'There can be no Partnership with the King': Regulatory Commitment and the Tortured Rise of England's East Indian Merchant Empire*

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Abstract

The English East India Company helped build Britain's colonial empire, but the Company struggled for much of its early history due to a violotile regulatory environment. This paper argues that the Company's performance was hindered by instability and incapacity of English institutions as late as the mid eighteenth century. It gives a brief history of the torturous renegotiations over its monopoly trading privileges and the fiscal demands by the monarchy. It also analyzes the effects of political instability, warfare, and fiscal capacity on the Company's investment in shipping tonnage. Regressions show the growth of shipping tonnage declined significantly when there were changes in government ministers, when Britain was at war in Europe and North America, and when shipping capacity exceeded central government tax revenues. The findings point to the significance of regulatory institutions in Britain's development and its links with politics and war. They also provide a unique insight into how regulations and investment change as institutions evolve.

Keywords: Regulatory Commitment, Uncertainty, Investment, East India Company, Monopoly, Political Instability, Fiscal Capacity, Warfare

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1 Introduction

Regulatory institutions have important effects on the economy by influencing investments and access in a wide range of infrastruture sectors, including energy, sanitation, telecommunications, and transportation. Regulatory insitutions must address several problems and one of the most important involves commitment. As has been noted in the literature, contractual agreements for firms to build or operate infrastructure are often renegotiated. Firms might be given exclusive rights to charge user fees and recieve subsidies but because of budgetary problems and other political economy considerations these promises are often broken. There is cross-country evidence suggesting that independent regulatory agencies and well developed legal systems lessen the commitment problem.[1] The issue is that we rarely observe how regulatory practice and firm behavior change as institutions evolve with an economy. For this perspective one needs a long-term or historical analysis.

In this paper, I study how regulatory institutions affected one of the most famous shipping firms in world history: the English East India Company. The English Company was founded in 1600 at a time when several European countries were competing for trade in Asia. It was the usual practice for European monarchs to give a company monopoly rights over all trade with Asia. These monopolies were designed to encourage investments in shipping and fortifications and generate new tax revenues for the home nation. Starting in the late 1500s there was competition among the European companies with different periods of leadership. The Portuguese Carreira da India was the only player in the sixteenth century. Its dominance is seen in East Asian bound shipping tonnages in the late 1500s shown in table 1. By the seventeenth century the Dutch Verenige Oost-Indische Compagnie or VOC had taken over leadership in terms of tonnage shipped. The English East India Company or EIC enjoyed some initial success but subsequently fell behind the Dutch. It was not until the late eighteenth century that the EIC reversed the trend of a declining market share.

[1]Some important works in this literature are Levy and Spiller (1994), Newberry (2002), Guasch (2004), Laffont (2005), Guasch, Laffont, and Straub (2007).

The EIC's late success is interesting because it occurs some time after the early eighteenth century when Britain's fiscal and political institutions are thought to have changed due to revolutions in public finance and the growing influence of parliament over the monarchy.

Table 1: East Asian bound Shipping Tonnage Among European Powers

Period	English	Dutch	Portuguese	French	Danish	Swedish	England % of Total
1581-90	0	0	55,419	0	0	0	0
1631-40	31,179	63,970	20,020	3000	4000	0	25.5
1681-90	47,879	130,849	11,650	17,500	4000	0	22.6
1731-40	67,880	280,035	13,200	53,891	12,267	7,368	15.6
1781-90	228,315	243,424	8,250	130,490	63,461	0	33.9

Source: De Vries (2003, pp. 46-49.)

The main argument of this paper is that the English East India Company's early performance was hindered by a problem of regulatory commitment, rooted in the instability and incapacity of English institutions during the seventeenth century and for much of the eighteenth century. The problem was the following: the monarchy, which had authority over the monopoly charter, could not always commit to allow the Company to earn the rents it was promised. Regulatory commitments were not credible when there was turnover in political power. The Company invested in political connections to protect its rents, but as often happened those connections were lost when a new monarch came to power or when leading ministers changed. Credibility was also weakened when the fiscal system failed to evolve with the Company's productive capacity, making extraction more likely and subsidies less likely. Warfare was also important as it made the monarchy desperate for financial and shipping resources which the Company could provide.

Below I give a brief history of the torturous renegotiation concerning the EIC's monopoly trading privileges and the fiscal demands made by the monarchy. In the 1600s and early 1700s the king repeatedly forced loans and imposed additional customs duties with the threat that it would side with rival traders, known as interlopers. The Company suffered some of

its most severe extractions in the years immediately following the Glorious Revolution of 1688 and the onset of the Nine Years war with France. For a short-period in the late 1690s it was forced to share its monopoly with the 'New' East India Company, which was chartered by the king under the encouragement of Whig party leaders. A single East India Company survived and over time it developed a more stable relationship with the king and parliament. The Company began receiving government loans in the 1770s and through a series of reforms it eventually served as a partner in Britain's colonial empire.

The main contribution of the paper is an empirical analysis of the English Company's investment. I use an annual series on shipping tonnage employed by the EIC spanning the years 1601 to 1795 as a measure of its capital stock and the growth in shipping tonnage as a measure of investment. One pattern is that contractions in shipping tonnage often coincide with notable events in the regulatory history of the Company like the authorization of interlopers. The correlation is suggestive of a more fundamental relationship between investment and the root causes of regulatory commitment. Guided by the history of the EIC and a model of investment, I study the effects of war, fiscal capacity, and political instability on the annual growth of EIC shipping tonnage. Political instability is measured by changes in key goverrnment leaders, like the monarch, the Lord Treasurer, and the Lord Chancellor, or by elections and changes in political parites. Wars are distinguished between military conflicts in Europe or America, and conflicts that took place in India or East Asia. Fiscal capacity is measured in relative terms by the log difference between the stock of tonnage employed by the EIC and central government tax revenues. The idea is that fiscal capacity decreases when the EIC's ability to generate revenues through its shipping activities is large relative to the monarch's ability to generate revenues through the fiscal system. Also included are control variables like British GDP and GDP growth, famines in India, silver production in America, and the rate of return on land and buildings in Britain.

Results from a time-series analysis are clear in showing that political instability, war-

fare, and relative fiscal capacity affected the EIC's investment in shipping. The baseline regressions show that the growth of shipping tonnage declined significantly when there was a new Lord Chancellor, when Britain was at war in Europe or America, and when shipping tonnage exceeded central government tax revenues. A series of robustness checks confirms or extends the key findings. First, the same regression is run replacing the dependent variable, the growth of EIC shipping tonnage, with the growth of the Dutch East India Company shipping tonnage. This 'placebo' test shows no significant coefficients on the main variables of interest, suggesting there are unlikely to be omitted factors relating to the East Asian trade environment that are driving the results. Second, I use changes in the monarch or ministers due to natural deaths or illness as an exogenous increase in political instability. In this specification, the coefficient for new Lord Chancellor is larger in magnitude and remains significant.

A third robustness check examines the stability of the parameters by splitting the sample before and after 1689, a key turning point in Britain's constitutional and fiscal development. The results suggest substantive differences. Before 1689 political instability measured by changes in the Lord Chancellor had a significant negative effect on EIC investment. The same applies to wars in Europe or America which substantially reduced the growth of shipping tonnage. In the period after 1689 the variable for relative fiscal incapacity was the main driver of investment, while war and changes in the Lord Chancellor mattered little. Elections are also found to play a greater role after 1688, especially those that changed the majority party. Similar results hold when the sample is split before and after 1720, another key turning point for fiscal and political stability in Britain. The implication is that the regulatory environment for the EIC changed in a fundamental way sometime in the mid-eighteenth century, which is when the Company began to take a larger share in the East Asian market.

The results relate to several literatures. First, Britain's precocious leadership in the world economy of the eighteenth century had wide-ranging implications involving the Industrial

Revolution and the colonization of India. However, as will be shown the English East India Company was not the early leader in East Asian markets. Its successful turn-around is a puzzle. Historians have argued for a variety of factors including the business and military acumen of the Company's directors, exogenous technological change like copper sheating, and geo-political factors like the rise of Britsh naval hegemony.[2] This paper offers a new perspective in focusing on politics and regulation. Of course, this is not the first paper to examine the role of politics. Britain is often taken as the conical example of how political institutions can influence economic development over the long-run (Acemoglu and Robinson 2012). Constitutional changes in the seventeenth century are thought to have solved key commitment problems involving the security of property rights (North and Weingast 1989). However, this literature has missed one of the most important channels through which institutions mattered: regulatory commitment. The history of the EIC provides a different perspective and a more direct link between institutions and growth.

This paper also speaks to the literature on regulatory commitment more generally. This paper is unique in two respects. First, it studies regulations within the same industry and country as institutions evolve. To my knowledge there is no other paper which takes this approach especially over a long-time span. Second, the paper is unique in showing that the political and fiscal conditions contributing to regulatory opportunism reduce investment. Much of the theoretical and policy-oriented literature emphasizes the potential impacts on investment, but very few report estimates, and even fewer give consideration to identification and measurement issues as is done here.[3]

Finally, the paper is related to the broader literature on investment and uncertainty. The theoretical link between investment and uncertainty is well established (Dixit 1994, Pindyck 1993). There is also evidene that firm-level investment is lower in periods of uncertainty, like the Oil crisis of the 1970s or after the attacks on the world trade center in New York

[2]see Scott (1912), Chaudhuri (1965, 1978), De Vries (2003), Bowen (2005), Solar (2013).
[3]see Henisz (2002) for one of the few papers to investigate this issue.

(Bloom, Bond, and Van Reenen 2007, Bloom 2009). What is missing in this literature is a historical perspective. The case of the East India Company shows that the linkage between uncertainty and low investment has a long history with important consequences for the balance of power in the early global economy.

2 History the EIC's monopoly and regulation

The East India Company was founded in 1600 through a charter granted by Queen Elizabeth. Management was in the hands of a governor and a board of directors. Shareholders, or 'adventurers' as they were initially known, elected the governor and directors but only if they had a minimum number of shares. The Company was given a monopoly over all trade and traffic from the Cape of Good Hope to the Straights of Magellan—an area spanning more than half the globe! It was to last 15 years, except if the Company violated the provisions of the charter. In that case, the charter could be voided by the monarch with two years notice (Scott 1912, p. 92).

