

The Emergence of the Corporate Form

Giuseppe Dari-Mattiacci,^a Oscar Gelderblom,^b Joost Jonker,^c and Enrico Perotti^d

Abstract

The Dutch East India Company (VOC) is generally viewed as the first modern corporation, yet its 1602 charter did not introduce all features of legal personality. A detailed historical analysis reveals how its statute proved inadequate to sustain the massive military investment needed to secure a strong trade position in Asia. In response, legal innovations were introduced in the subsequent twenty years. In 1612, state intervention overruled shareholder rights and created capital lock-in. The associated loss of control by shareholders was ultimately compensated by long-term profits, as the escalated commitment to Asia allowed the VOC to outperform its competitors. Once capital became permanent, VOC directors needed and gained the final corporate feature of general limited liability in 1623. We argue that this transition could be achieved while preserving private interests because the Dutch Republic's limited form of government protected long term private capital, while autocratic colonial powers maintained a royal monopoly on colonial trade. The English East India Company adopted the much-admired Dutch model only half a century later, as the crown became subject to parliamentary control. By then the Dutch grip on South-East Asia had become entrenched, leading its competitors to focus elsewhere.

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^b Utrecht University.

^c Utrecht University and University of Amsterdam.

^d University of Amsterdam and CEPR.

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1. Introduction

Institutions are crucial for economic growth, as they define the ultimate allocation of surplus and thus incentives to invest (North and Thomas 1973; North 1981). The literature has identified political, legal and cultural institutions (Aghion et al. 2004; Acemoglu and Johnson 2005; Guiso et al. 2009; Tabellini 2010). Among formal legal institutions, the corporate form provides a private business with legal personality and plays a central role in modern economies. Its origin is often associated with the chartering of the Dutch East India Company, the *Vereenigde Oost-Indische Compagnie* or VOC, in 1602 in Amsterdam (Hansmann et al. 2006: 1378). Yet, surprisingly little is known about the circumstances of its emergence. Its clear historical identification represents a rare opportunity to study such an institutional discontinuity. Two questions appear particularly compelling. How did the VOC develop the features of a modern corporation? And why did it emerge right there and then?

We analyze here in detail the emergence of the legal innovations that generated the VOC's corporate form, and offer some conceptual insights into their causes. Along the lines of North (1980), we view this episode of institutional change as a convergence of strong interests to take advantage of an economic opportunity.¹ In fact, the creation of legal personality for private businesses required an active role for the legislator. As a bundle of proprietary rights opposable to third parties, it could not have been entirely achieved through private contracting (Hansmann and Kraakman 2000).

Our chronicle supports the view that the corporate form was an effective organizational model² to sustain large-scale, long-term investment over time, transcending the personal circumstances of its individual owners. The VOC corporate personhood coalesced gradually to ensure a massive capital commitment necessary to exploit promising but extraordinarily risky trade opportunities in Asia. This process consisted of three steps that brought about fundamental legal innovations: medium-term capital lock-in and tradability of shares in 1602 (Gelderblom and Jonker 2004), permanent capital in 1612, and limited liability in 1623 (Gelderblom et al. 2012). These innovations added to entity shielding and agency law, which had developed earlier (Hansmann et al. 2006; Zimmerman 1996)—to provide the fundamental building blocks of corporate personhood.

The initial 1602 charter was by itself innovative. At a time when all early colonial trade was run by partnerships limited to one voyage, it provided for a

¹ See also the view expressed by Demsetz (1967) concerning the move from communal to private property in response to increased economic opportunities.

² On the debate on the efficiency of the organizational model adopted by the early trading companies of the seventeenth century see Jones and Ville (1996a and 1996b) and Carlos and Nicholas (1996).

commitment of capital for ten years,³ and delayed dividends until profits had fully recouped all investment (Den Heijer 2005). Investors were not used to such a loss of liquidity; thus, the charter admitted free transferability of shares, a novelty (Van Dillen 1958, Gelderblom and Jonker 2004, Petram 2011a). Managing shareholders remained personally liable, as it was always the case at the time. As the ten-year expiration approached, it became clear that liquidation would mean a premature distribution of resources precisely at a time when they were sorely needed to contain the competing powers and secure a grip on colonial trading posts. At this stage, the Dutch political elite, balancing mercantile and military interests, intervened to modify *ex lege* the original charter in 1612, extending the capital lock-in. In exchange for the loss of dissolution rights, they promised shareholders a large dividend, reimbursing their original outlay (Steensgaard 1982; Gelderblom et al. 2011). The extension of the lock-in was a clear violation of investor rights, and in another country it would have amounted to public expropriation. In the Netherlands, the committed capital enabled the VOC to steadily outspend its English, Spanish, and Portuguese competitors, and resulted in enormous profits for its shareholders for 150 years. Once capital became permanent, raising further funds through debt required limited liability for managing shareholders, which was added in 1623 (Gelderblom et al. 2012). The model was widely admired and adopted in England half a century later.

This chronicle raises a critical question. Colonial trade was an opportunity for many countries. By 1600 the Portuguese and Spanish had been active in it for almost a century, the British and other powers started at the same time as the Dutch (De Vries 2003). Why did the corporate form arise first in Amsterdam, and why was not adopted elsewhere for decades?

We contribute two elements to this question. First, legal personality was essential to endow a corporate body with permanent capital. Second, the lock-in of private capital was only possible in a limited government regime responsive to commercial interests. Colonial trade had military implications for monarchs, and their authority shaped its organization. In most European countries, the government played a heavy role in colonial trade. In England and France, private merchants played an auxiliary role in organizing individual expeditions. In Spain and Portugal colonial trade was an outright royal monopoly (Findley and O'Rourke 2007: 143-226).

