

CENTER FOR INSTITUTIONAL REFORM AND THE INFORMAL SECTOR

University of Maryland at College Park

Center Office: IRIS Center, 2105 Morrill Hall, College Park, MD 20742
Telephone (301) 405-3110 • Fax (301) 405-3020

THE POLITICAL FOUNDATIONS OF MODERN ECONOMIC GROWTH, ENGLAND 1540-1800

August, 1995

Gregory Clark

Working Paper No. 173

This publication was made possible through support provided by the U.S. Agency for International Development, under Cooperative Agreement No. DHR-0015-A-00-0031-00 to the Center on **Institutional Reform** and the Informal Sector (IRIS) and administered by the **Office of Economic and Institutional Reform**, Center for Economic Growth, Bureau for Global Programs, Field Support and Research.

The views and analyses in the paper do not necessarily reflect the official position of the IRIS Center or the U.S.A.I.D.

Author: Gregory Clark, University of California, Davis, CA.

THE POLITICAL FOUNDATIONS OF MODERN ECONOMIC GROWTH:
ENGLAND. 1540-1800¹

Gregory Clark, University of California, Davis, CA 956 16

gclark@ucdavis.edu

Did political changes in Britain in the late seventeenth century create a stable property rights regime that established the pre-conditions for the Industrial Revolution? This paper shows that contrary to popular suppositions there is no evidence that changes of political regime had any impact on the private **economy** in England between 1540 and 1800. **Rates** of return on private capital, for example, were uninfluenced by either the turmoil of the Civil War of 1642-8 or the institutional change of the Glorious Revolution in 1688. England achieved a stable property rights regime at least 200 years before the first stirrings of the Industrial Revolution, and probably long before that. For most of this period there was little economic growth.

¹ The data used in this paper was collected with NSF grant SES-9 1-22191¹, and a scholarship from the IRIS (Institutional Refon and the Informal Sector) program of the University of Maryland. I thank Peter **Lindert**, Larry Neal, and the participants at the ALL-UC Economic History Conference at UCLA in 1993 for helpful comments and suggestions. Professor E. Van Cauwenberghe kindly supplied data on the silver content of the pond groten from 1550 to 1750.

INTRODUCTION

As we look across the contemporary world we see a clear association. Countries with high incomes per capita tend to be those with a stable set of political institutions, typically democracies, and well defined property rights. Poor countries tend to be autocracies with periodic outbursts of violence, and with pervasive corruption, nepotism, and ill defined property rights.² This modern association leads naturally to the question - is the achievement of stable democratic institutions a necessary condition for modern economic growth? And is it a sufficient condition?

Political instability can hurt the economy in a variety of ways. As factions vie for control of the state property rights are uncertain especially if the succeeding factions seek to reward their followers and punish their opponents. If the political struggle involves the use of force property may be destroyed in the fighting and economic activity disrupted. Insecure regimes may suppress economic activity if the groups benefiting include those hostile to the regime. Insecure regimes may also undertax and be unable to provide highly valued public goods if either those taxed refuse to comply because of their hostility to the regime, or the regime fears mob violence because all taxes are perceived as going in part to the unpopular regime. Driven by the short term needs of survival the insecure regime may plunder the capital owners or innovators periodically, depriving the economy of investment or innovation, and keeping it impoverished. The struggle for political power makes all property insecure, all private attempts at accumulation fruitless. The struggle for

² Zaire is a modern example of an unstable, autocratic regime with widespread corruption, nepotism, and ill-defined property rights. The police and army, for example, supplement their incomes regularly by robbing the citizenry - in a way they are licensed bandits. Since the government carries out minimal road repairs trucks in the interior each carry extra workers to push them out of the huge potholes left unfilled, and it is profitable to fly potatoes from the interior to the capital Kinshasa. See Gould (1980), Klitgaard (1990), Winternitz (1987).

political power encourages the search for enrichment only through using the coercive power of the state to take from others.

The secure but autocratic regime is seemingly more favorable to economic activity. Suppose the autocrat is purely self interested. He or she will then seek to maximize their own income from control of the state. If the autocrat has untrammelled taxing power free from the constraints of rewarding adherents and punishing opponents, and of popular opposition to paying taxes, they will still want to tax in such a way as to ensure stable property rights and vigorous economic activity, since they collect a share of all income. The revenue maximizing autocrat will not, however, lead to as great an economic outcome in general as a stable democracy, since the autocrat cares only about government revenue and gives no value to the consumption of the populous. The autocrat will thus set tax rates at a higher level than the democracy which tries to maximize total consumption. This higher tax rate lowers output.³

North and Weingast argue that the state governed by an autocrat is even more disadvantaged compared to a democracy because of the inability of autocrats to commit to taxing gains only moderately.⁴ Their argument, however, depends crucially on the autocrat being purely self interested and having a limited time horizon. If the autocrat has dynastic ambitions, for example, then they can credibly commit to moderate expropriation.

³ Suppose income $Y = F(t)$ where t is the tax rate, and where income eventually falls as the tax rate increases. The democracy trying to maximize output should set a tax rate t^* where $F'(t^*) = 0$ or $t^* = 0$ in the case where all taxes are unproductive. The revenues of the state are then $R = tY = tF(t)$. If the autocrat maximizes revenue he will choose t so that $R'(t) = 0 = F(t) + tF'(t)$. At $t = t^*$, $R'(t^*) = F(t^*) > 0$ so that the autocrat will want to raise taxes beyond the point where income is maximized.

⁴ North and Weingast (1989).

We may thus portray in figure 1 four possible political regimes and their predicted effects on economic growth.

FIGURE 1

An empirical corollary of most if not all of the above views of how **political** institutions can impede economic growth is that the return on capital should be high in adverse regimes. **If** the force impeding investment and innovation is the fear of confiscation of property, then people will only risk resources in investment where the rate of return is high enough to compensate them for these risks. Thus the Mexican Revolution of 1910-17 created a long period of uncertainty in the Mexican economy. Though industrial capital was largely undamaged by the fighting, there was great uncertainty as to the property rights which would prevail in the end. Investment largely ceased and share values **plummeted**.⁵ At the end of the English Civil war in 1650 the victorious parliament sold most of the deposed King's estates. The perpetuities owned by the crown sold in 1650 for on average implied rate of return of **11.2%**, at a time when private perpetuities yielded a return of about **5.5%**.⁶ The huge premium in returns **available** to investors in the seized Royal property reflected the political uncertainty that attached to these property rights.⁷ The political uncertainties of the hyperinflation period in Weimar Germany led to a dramatic decline in the value of equity, even though this was a real asset, and the economy was experiencing full employment of resources. The real value of shares dropped to 2.7% of their 1913 level by

⁵ See Haber(1989), pp. 122-149.

⁶ On crown perpetuities (**fee-farm** rents) see Madge (1938), p. 237. See figure 5 below for private perpetuities.

⁷ These properties were recovered by the crown in 1660. The Parliament was prepared to sell these perpetuities even though they commanded a low price as a means of giving a wide class of people an interest in the survival of the new regime.

FIGURE 1: POLITICAL REGIMES AND ECONOMIC PERFORMANCE

		Type of Regime	
		Autocracy	Democracy
Stable	Moderate Performance	Best Performance	
Unstable	Poor Performance	Poor Performance	

October 1922, and were so low that the auto maker Daimler with its 3 large works as well as **large** land holdings and technical know-how was valued at 327 of its own **cars**.⁸

The experience of England in the seventeenth and eighteenth centuries seems to many to lend weight to the causal association between a stable democratic politics and economic growth. The Industrial Revolution of 1760 and later was preceded by the Glorious Revolution of 1688. In the Glorious Revolution a corrupt, autocratic monarchy which financed itself by a variety of **extortionary** means was replaced by a political system where the Parliament (admittedly with a very limited franchise) controlled the monarch. This political system was remarkably stable. After 1689 there were no coups, and few attempted coups, but instead an unbroken line of governments elected by a popular **franchise**. When James II was deposed the throne passed first to William of Orange and Mary (his daughter), and then to Mary's sister Anne. When Anne died childless in 1714 (despite giving birth to 18 children), James II's son was laying claim to the throne **from** exile in France. Yet the Parliament was able to **install** in his place an obscure German **princeling** (who never learned to speak English well) without any serious threat to its control. In the years between the Glorious Revolution and the Industrial Revolution there was widespread change in the British economy: the transport system was radically improved, a large scale conversion to a purely private agriculture was accelerated, new institutions of finance and commerce were put in place, and the government became a secure borrower whose debt was regarded as the safest asset in the economy. It has been tempting for many to argue that the Glorious Revolution created the pre-conditions for the Industrial Revolution.

Among those unable to resist this interpretation have been both **Mancur** Olson and Douglas North and Barry **Weingast**. Both argue that the Glorious Revolution in England marks the important **shift** towards private property rights secure **from** government confiscation. Thus Olson notes that,

⁸ Bresciani-Turroni (1937), pp.