Monopoly is not the most obvious way to organize long distance trade, but it had an economic and political logic in 1600. At this time, the British monarch had authority to regulate foreign trade and so it could chose the organizational form that suited its needs. The monarchy had several things to gain from monopoly over free trade. First, a monopoly company would generate tax revenues and its ships would be easily detected by customs officials in British ports. Detection was important because small scale traders could avoid the special customs duties for the East Indian trade by disguising their ships. Second, monopoly provided a stream of profits today and into the future which could be borrowed by the monarchy in times of fiscal crisis. Under free trade, the monarchy could seek out individual traders for payments but this would be costly and their profits would be minor. Third, monopoly entails a valuable privilege which the monarchy can allocate to supporters.

Following the logic of the 'natural state,' the monarchy increased political stability by giving elites privileges. The elites then had an economic incentive to support the regime and eschew rivals to the throne.[4]

The violent trading environment of the East Indies gave further logic to a monopoly trading company in 1600. Other European companies, like the Dutch and Portuguese, used force in their dealings with local traders and each other. For example, the Portuguese were well known for extracting payments from shippers along the Indian coast in exchange for allowing them to pass unmolested. Indigenous rulers, like the Mughals in India, adopted a similar strategy adding a further violent player (Chaudhari 1965, pp. 112-116). Thus to compete in the East Asian market the English needed a fleet of well-armed ships and forts for protection. The well-known free-rider problem meant that an open access system among English traders was less likely to yield the necessary investments in protection capital. A monopolist, on the other hand, would internalize the loss of market share.

2.1 The Early History of the EIC to 1660

Although there was a political and economic logic behind the EIC's monopoly that does not imply that the privilege was always protected. There was an ongoing problem of 'interlopers' trying to enter the market to capture a portion of the monopoly profits. Significantly, many interlopers obtained some degree of permission from the monarchy. The first interlopers were headed by Sir Edward Michelborne. In 1604, Michelborne obtained a license from King James I, which effectively allowed him to trade in the EIC's territory (Scott 1912, p. 99). Michelborne had strong political connections through the patronage of Thomas Sackville, the first Baron of Buckhurst. Sackville was one of King James closest advisers, serving as Lord Treasurer beginning in 1603 (Zim 2004). After receiving the license, Michelborne sailed two ships to Asia, but was not successful and returned to England in 1606 (Trim 2004). Scott

[4]See North, Wallis, Weingast (2010) for a discussion of the natural state.

(1912, p. 99), in his history of the Company, argues that Michelborne's syndicate "made the English name abhorred in the Eastern Seas by reason of the number of its piracies... the company was left to bear the odium of their misdeeds and the ill effects of this visit were experienced for some years to come."

The next interlopers were headed by Richard Penkevell. In 1607, they were given a grant to discover the Northern passage to China, Cathay, and other parts of the East Indies (Scott 1912, p. 100). Less is known about Penkevell except that he was a Member of Parliament in the late sixteenth century (Cassidy n.d.). At this point, the Company was still operating under the original charter from Queen Elizabeth and it was becoming clear that King James I would not uphold the monopoly trading privileges in the charter. To ameliorate this problem, the Company successfully pushed for a new charter in 1609. James I granted the whole trade in the East Indies to the Company forever except if the King deemed that the Company was not profitable to the monarchy or to the realm. In that case, the charter could be voided by the king or his heirs with two years notice (Scott 1912, p. 100).

James I honored the letter of the charter but not the spirit. In 1617 the King granted a charter to a new interloper group. The so-called Scottish East India Company was authorized to trade in the East Indies, the Levant, Greenland, and Muscovy. It appears that James I exploited the fact that he was also the King of Scotland and chose to charter the rival company under the Scottish law. The Scottish Company posed a significant threat to the EIC and the Levant Company, another large trading corporation in the Middle East. The two bought the Scottish Company and paid a 'valuable consideration' to its leaders and promoters (Bruce 1810, pp. 193-194; Scott 1912, p. 104).

The 1620s marked the beginning of a prolonged period in which the monarchy tried to extract revenues from the EIC. In 1620 James I ordered the Company to pay £20,000 to himself and the Duke of Buckingham on the grounds that the Company captured prizes from the Portuguese (Chaudhuri 1965, p. 31). A few years later in 1624, James I offered

to become an adventurer and to send out ships under the royal standard. The Company refused the offer on the grounds there could be no partnership with the King as the whole undertaking would ultimately revert to the monarchy (Scott 1912, p. 108). In 1628 there was another scheme to admit King Charles I as an adventurer for one-fifth of the stock and profits in return for taking the company under royal protection. The Company refused once again (Scott 1912, p. 110-112).

Charles I's failed attempt to gain ownership in the Company provided an opportunity for the interlopers. In 1635 a new syndicate obtained a license from Charles I for a trading voyage to Goa, Malabar, China, and Japan, an activity considered to be within the bounds of the Company's monopoly (Scott 1912, p. 112). One of the main promoters of the syndicate, Endymion Porter, was connected to Edward Villiers, the royal favorite of King James I in the 1620s. Porter's connections to the monarchy continued under Charles I serving as the 'Groom of the King's Bedchamber.' Another promoter, William Courteen was a wealthy merchant who made loans to Charles I through Villiers (Asch 2004). Charles I eventually became an adventurer in what became known as the Courteen Association.

The EIC protested that the license to the Courteen Association violated their charter. Charles I responded that no hindrance or damage was intended to the Company's trade as the ships being prepared by Courteen were for a voyage of discovery. The King also stated that the EIC neglected to make discoveries and plantations in the East, and thus had no legal basis to protest (Appleby 2004). The Courteen Association got further support from Charles I in 1637 when the King authorized the partners to send out ships and goods to the East for five years 'without impeachment or denial of the East India Company or others' (Scott 1912, p. 113-114).

The Courteen Association was generally unsuccessful in its trading ventures, but in the process caused much damage to the EIC. In their first voyage in 1635, the Courteen Association seized several native Indian ships. The EIC was held responsible by governments in

India and they seized the Company's goods and imprisoned its agents. Charles I eventually ordered the Courteen Association to desist from their trade, nevertheless some of the Association's members continued to operate and financed a new voyage to East Asia in 1641 (Scott 1912, p. 113-114). They were successful in setting up a fort on the island of Assada near Madagascar, where they minted counterfeit gold and silver coins generating financial losses for the Company in India (Scott 1912, p. 117).

At the close of Charles I's reign the Company suffered again at the hands of the King. At this time political conflicts with parliament were making the monarchy's fiscal situation dire. King Charles I responded by increasing the duties on EIC pepper imports by 70%. The result was that duties derived from the Company's trade were yielding around £30,000 per year by the early 1640s (Foster 1929 vol. 1640-43 p. xxviii). The King also forced the Company to hand over its stock of pepper which was valued at £63,283. The so-called 'pepper-loan' of 1641 was to be repaid in four installments and was secured by the farmers of the customs. The Company had recovered around £21,000 by the late 1640s, but at this point Charles I had been executed and the Monarchy was abolished. The remainder of the pepper loan was only partly recovered in the 1660s.[5]

The establishment of the Commonwealth government in England led to further developments involving interlopers and government loans. In 1649, the 'Assada Adventurers' linked to the Courteen Association appealed to the Council of State, headed by Oliver Cromwell, who was emerging as a leader of the government. They asked for assistance against the Company and an application for a voyage to Asia. The Adventurers also made a loan of £4,000 to the Council to advance their cause. In the same year, the Company also appealed to the Council of State to protect its interests and offered a loan of £6,000. The House of Commons and the Council of State recommended a merger of the two companies, which was enacted in 1650 and became known as the 'United Joint Stock' (Scott 1912, p. 120).

[5]According to Foster (1929 p. 463) £10,500 more was recovered in the early 1660s from the former farmers of the Customs, leaving £31,500 unpaid.

The United Joint Stock financed a series of voyages in the early 1650s, but separate voyages were also financed by interlopers and investors in the old East India Company. An appeal to suppress interlopers was made to Oliver Cromwell, who gave a disinterested reply stating that 'he has much public business and that he neither could nor would attend to private matters' (Scott 1912, p. 121). A few years later in 1655, the Company then made a loan of £50,000 to the Council of State. The loan ingratiated the Company with Cromwell's government and in 1657 a new charter was granted to the Company. The charter ended the rivalry between the Company and the interlopers from the Courteen Association. The new charter was also significant in that it created a permanent joint stock, eliminating the financing of individual voyages by investors.

The establishment of the new joint stock East India Company moved forward in 1657, but it was not a success. Subscriptions for capital amounted to just over £739,000, but the directors limited their calls on investors to £369,000 (Scott 1912, p. 177). Moreover, in 1657 the new Protector of the Commonwealth government, Richard Cromwell, granted a trader named Rolt a license to send a ship to the East Indies. Little is known about Rolt's voyage except that the Company directed its officers in India to seize any articles and dispose of them on their own account (Bruce 1810 p. 537, Scott 1912, p. 122). In 1659 Richard Cromwell also pressed the Company for a loan of £30,000, which the company negotiated to a smaller amount of £15,000. Both this loan and the previous loan to the Council of State in 1655 were never repaid. They were canceled, like all government debts, as a result of the Restoration of Charles II to the throne in 1660 (Foster 1929, vol. 1655-59, p. vi-vii, xxxii). A change in political power had once again brought havoc on the Company's finances.

2.2 The History of the EIC from the Restoration to 1709

In the wake of the Restoration, the EIC sought to renew its charter. It marked the beginning of a period where the Company established a close connection with the monarchy. As a sign

of loyalty the Company gave the new King Charles II a plate estimated to be worth £3,000 and his brother James, Duke of York, received cash worth £1,000. These gifts were followed by a new charter in 1662 and a loan of £10,000 to Charles II (Scott 1912, p. 131). It was the first in a series of large loans during Charles II's reign. The Company lent the King £120,000 in 1666 and 1667 and £150,000 in 1676 and 1678. These loans were linked with the Second Anglo Dutch War (1665-67) and Third Anglo Dutch War (1672-74), which tightened the King's finances. The loans were also linked to a suit against the Company for the King's share of prize money from the Dutch War. The charters' stated that the monarch and the Company must split the value of the ship prizes. The King had sold his rights to the prize money to the Duke of Monmouth, who then pursued the Company in court for a failure to pay. Following the loan of 1676 the King issued a warrant that all such suits against the Company before 1676 must be withdrawn (Ottewill 1929, vol. 1674-76, p. xxvii-iii., vol. 1677-79, p. 134). The loans of the mid-1670s were also linked with an attack against the Company by a coalition of interlopers, the Levant Company, and the woolen cloth industry. Together these three groups submitted petitions and wrote pamphlets arguing that the Company's trade was not profitable to the realm. The King effectively ended this attack in 1676 by granting the East India Company a new charter confirming its trading privileges (Scott 1912, p. 139).