The East India Company (EIC) was chartered ahead of the VOC in 1600, pursuing the Asian trade via traditional short-term partnerships. While these were quite successful, the English soon came to admire the Dutch model, which enabled a greater scale (Hansmann et al. 2006: 1377). Yet they failed to move to permanent capital until 1657 under Cromwell (Harris 2005: 45). In our view, the EIC started to catch up in

³ The charter referred to three terms of one year (concerning pre-existing operations), ten and again ten years. Most importantly, there was no commitment to capital rollover from the first into the second ten-year account so that the initial capital commitment was limited to ten years.

long-term capital commitment only once the power of the crown with respect to war and taxation had been significantly limited after the Civil War. Once the Glorious Revolution finally ensured protection of private rights against expropriation (North and Weingast 1989; Harris 2009; Cox 2012), the British fully built up their colonial empire.⁴ Yet, as a result of its early advantage, the VOC maintained a dominating role in South-East-Asian trade. As early as 1635 it had become clear to the British, Spanish, and Portuguese that the Dutch dominated the Indonesian archipelago to such an extent that they started looking elsewhere for expansion, which in the British case meant India (e.g. Witteveen 2011). The initial institutional advantage was quite persistent; even by 1795 the VOC had sent 4,785 ships totaling 3.4 million tons to Asia, whereas its nearest rival, the British EIC, had managed 2,690 ships totaling 1.4 million tons (De Vries 2003).

The components of legal personality represent modern proprietary rights that went beyond traditional rights associated with land ownership. Our analysis supports the view in Acemoglu et al. (2005) that colonial trade had a positive impact on reinforcing property rights for emerging classes in less autocratic European countries, and were conducive to their economic development. While their work offers a broad cross sectional evidence, here we shows in detail how the proprietary rights⁵ supporting the VOC corporate form became established over time as political institutions evolved, with England catching up with the Dutch Republic by the second half of the seventeenth century.⁶

The article is organized as follows. In Section 2, we discuss the building blocks of the corporate form and their early history. Section 3 presents our conceptual model, validated in Section 4 by interpreting the historical process through which the VOC obtained permanence and full legal personality. Section 5 discusses the political determinants for the Dutch advantage in creating a superior organization structure able to outperform its larger competitors. At the end we offer some conclusions.

2. Legal innovations for the corporate form

The corporate form provides a business enterprise with legal personality, so that it can have an autonomous life independent of its investors. This requires agency (representation), entity shielding, limited liability, tradable shares, and capital lock-in

⁴ For the recent debate on this view, see Clark (1996); Epstein (2000); O'Brien (2001).

⁵ As will be clarified in what follows, the legal innovations necessary to support the VOC corporate form were proprietary rights, that is, rights opposable to third parties irrespective of any contractual agreement. In contrast, contracting institutions had long been in place before the rise of Amsterdam (Gelderblom 2013).

⁶ See also Puga and Trefler (2012) showing that the exogenous availability of more profitable trade opportunities had a positive but reversible effect on the quality of political institutions in medieval Venice. Initially, trade opportunities enabled merchants to obtain constraints on the executive. Later, the richest families used the wealth produced by trade to block political competition and limit entry.

(Armour et al. 2009: 5-15; Blair 2003 and 2012). Under the traditional Roman laws of agency and partnership, a company was nothing more than a private contract (*societas*) to share losses and gains. It had no effects for third parties and no transferability of shares without unanimous consent. Essentially, any change in the partners' identity ended the old contract and required a new one (no tradable shares). As a result, partners were personally liable for company debts (no limited liability), personal creditors of the partners could attach company assets (no entity shielding), and the partners could rely neither on agents nor on each other to commit the company (no representation) (Abatino et al. 2011).⁷ An additional limitation imposed by Roman law principles was a lack of legal means to commit capital for the long term, as participation was essentially at will both for partners and for co-owners (no capital lock-in; Arangio-Ruiz 1993: 231, 350). This had the advantage of limiting agency costs, but curbed the lifespan of the business and exposed it to inefficient early liquidation. A company had no independent life from its investors.

Some of these principles limited business organizations throughout the Middle Ages. Entity shielding developed relatively early; Hansmann et al. (2006: 1366-67, 1376-77) show that it was already a characteristic of the Italian *compagnia* in the thirteenth century and an established principle by the time of the VOC.⁸ Agency law (representation) followed a similar pattern. The glossators of the twelfth century cast doubts on the validity of the Roman principle of *alteri stipulari nemo potest* (no representation) and exceptions had been carved out in canon law and in sixteenth-century natural law. By the time of the VOC, in commercial practice the Roman law principle of no representation had long been relinquished and partners were treated as jointly and severally liable to third parties for transactions carried out within the scope of the partnership. Yet, the principle was not completely abandoned until the seventeenth century. Legal scholars and, to a more limited extent, the Dutch Supreme Court continued to rely on it (De Ruysscher 2012; Punt 2010: 283-86). In legal scholarship, the change was pioneered by the Dutch Hugo Grotius in 1625, who supported representation in his *De iure belli ac pacis*, in response to the needs of the Dutch trading economy ahead of other European countries (Zimmerman 1996: 41-44).

While entity shielding and representation had been clarified by the time of the VOC, tradability of shares, capital lock-in and finally general limited liability came into

⁷ In fact, some of these limitations could be bypassed by the use of slaves as business agents (Abatino et al. 2011) and did not apply to public contractors (*societates publicanorum*; Malmendier 2009; cf. Fleckner (2010) arguing that the *societates publicanorum* were not large capital associations); however, both solutions disappeared long before the fall of the Western Roman Empire. See also Zimmerman (1996:38-39) illustrating some methods to evade the restrictions on representation in classical Rome.