With a carefully constrained monarchy, an independent judiciary, and a Bill of Rights, people in England in due course came to have a relatively high degree of confidence that any contracts they entered into would be enforced and that private property rights, even for **critics of the government**, were relatively secure. Individual rights to property and contract enforcement were probably more secure in Britain **after** 1689 than anywhere else, and it was in Britain, not very long **after** the Glorious Revolution, that the Industrial **Revolution** began (Olson (1993), p. 574)

North and Weingast point to the sharp decline in the rate of return on government borrowing in the decades after 1689 as a sign that the government operated in a very different way after the Glorious Revolution. Rates of return of 10% gave way to rates as low as 3% by the mid eighteenth century. Figure 2 shows the rate of return on a variety of government loans between 1540 and 1800.

FIGURE 2 .

As can be seen there is a dramatic decline in government interest rates in the **1690s**, and in the 1710s. They interpret this as showing that in the new stable regime private **capital** markets with low interest rates flourished. Private incentives to invest improved, **fueling** growth: “Thus were the institutional foundations of modern capital markets laid in England.”⁹

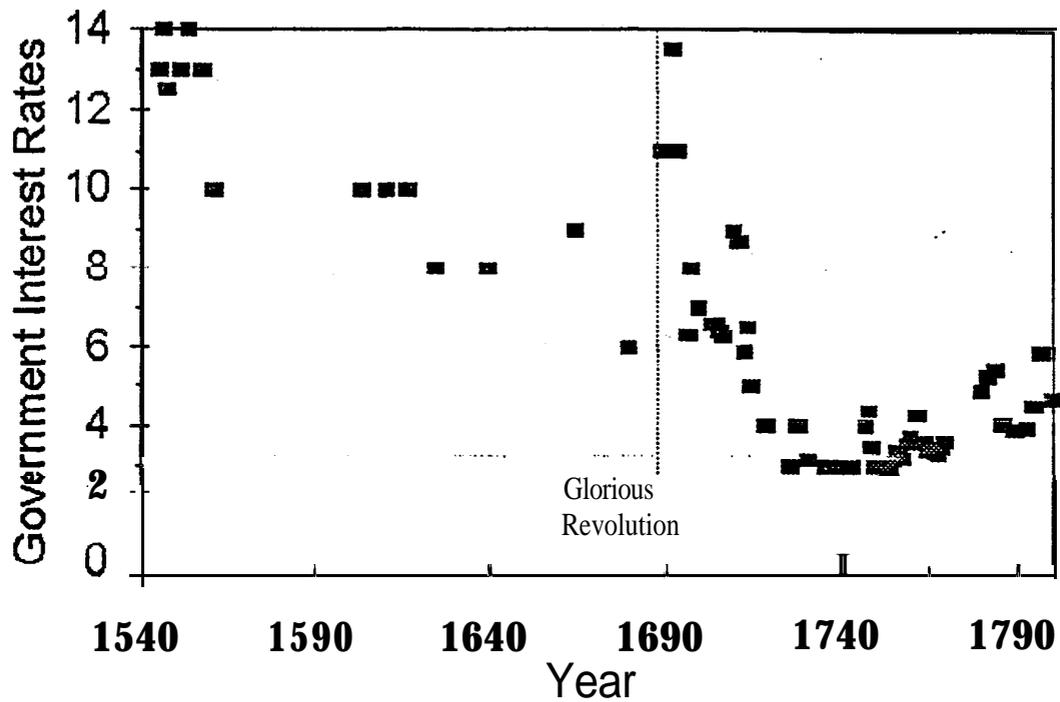
research on interest rates for various forms of private credit reveals that these rates roughly parallel rates on public credit. Falling private rates increased the range of projects and enterprises that were economically feasible, thus promoting the accumulation of **capital** (North and Weingast (1989), p. 825).

North and Weingast note that unfortunately data on capital markets for the period before the Glorious Revolution are “almost non-existent” (North and Weingast (1989), p. 826). Rondo Cameron, in sympathy with the position of North, Weingast and **Olson** comments that,

⁹ North and Weingast (1989), p. 82 1.

FIGURE 2: INTEREST RATES ON NEW ISSUES OF GOVERNMENT DEBT.

1540-1800



These loans before 1688 often had an element of coercion in them, so the actual rates would be higher.

Source: Ashton (1960), pp. 118-119, 123, 124; Dickson (1967), pp. 48-9, 60-3; Homer and Sylla (1991), pp. 113, 126.

The so-called Glorious Revolution of 1688-9 constitutes a major turning point not only in political and constitutional history, but in economic history as well.

...the ease, cheapness, and stability of credit for public finance reacted favorably on private capital markets, making funds available for investment in agriculture, commerce, and industry (Cameron (1989), p. 155)

In this paper we examine whether political regimes and events had any influence on the private capital market between 1540 and 1800 using a rich new set of data. Did political and dynastic struggles in the years before 1688 drive up the rate of return investors earned on capital as a result of the insecurity it created, and consequently impede accumulation? Did the Glorious Revolution create a decline in the rates of return in the private economy that ushered in the Industrial Revolution?

THE POLITICAL BACKGROUND

Between 1540 and 1770 there were a number of periods when the England experienced political turmoil, internal warfare, and important changes of political regime.

In the late sixteenth century the impending death of the childless Elizabeth I created great political uncertainty. Since at least 1578 (when Elizabeth reached the age of 45) it was clear that she would die childless, and that the Tudor dynasty would come to an end. At the end of her reign there were five serious contenders for the throne, none of whom the aging Elizabeth seems to have had the slightest affection for. James VI of Scotland was the successor by the laws of primogenitor, but he was king of the traditional enemy of England, Elizabeth had executed his mother in 1586, and Henry VIII by Parliamentary Acts and in his will had barred the house of Stuart from the succession. Lady Arbella Stuart was descended from the same line as James, but had the advantage of being English. Under the terms of Henry VIII's will the crown should have passed to the House of Suffolk, and to the descendants of Catherine Grey. But the marriage of her mother to the Duke of Suffolk was of doubtful validity, as was her own marriage. The last major claimant was Philip II of Spain and if he should step aside his daughter the Infanta. The

claims of the **Infanta** were pushed by the Catholic minority. Elizabeth herself increased the uncertainty of **the** succession by having an act passed **imposing** severe penalties on anyone making claims as to the royal succession except for the succession **affirmed** by Parliament, but then preventing Parliament from selecting a **successor**.¹⁰

The implication of all this is that rates of return on capital should have risen for two **different** reasons in the waning years of Elizabeth. The uncertainty of the succession meant that there could be a **bloody** power struggle **after** Elizabeth died. But also the lack of a successor meant that Elizabeth could not credibly commit to any long term contract with her subjects, **if we** interpret monarchs as behaving like predators in the North and Weingast fashion. If she wanted to expropriate in the declining years of her reign, she could do so at little cost to herself.

After the death of Elizabeth I childless in 1603 the crown passed peaceably to the Scottish House of Stuart. But the Stuart kings had **from** early on an unhappy relationship with the English Parliament. Between 1603 and 1688 there was an interminable struggle between the Crown and the English Parliament over the respective powers of each, **fueled** in the years after 1660 by **the** Catholic sympathies of the monarchy and the **Protestantism** of the people.¹¹ **Unlike** many other European countries the English Parliament traditionally had control over taxation, and it used this power to try and rein in the monarch. The monarch had the revenue of the **royal** estate at his or her disposal. But the stinginess of Parliament had been a problem even under Elizabeth I, so that after 1589 these estates were depleted by sales to meet war and other expenses. **As a result the**

¹⁰ Hurstfield (1973), "The Succession Struggle in Late Elizabethan **England**" gives the details of the succession debate. Peter Wentworth, an **MP** who spoke in the commons on the succession, and published a pamphlet was sent to the Tower in 1593 as a result and died there four years later (p. 107).

¹¹ See **Ashton (1978), Hill (1961), Jones (1978)**.

monarchy was always short of funds and had to resort to various illegal and semi-legal exactions and confiscations to raise revenue.

The crown had some success with these measures in the early seventeenth century. It deliberately allowed obsolete **regulations** introduced in the mid sixteenth century limiting the economic activity of groups to remain in force, then encouraged professional informers to inform against the transgressors, who were fined. So systematic was this revenue collecting device that in some cases private individuals were given the monopoly of the right to inform under **particular** statutes, and the power to treat with transgressors for payment of fines. The crown similarly sold **monopoly privileges for new and for existing products**.¹² The crown also resorted to forced loans, to **revival** of feudal privileges, and to various other semi legal and **unpredictable** exactions in its scramble for money.¹³ Even when Parliament did consent to levy taxes the assessment of incomes of wealth were **often** wildly unrealistic and were heavily influenced by political connections. Thus the tax burden on the richest was very light, some magnates being omitted from the tax lists altogether. The middle income groups being less influential bore more than a proportionate burden.

Thus though the total burden of taxes was light in the early seventeenth century, the collection was inefficient, unpredictable, and subject to political influence and corruption. A measure of the level of corruption in the governing classes is given by the admission by Francis Bacon, the famous philosopher and the **chief** justice of the land, when he was accused of corruption in 1621 that he had taken substantial **“gifts”** from those whose cases he was ruling upon (he denied any venal intent).¹⁴

¹² Clay (1984), Vol. II, pp. 256-7.

¹³ In 1616 James I began also to raise revenue by selling peerages.

¹⁴ Hurstfield (1973), “Political Corruption in Modern England: the Historian’s Problem,” pp. 145-7.

