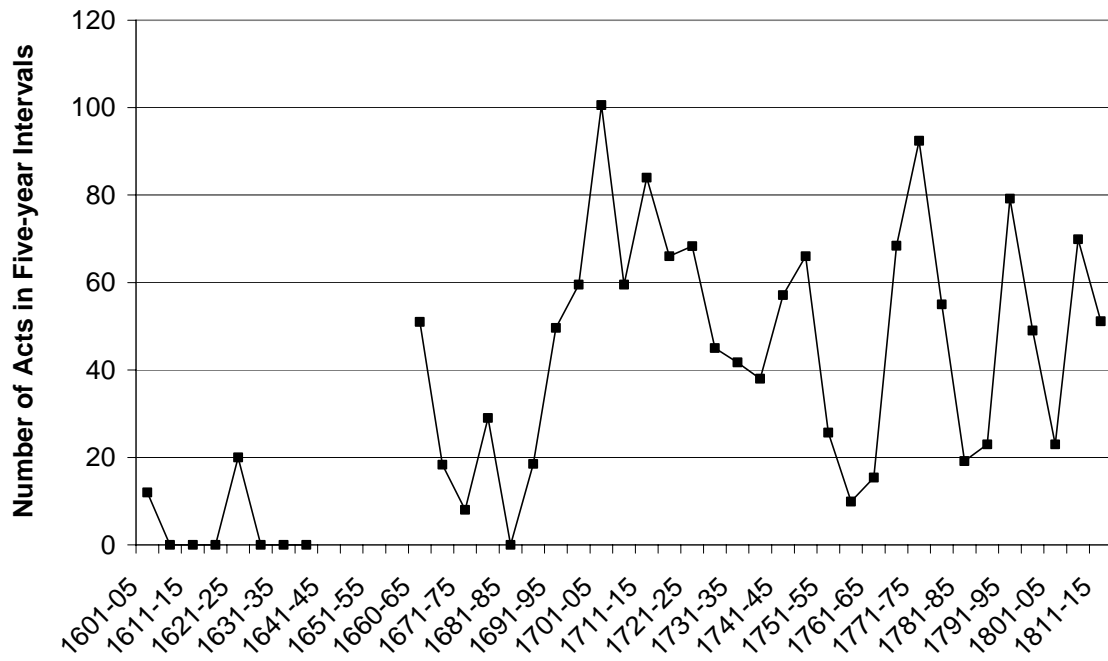


Figure 5: Estimated number of Acts that authorized new infrastructure or public services, 1600-1815

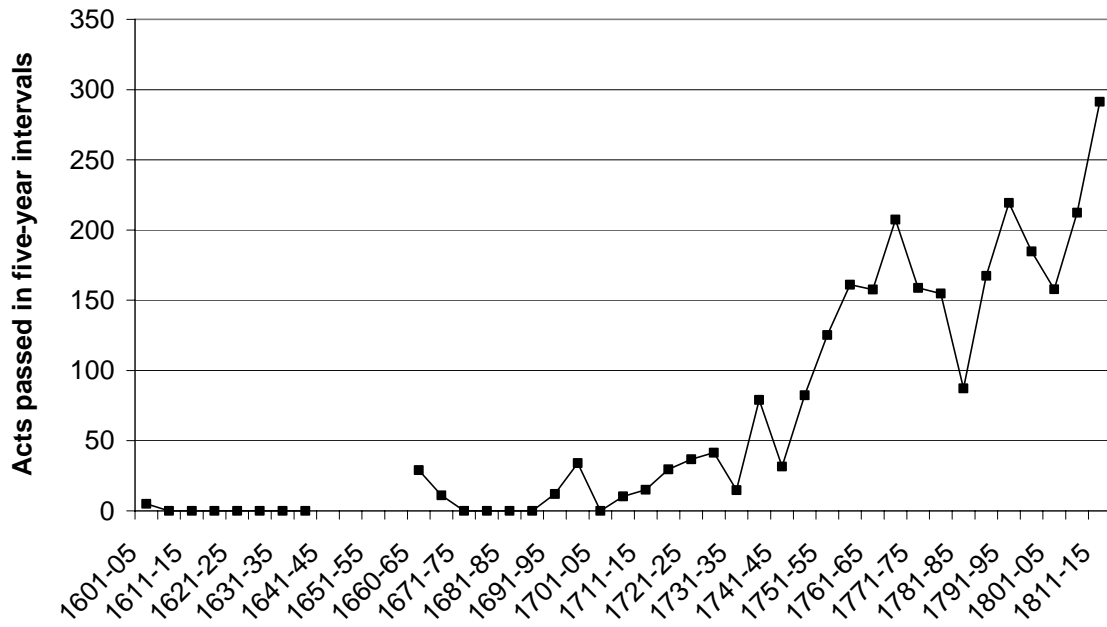


Figure 6: Estimated Number of Acts that Enclosed, Divided, or Allotted Land, 1725-1815