⁸ The recorded customs from Antwerp are evidence that entity shielding was recognized by the time trade moved to Amsterdam at the end of the sixteenth century (De Ruysscher 2012). Punt (2010:282) shows the Dutch Supreme Court recognized entity shielding generally for partnerships in the eighteenth century. Hansmann et al. (2006:1376,77,1380-81) find traces of entity shielding in a 1683 English case and argue that the VOC had entity shielding as a result of the tradability of shares and capital lock-in.

being in the first twenty years of the VOC existence. Punt (2010) shows that, throughout the eighteenth century, the Dutch Supreme Court continued to treat partnerships as inherently based on continued unanimous consent. As a result, agreements to lock in capital for a certain period, make shares tradable or limit the partners' personal liability remained not generally enforceable in court (Punt 2010: 279, 282, 283).⁹ Therefore, contractual solutions were not readily available, and the VOC had to break with long-lasting principles by force of legislation.¹⁰

Before the VOC, private partnerships were short-term, unlimited liability endeavors. This was not seen as a limitation, as few businesses in the Low Countries required large capital investments; most of the value added was due to labor. Sole proprietorship was the dominant business form.¹¹ General partnerships were used in international trade, but did not entail limited liability or capital lock-in. Trade expeditions were financed for single voyages, with default liquidation at the return of the fleet (Gelderblom et al. 2011). Such partnerships entailed a measure of capital lock-in, since as the fleet sailed liquidation was materially impossible until its return. Hence, lock-in was merely due to the nature of the business at hand. A fundamental innovation in the 1602 VOC charter was a commitment to lock in capital for a term of ten years. Lock-in entailed a remarkable loss of liquidity for investors. This was balanced by a procedure for free tradability of shares, which immediately gave rise to an active Amsterdam stock market (Gelderblom and Jonker 2004; Petram 2011a).¹² From 1610 the British also practiced a form of lock-in by organizing multiple voyages financed by one joint stock company, just as the Dutch were about to move to permanent capital (Scott 1912).

Limited liability was an equally deep innovation. Managing partners remained personally liable until the seventeenth century (Montanari 1990), though passive partners benefitted from limited liability already in the Islamic *qirad* and the Italian *commenda* (Favali 2004; Mignone 2005). A rare exception appears in Toulouse, where grain mills had limited liability for shareholders and directors plus tradable shares since at least the fourteenth century.¹³ Yet this model did not extend to large, risky

⁹ Even limited liability for passive partners, while enforced in merchant courts, remained highly controversial in scholarship and in public opinion (Kessler 2003).

¹⁰ More precisely, limited liability was initially obtained in a quasi-contractual way and later sanctioned by courts. See Hansmann et al. (2006:1341-42) discussing the limits of contractual solutions to achieve legal personality and stressing that limited liability could in principle be achieved through contracts.

¹¹ This was clearly true in agriculture (De Vries 1974; Bieleman 1992:31-100; Van Bavel and Gelderblom 2009). Manufacturing was dominated by urban craftsmen who worked in small workshops. Only the most capital intensive production units, like sugar refineries and breweries, were sometimes owned by general or special-purpose partnerships (Yntema 1992; Poelwijk 2003).

¹² Ekelund and Tollison (1980) argue that tradability of shares was the principal reason why the corporation was invented. Note that in England a secondary market in shares appeared only a century later (Harris 2009).

¹³ Sicard (1953); Goetzmann et al. (forthcoming).

commercial operation, but rather remained limited to investment in local real property.¹⁴ In the Dutch Republic, the only entities enjoying limited liability for active managers were public bodies, such as water-management bodies (Van Tielhof 2009: 215-20), municipalities, church institutions, charities, guilds, universities, and, from the 1580s onwards, admiralties (Rijpma 2012: 28-32). The corporate form extended to selected private entities with a public function, such as land reclamation projects—*copen* and *polderbesturen*—which required an indefinite life and were organized similarly to water management bodies.¹⁵ When the VOC was created, just as in the early trading companies (*voorcompagnieën*), a small group of active partners acted as directors, or *bewindhebbers*, and were ultimately responsible for all decisions by the company. In the VOC charter the directors were exceptionally granted limited liability with regard to wage arrears (as wages were to be paid upon return of the fleet, they could not be paid in advance). For all other obligations, the *bewindhebbers* remained unlimitedly liable.¹⁶ Such personal liability was initially seen not simply as acceptable, but also as appropriate, since the company was to be entirely financed through equity (Gelderblom et al. 2011).

3. A descriptive model

We first model here the efficiency of alternative ways to organize long-distance trade, each trading off agency costs and expropriation risk against the need for capital commitment. Next we turn to describe how circumstances led to the evolution of the VOC into the modern form of a private corporation.

Traditional shipping partnerships aimed at minimizing agency costs in risky ventures. Passive partners' capital was committed for specific transactions, with repayment as soon as revenues could be verified (that is, upon the return of the ship). This ensured verifiability of revenues and limited managerial discretion. Crucially, active partners were disciplined by unlimited liability.¹⁷ With the advent of Asian trade, large-scale joint investment became essential. While expeditions could be coordinated among partnerships to increase fleet size and reduce foreign competition, they did not

¹⁴ The mills of Toulouse rived their organization form from the feudal institution of *pariage*, which developed out of the need to guarantee the unity of inheritances while preserving an equal treatment of the heirs (Goetzmann and Pouget 2011).

¹⁵ From the year 1000 onwards Dutch peatlands were drained using so-called *cope* contracts, long term leases that gave the occupants extensive land use rights (Van der Linden 1955) and the right to transfer them to others without approval (though land ownership remained in the hands of the feudal lord). Land reclamations in the sixteenth and seventeenth centuries were funded by private special-purpose partnerships. Once land reclamation had been completed, the initial partners could no longer be asked to subscribe additional capital. Landowners were free to sell their landholdings (Van Zwet 2009:51-83).

¹⁶ The unlimited liability of the directors under the first VOC charter was later confirmed in a legal opinion to be found in *Hollandsche Consultatien I-283* (Punt 2010:108-09).