The conflict between King and parliament resulted in open warfare in the years 1639-40 (against Scottish dissenters), and in 1642-46, 1648, and 1651 when rival Royalist and Parliamentary armies vied for control of the country. One author describes these years as "one of the most damaging periods in the history of England."¹⁵ Armies marched across the countryside destroying crops and requisitioning food. Some towns were sacked in the war, including Brentford, Birmingham, and Wycombe, and others such as Hull, Cheimsford and Bristol were subjected to sieges.

Then from 1649 to 1660 the country was subject to a Puritan control that was uncertain and vacillating, and gradually **dissolved** internally. The property of the king and his supporters formed a major source of revenue in the years 1649-1653. Meanwhile Parliament **debated** all kinds of radical proposals which would have **affected** property rights • there were proposals for **further sales** of Royalists lands, and for the abolition of tithe rights. As the control of the Puritans unraveled by 1659 the army was having to support itself by quartering **itself** on the population, and open plunder by the army seemed but a short step distant.

The restoration of the Monarchy in **1660** led to **further** uncertainty as some, but not all confiscated property was restored to its original owners. The monarchy was restored in the person of Charles **II** in 1660, and the conflict between crown and Parliament was seemingly resolved. But soon the old strains were appearing. Charles had **Catholic** sympathies in a Protestant country where religion was an important political issue. In 1670 Charles II entered into a secret treaty with France wherein the French committed themselves to subsidizing Charles and in return Charles agreed to collaborate **with** the French in a war on Holland, and to declare himself a Catholic at a suitable moment. As the 1670s proceeded it became clear that Charles was going to be succeeded by his openly Catholic brother James, the Duke of York. In 1679 there was a rebellion by Protestant dissenters in **Scotland**, and Parliament passed a Bill excluding James

¹⁵Baker (1986), p. 8.

from the succession. In 1682 a coup was planned by disaffected Royal advisors, and in 1683 a plot to murder Charles XI and James was uncovered.

James II became king in 1685. James was a Catholic in a largely Protestant country at a time when Catholicism was feared as representing a danger to the English state. Thus the succession of James I in 1685 created great uncertainty. There was immediately an avowed Protestant rebellion in the west of the country led by Charles' illegitimate son the Duke of Monmouth. This was defeated but the policies of James, particularly his introduction of Catholic officers into the army and his raising of an Irish army of dubious loyalty to the English Parliament, resulted in widespread fear and **disaffection**. When James II had a son and heir in 1688, **William** of Orange, a claimant to the throne in his own right and the husband of James's daughter, Mary from a previous marriage, invaded in collusion with English allies. James found little support and fled, and in 1689 the Parliament declared he had abdicated and installed William and Mary as monarchs. Under the new constitutional order Parliament had much more control over the actions of the monarchy. Indeed in 1700 William was so discouraged by parliamentary control that he left for Holland and threatened to abdicate. This new constitutional order is the foundation of the modern British state, which is the **direct** descendant of this "Glorious Revolution."

The success of the Revolution was not immediately obvious, for its outcome became part of the great power struggle that was engaging Europe in the late seventeenth century. William had come to England to claim the throne in part because the Dutch needed to preserve England as an ally in their struggle to stay free from French hegemony. Thus from 1688 to 1695 the new regime was engaged in a War against France on the continent, and internal wars against the partisans of James in Ireland and Scotland who were supported by the **French**. Only in 1697 when William and Louis XIV made a peace treaty wherein Louis recognized William as king of England did it become clear that the new political settlement was **secure**.¹⁶

¹⁶ See Szechi (1994), pp. 41-58, Jones (1978), pp. 256-278,

The Jacobite cause did not die immediately, though most historians give little importance to it after 1695, and it was the popular rallying point for various groups of disaffected from the 1690s until the 1740s. In 1715 and in 1745-6 there were Jacobite rebellions in Scotland. In the latter case the rebels got as far south as Derby, and there was a brief panic in London.

The new political regime ushered in a host of political and administrative changes. In 1692 a Land Tax was imposed which was to be collected at varying rates from then on. The Land Tax provided a large new source of funds for the Government, and formed a relatively predictable exaction on property owners. Since reassessments were rare there was no disincentive in the Land Tax to investments in land improvement. Also in 1694 the Bank of England was formed as the principal lender to the government ushering in a host of financial developments-now called "The Financial Revolution."

THE DATA

The existing information about the English private capital market before 1725 is limited, particularly for the years before 1650. There are a few studies of the rate of return on land, mainly land in the south of the country.¹⁷ But the information for the period before 1688 is largely impressionistic.

This paper uses information from 2882 transactions or wills recorded in the Charity Commission reports to examine the operation of the private capital market from 1540 to 1837, as well as supplementary information mainly on land sales from the depositions of the directors of the South Sea Company in 1721. I also use 1824 observations on land sales between 1600 and

¹⁷Clay (1974), calculates the rate of return on farmland in the South of England and the Midlands for 1650-9, and 1670-1689, and 1700-1813 from 248 transactions or offers for sale. Habakkuk (1952), give a nice impressionistic survey of the market for land in the sixteenth and seventeenth centuries.

1749 **from** the Charity Commission reports to examine the movement of land prices. The Charity Commission examined the asset holdings of charities in most parishes in **England** and Wales **in** the course of its investigation which lasted **from 18** 18 to 1837. Often the commissioners gave **details** on the purchases and sales of assets such as **land, tithes**, houses, rent charges, mortgages, **and** private bonds. The typical way the details of a transaction would come to be noted in the Charity Commission reports is that in discussing each charity the Commissioners noted any details of the original purchase of land or rent charges that they could glean **from** the documents retained by the charity. They did this because they were concerned to check that no land had been lost to the charity over time, and that rent charges bought **earlier** were all still being paid. The Charity Commission reports generally give the location of the asset purchased or **sold** so that we **can** check how representative the data is of the country as a whole. Since they were interested to ensure that charities were being used for the purpose specified by the donor they also frequently give details of these wills, **including** what stipulations donors made as to what the rate of return would be on land and other assets bought with their gift: a **person** would, for example, **specify** in their **will** of 1621 that they were leaving **£100** to buy land of the current yearly value of at least **£5** to be used for bread for the poor.

The data assembled for this paper thus represents a set of transactions in the land and rent charge markets, typically with the charity as a buyer, as **well** as a set of dated wills recording the amount a **hequestor** was leaving and the return he or she **expected** the charity to achieve **from** the bequest investing it either in land or as a rent charge. A rent charge was a fixed perpetual nominal obligation secured by a house or a piece of land. It **could** only be redeemed if the owner of the rent charge agreed to accept a capital sum for **it**.¹⁸

¹⁸**Rent** charges were sometimes also referred to as “fee farm rents”. The rent charge existed **from** at least the **twelfth** century. Rent charges were still being created in the eighteenth century. Later the main transactions involving rent charges were their **sale** to third parties, or to the owner

The reason for looking at these various different types of capital instruments is that they had different characteristics. Land and houses were real assets whose current return would approximate to their real rate of return as long as real land and house rents were not changing rapidly. There were no usury restrictions on returns on land. Rent charges were nominal assets with an infinite term whose real return depended on the rate of price inflation, but they were again not **affected** by usury restrictions. Bonds and mortgages were also nominal assets, but assets whose return was limited by usury restrictions. Bonds were short term assets that **could** be terminated by either side of the contract at will.

How representative are the Charity Commission observations of capital market conditions in the country as a **whole**? The observations from these sources are well distributed in space, as Figure 3 shows. The local clusters of observations found around London, Bristol, south Lancashire, and ~~the~~ West Midlands largely correspond to the areas of dense population before 1837. The land purchase data similarly covers most of England and Wales.

FIGURE 3

The data also covers both urban and rural capital markets, as is illustrated in table 1. This breaks down the Charity Commission data into its various types by locations. As can be seen London and the four other large towns of pre-industrial England • Bristol, Exeter, Norwich and York • are all well represented in the data set in terms of returns on land **and** rent charges. About 13.5% of observations on returns on both land and rent charges come **from** London alone, but this would be close to its share of the population in England and **Wales** in 1700. There is almost no land actually purchased in London, but many dated wills are recorded where Londoners left

of the land. When tithes were commuted in 1839 and later they were **often** replaced by “tithe rent charges” which were fixed money payments to the tithe holder in perpetuity from the land. The legal properties of the rent charge were largely unchanged between the middle ages and the twentieth century. See Edwards (1904), Cheshire (1962), Pollock and **Maitland** (1895).

FIGURE 3: THE DISTRIBUTION OF OBSERVATIONS IN SPACE PRIOR TO 1770.



money to buy land and stipulated a rate of return to be achieved. Thus the Charity Commission data seems to be representative also in terms of the urban/rural split of the population.

TABLE 1

The distribution of the observations on each type of asset is not uniform across time. For the early period the most numerous observations are on the actual and expected return on land holding and rent charges. In the later period the most numerous observations are on private bonds and mortgage lending.

The changing frequency of observations of different types of lending over time reflects in part the development of the capital market, and in part the selective survival of different types of records. The rent charge, for example, was steadily superseded by government perpetuities after 1727, since these were as secure as rent charges and much more liquid. Many of the observations in the later period are thus for the rate of return at which rent charges were bought out by the owners of property charged with them. But since this could only be done with the consent of both parties it should represent a market interest rate still. Records of bond and mortgage lending in the early years tended not to survive well because such lending had a higher default rate than investments in land or rent charges, so that the money would be lost over time, and because when it was repaid there was no reason to keep the records on that particular loan. The distribution of the observations in different time periods is shown in table 2.