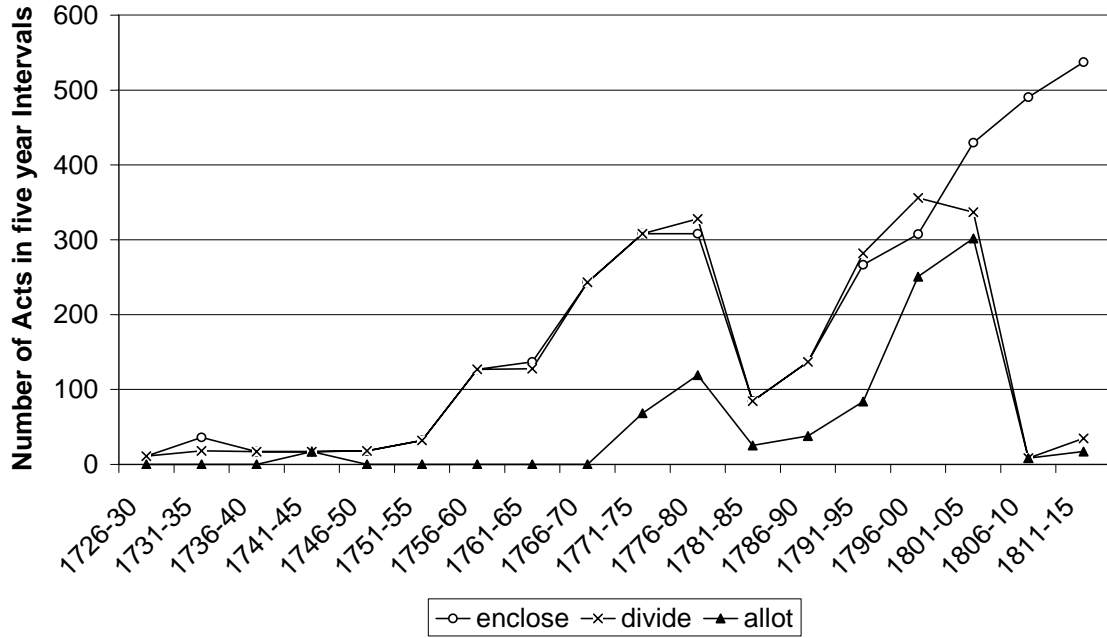


Figure 7: Acts Passed 1601-1710

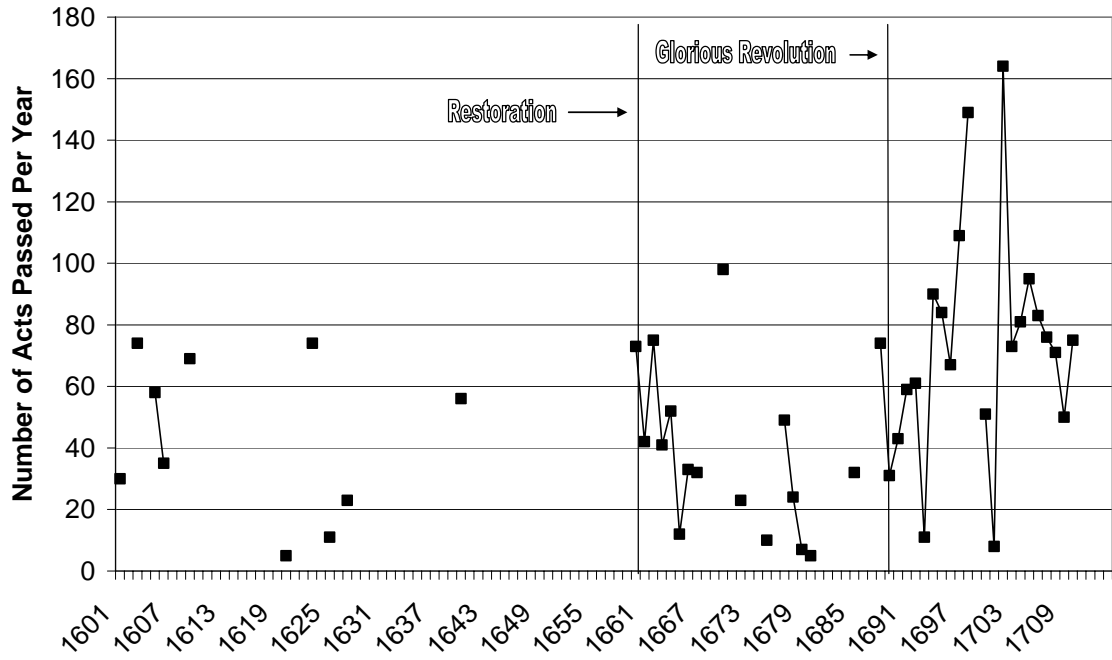


Figure 8: Annual Number of Acts and the Trend Growth Rate of Industrial Production, 1700-1850