In the early 1680s a split emerged among some of the largest shareholders in the Company. In 1681, a former director of the EIC, Thomas Papillion, and other interlopers submitted a proposal to Charles II for a new joint stock company that would trade in the East Indies. The Papillion syndicate was able to raise one million £ in subscriptions. Josiah Child, the EIC's new governor, then presented Charles II with a gift of nearly £10,000. A similar gift was subsequently made every New Year's Day up to 1688. Charles II rejected Papillion's proposal for a rival joint stock company and granted the Company another new charter, which included stronger penalties against interlopers (Scott 1912, p. 143).

The East India Company faced its greatest challenges in the period following the Glorious Revolution. The new King, William of Orange, increased the EIC customs duties by 30% (O'Brien, Griffiths, and Hunt 1991, p. 400). The Company was also subject to a one-time tax of 5% on the value of its stock in 1692, which represented a payment around £35,000 (Dowell 1884, p. 63; Scott 1912, p. 160). Another major challenge came from the Papillion Syndicate which renewed its attempts to enter the East Asian trade. In 1690 and 1692, Papillion petitioned King William to dissolve the Company and to incorporate a new one. The King responded that the best method was to proceed by drafting a bill in parliament to settle the issue. The House of Commons responded by asking the King to give a notice of dissolution to the Company as was allowed under previous charters. The King took no action and the Company's rights remained uncertain (Scott 1912, pp. 153-56).

In 1693 there was a new development as the Company got a fresh charter from the King. It enlarged the Company's capital and imposed voting regulations, but its effects did not allow the Papillion Syndicate to seize control from Josiah Child. For the moment it appeared that the Company and its leading directors had survived (Scott 1912, pp. 157-58). However, numerous petitions were then submitted to the House of Commons complaining of attacks on interlopers. The Commons then resolved that "all subjects of England have equal right to trade in the East Indies, unless prohibited by act of parliament." The validity of the Company's royal charter was now in doubt. Matters became worse as the Commons began investigating accusations of bribery by Company officials in the spring of 1695. It was alleged and later supported by witnesses that the Company spent upwards of £200,000 in effort to gain the support of the King and Members of Parliament (Scott 1912, p. 160).

The key events came in 1697 when King William expected a loan from the EIC to help finance the ongoing Nine Years War with France. The Company offered a loan of £500,000 at 4% interest. A rival syndicate made an offer of £2,000,000 at 8% interest with the expectation that they would get the Company's exclusive trading rights to the East Indies.

The rival syndicate was supported by Charles Montagu, the Lord Treasurer and Chancellor of the Exchequer. It was also supported by the Whigs in the House of Commons. The end result was that the King and Parliament accepted the offer of the rival syndicate. An act of Parliament (9 William III, c. 44) in 1697 authorized the formation of the 'New' East India Company. It held exclusive rights to the East Indian trade with the proviso that the 'Old' East India Company, which had operated since 1600, could trade until Sept. 29, 1701 before ending (Scott 1912, pp. 165-68).

Despite its recent losses, the Old East India Company was not finished. It was successful in frustrating the New Company's trading efforts. The fortunes of the Old Company improved in the 1701 parliament when Montagu and the Whigs lost seats in the Commons. The Old Company also got several of its own MPs into the Commons. With their political support, the Old Company began a successful campaign to re-establish its monopoly through a merger with the New Company. In 1702 a charter from Queen Anne ratified an agreement to merge Old and New Companies, effectively splitting the monopoly trade between them.

From 1702 to 1709 a committee composed of members of the Old and New Companies managed trade, but tensions continued between the two rivals. The state of the merger was uncertain until 1708 when both Companies made an interest free loan of £1,200,000 to Queen Anne. The Crown still owed £2,000,000 to the New East India Company and when combined the total government debt to the United Company was worth £3,200,000. In 1709, shortly after the loan, the merger took effect creating the United East India Company (Scott 1912, p. 170).

The chartering of the New East India Company and the subsequent merger in 1709 was the highpoint for acrimonious renegotiation between the monarchy and the EIC. The effects can be seen through a comparison of the Old East India Company's share price with that of the Dutch East India Company. The Dutch Company did not experiences similar regulatory

problems as the EIC between 1660 and 1709 and therefore provides a useful comparison.[6] Figure 1 shows the share price of the Old East India Company in bars and the Dutch Company's share price is shown in lines. Although there are missing observations in some years the trends are clear. The Old English Company's share price rose dramatically in the 1670s and early 1680s and reached 95% of the Dutch share price which always traded substantially above its par value. But then the Old English Company's share price fell dramatically relative to the Dutch price. In 1691, 1694, and 1697 the English price is 35%, 16%, and 11% of the Dutch price respectively. Investors took a dim view of the Old English Company as it suffered from fiscal extractions and lost its monopoly trading privileges to the New East India Company. It recovered somewhat in the ealry 1700s when Queen Anne ratified the agreement to merge Old and New Companies

2.3 The History of the EIC from the Merger to the India Act of 1784

In the period between 1710 and 1770 there came to be a balance of power between the monarchy and parliament, creating a new regulatory environment. Importantly, however, the Company continued to make loans or payments to the government, but in these cases a rival company was never chartered. By the 1770s the situation evolved further with the Company coming to the government for financial assistance. Thus there was a movement in the mid-eighteenth century towards a more committed partnership between the EIC and the government.

An example of a brokered renegotiation occurred in 1730, three years before the Company's monopoly charter was set to expire. Sensing a potential opening, several merchants from London, Bristol, and Liverpool submitted a petition to the House of Commons proposing a new company that would openly license trade to India for a fee. In return the merchant

[6]The EIC share price data before 1693 are based on individual observations collected by Scott (1912, pp. 177-179). The Dutch East India Company's share price is drawn from Petram (2014).

group offered to redeem the government's debt to the EIC at a lower interest rate. The EIC launched its own lobbying campaign in the Commons and enlisted the support of the Prime Minister Robert Walpole (Desai 1984, p. 122). The petition for a rival company ultimately failed in the Commons and in the same legislative session, an act of Parliament (3 George II, c. 14) extended the EIC's monopoly trading rights to at least 1769. But the victory came at a price as the EIC was required to make a £200,000 contribution to King George II's treasury (Great. Britain H. C., 1869 p. 532; Desai 1984, p. 122).

Another example of a brokered renegotiation occurred in 1744. Britain had been at war with Spain between 1739 and 1742 and then became involved in a broader European conflict, the War of the Austrian Succession. The war was the most expensive that Britain had fought to that date and the demands on the King's treasury were great. The EIC helped ease the fiscal problem by lending £1,000,000 to the King. In return, the EIC got an extension of their monopoly trading privileges until at least 1783.

The partnership began to change in the mid 1760s when the Company had record earnings (driven in part by its plunder of Bengal in the preceding decade). As the stock market boomed and shareholders pushed for higher dividends the government decided to intervene. In an unprecedented move, the government capped dividends at 10% and demanded an annual payment of £400,000 from the EIC for two years (Robins 2006, pp. 87-89). In 1769, an act of parliament (9 Geo. III c. 24) demanded that the annual payment continue for another 5 years should the dividend rate exceed 6% (Great Britain, H.C. 1869, p. 533). The EIC was able to make the payments for a short-while but by 1772 it owed £1,000,000 in unpaid taxes. The EIC asked the government for a loan in order to meet its tax obligations and other debts. The government responded with an interest free loan of £1,400,000 and other subsidies including a new privilege to monopolize tea imports into British North America. In return the government insisted on changing the EIC's charter to allow for more oversight of Company affairs.

The so-called Regulating Act of 1773 was considered a failure in terms of instituting greater government control. In the early 1780s there were several parliamentary inquires into the Company's affairs and several unsuccessful reforms were proposed. Meanwhile the Company again was unable to meet its tax obligations. Matters changed with the conclusion of the American War of Independence in 1783 and the fall of the prime minister, Lord North. The new prime Minister, William Pitt, pushed through the India Act of 1784. It included subsidies and loans to the Company in exchange for greater government control. The 1784 Act marked the beginning of an imperial partnership between the EIC and the British government that would continue well into the nineteenth century (Bowen 2006).

3 Regulatory Commitment and Investment: theory

The history of the EIC illustrates how warfare, fiscal pressures, and political instability weakened the credibility of regulatory commitment. In this section, I use a theoretical model to illustrate how these factors affected investment through the same channel. The model has three stages. In stage 1 the EIC decides whether to invest in shipping capacity or not. In stage 2 an interloper offers the monarchy a bribe in exchange for the rights to enter the market. The EIC makes a simultaneous bribe to protect its monopoly. In stage 3 the monarchy decides whether to deny the interloper's request in which case they receive the EIC's bribe or they can authorize the interloper to enter in which case they receive the interloper's bribe.

It is useful to start with stages 2 and 3 which analyze the bribes offered by the EIC and interlopers and the monarch's decision to authorize or deny entry. The payoff to the monarchy at the conclusion of stage 3 is given by $U^M = I_i[f(b^i+G)-F]+I_{eic}[f(b^{eic}+G)+C]$ where I_i is an indicator function if the monarchy authorizes the interloper to enter and I_{eic} is an indicator function if they deny the interloper's request. f is the monarch's utility

function for money, which is increasing, concave, and differentiable. Money is equal to the bribe paid by the interloper b^i plus government tax revenues G if the monarch authorizes entry. Otherwise money is equal to the bribe paid by the EIC b^{eic} plus government tax revenues G. F is the monarch's loss in utility from violating the EIC's monopoly right, which was legal by the charter. One can think of F as being large at times when the rule of law is strong. Finally, C is the utility the monarch gains from the political support of the EIC. The EIC is assumed to withdraw its support if the monarchy authorizes interloper entry. For simplicity I normalize the monarch's utility from interloper political support to be zero. The key point is that it was less than the value of the EIC's political support.