TABLE 2

The data also suggests that the capital market was reasonably integrated both geographically and across different types of asset from an early period. There is evidence of a slight increase in returns as we move away from London in the period before 1700 for both rent charges and for land, but the remotest parts of England and Wales still paid less than 0.5% more as a return on capital than in the London market. The decline in returns in London between 1630 and 1730 is echoed in all the other parts of the country. Land and rent charges were almost equally secure and differed mainly in that returns on land were secure against inflation. Since on average rates of inflation were less than 1% per year between 1550 and 1837 the average

TABLE 1: DISTRIBUTION OF CHARITY COMMISSION OBSERVATIONS

location	all	London		Bristol, Exeter Norwich, York	
		n	%	n	%
<u>All Returns</u>					
Land	724	98	13.5	22	3.0
Houses	123	43	35.0	8	6.5
Rent Charges	858	114	13.3	34	4.0
Bonds, Mortgages	978	30	3.1	40	4.1
<u>Actual Returns</u>					
Land	389	4	1.0	6	1.5
Houses	91	24	26.4	7	7.7
Rent Charges	711	79	11.1	25	3.5
Bonds, Mortgages	872	17	1.9	32	3.7
<u>Expected Returns</u>					
Land	335	94	28.1	16	4.8
Houses	32	19	59.4	1	3.1
Rent Charges	147	35	23.8	9	6.1
Bonds, Mortgages	106	13	12.3	8	7.5

Notes: London in this table includes both Westminster and Southwark.

TABLE 2: COMPOSITION OF RATE OF RETURN OBSERVATIONS

TYPE	Pre- 1642	1642-88	1689-1769	1770-1837	ALL
<u>Real Assets</u>					
Land	199	157	323	196	875
Tithes	6	3	3	10	12
Houses	41	14	62	76	193
<u>Nominal Assets</u>					
Rent Charges	217	247	283	115	862
Mortgages	0	6	36	233	275
Bonds	32	45	156	481	714
<u>ALL</u>	495	472	863	1111	2941

Notes: The number of observations drawn from each source for this period is: y
Commission Reports, 2704; South Sea Bubble Directors, 159 (1715-1721); Reports of Forestry
Commissioners, 78 (1797-1828).

difference on these two assets should have been that land gave a slightly lower return than rent charges. This was indeed the case. In all decades but one land on average yielded less than rent charges, but the difference overall was only about 0.5%. Thus at least these two different types of capital asset seem to have been traded in an integrated market.¹⁹

A perhaps more important issue with charities as a source is how representative of the private capital market these returns would be. Might charities be careless purchasers and poor managers of assets so that the returns they achieved were lower than those in the general private market conditions? Two pieces of evidence prove otherwise: (1) I can compare the returns people expected on land and rent charges as expressed in their wills with the actual returns charities achieved when they purchased land or rent charges. When I do so, as in the empirical estimations reported below, I find that for both land and rent charges the actual returns are insignificantly different from the expected returns, both quantitatively and in statistical terms.

(2) I can compare the returns charities achieved on land purchases with the returns achieved by private purchasers of land in the eighteenth century and early nineteenth century as reported by Clay (1972), and Norton, Trist and Gilbert (1962). The returns are on average very close to those reported by these other sources for the years when the series overlap.²⁰

Even supposing that charities on average achieved a marginally lower return on capital invested in land or rent charges than private purchasers this would not be a problem for detecting the effects of changes in political regime on rates of return as long as this difference in returns was stable over time. There is no reason to expect that charities would perform any better or worse than private purchasers in 1550 than in 1750.

¹⁹For more details see Clark (1995).

²⁰See Clark (1995).

POLITICAL REGIMES AND THE RATE OF RETURN

Did any of the supposedly important political events of the sixteenth and seventeenth century effect rates of return in the private capital market? Figures 4 and 5 show the annual average rates of return on f&and and on rent charges from 1540 to 1770. As can be seen the private rates of return move slowly over time. There is clearly no dramatic upwards movement in rates of return in any of the periods of political uncertainty identified above: the last years of Elizabeth's reign (1578-1603), the period of turmoil just before the Civil War and the War itself (1639-1648), the interregnum (1649-1659), the final years of the Stuart dynasty (1670-1688), and the difficult years of the new regime (1689-1696). Instead we get much longer and smoother trends in returns on both land and rent charges. Both seem to have increased slowly and by a small amount from the 1550s to the 1620s, and then begun a long gradual decline that continued for more than 100 years.

To formally test whether the periods of political turmoil had any effect on rates of return in private capital markets in England I look at three series - real property (land, houses, and tithes), rent charges, and bonds and mortgages. Did rates of return on any of these three classes of asset rise when we enter periods of political instability? For real assets I first estimated the coefficients of the regression equation,

$$RET = \alpha + \beta_1 T + \beta_2 T^2 + \gamma_1 DX + \gamma_2 DH + \gamma_3 DT + \delta_1 DBUB + \delta_2 DOLD + \delta_3 DCIV + \delta_4 DINT + \delta_5 DSTU + \delta_6 DNEWREV + \delta_7 DREV + \varepsilon \quad (1)$$

where the variables are defined in table 3. The regression thus formally tests if there was any break from long term trends in interest rate in periods of turmoil or of regime changes. If political uncertainty mattered then the estimated values of δ_2 , δ_3 , δ_4 , and δ_5 should be large positives reflecting the periods of turmoil while either δ_6 or δ_7 should be large negatives depending upon when people believed a new regime was established. I also estimated a similar regression for rent

FIGURE 4: RETURN ON FARMLAND, 1540-1837

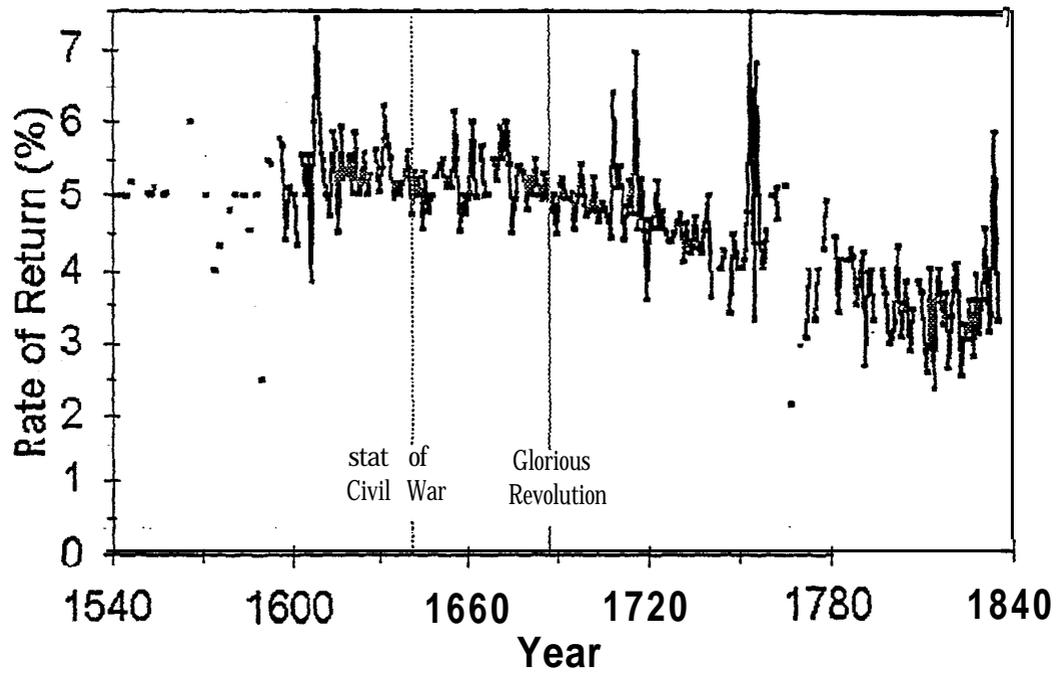
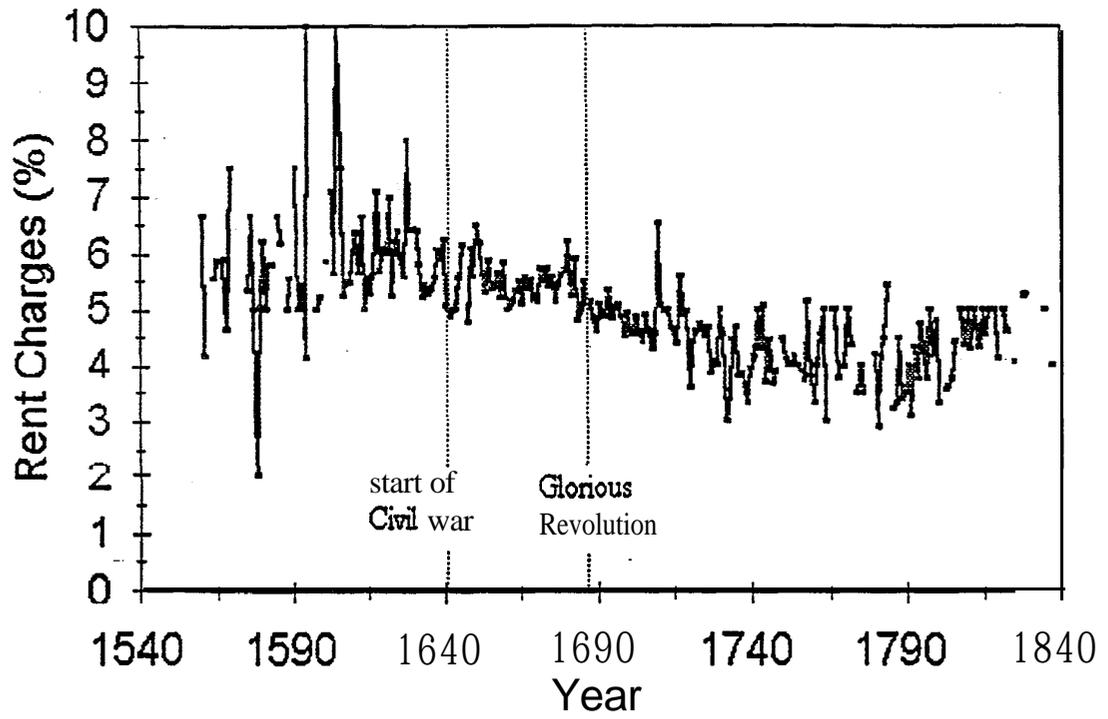