¹⁷ Maritime law limited liability in case ships were lost, a contingency outside managers' responsibility.

resolve mutual competition and free-riding by others on the safety provided. To encourage investment in colonial trade infrastructure (a common good for trade from the same country), colonial trade became everywhere protected by a royal or private monopoly.¹⁸

Another challenge to tradition was that the short duration¹⁹ of classic partnerships could not support long-term investment in foreign assets such as military equipment, forts and trading posts. These were hard to value and to liquidate, being sunk investments specific to the goals of the company whose economic value depended entirely on the commercial operations they supported. A solution was found in tying the monopoly to a ten-year capital commitment. This was at the time a huge step, and required relinquishing monitoring of transactions for several voyages. Only after 10 years would the VOC management have to present final accounts to shareholders.

Such discretion for the active partners implied moral hazard costs in corporations relative to partnerships, a fact well understood by Adam Smith.²⁰ It was also keenly debated, by VOC managers and among VOC investors (Gelderblom et al. 2011, 2012). A mitigating factor was that VOC directors were unlimitedly liable for debt obligations, although the 1602 charter exempted them from liability for unpaid wages. These were the main fixed obligations for the VOC, as other expenditures could be funded ex ante by the equity contributions, and some insured.

Table 1. *Three organizational models for colonial trade*

<i>Business Form/ Economic effects</i>	<i>Capital Commitment</i>	<i>Private Governance Costs</i>	<i>Asset Profitability</i>	<i>Type of assets</i>	<i>Expropriation risk</i>
<i>Traditional partnership</i>	For single expedition	Minimal	High but risky	Voyage related	Minimal
<i>Pooled partnership</i>	One or more expeditions	Potential free riding	Higher, vulnerable to free riding	Some medium term assets	Modest
<i>VOC (1602)</i>	Medium term	High agency costs	Very high <i>in the long term</i> unless diverted to military use	Large long term investment (forts, trading posts, armed fleet)	Very high

¹⁸ Also Venice had faced a steady military challenge to its trading route, and ran a public military infrastructure under which private merchants could organize individual expeditions (Lane 1966).

¹⁹ Note that the problem is not how long a partnership lasted but the fact that death of a partner or a unilateral decision to quit would have dissolved the partnership and required a new contract.

²⁰ “The directors of such [joint-stock] companies, however, being the managers rather of other people’s money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. [...] Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company” (Smith 1776:741).

<i>VOC 1612)</i>	<i>(after</i>	Indefinite	Huge	Very high <i>in the long term</i>	Huge commitment to foreign assets	Huge
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Another investor concern was that VOC assets had clear military value, at a time of intense conflicts with Spain and other nations. While such investment was profitable if put to commercial use, it could be directed to war purposes, as it was already in the first years, and could become de facto expropriated. A short-to-medium-term capital commitment implied less exposure to political risk but also smaller investments and fewer military means to secure commercial interests, as was the case for Britain. Table 1 gives a schematic representation of the advantages and disadvantages of these three modes of organizing colonial trade. Long-term profits are highest when capital is committed for a longer term (unless expropriated), and higher than for single and even coordinated voyages. On the other hand, moral hazard costs are highest under permanence, intermediate for pooled partnerships (because of free-riding) and minimal for single voyages. We assume that in the context of the Asian trade, a longer-term commitment was more profitable than partnerships even after accounting for larger agency costs, provided that no expropriation took place. Profit opportunities naturally differed across traders (and across different cities²¹), which had different access to individual trade options. High-value traders could organize large expeditions on their own. We assume that these traders prefer to free ride, especially after some investment is made, since they are relatively efficient.

This set up offers two simple results. First, a fully private solution that pools all traders' capital would not be sustainable. Second, a monopoly partnership with medium-term capital commitment is more profitable, but would not achieve full profitability unless maintained over time. Could a medium term commitment naturally evolve in permanent capital? The 1602 charter did not offer an adequate commitment to long-term investment for the VOC to achieve military supremacy against competitors. Early liquidation would mean lower long-term profits in the race to dominate Asian trade. Yet, by the end of the first ten-year term, only a unanimous vote by all VOC partners could have allowed uninterrupted continuation. A private solution, even though collectively efficient, was impossible as stronger traders would undermine it in order to compete on their own. A final concern for investors was the risk that company resources could be diverted by the government to war purposes. If the risk of excessive military expenditure were high, they would prefer to back a private monopoly with limited capital commitment (as the EIC did; Harris 2005: 31).

The empirical prediction is that a more limited form of government would

²¹ Although very general, the set-up of the model is consistent with the actual history of the bargaining over the VOC charter before 1602 and its alteration in 1612, with negotiations taking places among six cities: Delft, Hoorn, Rotterdam, Enkhuizen, Amsterdam, and Zeeland.

encourage a larger capital commitment, and on a longer-term basis. Moreover, an autocratic government may be unable to commit to respect a private monopoly. The outcome would be less committed private capital, or a royal monopoly. Arguably, private funding under limited government could support more investment and time commitment than a royal monopoly. In the next section, we discuss how well this simple framework can help explain the early evolution of the VOC into a corporate structure with permanent capital and limited liability.²²

4. The emergence of legal personality

Until the end of the sixteenth century Spain and Portugal dominated European trade with Africa, Asia and America. This changed when the Dutch Republic gained its independence from the Habsburg Empire. The turning point was the fall of Antwerp in 1585 and the subsequent blockade of the river Scheldt and the Flemish coast by Dutch rebels. The city could no longer function as a gateway to northern Europe as a result of which many foreign and local merchants moved their business elsewhere. The Flemish merchants who had begun trading with Russia, Africa, and the Levant in Antwerp in the 1560s and 1570s chose to settle in Middelburg and Amsterdam. They brought with them their commercial customs, which, as we have discussed above, were more advanced than the traditional principles still embraced by legal scholars and, to a more limited extent, courts. It was not long before merchants from Zeeland and Holland joined their efforts to establish an independent presence in markets outside Europe.