The payoff to the interloper at the conclusion of stage 3 is $U^i = I_i[\Pi^i - b^i]$ where Π^i is the interloper's expected shipping profits from entering the market and b^i is their bribe. Note that if the interloper is denied they are assumed to earn zero shipping profits and their bribe is withdrawn. The payoff to the EIC at the conclusion of stage 3 is $U^{eic} = I_{eic}[\Pi^{eic} - b^{eic}]$, where Π^{eic} is the EIC's expected profits if the interloper is denied and it preserves its monopoly. Note I assume that the EIC earns zero shipping profits if the interloper is approved. One can obviously weaken this assumption but it makes the analysis cleaner.

The sub-game equilibrium for stages 2 and 3 can be solved by backwards induction. Suppose in stage 2 the EIC offers a bribe b^{eic} and the interloper offers a bribe b^i. Given these offers, the monarch will deny the interlopers if $f(b^i + G) - F \leq f(b^{eic} + G) + C$. For what follows it is important to notice that conditional on the bribes, the monarch is more likely to deny interlopers if F , C, or G is large.

Next consider the bribes offered in stage 2. Define x^{eic} as the solution to the equation $f(\Pi^i + G) - F - C = f(x^{eic} + G)$. x^{eic} is the bribe the EIC needs to pay to ensure that the monarch rejects interlopers if interlopers offer the full value of their expected profits Π^i. Given that F and C are positive and f is concave, x^{eic} will always be less than Π^i . Also by the implicit function thereom we know that $\partial x^{eic}/\partial G < 0$, $\partial x^{eic}/\partial \Pi^i > 0$,

$\partial x^{eic}/\partial F < 0$, and $\partial x^{eic}/\partial C < 0$. Thus higher tax revenues G, lower expected profits from the interloper Π^i, stronger rule of law F, and stronger political connections to the monarch C all lower the necessary bribe. Another variable x^i is defined similarly as the solution to $f(x^i + G) - F - C = f(\Pi^{eic} + G)$. x^i is the bribe the interloper needs to pay ensure that the monarch accepts their proposal if the EIC offers the full value of its expected profits Π^{eic}. Notice that as the monarch rejects the interloper in the event of equal utilities it will be necessay for the interloper to offer x^i plus an an arbitrarily small amount ϵ to win. The unique sub-game equilibrium for stages 2 and 3 is then defined by three cases:

1. $I_i = 0$,$I_{eic} = 1$, and $(b^{eic*}, b^{i*}) = (0,\Pi^i)$ if $x^{eic} < 0$
2. $I_i = 0$,$I_{eic} = 1$, and $(b^{eic*}, b^{i*}) = (x^{eic},\Pi^i)$ if $0 < x^{eic} \leq \Pi^{eic}$
3. $I_i = 1$,$I_{eic} = 0$, and $(b^{eic*}, b^{i*}) = (\Pi^{eic},x^i + \epsilon)$ if $x^{eic} > \Pi^{eic}$.

In the first case, the EIC retains its monopoly even with a zero bribe. This case occurs when F, G, and C are sufficiently large relative to Π^i so that $f(\Pi^i + G) - F - C < f(0 + G)$. Here the EIC earns a surplus of Π^{eic} and interlopers earn a surplus of 0. In the second case, the EIC retains its monopoly and pays a positive bribe equal to x^{eic} as long as the bribe is less than or equal to Π^{eic}. The interloper offers the value of its expected profits Π^i as a bribe, but it is insufficient and the offer is not taken.. The second case occurs when $f(\Pi^i + G) - F - C > f(0 + G)$ and $f(\Pi^i + G) - F - C \leq f(\Pi^{eic} + G)$ so that a positive bribe by the EIC is necessary but not more than the EIC's expected profits Π^{eic}. Here the EIC earns a surplus of $\Pi^{eic} - x^{eic}$ and the interloper continues to earn zero. In the third case, the interloper is authorized to enter and the EIC loses its monopoly. It occurs when $f(\Pi^i + G) - F - C > f(\Pi^{eic} + G)$, which implies that the maximum bribe the EIC is willing to pay is not enough to convince the monarch to uphold its monopoly. The EIC offers its

maximum bribe Π^{eic}, the interloper offers x^i plus some trivial amount ϵ, which is enough to convince the monarch. The interloper earns a surplus $\Pi^i - x^i - \epsilon$ which is greater than zero because $f(x^i + G) - F - C = f(\Pi^{eic} + G) < f(\Pi^i + G) - F - C$ which implies $x^i < \Pi^i$. The EIC earns 0 because its bribe is rejected.

The decision to invest in the first stage can now be described. Suppose that if the EIC pays an investment cost of K (denoted as $K = 1$) and there is no entry by interlopers then the EIC earns a payoff of $\delta\Pi^{eic} - b^{eic} - K$, where $\delta > 1$ so that $\delta\Pi^{eic} > \Pi^{eic}$. It is useful to define when the EIC would invest assuming it paid no bribe b^{eic} and its monopoly right was perfectly enforced. If the EIC invests it gets a surplus exclusive of bribes equal to $\delta\Pi^{eic} - K$ and if it does not invest it gets Π^{eic}. Therefore, as long as $\Pi^{eic} \geq \frac{K}{\delta - 1}$ the EIC will want to invest. The different payoffs can now be described depending on the relationshiop between Π^{eic} and $\frac{K}{\delta - 1}$. First suppose that $\Pi^{eic} < \frac{K}{\delta - 1}$ so the EIC would not want to invest. Here the equilbrium is the same as before. The EIC will pay a bribe x^{eic} up to the value of Π^{eic}; otherwise it offers its maximal bribe Π^{eic}. The interloper offers its expected profits Π^i as a bribe if $x^{eic} < \Pi^{eic}$; otherwise if offers x^i plus some trivial amount ϵ to gain entry. Second, suppose $\Pi^{eic} \geq \frac{K}{\delta - 1}$ so the EIC would want to invest absent a bribe. Let's assume that the EIC does invest. In stage 2 they will pay a bribe x^{eic} up to the new value for expected profits $\delta\Pi^{eic} - K$; otherwise the EIC offers its maximal bribe of $\delta\Pi^{eic} - K$. The interloper offers its expected profits Π^i as a bribe if $x^{eic} \leq \delta\Pi^{eic} - K$; otherwise it offers $x^{i\delta} + \epsilon$, where $x^{i\delta}$ is the solution to $f(x^{i\delta} + G) - F - C = f(\delta\Pi^{eic} - K + G)$. In the latter case, the interloper gains entry but it must offer a larger bribe $x^{i\delta} + \epsilon$ than before because the EIC earns higher shipping profits following investment. Note that the latter case is off the equilibrium path. The EIC earns a loss of $-K$ if it invests, offers its maximal bribe of $\delta\Pi^{eic} - K$, and the interloper gains entry. But in this case if the EIC does not invest, then it saves itself the investment cost and earns zero. Therefore, in the event that the EIC anticipates that the interloper will gain entry it will not invest, in which case we return to the strategy where

the EIC offers Π^{eic} and the interloper offers $x^i + \epsilon$.

The equlibrium for the whole game is now described. There are several cases corresponding to different parameter values:

1. $K = 0$,$I_i = 0$,$I_{eic} = 1$, and $(b^{eic*}, b^{i*}) = (0,\Pi^i)$ if $x^{eic} < 0$ and $\Pi^{eic} < \frac{K}{\delta - 1}$
2. $K = 0$,$I_i = 0$,$I_{eic} = 1$, and $(b^{eic*}, b^{i*}) = (x^{eic},\Pi^i)$ if $0 < x^{eic} < \Pi^{eic} < \frac{K}{\delta - 1}$
3. $K = 0$,$I_i = 1$,$I_{eic} = 0$, and $(b^{eic*}, b^{i*}) = (\Pi^{eic},x^i)$ if $\Pi^{eic} < x^{eic}$ and $\Pi^{eic} < \frac{K}{\delta - 1}$
4. $K = 1$,$I_i = 0$,$I_{eic} = 1$, and $(b^{eic*}, b^{i*}) = (x^{eic},\Pi^i)$ if $\frac{K}{\delta - 1} < x^{eic} \leq \delta\Pi^{eic} - K$ and $\Pi^{eic} \geq \frac{K}{\delta - 1}$
5. $K = 0$,$I_i = 1$,$I_{eic} = 0$, and $(b^{eic*}, b^{i*}) = (\Pi^{eic},x^i)$ if $\delta\Pi^{eic} - K < x^{eic}$ and $\Pi^{eic} \geq \frac{K}{\delta - 1}$

The fifth case is the most interesting because investment is optimal due to $\Pi^{eic} \geq \frac{K}{\delta - 1}$ but the EIC will not invest because it expects to pay a bribe greater than its expected profits $\delta\Pi^{eic} - K$. It occurs when F, G, and C are too small relative to Π^i, forcing the EIC's bribe to be too large. Recall that the bribe is defined by the solution to $f(x^i + G) - F - C = f(\Pi^{eic} + G)$ so lower values of F, G, and C push up x^i .

As the equilibrium conditions indicate, if the monarch's utility from political support is large, making C large, then it will be less costly for the EIC to offer bribes to convince the monarch to deny interlopers, and hence its returns from investment will be larger. My hypothesis below is that changes in the identity of the monarchy or leading ministers diminished utility from the EIC's political support because the new governing authority had less connections with the Company. Notice that a strong rule of law has the same effect in the model as the political support. However, it does not appear that the rule of law was sufficiently strong to protect the EIC until possibly the eighteenth century. A third general

conclusion is that higher tax revenues measured by G allow the EIC to offer a lower bribe to convince the monarch to deny interlopers. One testable prediction is that greater fiscal capacity lowered the bribes, and hence increased the likelihood of investment. Wars could be interpreted as a negative shock to credibility by drawing down the government revenues available to the monarchy and hence making it more eager for bribes. Note that wars could also depress demand for imports, but such factors are not considered in the model. I now turn to data on EIC investments in shipping to test the hypotheses relating to regulatory commitment.