FIGURE 5: RETURN ON RENT CHARGES. 1560-1837



charges. I **further** estimate the same equation for both types of returns with **only** two regime dummies, for the Civil War and for the years after 1696 when the new regime was established.

Table 4 shows the estimated values of the coefficients for each of the seven periods of interest. As can be seen none of the political and military convulsions of the seventeenth century seem to have any quantitatively significant effect on private capital markets in the predicted direction. The estimated movement of interest rates in the periods of turmoil and uncertainty are mostly by fractions of a percent and are also mostly in the wrong direction. Yet the precision of the estimates is high enough that in most of the episodes a 0.5% movement up or down in interest rates would be detected as a significant deviation by the regression estimate. The only episode before 1770 that seemed to make any difference to rates of return was the South **Séa** Bubble of 1720, when rates of return on both real assets and rent charges fell by about 1%. The Glorious Revolution, counted either as an event of 1689 or of 1697 once the new regime had achieved a secure position, is associated with at best an estimated decline of returns on land of 14% **from** the late Stuart period, and a decline of 0.40% for rent charges.

If we redo the estimates and keep just two indicators of political instability, the dummy for the Civil War period and the dummy for the **confirmation** of the new **regime** in 1697 then we still find very small effects. Now the Glorious Revolution is associated with an estimated rise of 0.12% on returns on land and a decline of only 0.18% in returns on rent charges. Political events just do not seem to matter in the private capital market in the period 1540 to 1770.

In contrast to the **lack** of movement of English and **Welsh** rates of return in this period in response to regime changes we can look at the experience in the southern Netherlands over the same period. De Wever (1978) reports the rate of return implied by land purchases in the town of **Zele** in Flanders between 1550 and 1795. **Zele** lies 4 miles northwest of the fortified town of Dendermonde, and about 14 **miles** east of Ghent. The countryside there was subject to several long periods of destructive military campaigns and of uncertainty between 1550 and 1750. The first of these was between **1581** and 1607. In the years 1581-92 the struggle for **Dutch** independence was taking place mainly in Flanders. Both Dendermonde and Ghent were

TABLE 3: DEFINITION OF VARIABLES IN REGRESSION EQUATIONS

VARIABLE	DEFINITION
T	Year
DX	Dummy equal to 1 when the return is expected (as in will)
DH	Dummy equal to 1 when the asset is a house
DT	Dummy equal to 1 when the asset is a tithe right
DBUB	Dummy equal to 1 in 1720 (South Sea Bubble)
DOLD	Dummy equal to 1 in 1578-1602 (years of Elizabeth's reign with clear absence of successor)
DCIV	Dummy equal to 1 in 1639-1648 (Civil War)
DINT	Dummy equal to 1 in 1649-1659 (interregnum)
DSTU	Dummy equal to 1 in 1670-1688 (last years of Stuarts)
DNEWREV	Dummy equal to 1 in 1689-1696 (early Glorious Revolution)
DREV	Dummy equal to 1 in 1697-1770 (Glorious Revolution established)

TABLE 3: RATES OF **RETURN** AND **POLITICAL CHANGES**. 1540-1770

Period	Land, Houses, Tithes		Rent Charges	
1720 (Bubble)	-1.18** (0.13)	-1.19** (0.13)	-0.95 (.56)	-0.96 (0.56)
1578-1602 (last years of ER I)	-0.47* (0.19)	.	-0.33 (0.21)	.
1639-48 (civil War)	-0.26 (0.15)	-0.16 (0.14)	-0.04 (0.19)	-0.01 (0.18)
1649-59 (Interregnum)	-0.13 (0.18)	-	0.00 (0.16)	
1670-1688 (last years of Stuarts)	-0.23 (0.15)	-	0.05 (0.15)	.
1689-1696 (early Glorious Revolution)	-0.27 (0.22)	-	-0.35 (0.21)	
1697-1770 (late Glorious Revolution)	-0.09 (0.20)	0.12 (0.14)	-0.25 (0.21)	-0.18 (0.15)
N	936	936	746	746
R ²	0.27	0.26	0.29	0.28

Note: The numbers in parentheses are standard errors. ** indicates that the estimate is significantly different from 0 at the 1% level, and * significantly different from 0 at the 5% level.

recaptured from the rebels in 1584 after fierce fighting. After 1585 most of Flanders was in Spanish hands but the Dutch continued to raid the countryside from then till 1607.²¹ There was also warfare in Flanders in the period 1672-97 during the wars of the Dutch and the Habsburgs against Louis XIV. Thus in 1792 the area around Dendermonde was deliberately flooded when alarm spread about an impending French attack.²² There was further fighting in the War of the Spanish Succession. Dendermonde was besieged by the French in 1706. Ghent surrendered to the French in 1707 and was recaptured by the Allies in 1709. Figure 6 shows the rate of return in Zele over this period. As can be seen the three major military convulsions 1581-1607, 1672-1697, and 1701-1713 drive up the rate of return on land sharply, particularly the War of Independence.

FIGURE 6

In contrast to the absence of effects in England and Wales when the rate of return from land holding at Zele over roughly the same years 1550-1750 was estimated from the regression

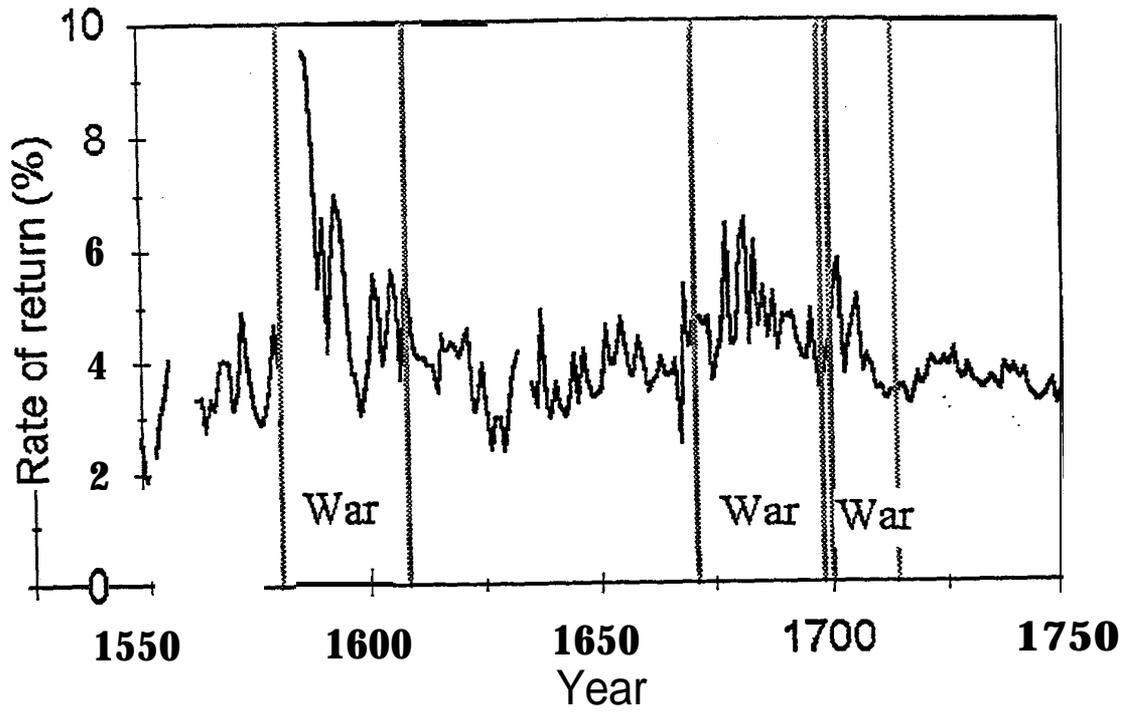
$$R E T = a + \beta_1 T + \beta_2 T^2 + \gamma DWAR1 + \delta DWAR2 + \phi DWAR3 \quad (2)$$

where DWAR1 is 1 for the years 1581-1607, and 0 otherwise, and DWAR2 is 1 for 1672-1797 and 0 otherwise, and DWAR3 is 1 for 1701-13 and 0 otherwise, all the periods of warfare were associated with much higher rates of return. The estimated increase in the rate of return for the years of the Spanish reconquest of Flanders is 1.6%, on a base rate of 3.4%. Thus this warfare seems to have driven up the rate of return to capital either by destruction of the capital stock

²¹See Parker (1977), pp. 230, 236; van der Wee (1963), pp. 245-272, Theon (1980). van der Wee notes that in Flanders “the situation until 1580 was generally speaking not so bad” (p. 247), but “looting by freebooters, and not less by Spanish troops, did not cease in 1587” (p. 269).