Single voyages, 1590-1600

The first companies sailing from the Dutch Republic to Asia in the 1590s adopted funding strategies tried and tested in European trade. The typical contract was a general partnership with additional features. The promoters drafted contracts for single voyages but with more than one ship, a longer time horizon, and a larger number of shareholders than traditional European ventures. The initiators invested their money under the same conditions as all the other shareholders but, in exchange for a commission fee, they planned the voyage, instructed and monitored shipmasters and trading agents, and handled the return cargoes. Piecemeal dividend payments were made as sales progressed and once the companies had sold out, accounts were drawn up and the partnership was liquidated. There was the option, but never an obligation, to reinvest in a subsequent voyage. As the first companies to Asia followed the rules of traditional partnerships, all investors were jointly and severally liable for any debts incurred by the initiators, but their liability was effectively limited in two ways. On the one hand, the

²² For a detailed study of the VOC charter and accounts, see Gelderblom et al. (2011 and 2012).

investors could deny any claim that followed from actions that lay outside the designated purpose and duration of the partnership. On the other, in shipping ventures, they could invoke maritime law and abandon their investment in case of total loss of the ship due to shipwreck or capture (Gelderblom and Jonker 2004; Gelderblom et al. 2011).

In 1597 the first three ships returned from Asia. Although the return cargo hardly covered the costs of the expedition, this failed to dent the belief that large profits could be made, resulting in a wave of new voyages organized by companies from Amsterdam, Middelburg, Veere, Rotterdam, and Delft. State coordination remained limited to arrangements with the local and provincial governments about sailing in convoys and the supply of ordnance and ammunition. Setting up a long-term trading company would have yielded higher gains than single voyage contracts because the long-term investment would have made it easier to secure the Cape route. However, long-term commitments entailed moral hazard costs, due to the directors' superior information on trading operations, while there always remained the possibility that other Dutch traders would recruit investors to set up a rival company to reap the benefits of this emerging trade.

Local coordination, 1600-1602

Competition between companies in different cities led to the dispatch of no less than 62 ships between 1597 and 1601—a much larger number than in England, where only one group of London merchants received a royal charter to trade with Asia (De Vries 2003; Gelderblom 2009). As the vast majority of ships returned with rich cargoes, profits were very high. Between 1598 and 1608 the investors in Amsterdam's early companies earned an average annual return of 27 percent (Gelderblom 2003). But the company directors and government officials realized that competition could undermine profits, while the growing Dutch presence in South-East Asia also rendered Spain increasingly wary, thus raising the likelihood of attacks on shipping to and from the East. These worries inspired the municipal governments of Amsterdam and Middelburg to apply a device that had been used successfully in Amsterdam's Africa trade in 1598: the merger of local companies. In 1600 the *Oude Compagnie* and *Nieuwe Compagnie* in Amsterdam already coordinated their sailing and in 1601 they formed a new company, which sent out a fleet of eight ships. Yet, a similar attempt in Middelburg failed, on the refusal of prominent merchant Balthasar de Moucheron to join.

This lack of coordination in Zeeland reveals the inherent instability of coordination at the local level. It may have raised profits in the short term but the arrangements was prone to opportunistic deviations, the more so as there was a considerable number of competing ports in the United Provinces, which made it easy enough for traders to invest in another company or even create a new one. As local coordination did not guarantee large profits in the future, merchants had no incentive to

commit capital for a longer period. Thus, Amsterdam's united company continued to be organized as a special purpose partnership, with joint and several liability for all investors, and a small committee of managing directors, drawn from the two previous companies in charge of equipment and sales. As for protection, the directors continued to borrow military hardware from the city and they worked with the local admiralty board to impose a naval command structure on the fleets sailing to Asia.

The first VOC charter, 1602-1612

Since local coordination could not secure the Asian routes, provincial and central authorities pushed for national coordination. After intense negotiations, agreement was reached to establish a public monopoly on the Asian trade for 21 years. Operations would be managed by six local chambers, which appointed a central governing board of 17 directors to run the overall business. Amsterdam, the biggest chamber, obtained only eight seats on the board so that it could not dictate proceedings. The other five provinces of the Union did not obtain a right to appoint directors, but received a promise that they might appoint supervisors to monitor the interests of their shareholders.

The 1602 charter offered an adequate time horizon to secure the Cape route. Shareholders committed capital for ten years. They were to receive a dividend once accumulated profits (gross of re-investment) matched the initial investment. In 1612 they were to receive full accounts, and the option to either withdraw their share or to reinvest it into a new ten-year venture. What was not envisioned at the time was the opportunity cost of liquidating assets in 1612. The monopoly prevented traders from free-riding on the security provided. This could not be done by private contracting among traders.

The government delegated sovereign powers in Asia to the VOC, notably the rights to conclude treaties with foreign powers, to wage war, levy taxes, and operate a formal legal system for judging its employees. In exchange, the Estates General obtained safeguards in the charter that the company would do its bidding. This hybrid structure of a private commercial company with public responsibilities justified a special corporate status typical of other public bodies in the Dutch Republic (Gelderblom et al. 2011). Yet, the charter of 1602 did not establish the full legal personality of a modern corporation. The company remained a special purpose partnership, with no permanent capital, and the directors remained unlimitedly liable for any debts incurred on behalf of the company, with the exception of wage arrears. Company directors were probably willing to take the risk as they planned to fund trade from share installments until 1607, and from revenues thereafter. The capital raised enabled the company to engage in large scale military investment to secure its overseas position, while the monopoly over commerce with Asia prevented traders from free-riding on the security provided in Asia by the VOC.