4 EIC Shipping

Shipping was the core business activity of the EIC. Company ships were loaded in Britain with cargo that included new world silver and some manufactured goods. They then sailed for Asia arriving at Company factories in diverse locations such as India and China. There the ships would be unloaded and after a period of time they would be reloaded with various Asian goods like pepper, tea, and textiles. The ships would then set sail for Britain and would arrive approximately two years after they originally left. There were many complications along the voyage. Ships were lost due to storms or they were taken by enemies from other European Companies as well as some Indian traders. The ships also required maintenance to deal with the pestilence of tropical waters.

Early in the Company's history it built and owned its ships, but from around 1660 the Company instead hired ships owned by others. Under the so-called chartering system, the Company would pay a fixed freight rate for a voyage plus an additional daily fee if the ship stayed in India beyond an agreed upon date. The chartering system raises questions about who bore risks of regulatory uncertainty: the shipowners or the EIC? Regarding this issue, there are several important points which are summarized in Chaudhuri (1993). First,

ships sailing to East Asia were specially designed and were larger than ships in other trades. Therefore if East Indian ships retired from the trade their value was much lower. Second, the chartering contracts were long-term. In the late seventeenth century, the EIC contracted to employ a ship for no less than 14 to 16 years depending on two size classes. In the eighteenth century the contract employed a ship for four voyages, which usually meant 8 to 10 years. Third, the freight rates for a voyage were flexible and appear to have increased in times of war or political conflict. Given these characteristics, it is reasonable to see the EIC as bearing a significant portion of the risks. If the EIC chartered a ship and market conditions worsened they were still liable to pay fees for the duration of the charter contract. The EIC might default, in which case the shipowners would lose. But the shipowners could incorporate this risk by charging the Company a higher freight rate.

4.1 Data on EIC Shipping

Sutton (2000) has collected and summarized the available data on the ships employed by the EIC. The Sutton data includes the name of every ship, the first and last year it set sail from Britain, its tonnage, and whether the ship had a special ownership status as a merchant ship, a private ship, a ship sailing under permission of the Company, or a New Company ship. I estimate the amount of shipping tonnage employed by the Company in any year using Sutton's data on the tonnage of each ship and the first and last year of its sailing. Specifically, I identify all ships that set sail for the first time in year t, say 1654, along with all ships that set sail in some previous year and sailed for the last time after year t. I then sum the tonnage across all ships in use for year t. For example suppose there are two ships, the first sails for the first time in 1652 and for the last time in 1654, the second sails only once in 1653. I count tonnage of the first ship in 1652, 1653, and 1654 and the tonnage of the second ship only in 1653. Some error could be introduced because of the assumption that once a ship sets sail for the first time, say in 1652, it continued to be utilized by the

Company until the last year it set sail, say in 1654. This need not be the case if the ship sits idle in Britain or in Asia.

The resulting series of East India Company's shipping tonnage is shown in figure 2 in logs. The solid dark line represents the Old Company's shipping tonnage (i.e. the total minus private and New EIC shipping) before 1709. The dotted grey line adds New Company shipping tonnage to the Old Company to illustrate the combined investments of the two Companies in the 1ate 1690s and early 1700s. After 1709 the sold dark line represents the United East India Company's shipping tonnage. A couple of features stand out. First, there are long-term cycles with the early seventeenth century showing rapid increases in shipping tonnage followed by a decline in the mid seventeenth century. The third quarter of the seventeenth century shows new growth followed by a decline in shipping tonnage in the early eighteenth century. By the mid eighteenth century the stock of tonnage reaches new highs and continues to growth up to 1795.

Second, in several years there are large contractions in shipping tonnage during the seventeenth and early eighteenth century. The grey vertical lines in the figure identify years where the mean growth in shipping tonnage is one standard deviation below the mean. Several coincide with notable events in the regulatory history of the Company. 1605 is one year after James I granted a license to the first interloper Michelborne. 1608 is one year after the entry by the interloper Penkevell. 1618 is one year after James I chartered the rival Scottish East India Company. 1621 is one year after James I ordered the Company to pay £20,000 for ship prizes. 1651 is one year after the Council of State encouraged the merger with the 'Assada Adventurers'. 1659 is two years after the new Protector of the Commonwealth government, Richard Cromwell, granted a license to the interloper Rolt. 1701 is the year the Old EIC's charter was set to expire, giving the monopoly to the New East India Company.

5 The effects of Fiscal Capacity, Wars, and Political Instability

The correlation between contractions in shipping tonnage and regulatory events, like the authorization of interlopers, is suggestive of a relationship between investment and regulatory commitment. In this section, I study the effects of war, fiscal capacity, and political instability on the growth of shipping tonnage.[7] The fiscal environment is measured by annual total tax revenue to the English crown. The series is taken from O'Brien and Hunt (1993) and includes the sum of direct taxes (mostly land), indirect taxes (customs and excise), earnings from the mint, and earnings from Crown assets. Loans are not included. It is necessary to interpolate the tax revenue series between 1641 and 1649 during the Interregnum, and also in 1654 and in 1660 where there is missing data. I use Broadberry et. al. (2011)'s GDP deflater to transform the revenue series into constant 1700 prices. The deflated tax revenue series shows an increase over time, particularly after the 1680s. What is crucial for my analysis is the increase in tax revenues relative to the EIC's ability to generate revenues from trade, and hence its shipping capacity. Therefore, in the analysis I focus on *relative fiscal incapacity* measured by the log difference between the stock of tonnage employed by the EIC and central government tax revenues. As figure 3 illustrates relative fiscal incapacity was volatile over time, but tended to be higher in the seventeenth century than the eighteenth century.

With respect to wars, it is important to distinguish between military conflicts in Europe and the Americas, and conflicts that took place in India or East Asia. Conflicts in Europe and the Americas were broader and involved more resources. They were driven by European succession issues and struggles to control the new World, and were generally unrelated to the East Indian trade. I code wars in Europe and the Americas using standard histories

[7] There are two benefits to analyzing the effects of fundamental factors rather than regulatory events directly. First, I do not need to identify and code all important regulatory events, which is difficult and subject to measurement error. Second, regulatory events are endengous and one would want to find instruments, possibly related to politics and fiscal development. My approach is thus akin to a reduced form.

of Britain (Smith 1997, Holmes 1993, Holmes and Szechi 1993, Evans 2014). I also code wars in India involving the Company using Riddick's (2006) chronology of British India. Conflicts in India involved the EIC and other European Companies or local powers like the Mughals and the Marathas. They were likely linked with the value of Indian trade and thus the effects of wars in India need to be interpreted with care in the regression.

Political instability is measured by changes in the government. The monarchy had nearly complete control of the charters concerning the EIC, and therefore changes in the monarchy potentially had the greatest effects on the EIC. The monarchy changed with death, but in several cases it was due to revolutions. I distinguish between these events using standard histories of Britain (Smith 1997, Holmes 1993, Holmes and Szechi 1993, Evans 2014). The Civil Wars (1641-1648) and Interregnum (1648-1659) have to be treated carefully as the monarchy was in question and then finally abolished. I code 1645 as an executive change because King Charles I military campaign failed badly in that year and it was then apparent that the monarchy would lose the Civil War. I also use the rise of Oliver Cromwell to the position of Lord Protector in 1653 as another change in executive authority. Lastly, Oliver Cromwell's death in 1658 and the emergence of Richard Cromwell to the Lord Protector position is again taken as a executive change. In total I study 12 changes in the monarchy or executive, of which 8 were due to natural deaths.

The histories of Britain's government also emphasize the significance of the leading government ministers. The most important ministers were the Lord Chancellor and the Lord Treasurer. The Lord Treasurer was head of the treasury and from the time of Robert Walpole (1721-1742), the officeholder was considered to be the Prime Minister. The Lord Chancellor was the head of the judiciary which is relevant because many of the EIC's disputes with interlopers were resolved in the courts. The individuals holding the position of Lord Treasurer and Chancellor sometimes changed due to death, but more often they were dismissed by the king or queen. Dismissals occurred when ministers proved ineffective in domestic

or foreign policy or they lost influence in the House of Commons which was governed by political parties. Following the same approach with the monarchy, I distinguish between changes in ministers due to death or dismissal using standard histories of Britain. In terms of timing, a minister is considered as holding office in a year if they held it for a majority of the calendar year, that is from January through at least July. From 1601 to 1796 there were 30 changes in the Lord Chancellor and 45 changes in the Lord Treasurer. Of these 9 changes in the Lord Chancellor and 9 changes in the Lord Treasurer were due to deaths or illness. It should be noted that there is some subtlety in coding government ministers during the Civil Wars and Interregnum. The Stuart royal family retained a court and a ministry through the Civil War and the Interregnum while in exile. I coded the identify of the Stuart's exiled ministers, in part because the same positions were not as clear in the Interregnum.

Parliament played a greater role in Britain's government during the eighteenth century. Parliament had two Houses, the Commons and the Lords, but the former was far more important for policy-making. Members of the Commons were elected and therefore election years are moments when political power in the Commons could change. Years with elections are taken from the standard histories (Smith 1997, Holmes 1993, Holmes and Szechi 1993, Evans 2014). The timing of elections depended on several factors. If the monarch died a new parliament was required and thus elections were held immediately. The monarch could also dissolve a parliament if they wanted, necessitating an election. Following dissolution an election might be immediate, as in the eighteenth century, or it could take several years as happend in Charles I reign. Legislation was another factor influencing the timing of elections. The Triennial Act in 1694 and the Septennial Act in 1716 required elections at least every 3 years or 7 years. Below I distinguish elections that were mandated by the Acts and those that were not as they have potentially different effects.

Elections which changed the majority party in the Commons were also potentially different from others. Political parties emerged in the 1670s and 80s when a group known

as 'the Whigs' sought to exclude James Stuart from the throne because of his Catholicism and views on the monarchy. The Tories formed to oppose exclusion because in their view it represented too great an incursion into royal authority. The Whigs and Tories continued to differ on major issues after the Glorious Revolution. The Tories protected the interests of the Church of England and were committed to the hereditary rights of the monarch. The Tories also favored isolationism from continental wars and lower taxes on land. These difference in party principles fostered a period of intense electoral competition between 1690 and 1715. There was a change in electoral politics after 1715. The Tories were damaged by their links with the failed Jacobite Rebellion, which aimed to reinstall the Stuart monarchy. The emergence of Robert Walpole as the leader of the Whig party was another important development. Walpole and his successors maintained a Whig majority in the Commons from 1721 to the late 1760s. By the late eighteenth century, politicians continued to use the same Tory and Whig labels but their meanings changed. The Tories came to be associated with politicians who were linked with the government and the monarchy, whereas the Whigs were often associated with reform.