²²Childs (1991), p. 224.

FIGURE 6: RETURN ON LAND HOLDING, ZELE 1550-1750



making capital scarcer, or by increasing the risks attached to investments in land. The second long period of warfare from 1672 to 1697 (the conflict between the Dutch and Louis XIV from 1672 to 1678, followed by the conflicts between the Habsburgs and Louis) produced an increase in rates of return of 0.9% from a base rate of 4%. The third period, the War of the Spanish Succession produced the smallest effect, an increase in rates of return of about 0.5% again on a base of 4%. In all three episodes the effects of warfare seem to have been much greater than any effect we observe from Civil strife or changes in regime that occurred in England in the same period.

The regression test used might be regarded as not giving the regime change of 1688 in England a fair test. For the test asks if there was any significant break in the series in 1689, or in 1697 when the new regime was finally secure from internal and external opposition. It might after all have taken 20-30 years for people to have become convinced that the country really was operating in a new political regime. The decline in government interest rates portrayed in Figure 2 takes about 25 years after 1689, and interest rates initially seem to increase between 1689 and 1695. In that case testing for a break only after 1697 might not give the regime change a fair chance. What might have happened after 1689 was simply an acceleration in the decline in rates of return shown in figures 4 and 5 to have been occurring before 1689, instead of a sudden break in the series. To test for this I estimate the expression

$$R E T = \alpha + \beta T + \gamma REVT + \delta DBUB + \varepsilon \quad (3)$$

for the years 1660 (the Restoration of the Stuart monarchy) to 1729, where T is the year, REVT is 0 from 1660 till 1696, and thereafter REVT equals the year T, and DBUB is a dummy variable equal to 1 in the year of the South Sea Bubble. This was done for returns on land, for rent

charges, and for bonds and mortgages combined.²³ The coefficient on **REVT** measures how the trend in rates of return changed after 1697 as a result of the Glorious Revolution.

In all cases the coefficient on **T**, the time trend, is negative showing that returns on **all** assets were falling before 1697. But in **neither** the case of **real** assets, nor of rent charges, nor of bond and mortgages was the estimated coefficient γ significantly **different from** 0 either statistically or quantitatively. Thus there was no acceleration in the decline in returns after 1697. The Glorious Revolution **leaves** no trace on the path of rates of return in the English economy between 1660 and 1730. Rates of return were **falling** in the years 1660 to 1696, and they continued to fall at the same rate once the new regime was established. Table 4 shows these results. The same results obtain if we use 1689 as the break point between old **and new** regimes.

TABLE 4

Another way we can measure the effect of politics on capital markets is to look at asset values, and in particular on the value of land. This is because both in England and in **Zele** in Flanders I have many more observations on land prices than on the return to land. Asset values should rise sharply in stable periods and decline in unstable. This effect appears even more strongly than the effect on returns on land in the case of land in **Zele**.²⁴ Figure 7 shows the average **annual** price of arable land in Zele between 1550 and 1749, measured in terms of bushels

²³**Estimation** of the bond and mortgage returns as in equation (1) was not possible because the usury limit requires a **Tobit** estimation, but the usury limits changed several times between 1550 and 1770.

²⁴**Thus** both land rents and land values fell in the war periods, but land values fell more than rents.

TABLE 3: RATES OF RETURN AND THE GLORIOUS REVOLUTION

	Land, Houses, Tithes (1660-1730)	Rent Charges (1660-1730)	Bonds, Mortgages (1660-1714)
T	-0.0096* (0.0044)	-0.0128** (0.0034)	-0.0122 (0.0083)
REVT	0.0002 (0.000 1)	-0.0001 (0.000 1)	-0.0002 (0.0002)
DBUB	-1.11** (0.15)	-0.97* (0.47)	-
N	521	413	86
R ²	0.30	0.18	-

Note: numbers in parentheses are standard errors. ** indicates that the estimate is significantly different from 0 at the 1% level, and * significantly different from 0 at the 5% level.

The bond and mortgage equation was estimated using the Tobit procedure because of usury limits, and only for the years 1660-1714 since the usury limit changed in 1715.

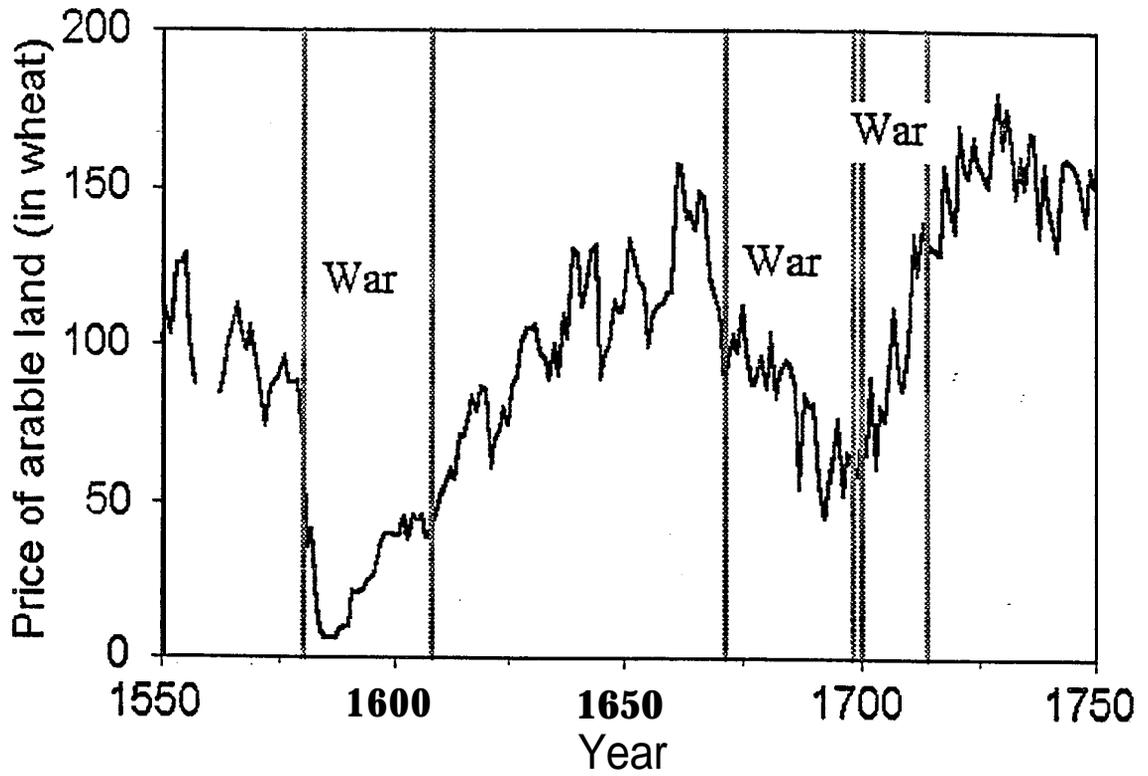
of wheat to control for the effects on land values of movements in the price of output.²⁵ While there are modest long run movements in land values, it is very clear from figure 7 that in **the war** periods land prices fell sharply. In some years in the war of independence from 1581 to 1592 **real** land prices fell to less **than 6%** of their value at the outset of the war. In the later war with Louis XIV land prices fell by more than 50% at their minimum. The average fall in prices in the first war was an 83% decline, and in the second war period a 30% decline, and in the third period an 11% decline in prices.

The Charity Commission data reports 1,824 land prices for the years 1600 to 1749 **from all over** England and Wales. Did **land** prices **fall** in periods of political instability, and did they rise **after** the Glorious Revolution? As in Zele another factor that will cause movements in land prices is movements in the price of agricultural output, so I first deflate all prices by an index of the price of output derived **from Bowden** (1985). This price index was constructed as a 10 year moving average to avoid spurious variation caused by harvest failures and successes. Individual plot **prices** varied a lot. To control for this variation I used **information** on land use, the **enclosure** status of land, the location of the land, and the numbers of buildings on the land. Figure 8 shows the average **annual** price of land in England and Wales **from** 1600 to 1749 **controlling** for these factors, constructed as a centered 3-year moving average. The corrections were derived by regressing land prices on the variables listed above, and then correcting the price for each **plot** to remove the price variation caused by differences in land characteristics.