As investors might find it difficult to commit funds for such a long duration, it was decided to allow free transferability of shares. Intense trading started immediately after the closing of subscriptions (Gelderblom and Jonker 2004, Petram 2011). This was a major change relative to practice, where consensus on partner identity was important.

The unprecedented managerial discretion granted to the board was a common cause of protest. From the start shareholders worried about the VOC policy, in particular the priority of war over trade and the lack of dividends. Three merchants and directors of the Amsterdam company which had merged into the VOC refused to join when the extent of the new company's hostile intentions became clear (Van Dillen 1958:71, 98-99). In 1603 Balthasar de Moucheron, who had long resisted before he gave up his own successful trade with Asia, resigned as director over a policy disagreement. Two years later, another prominent investor and director, Isaac le Maire, resigned and sought to pursue trade independently. As a result, their former colleagues petitioned the Estates General in 1606 for a ban on directors resigning, which was turned down (Gelderblom et al. 2011: 47).

Throughout the first charter and beyond, pressure remained to allow additional private trade (Van Dam, 1927: 220-27). In 1609 Le Maire complained to the Republic's powerful statesman Johan van Oldenbarnevelt about the unfairness of keeping private business out of trading areas covered by the company's monopoly but never visited by it.²³ He sought to found a rival company in France (Bakhuizen van den Brink 1855), and later organized an expedition to circumnavigate South America, a route not covered by the VOC's monopoly. The ships reached the Indonesian archipelago, only to be impounded by the VOC. Though le Maire ultimately won a prolonged litigation, this experience discouraged further attempts to test the VOC monopoly.²⁴

The VOC set out rapidly to gain a strong position, seizing many of the best spice trade ports, especially from the Portuguese. The Dutch easily outspent the English EIC, which funded smaller expeditions backed by short-term capital. By sheer volume of ships, manpower and willingness to invest in local infrastructure, the VOC soon secured a stronger position in South-East Asia. However, the amount of military investment exceeded expectations, also because of the Estates General's push for an aggressive stand against the Spanish to relieve pressure on the Republic. The first fleet sent out in 1603 received instructions to escalate from the incidental skirmishes encountered by the early companies to a systematic campaign. This caused considerable damage to the Spanish and Portuguese trade, and the sinking of ships, cargo seizures and conquest of enemy fortresses ultimately served the VOC's commercial interests. The Estates General had to concede by 1612 that the scale of violence had been much larger than

²³ Shareholder rights 400.

²⁴ In fact, a last attempt was made at the time of the company's charter renewal in 1622-3. Jan Pietersz Coen called for allowing participation of private business in VOC controlled ports, to build up the intra-Asian trade. He ran into strong opposition from a coalition of company officials in Asia and the Estates General, and failed to convince the board.

the safeguarding of current expeditions would have required. Ships had to serve more than one purpose, sailing around the Indonesian archipelago for years before returning laden to the Dutch Republic, resulting in high wages per ton of return cargoes.

Within five years of its formation, VOC directors found themselves confronted with pressing financial shortages (Gelderblom et al. 2012). The four fleets sent out between 1603 and 1607 had exhausted the available cash. Wage bills were met by drawing on the revenues set aside from the Van Warwijck expedition—the last one formally organized by an early company but partly merged into the VOC—but this left little for equipping new fleets, causing the number sent out to drop to only four during 1608 and 1609. The company came under fire at home from its shareholders. The price of VOC shares dropped to a low of 80% of nominal value. Annoyed about the company's failure to pay dividends from a lucrative trade, merchants lobbied against any charter extension and for allowing free access to areas not yet developed, which were now made safe by the VOC's past investment. Le Maire launched a massive bear raid on VOC shares in an unsuccessful attempt to force the board to change strategy.²⁵ The truce with Spain (1609) changed very little, as it was agreed that breaches overseas would not affect the truce in Europe.

The transition to permanent capital

As early as 1606 the VOC directors realized the difficulties of liquidating in 1612 and appear to have started lobbying to have that obligation lifted (Funnell and Robertson 2012: 351). In May 1609, Cornelis Matelieff de Jonge, the commander of the third VOC fleet, presented Johan van Oldenbarnevelt with the written opinion on the state of affairs, which the statesman had asked him to prepare.²⁶ In his report, Matelieff's principal concern was that the VOC directors were unwilling to make necessary investments in military operations as these would weigh on the profits of the first ten years' account to be liquidated in 1612, while any return on military investment would benefit investors in the second ten-year account. Yet, he argued, if no investments were made now, it would be very hard to find new investors in 1612 because of lost ground in Asia. Matelieff added that the decision should not be left to the company directors, because they would not mind if the East India trade ended when the charter expired in 1622, but the country would.²⁷ In practical terms, Matelieff suggested that the directors should no longer operate as if the ten-year account would be terminated, but rather focus on keeping their foothold in Asia.²⁸

Our interpretation matches Matelieff's view. The statutory expiration of the VOC equity handicapped a long-term strategy, in a race when commercial and military

²⁵ Van Dillen (1930).

²⁶ Oldenbarnevelt, *Bescheiden*, p. 319-327

²⁷ Oldenbarnevelt, *Bescheiden*, p. 320.