The East India Company was closely involved in party politics at times. The most signifiant periods were the 1680s, 1690s and early 1700s, where the Old East India Company sided with the Tories, and its rivals, including the New Company, sided with the Whigs. In the 1770s and 80s under the leadership of James Fox and Edmund Burke, some Whigs came were opponents of the EIC. Below I examine whether elections that changed the majority party or those that brought the Tories to power had different effects on EIC shipping. I use the political histories listed earlier to identify these elections.

Several more variables are added which could potentially influence the growth of shipping tonnage. British real GDP is a metric for the demand of EIC imports. If the Company's existing tonnage was large relative to GDP then it likely had too much capacity relative to demand, and would expand tonnage by less. I use Broadberry et. al.'s (2011) GDP series

and calculate the log difference between EIC shipping tonnage and British real GDP as a measure of capacity relative to import demand. Real GDP growth could also provide a signal of future demand so it is included as well. The production of silver in the Americas could also influence the growth of shipping because it was the main export for the EIC in Asia. I use Garner (1988)'s series on total silver production in the Americas, which includes the outputs of the major mines in Mexico and Peru measured in kilograms. I calculate the log difference in EIC shipping tonnage and the quantity of American silver production as a measure of capacity relative to export potential. The growth of silver production is also included as it provides a signal of future production.

Demand in India is another factor. While I lack data on Indian GDP or population, there is information on shocks to Indian demand coming from famines. I include the famines described in Riddick's (2006) chronology of British India. Finally, domestic investments like land and buildings were the main alternative to investing in EIC ships (government debt becomes important in the 1700s). A higher return on land and buildings should make it less attractive to invest in EIC shipping tonnage. I use a Clark's (2001) series on returns for individual assets held by charities. I calculate the average rate of return across all asset observations in each year to estimate the annual domestic rate of return.

Another useful set of variables comes from the Dutch East India Company or VOC. The shipping records of the VOC are very detailed and have been complied by Bruijn, Gaastra, and Schöffer (1979).[8] I create a variable for shipping tonnage employed by the VOC which is similar to that of the EIC. As seen below the substitution of the VOC shipping growth for EIC shipping growth provides a useful 'placebo' test.

[8]Bruijn et al.'s data are now available through http://resources.huygens.knaw.nl/das/index_html_en

5.1 Summary Statistics and Estimating Equation

The growth of shipping tonnage is studied using a simple one-year lagged regression model, $y_t = \beta x_{t-1} + \epsilon_t$. The variables are summarized in table 2. The dependent variable is the yearly log difference in EIC shipping tonnage $ln(tonnage_t) - ln(tonnage_{t-1})$. It has a mean of 0.02 which implies the average growth rate was 2%. Throughout for short-hand I refer to this variable as the growth of EIC shipping. Note that the minimum growth rate is -1.742 in log points, which happened in 1701. The max growth rate is similar in magnitude and happened in 1702. The growth of shipping was less volatile in all other years. If 1701 and 1702 are dropped the standard deviation for Growth of EIC Shipping Tonnage falls to 0.183 from 0.253.

The main explanatory variables of interest are Ln (EIC Tonnage)-Ln(Tax Revenues) capturing relative fiscal incapacity, War involving Britain in Europe or America, and the variables for political instability: New Lord Chancellor, New Lord Treasurer, New Monarch or Executive, and Election year. Note that the average growth rate of tax revenues is less than EIC shipping, indicating an underlying fiscal capacity problem for East Indian trade. Wars involving Britain in Europe or America were a fairly common occurring in 32% of years between 1601 and 1795. It was more common for the Lord Treasurer to change, around 23% of all years, than the Lord Chancellor (15%) or the monarch (6%). Elections were common occurring in about 20% of years. The remaining variables are largely included as controls, but may be of interest in their own right.

Table 2: Summary Statistics

Variable	Mean	Stand. Dev.	Min.	Max	N
Growth of EIC Shipping Tonnage	0.020	0.253	-1.742	1.71	194
Ln (EIC Tonnage)-Ln(Tax Revenues)	1.359	0.652	-0.737	3.153	195
Growth of Tax Revenues	0.014	0.183	-0.600	0.675	194
War involving Britain in Europe or America	0.323	0.468	0	1	195
War involving EIC in East Asia	0.210	0.408	0	1	195
New Lord Chancellor	0.153	0.361	0	1	195
New Lord Treasurer	0.231	0.422	0	1	195
New Monarch or Executive	0.061	0.241	0	1	195
Election year	0.194	0.397	0	1	195
Ln (EIC Tonnage)-Ln(Amer. Silver Prod.)	-3.188	0.711	-5.628	-2.053	195
Growth of Amer. Silver Prod.	0.003	0.081	-0.256	0.287	194
Ln (EIC Tonnage)-Ln(British GDP)	4.889	0.611	2.851	5.974	195
Growth of British GDP	0.007	0.069	-0.292	0.174	194
Famine in India	0.031	0.173	0	1	195
Return on land and buildings	5.044	0.737	3.723	7.792	195
Growth of VOC Shipping Tonnage	0.006	0.141	-0.585	0.462	193

Sources: see text.

The variable for relative fiscal incapacity is correlated with control variables or other variables of interest. For example, Ln (EIC Tonnage)-Ln(Tax Revenues) is correlated with the Return on land and buildings $\rho = 0.252$, Ln (EIC Tonnage)-Ln(British GDP) $\rho = 0.469$, Famine in India $\rho = 0.225$, and War involving Britain in Europe or America $\rho = -0.402$. Several of these correlations make sense. Tax revenues and British GDP will rise together creating a correlation between their differences with EIC tonnage. During European or American wars, tax rates and hence revenues increase causing the difference between EIC tonnage and tax revenues to fall. In the specifications below I start with a parsimonious model dropping the control variables correlated with Ln (EIC Tonnage)-Ln(Tax Revenues) and the dummy for European and American Wars. Then I add these variables in order examine the robustness.

Finally before turning to the estimates, it is important to test for unit roots as they indicate non-stationary variables and possibly spurious regression results. The following table provides Augmented Dickey Fuller Unit Root tests. The test statistics and p-values

indicate that a unit root can be confidently rejected for all variables.

Table 3: Augmented Dickey Fuller Unit Root Tests

Variable	Test Statistic	P-value
Growth of EIC Shipping Tonnage	-20.550	0.000
Ln (EIC Tonnage)-Ln(Tax Revenues)	-3.740	0.003
Growth of Tax Revenues	-17.83	0.000
War involving Britain in Europe or America	-4.788	0.000
War involving EIC in East Asia	-8.937	0.000
New Lord Chancellor	-13.266	0.000
New Lord Treasurer	-13.259	0.000
New Monarch or Executive	-14.835	0.000
Election year	-14.527	0.000
Ln (EIC Tonnage)-Ln(Amer. Silver Prod.)	-3.335	0.013
Growth of Amer. Silver Prod.	-16.484	0.000
Ln (EIC Tonnage)-Ln(British GDP)	-3.431	0.001
Growth of British GDP	-18.357	0.000
Famine in India	-6.331	0.000
Return on land and buildings	-5.926	0.000
Growth of VOC Shipping Tonnage	-12.855	0.000

Sources: see text.

5.2 Estimation Results

The baseline estimation results are shown in table 4. Newey-West standard errors are reported to address auto-correlation. I use 4 lags based on the Stock and Watson default formula for m lags, $m = 0.75T^{1/3}$. There are several key results. I start with relative fiscal incapacity, or the lagged difference between EIC tonnage and tax revenue. The estimates from column 1 show that higher relative fiscal incapacity significantly lowers the growth of shipping tonnage in the most parsimonious model. Including additional controls, like European or American wars, in column 2 increases the magnitude and lowers the precision of the estimate but the qualitative result holds. In terms of magnitudes, the estimates suggest that a one-standard deviation increase in relative fiscal incapacity lowers the growth of shipping tonnage by 25% of the standard deviation for the growth of shipping.

The estimates in column 2 also show that European and American wars reduced the

growth of shipping, which is in line with several arguments concerning commitment and disruptions in demand. An interesting pattern in shown in column 3 which interacts relative fiscal incapacity with the dummy variable for European and American wars. The results suggest that it was only in times of peace that greater fiscal incapacity lowered the growth of EIC shipping. One interpretation is that the government could provide more credible commitments in times of war because it needed the EIC's shipping fleet to wage war. Anecdotal stories of East Indiamen waging war with the British Navy support the claim that EIC ships were a valuable asset to the monarchy.

Table 4: Baseline regression results

Variable (all lagged one year)	(1) Coefficient (Stand. Err.)	(2) Coefficient (Stand. Err.)	(3) Coefficient (Stand. Err.)
Ln (EIC Ton)-Ln(Tax Revenues)	-0.070	-0.101	-0.101
	(0.030)**	(0.045)**	(0.047)**
Growth of Tax Revenues	0.111	0.101	0.111
	(0.093)	(0.097)	(0.095)
New Monarch or Executive	-0.093	-0.093	-0.076
	(0.050)*	(0.050)*	(0.051)
New Lord Chancellor	-0.149	-0.149	-0.150
	(0.068)**	(0.067)**	(0.067)**
New Lord Treasurer	0.015	0.019	0.005
	(0.035)	(0.035)	(0.036)
Election year	0.046	0.049	0.057
	(0.050)	(0.049)	(0.051)
Ln (EIC Ton)-Ln(Amer. Silver Prod.)	-0.065	-0.075	-0.036
	(0.043)	(0.100)	(0.100)
Growth of Amer. Silver Prod.	0.167	0.180	0.175
	(0.165)	(0.178)	(0.185)
Growth of British GDP	0.065	0.096	0.063
	(0.276)	0.274	(0.272)
War in East Asia	0.012	0.021	0.019
	(0.032)	(0.032)	(0.031)
Ln (EIC Ton)-Ln(British GDP)		0.025	-0.045
		(0.108)	(0.126)
Return on land and buildings		0.006	0.006
		(0.034)	(0.032)
Famine in India		-0.029	-0.001
		(0.052)	(0.061)
War in Europe or America		-0.068	-0.258
		(0.038)*	(0.120)**
War in Europe or America *			0.184
Ln (EIC Ton)-Ln(British GDP)			(0.095)*
Constant	-0.081	-0.206	0.264
	(0.115)	(0.775)	(0.882)
N	194	194	194
F-Stat	1.52	1.83	1.85

Notes: Newey West Standard Errors are reported. *, **, *** indicates statistical significance at the 10%, 5%, and 1% level respectively.