As can be seen in the figure the two major events of the period, the Civil War of 1639-1648 and the Glorious Revolution of 1688 have no obvious effect on land prices. The contrast with **Zele** is even more marked for land prices than for rates of return. Political events have little

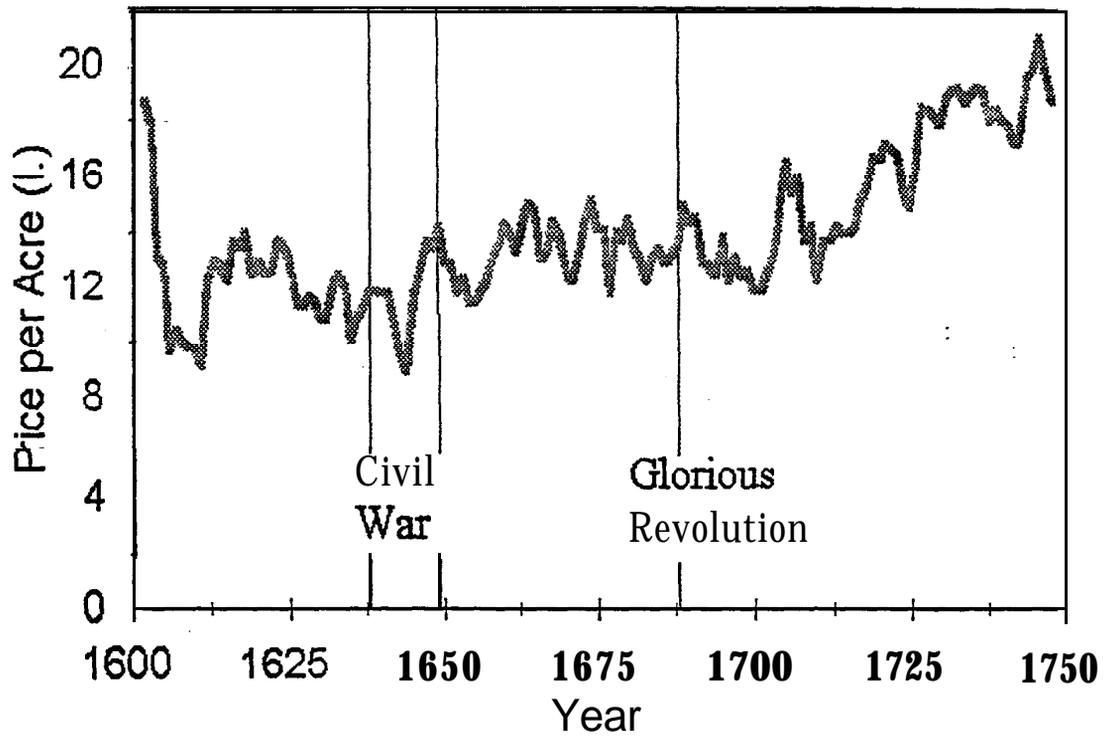
²⁵The price of wheat is **from** Abel (1980), pp. 432-3, which gives the average wheat price in silver in Bruges, Dixmude, Nieuport, Anvers, and Brussels measured in terms of silver. This was converted into nominal values using van der Wee (1963), pp. 128-9.

FIGURE 7: REAL FARMLAND PRICES. ZELE. 1550-1749



Source: De Wever (1978), Abel (1980), pp. , silver content of pond groten through personal communication from Professor E. van Cauwenberghe.

FIGURE 8: REAL FARMLAND PRICES. ENGLAND AND WALES. 1600-1749



Note: The individual land prices were corrected for the parcel size, the use of the land, buildings upon the land, the location of the land, and the fraction of the land that was enclosed. The figure shows a centered three year moving average of land prices.

Source: Commission Reports. Nominal values deflated by agricultural output prices from Bowden (1985), pp. 847-849.

effect on land prices in England all the way from 1600 to 1749. It may be objected that charities might not be the most alert purchasers of land. But even if they generally paid more than they needed to for land this there is no reason to suppose that their purchasing abilities got better or worse as a result of changes in political regimes in this period.

To more formally test for the effect of political events on land prices I looked at the regression equation predicting the logarithm of land prices per acre in terms of land characteristics, a time trend, and political changes. That is,

$$\text{LOG}(\text{RENT}) = \alpha + \beta_1 T + \beta_2 T^2 + \sum_{i=1}^n \gamma_i \text{CHAR}_i + \delta_1 \text{DCIV} + \delta_7 \text{DREV} + \varepsilon \quad (4)$$

where CHAR_i are a set of land characteristics such as plot size, DCIV is a dummy variable for the Civil War period (1639-48), and DREV is a dummy for the Glorious Revolution (the years after 1688 or 1696). The logarithmic form for rent is chosen so that the land characteristic and other independent variables have a proportionate effect on land values. Controlling for the long time trends in land values the estimated effect of the Civil War is for land values to increase by 0.1%. The effect of the Glorious Revolution, dating that in 1697, is 9.7% decline in land values. This estimated coefficient is significantly less than 0 at the 5% level. The decline in land values is stronger if I take 1689 as the break point.

I can again ask whether the Glorious Revolution represented just a turning point in the trend of land prices, as we did with rates of return estimating equation (3). That is, did land prices gradually rise after 1689 or 1697? The answer that I get here is that if I again take the period 1660 to 1730 then real land values were rising before the Glorious Revolution, and the rate of increase of land values was the same after the Glorious Revolution. There was a growth of land prices of 0.6%-0.8% per year that predated the Glorious Revolution (taking either 1689 or 1697 as the “real” date of the Revolution) and that continued after the Revolution at almost exactly the same rate. On either way of treating the problem the Glorious Revolution had no effect on land prices.

IMPLICATIONS

The above results suggest that we cannot in any way use **England** in the period prior to the Industrial Revolution as an example of the importance of political stability to economic development;

Institutionalists such as Douglass North seek an institutional explanation of growth and development. The key issue in growth of the type that occurred in the Industrial Revolution and thereafter is the investment of energy and resources in developing the production technology. North and his followers assert that the reason for the more rapid rate of technical progress in Britain in the eighteenth century must be an enhanced incentive to invest in new technology, created by enhanced security of property rights. One measure of security of property in any society is the rate of return on capital. **Institutionalists** were already having to stretch somewhat the link between the institutional changes of 1688 and the Industrial Revolution of 1760 and later.

But what we see above is that as far back as the reign of Henry VIII we seem to have essentially secure capital markets. The private economy in England after **1540 seems** to have been largely insulated **from** political events, and even **from** the strife of the Civil War. Thus to read the Glorious Revolution as ushering in a stable regime of taxes and property rights that laid the foundation for the Industrial Revolution is to write Whig history of the most egregious sort. Rates of return on capital did fall in the hundred years prior to the Industrial Revolution, but they fell in such a way that shows there was no connection between this and political events. Within the pre-1688 regime rates of return on capital moved slowly up to peak about 1625 and then back down again. Within the post 1688 regime rates of return on capital again moved. But there is no evidence that the change in regime itself had any effect on rates of return. Similarly land **values**

show little or no response to the political convulsions of the era. Farmland values are estimated to have **fallen** as a result of the Glorious Revolution. Given **the** sampling errors in **the** data we **can** conclude that the chances that land values actually rose by as much as 6% as a result of the Glorious Revolution is only 1 in 20. There is simply no evidence from return on capital that had James II remained on the throne and been succeeded by his son James III that the economic history of England in the eighteenth century would be any different.

Stable property rights may have been a **necessary** condition for the Industrial Revolution, but since they existed in England and Wales for more than 200 years prior to the Industrial Revolution they were certainly not a **sufficient** condition. In looking for an explanation of the Industrial Revolution we must look for factors other than the emergence of stable private property rights.

CHARITY COMMISSION SOURCES

Great Britain, Parliamentary Papers (1819), Reports of the Charity Commissioners. Vol. 1. Vol. X-A.

Great Britain, Parliamentary Papers (1819), Reuorts of the Charity Commissioners. Vol. 2. Vol. X-B.

Great Britain, Parliamentary Papers (1820), Reports of the Charity Commissioners. Vol. 3. Vol. IV.

Great Britain, Parliamentary Papers (1820), Reuorts of the Charity Commissioners. Vol. 4. Vol.

V.

Great Britain, Parliamentary Papers (1821), Reports of the Charity Commissioners. Vol. 5. Vol. XII.

Great Britain, Parliamentary Papers (1822), Reports of the Charity Commissioners. Vol. 6. Vol. IX.

Great Britain, Parliamentary Papers (1822), Reports of the Charity Commissioners. Vol. 7. Vol. X.

Great Britain, Parliamentary Papers (1823), Reuorts of the Charity Commissioners. Vol. 8. Vol.

VIII.

Great Britain, Parliamentary Papers (1823), Reuorts of the Charity Commissioners. Vol. 9. Vol. IX.

Great Britain, **Parliamentary** Papers (1824), Reports of the Charity Commissioners. Vol. 10. Vol. **XIII.**

Great Britain. Parliamentary Papers (1824), Reuorts of the Charity Commissioners. Vol. 11. Vol. XIV.

Great Britain. Parliamentary Papers (1825), Reports of the Charirv Commissioners Vol. 12. Vol.

X.

Great Britain, Parliamentary Papers (1825), Reports of the Charity Commissioners. Vol. 13. Vol. XI.

Great Britain, Parliamentary Papers (1826), Reuorts of the Charity Commissioners. Vol. 14. Vol. XII.