²⁸ Oldenbarnevelt, *Bescheiden*, p. 324-325.

investment had to be frontloaded. Shortly after Matelieff's report the Estates General awarded a rebate of 100,000 guilders on customs duties, agreeing that they had pushed the company into war.²⁹ In 1610 directors asked for a substantial higher subsidy. Calling itself "a servant of your policies", the board argued that the Asian trade was not a private enterprise but rather an affair of state. As ships and crew were often devoted to war rather than trade, the company could not pay cash dividends to shareholders and may resort to raising large amounts of debt.³⁰ The board also lobbied for the lifting of the charter's requirement to liquidate in 1612.³¹

The high point came as the directors' formally requested the charter change to the Estates General in March 1612,³² which was a clear violation of private shareholder rights. The board presented two sets of arguments. The business arguments focused on the nature of the VOC's assets. Transferring the complex lot of forts, warships, offices, and debts due in soldiers' pay and merchants' salaries would have been extremely difficult. Moreover, presenting the accounts would have shown the VOC's weak cash position and the new company would have found it difficult to attract investors. The business really needed a permanent basis to keep investing, and more time would permit to reap the benefits. Suspending liquidation would not harm shareholders, as they could sell their shares. Turning to political arguments, the board emphasized the importance of a permanent company as a trustworthy ally for foreign princes. If wound up now and every ten years nobody would enter into agreements with the company, it could not function as the Estates General's representative overseas. The board professed its willingness to draft accounts for the first ten-year period and subsequently every year in a manner to be set by the Estates General, so as to eliminate any suggestion of opportunism.

At the end of July 1612 the VOC board sent another urgent request. Competition with the EIC was heating up. Not weighed down by high war costs, the English could undercut the VOC in European sales. Spain and Portugal continued hostilities in Asia despite the 1609 truce agreement. Shareholders threatened litigation to force compliance with the charter. Unless the Estates General provided the subsidy required, started negotiations with the English, and lifted the charter obligations, trade would come to a standstill, pushing up unemployment.

The Estates General considered the matter on Saturday, July 28, 1612. On Monday news came from Spain about an imminent offensive on VOC fortresses. The following day, Tuesday, July 31, 1612, the Estates acted. They suspended the charter article concerned, declaring that, "for the benefit, wealth, honor, and reputation of the country, and for other compelling considerations and reasons of state (...) the East India Company should be maintained and conserved in its present state and strength".

²⁹ NA 1.04.02 VOC No. 368, resolutions 22 August, 29 September 1609.

³⁰ NA 1.04.02 VOC No. 368, resolution 17 November 1610.

³¹ Resoluties Staten Generaal 1610-1612, 359.

³² NA 1.01.03 No. 4841, fol 162-167.

Decisions on specific points of the company's request were to take another couple of months, but the VOC's capital had become de facto permanent.³³ For the first time in history, a private firm had gained the prospect of indefinite life.

Why did the government have to intervene? A private solution to ensure continuation would have likely foundered, not least because any individual investor could block continuation. In theory, shareholders could have bought out all those demanding the liquidation of the first account. Yet the price would have been huge, as some traders were eager to undermine the VOC monopoly, and in fact any single partner would have held veto power. Had the government not forced a solution, the only legal option was to follow the charter, liquidating the first ten years' account to launch a new subscription campaign. But this required valuation of existing assets, many located in Asia and hard to assess before a return of all ships and a sale of distant property.³⁴

The final innovation: general limited liability

Rendering the capital permanent in 1612 solved one financial concern of the directors but immediately created a new one. Permanence effectively eliminated the option of raising equity, whereas the VOC still needed ready cash to fund its annual fleets. With sales revenues lagging behind equipment costs, the company successively tried insurance, the postponement of dividends payments, and short-term deposits to make ends meet. None of these provided a definite solution, and for several years the VOC finances continued to be based on revolving capital: profits from returning ships were used to finance new expeditions, while installments on the initial capital subscriptions were to guarantee a limited amount of debt. Financing also remained decentralized, with the different chambers borrowing separately and equipping their own fleets (Gelderblom et al. 2012).

As new competitors began to arrive on the Asian scene, including a French Company and the *Austraelsche Compagnie* established by le Maire (cf. supra), the VOC directors raised their game.³⁵ In 1615 they took the decision to send more ships in order to deal the competition a decisive blow and establish an operational hub in Batavia. As sales revenues remained too low to fund the equipment of additional ships, the campaign was funded by issuing 8 million guilders worth of debt between 1617 and 1623 (Gelderblom et al. 2012).

The directors' financial exposure sharply increased as a result of these loans because, just like the promissory notes traded on the Amsterdam money market since

³³ NA 1.01.03 *** No. 4841 fol 181, 28 July 1610.

³⁴ As we discuss later, the EIC also struggled in transferring assets across its much shorter subscriptions and shorter asset cycle.

³⁵ On the first two ships sailing from France in 1615 and an earlier (1604) failed attempt to do so in 1604, see Joseph Du Fresne de Francheville, 1738. *Histoire de la Compagnie des Indes avec les titres de ses concessions & privilèges*, 1738. Courtesy David le Bris.

the late sixteenth century, they were secured on the person and goods of the directors issuing them (Gelderblom and Jonker 2004). Thus, in order to limit each director's individual exposure to creditors' claims, the VOC in 1617 centralized financial policy, so that the individual chambers would have had to ask permission to raise debt. At the same time, they transformed a directors' individual exposure to liability into the pro rata liability of all directors by agreeing that they and their successors would underwrite any future debt. This allowed the company to borrow more easily from the Amsterdam money market, which had more favorable rates (Gelderblom et al. 2012).

As unlimited liability provisions remained unaltered in the second VOC charter of 1623, directors had their officials sign obligations. The ensuing uncertainty as to who was liable was ended by a unilateral resolution in 1623 by the directors to rewrite the text of their bonds and exclude any personal liability (Gelderblom et al. 2012). Critically, Dutch courts ultimately upheld the general nature of the exemption, a step that could not have been achieved without political support. From then on, the VOC as a legal entity was exclusively liable for its debts (Punt 2010: 290-91).³⁶ The next section illustrates how its full-blown corporate model allowed the VOC to overcome competitors and built a dominant Asian trade organization.