The estimates also point to political instability having an effect on EIC shipping growth.

In years following a change in the Lord Chancellor the growth of shipping was significantly lower. The same is true of years following a change in the monarchy, but the effects for Lord Chancellor are larger in magnitude. A change in the Lord Chancellor is predicted to lower the growth rate of shipping by 58% of its standard deviation. A change in the monarchy would lower the growth rate by 33% of a standard deviation. Elections and changes in the Lord Treasurer appear to be weakly related to EIC shipping growth. However, as we shall see later, elections had a greater effect in the years after 1689.

There are several robustness checks that support or refine the baseline results. One potential concern is that the variables for fiscal capacity, warfare, and political instability are correlated with unobservable factors related to the trading environment in Europe or Asia. I address this issue by replacing EIC shipping growth with the Dutch Company's (VOC) shipping growth as the dependent variable. The VOC and the EIC had similar trading activities. They both brought goods like pepper and tea from East Asia back to Europe for sale. If there was a common negative shock to East Asian supply or European demand, then one would expect that the two companies would adjust their shipping capacities in similar ways. Thus if variables for warfare, relatively fiscal incapacity and political instability happened to be correlated with negative shocks to East Asian supply or European demand then the coefficients on these variables should have the same signs for the EIC and VOC. Alternatively as the VOC was a competitor to the EIC, if there was a negative shock to the EIC's regulatory environment (not its trading environment) then one would expect the VOC to take advantage and increase its shipping capacity. In this case, variables for warfare, relatively fiscal incapacity and political instability should have opposite signs for the EIC and VOC. The results in column 1 of table 5 show coefficient estimates for the main variables of interest when VOC shipping growth is the dependent variable. For comprison, the second column reports the estimates for specification 3 in table 4, which uses EIC shipping growth and includes all control variables. Generally they show that variables have opposite

signs for the EIC and VOC. For example, British wars in Europe and America lower EIC investment but they significantly raise VOC investment. Notice also that greater relatively fiscal incapacity in England has a positive effect on VOC shipping growth (although not significant) and a negative and significant effect on EIC shipping growth. In no case is there a variable of the same sign and significance for the EIC and VOC.

Table 5: Placebo test with VOC

	(1)	(2)
	VOC Shipping Growth	EIC Shipping Growth
	Coefficient	Coefficient
Variable (all lagged one year)	(Stand. Err.)	(Stand. Err.)
Ln (EIC Ton)-Ln(Tax Revenues)	0.064	-0.101
	(0.042)	(0.047)**
Growth of Tax Revenues	0.038	0.111
	(0.063)	(0.095)
New Monarch or Executive	-0.033	-0.076
	(0.046)	(0.051)
New Lord Chancellor	0.032	-0.150
	(0.028)	(0.067)**
New Lord Treasurer	0.043	0.005
	(0.027)	(0.036)
Election year	-0.025	0.057
	(0.03)	(0.051)
War in Europe or America	0.104	-0.258
	(0.055)*	(0.120)**
War in Europe or America *	-0.083	0.184
Ln (EIC Ton)-Ln(British GDP)	(0.065)	(0.095)*
Other Controls Included?	YES	YES
N	194	194
F-Stat	1.83	1.85

Notes: Newey West Standard Errors are reported. *, **, *** indicates statistical significance at the 10%, 5%, and 1% level respectively.

Death can happen at any time, and thus it provides another approach for investigating whether the process of changing government leaders was endogenous. As the EIC was important in British politics, revolutions and conflict that led to the ouster of the monarchy or ministers could be driven by unobservable economic factors linked to the EIC's trading

environment. I address this issue using only those changes in the monarchy and leading ministers that were caused by natural deaths or illness. In essence these represent exogenous changes in the governing authority. The results from using changes in the monarchy or ministers due to death or illness are reported in column 1 of table 6. Again for comprison, column 2 reports the estimates for specification 3 in table 4, which uses all changes in the monarch or ministers. The results show that changes in the Lord Chancellor caused by deaths are associated with significantly lower EIC shipping growth. Notably the magnitude of the Lord Chancellor effect increases from -0.15 to -0.228. Changes in the monarchy or Lord Treasurer caused by deaths have similar signs and magnitude as before but again neither is significant.

Table 6: Deaths of monarch or ministers

	(1) Changes due to Deaths or Ilness only	(2) All Changes
Variable (all lagged one year)	Coefficient (Stand. Err.)	Coefficient (Stand. Err.)
Ln (EIC Ton)-Ln(Tax Revenues)	-0.093	-0.101
	(0.047)*	(0.047)**
Growth of Tax Revenues	0.152	0.111
	(0.097)	(0.095)
New Monarch or Executive	-0.076	-0.076
	(0.060)	(0.051)
New Lord Chancellor	-0.228	-0.150
	(0.074)***	(0.067)**
New Lord Treasurer	0.013	0.005
	(0.048)	(0.036)
Election year	0.065	0.057
	(0.053)	(0.051)
War in Europe or America	-0.266	-0.258
	(0.117)**	(0.120)**
War in Europe or America * Ln (EIC Ton)-Ln(British GDP)	0.180 (0.092)*	0.184 (0.095)*
Other Controls Included?	YES	YES
N	194	194
F-Stat	1.85	1.85

Notes: Newey West Standard Errors are reported. *, **, *** indicates statistical significance at the 10%, 5%, and 1% level respectively.

The previous models assume stable parameter estimates over a nearly 200 year period, from 1601 to 1795. This assumption may be too strong as Britain went through a number of important political transitions. The most notable are the Glorious Revolution of 1688, which increased the power of the monarchy, and the financial revolution c.1688 to c.1720 which reformed Britain's fiscal system and included the establishment of the Bank of England. I examine this issue by estimating the model pre and post 1688 and similarly pre and post 1720.

The results for different sub periods are reported in table 7. They show some substantive differences. Before 1689 political instability, as measured by new Lord Chancellors, had a large negative effect on the growth of shipping. From 1689 onwards changes in the Lord Chancellor are not significantly related to lower shipping growth. Thus it appears that political instability was a more significant problem in the seventeenth century. Relative fiscal incapacity also has a different effect before and after 1689. Before 1688 an increase in EIC tonnage relative to tax revenues had little effect on the growth of shipping in periods of peace, and a slightly positive effect in periods of war as indicated by the interaction variable. After 1689 an increase in relative fiscal incapacity had a large negative effect on the growth of shipping in peacetime, which was attenuated somewhat in times of war, but not entirely. In other words, after 1689 relative fiscal capacity mattered much more. The likely reasons were the growing fiscal demands placed upon the government and the increased threats to credibility which came from larger fiscal fluctuations. Subsidies also became increasingly important to the EIC during the eighteenth century, and they would have been affected by relative fiscal incapacity.

Table 7: Estimates for Sub periods

	(1)	(2)	(3)	(4)
	Pre-1689	Post-1688	pre-1720	Post-1719
	Coeff.	Coeff.	Coeff.	Coeff.
Variable (all lagged one year)	(St. Err.)	(St. Err.)	(St. Err.)	(St. Err.)
Ln (EIC Ton)-Ln(Tax Revenues)	-0.014	-0.786	-0.001	-0.551
	(0.085)	(0.315)**	(0.071)	(0.186)**
Growth of Tax Revenues	0.108	-0.217	0.155	-0.304
	(0.142)	(0.112)*	(0.114)	(0.217)
New Monarch or Executive	-0.017	-0.033	-0.058	-0.073
	(0.066)	(0.071)	(0.066)	(0.029)**
New Lord Chancellor	-0.177	-0.129	-0.195	0.015
	(0.066)***	(0.116)	(0.093)**	(0.021)
New Lord Treasurer	-0.029	0.002	-0.020	0.041
	(0.053)	(0.049)	(0.060)	(0.029)
Election year	0.001	0.108	0.069	0.045
	(0.061)	(0.06)*	(0.076)	(0.026)*
War in Europe or America	-0.378	-0.35	-0.293	-0.010
	(0.162)**	(0.187)*	(0.129)**	(0.101)
War in Europe or America *	0.279	0.278	0.235	0.009
Ln (EIC Ton)-Ln(British GDP)	(0.131)**	(0.163)*	(0.130)*	(0.076)
Other Controls Included?	YES	YES	YES	YES
N	86	108	117	77
F-Stat	7.18	3.17	4.82	6.33

Notes: Newey West Standard Errors are reported. *, **, *** indicates statistical significance at the 10%, 5%, and 1% level respectively.

A comparison of the pre-1720 and post-1719 period yields similar conclusions, but with a few notable differences. Changes in the monarchy had a significant negative effect on shipping growth after 1720, but not before. The finding could capture the volatility associated with the transition to King George III's reign. The other interesting difference concerns warfare. After 1719 European and American wars no long have any effect on the growth of shipping, whereas relative fiscal incapacity does. It appears that war no longer brought the fiscal crises which undermined the credibility of the government's regulatory commitment.

The results also show a different effect of elections after 1688 and 1719. There is little relationship between elections and the growth of shipping tonnage before 1689, whereas

after the growth of shipping is significantly larger after an election (albeit at 10% statistical significance only). The effects of elections could differ depending on whether they were a surprise or their timing was fixed by the Triennial or Septennial Acts. For elections that were known in advance there could be an electoral cycle in which shipping growth decreases before the election because there is uncertainty about the outcome, while after the election the uncertainty is resolved resulting in higher investment.