Great Britain, Parliamentary Papers (1826), Reports of the Charity Commissioners. Vol. 15. Vol. XIII.

Great Britain, Parliamentary Papers (1826-7), Reuorts of the Charity Commissioners. Vol. 16. Vol. IX.

Great Britain, Parliamentary Papers (1826-7), Reuorts of the Charity Commissioners. Vol. 17. Vol. X.

Great Britain, Parliamentary Papers (1828), Reuorts of the Charity Commissioners. Vol. 18. Vol. X.

Great Britain, Parliamentary Papers (1828), Reuorts of the Charity Commissioners. Vol. 19. Vol. XI.

Great Britain, Parliamentary Papers (1829), Reuorts of the Charity Commissioners. Vol. 20. Vol.

VII.

Great Britain, Parliamentary Papers (1829), Reports of the Charity Commissioners, Vol. 2 1. Vol. VIII.

Great Britain, Parliamentary Papers (1830), Reports of the Charity Commissioners. Vol. 22. Vol. XII.

Great Britain, Parliamentary Papers (1830), Rewrts of the Charity Commissioners. Vol. 23. Vol. XII.

Great Britain, Parliamentary Papers (183 1), Rewrts of the Charity Commissioners. Vol. 24. Vol.

XI.

Great Britain, Parliamentary Papers (1833), Reports of the Charity Commissioners. Vol. 25. Vol. XVIII.

Great Britain, Parliamentary Papers (1833), Reuorts of the Charity Commissioners. Vol. 26. Vol. XIX.

Great Britain, Parliamentary Papers (1834), Reuorts of the Charity Commissioners. Vol. 27. Vol. XXI.

Great Britain, Parliamentary Papers (1834), Reports of the Charity Commissioners. Vol. 28. Vol.

XXII.

Great Britain, Parliamentary Papers (1835), Reports of the Charity Commissioners. Vol. 29. Vol. XXI.

Great Britain, Parliamentary Papers (1837), Reports of the Charity Commissioners, Vol. 30. Vol. XXIII.

Great Britain, Parliamentary Papers (1837-8), Rewrts of the Charity Commissioners. Vol., 3 1. Vol. XXIV.

Great Britain, Parliamentary Papers (1837-8), Rewrts of the Charity Commissioners. Vol. 32, Part 1. Vol. XXV.

Great Britain, Parliamentary Papers (1837-8), Reports of the Charity Commissioners. Vol. 32. Part 2. Vol. XXVI.

Great Britain. Parliamentary Papers (1837-8), Reports of the Charity Commis

Great Britain. Parliamentary Papers (1839), Reports of the Charity Commission

Great Britain. Parliamentary Papers (1839), Reports of the Charity Commissioners. Vol.

Great Britain Parliamentary Papers (1840), Reports of the Charity Commissioners. Vol. 32.

REPORTS ON ROYAL ESTATES

Great Britain, Parliamentary Papers (18 12), Four Reports of the Surveyor General of His Majesty's Land Reven.
from 1797 to 1809. reprinted. Vol. XII.

Great Britain, Parliamentary Papers (1812), First Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XII.

Great Britain, Parliamentary Papers (1816), Second Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XV.

Great Britain Parliamentary Papers (1819), Third Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XIX.

Great Britain, Parliamentary Papers (1823), Fourth Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XI.

Great Britain, Parliamentary Papers (1826), Fifth Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XIV.

Great Britain, Parliamentary Papers (1829), Sixth Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Vol. XIV.

Great Britain Parliamentary Papers (1830), Seventh Report of the Commissioners of His Majesty's Woods,
Forests, and Land Revenues. Vol. XVI.

Great Britain, Parliamentary Papers (183 1), Eighth Report of the Commissioners of His Majesty's Woods, Forests,
and Land Revenues. Folio Volume.

Great Britain, Parliamentary Papers (183 1-2), Ninth Report of the Commissioners of His Majesty's Woods,
Forests, and Land Revenues. Folio Volume.

Great Britain. Parliamentary Papers (1833), Tenth Report of the Commissioners of His Majesty's Woods, Forests, and Land Revenues. Folio Volume.

Great Britain. Parliamentary Papers (1834), Eleventh Report of the Commissioners of His Majesty's Woods, Forests, and Land Revenues. Folio Volume.

Great Britain, Parliamentary Papers (1835), Twelfth Report of the Commissioners of His Majesty's Woods, Forests, and Land Revenues. Folio Volume.

Great Britain, Parliamentary Papers (1836), Thirteenth Report of the Commissioners of His Majesty's Woods, Forests, and Land Revenues. Vol. XXVII.

Great Britain, Parliamentary Papers (1837), Fourteenth Report of the Commissioners of His Majesty's Woods, Forests, and Land Revenues. Vol. XXXIII.

BIBLIOGRAPHY

Abel, Wilhelm (1980), Agricultural Fluctuations in Europe from the Thirteenth to the Twentieth Centuries. Translated by Olive Ordish. London: Methuen.

Ashton, Robert (1960), The Crown and the Money Market. 1603-1640. Oxford.

Ashton, Robert (1978), The English Civil War: Conservatism and Revolution 1603-1649. London: Weidenfeld and Nicolson.

Bresciani-Turroni, Constantine (1937), The Economics of Inflation.

Baker, Anthony (1986), A Battlefield Atlas of the English Civil War. London: Ian Allan.

Bowden, Peter (1985), "Statistical Appendix" in Joan Thirsk (ed.), The Agrarian History of England and Wales. Vol. V. Part II. Cambridge: Cambridge University Press.

Cameron, Rondo (1989), A Concise Economic History of the World. Oxford: Oxford University Press.

Cheshire, G. C. (1962), The Modern Law of Real Property. 9th edition. London: Butterworths.

Childs, John (1991), The Nine Years' War and the British Army 1688-1697: the Operations in the Low Countries. Manchester: Manchester University Press.

- Clark, Gregory (1995), "The Land Market in Pre-Industrial Societies, 1500-1837," Agricultural History Center, University of California Davis.
- Clay, Christopher (1974), "The Price of Freehold Land in the Later Seventeenth Centuries," Economic History Review, 27(2), 173-189.
- Clay, Christopher (1984a) Economic Expansion and Social Change: England, 1500-1700. Volume I. Cambridge: Cambridge University Press.
- Clay, Christopher (1984b), Economic Expansion and Social Change: England, 1500-1700. Volume II. Cambridge: Cambridge University Press.
- de Wever, F. (1978), "Rents and Selling Prices of Land at Zele, Sixteenth to Eighteenth Century," in Herman van der Wee and E. van Cauwenberghe (eds.), The Agricultural Development of the Low Countries as Revealed by the Tithe and Rent Statistics, 1250-1800. Leuven: Leuven University Press.
- Dickson, P.G.M. (1967), The Financial Revolution in England. London: MacMillan.
- Edwards, William Douglas (1904), A Compendium of the Law of Property in Land and Conveyancing. 4th edition. London: Stevens and Haynes.
- Habakkuk, H. J. (1952), "The Long-Term Rate of Interest and the Price of Land in the Seventeenth Century," Economic History Review, 5(1), 26-45.
- Haber, Stephen (1989), Industry and Underdevelopment: The Industrialization of Mexico, 1890-1940. Stanford: Stanford University Press.
- Hill, Christopher (1961), The Century of Revolution, 1603-1714. Edinburgh: Nelson.
- Homer, Sidney and Richard Sylla (1991), A History of Interest Rates. New Brunswick: Rutgers University Press.
- Jones, J. R. (1978), Country and Court: England, 1658-1714. Cambridge, Mass.: Harvard University Press.
- Klitgaard, Robert E. (1990), Tropical Gangsters. New York: Basic Books.
- Hurstfield, Joel (1973), "The Succession Struggle in late Elizabethan England," in Freedom, Corruption and Government in Elizabethan England. London: Jonathan Cape.

-
- Madge, Sidney J. (1938), The Domesday of Crown Lands. London: Routledge.
- North, Douglass C. and Barry Weingast (1989), "Constitutions and Commitment: the Evolution of Institutions Governing Public Choice in Seventeenth Century England" Journal of Economic History, 49(4), 803-832.
- Norton, Trist, and Gilbert (1962), 'A century of Land Values: England and Wales,' reprinted in E. Carus-Wilson, ed., Essays in Economic History. III, pp. 128-31. London.
- Olson, Mancur (1993), "Dictatorship, Democracy, and Development," American Political Science Review. 87 (3).
- Parker, Geoffrey (1977), The Dutch Revolt. Ithaca, New York: Cornell University Press.
- Pollock, Frederick and Frederick W. Maitland (1895), The History of English Law before the Time of Edward I. Cambridge: Cambridge University Press.
- Szechi, Daniel (1994), The Jacobites: Britain and Europe. 1688-1788. Manchester: Manchester University Press.
- Theon, E. (1980), "Warfare and the Countryside: Social and Economic Aspects of the Military Destruction in Flanders during the Late Middle Ages and the Early Modern Period," The Low Countries History Yearbook, 13, 2539.
- van der Wee, Herman (1963), The Growth of the Antwerp and the European Economy. The Hague: Martinus Nijhoff.
- Winternitz, Helen (1987), East Along the Equator: a Journey Up the Congo and into Zaire. New York: Atlantic Monthly Press,