Table 8 shows results including three dummy variables for elections, the year before, the year of the election, and the year after the election. As before all other variables are included as controls. Column 1 includes all elections and column 2 only elections that were fixed in date by the Triennial Act or Septennial Act. In column 1 there is no significant pre-election decline in shipping growth but there is a post-election increase. In column 2 there is no pattern indicating that only surprise elections create any significant post-election effect. In column 3 only elections where the majority party in the Commons changed are included. Here shipping growth decreases in the pre-election year, suggesting some uncertainty, but it is not significant. However, there is a larger post-election positive effect when there is a change in the majority party. Finally, in column 4 only elections where the majority party in the Commons changed to the Tories are included. The pre and post election coefficients are generally larger in magnitude, although only the post-election dummy is significant. A similar but unreported regression for elections that resulted in a new Whig majority in the Commons show no significant results. The general conclusion is that elections which shifted power to the Tories were favorable to the EIC's commitments, but the Tory party did not implement any favorable regulatory policies until after the election, perhaps because subsidies to the EIC were unpopular in elections.

Table 8: Electoral Cycle

	(1) all elections	(2) only elections Fixed in date	(3) only elections that change maj. party	(4) only elections that change maj. party to Tories
	Post-1688	Post-1688	Post-1688	Post-1688
	Coeff.	Coeff.	Coeff.	Coeff.
Election Variable	(St. Err.)	(St. Err.)	(St. Err.)	(St. Err.)
one year before election	-0.031	0.017	-0.159	-0.186
	(0.073)	(0.052)	(0.139)	(0.190)
year of election	0.038	0.032	0.017	0.014
	(0.051)	(0.075)	(0.086)	(0.139)
year after election	0.109	0.043	0.178	0.199
	(0.05)**	(0.047)	(0.095)*	(0.114)*
Other Controls Included?	YES	YES	YES	YES
N	106	106	106	106
F-Stat	3.26	2.94	2.64	2.80

Notes: Newey West Standard Errors are reported. *, **, *** indicates statistical significance at the 10%, 5%, and 1% level respectively.

6 Conclusion

The English East India Company or the EIC played a key role in establishing Britain's merchant Empire in East Asia. However, the Company was not an early leader in East Asian trade. The EIC fell behind the Dutch Company or VOC in the seventeenth century, and only by the late eighteenth century did it take leadership in the market. This paper argues that the English East India Company's early performance was hindered by a problem of regulatory commitment, rooted in the instability and incapacity of English political institutions during the seventeenth and early eighteenth centuries. The monarchy, which had authority over the monopoly charter, could not always commit to allow the Company to earn the rents it was promised. The history of the Company shows torturous renegotiation concerning the EIC's monopoly trading privileges and repeated fiscal demands made by the monarchy. Moreover, it strongly suggests that regulatory commitments were least credible

in times of political instability, warfare, and fiscal crisis.

One of the main contributions of the paper is to examine the effects of political instability, warfare, and fiscal capacity on the EIC's investment in shipping capacity. The baseline regressions show that the growth of shipping tonnage declined significantly when there was a new Lord Chancellor, when Britain was at war in Europe or America, and when shipping tonnage exceeded central government tax revenues. The results also suggest substantive differences in the parameter estimates before and after key turning points in Britain's constitutional and fiscal development. Before 1689 political instability measured by changes in the Lord Chancellor had a significant negative effect on EIC investment. The same applies to wars in Europe or America which substantially reduced the growth of shipping tonnage. In the period after 1689 the variable for relative fiscal incapacity was the main driver of investment, while war and changes in the Lord Chancellor mattered little. Elections are also found to play a greater role after 1688, especially those that changed the majority party. The implication is that the regulatory environment for the EIC changed in a fundamental way sometime in the eighteenth century.

The findings point to the significance of regulatory institutions in Britain's development and its links with politics and war. The previous literature has emphasized politics and consitutional changes in Britain's development but it has missed one of the most important channels through which institutions mattered: regulatory commitment. The history of the EIC provides a different perspective and a more direct link between institutions and growth. In this respect the history of the EIC complements the story of corporate organizations like turnpike trusts and river navigation authorities which were also created and regulated by the state (see Bogart 2011).

This paper also speaks to the literature on regulatory commitment and regulatory uncertainty more generally. This paper is unique in showing that the political and fiscal conditions contributing to regulatory opportunism reduce investment. Much of the theoret-

ical and policy-oriented literature emphasizes the potential impacts on investment, but very few report estimates. The case of the East India Company shows that regulatory problems have a long history.

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Figure 1: Share Prices of the Old East India Company and the Dutch East India Company, 1657-1709

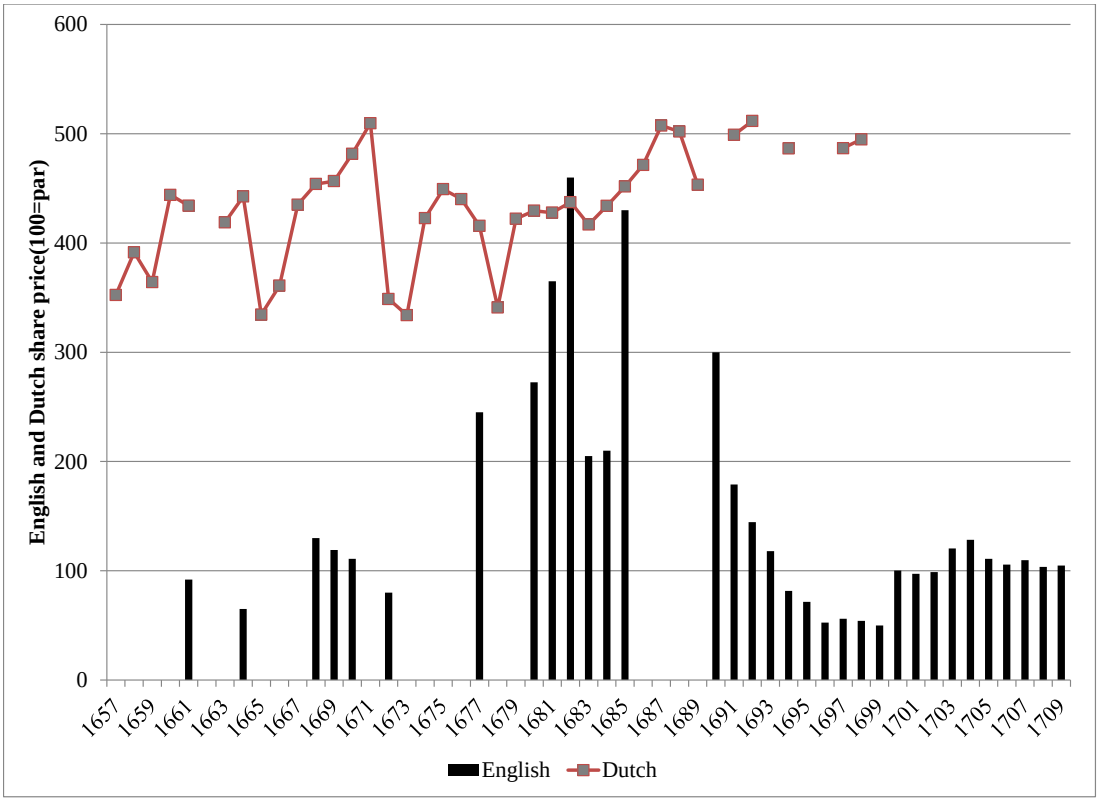

Figure 2: English East India Company Shipping Tonnage in Logs, 1601-1795

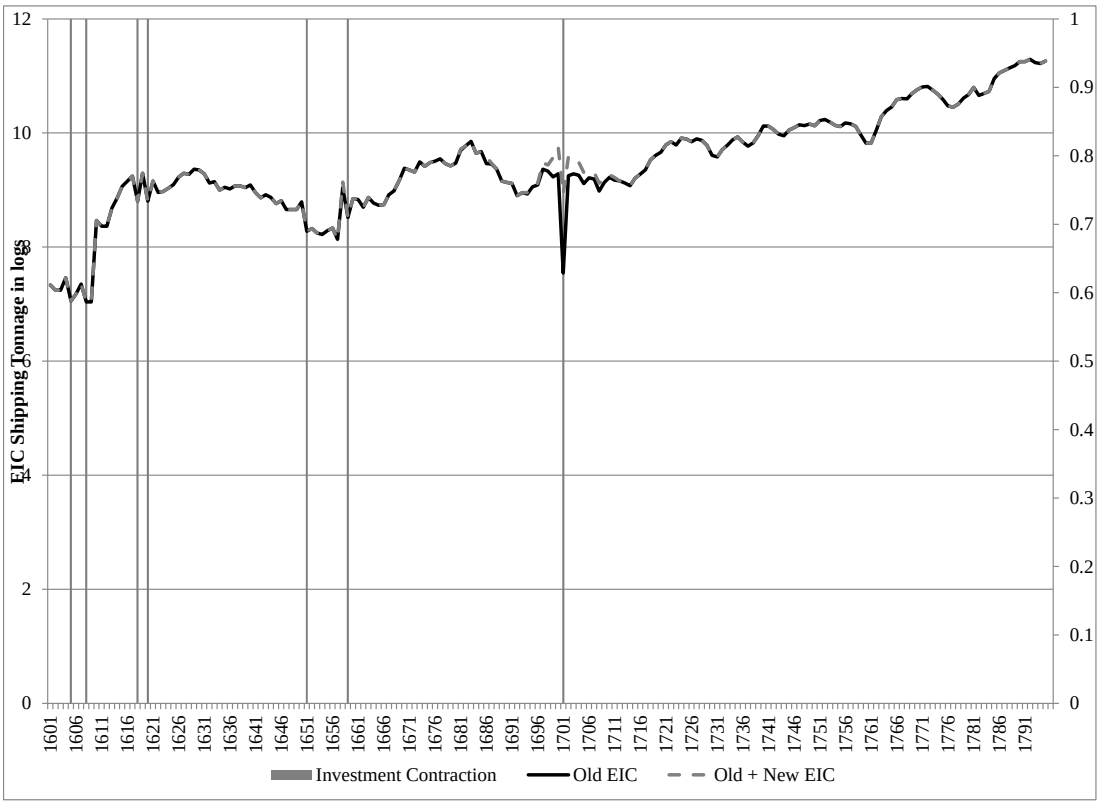

Figure 3: Relative Fiscal Incapacity, 1601-1795