The consequences of a superior organizational model

English merchants raised the equivalent of 300 thousand guilders to equip a second small fleet in 1601 (Scott 1912:92-94). By then, already 50 ships had left the ports of the Dutch Republic (Bruijn et al. 1979-1987). In subsequent years, London merchants' willingness to invest was held back by distrust on the English monarch's attitude. King James I granted charters to competing expeditions (in 1601 and 1607, with an extension in 1609), in blatant disregard of the charter granted to the EIC in 1600 by Queen Elizabeth (Scott 1912:97-100). Such interventions held back investors from pledging capital for more than one voyage at a time. By contrast, the VOC engaged in systematic military spending. Initially the company focused on attacking Portuguese strongholds. Later, Jan Pietersz Coen would develop a two-pronged strategy of establishing control over access to the Spice Islands in the Moluccas, and building up a naval force to patrol the sea lanes in the archipelago. Once in 1619 Coen had established a central, fortified hub at Batavia, he directed the VOC's military efforts further towards protecting the key routes to the Moluccas, China, and Japan. None of the company's rivals came to muster comparable forces, so by the early 1630s the Dutch were master over the Indonesian archipelago. It would only be during the 1650s, when the English company had finally obtained permanence, that a new round of the colonial tournament began, this time with India as the primary arena. The Dutch sought to thwart English expansion even in India,

³⁶ Punt (2010:290) points out that, at the time, the VOC was not viewed as a legal person and directors were part of lawsuits against the company. Yet, by the eighteenth century judgment would not be enforced against the directors personally but against the company.

where they added several strongholds. Only much later would the English gain the upper hand in this area.

The relative strength of the EIC and VOC in the first two decades of the seventeenth century can be seen by comparing English and Dutch employment and investment in ships sailing to Asia. Figure 1 shows the Dutch rapidly pulled ahead of the English. The Dutch invested 14 million guilders between 1600 and 1607, against 2.2 million guilders for the EIC. After some difficult years the Dutch invest 12.4 million guilders in seven fleets sailing between 1610 and 1616.³⁷ The English East India Company equipped ten expeditions in the same period, each separately funded, with very good returns but less than half the amount. Moreover, the EIC assets were of considerable shorter duration, as capital had to be returned quickly (Harris 2005:31-33).

Figure 1. Dutch and English investments in ships sailing to Asia, 1600-1623.

FIGURE HERE

Direct evidence of the commercial competition in this period comes from correspondence of VOC directors with its Asian governors. Coen reported closely on English fleet movements and skirmishes with VOC vessels (Colenbrander 1934:45, 65, 69-70, 93-94, 117, 132, 139-143, 152-153). Coen's greatest concern was that whereas the VOC used a considerable part of its ships, crews, and silver for military operations, the English used the bulk of their resources to buy as many spices as possible to dispatch to Europe (Colenbrander 1934:79). Coen observed that the English were free-riding on Dutch military efforts. This inspired a major policy change. From 1616, the VOC sent out larger fleets with more silver to buy up spices ahead of the English (Colenbrander 1934:69, 93, 149; Gelderblom et al. 2012). The speed and scale of this strategic shift clearly depended on the sustained capital commitment.

By then, the EIC had also decided to move to multi-journey funding for four fleets. However, the amount raised in the First Joint-Stock of 1613 was still modest, and its effective maturity remained short. The stock was to be paid in only gradually, and shareholders were promised a rapid return of capital via dividends. The temporary disarray at the VOC helped EIC profitability, whose shareholders received by 1619 distributions equal to 125% of their investment. This enabled to raise rapidly a second subscription for more journeys for seven years. However, the English policy of limited, short-term investment by now was facing a resurgent VOC. As the stronger Dutch commitment led to the capture of more ports and front buying of spices, competitors returns fell rapidly. The EIC found itself in a financial squeeze, because of its obligations to return capital quickly. At the expiration of the subscription by 1626, its

³⁷ In 1608 prospective shareholders were unwilling to advance their money for the equipment of a new fleet, hence the EIC had to borrow to start preparations: Scott 1912:100.

directors sought to roll over assets in a new long-term subscription. Finally they had to give up and reversed for a while to individual-voyage financing (Chaudhury, 1965). They indicated as causes of the failure strong Dutch competition, followed by high military expenses, the cost of debt funding necessary to keep operations because of the high dividend obligations, and as last the loss of ships at sea. At the same time, London investors remained quite willing to fund shorter ventures, as the success of the three Persian trade subscriptions proved.

By this date the need to sustain long-term assets was acute. The EIC sought again a subscription for multiple trips, and in 1631 it raised a comparatively modest 420 thousand pounds. It resisted any distribution for seven years, but the accounts expired in 1642 and by then Dutch dominance in the Indonesian archipelago was well established. The Civil War subsequently led to a near freeze of operations for several years. With the victory of the Parliament, the EIC finally moved to permanent capital and stable monopoly rights in 1657. The dominance of the Dutch is clearly visible in their number travelling to Asia relative to other competitors, reported in Figure 2.

Figure 2. Europeans sent out to Asia from five countries, 1500-1795.

FIGURE HERE

Assuming that dividend payments to EIC shareholders equaled sales, we can compare VOC revenues and its forerunners with the EIC (Gelderblom et al. 2012). As in Figure 3, Dutch revenues kept far ahead of their English competitors, except for the period around the struggle for capital consolidation. After that, the VOC presses ahead. Even though it issued no new shares, its directors decided to step up investments through the use of loans, and kept dividends low.

Figure 3. Estimated Value of Dutch and English Spice Sales, 1598-1622

FIGURE HERE

Historical archives offer a good view of profitability on the shorter EIC subscriptions (Scott, 1912). These indicated high returns on almost all its early expeditions (Chaudhury, 1965). Each of the six fleets sailing between 1610 and 1612 turned a profit between 50 and 200 percent. As it was evident that their scale of operation was too small, the EIC created an eight-year account in 1613, explicitly to streamline the transfer of assets across voyages. The *First Joint-Stock* raised a capital of 4.2 million guilders (418,691 sterling) for four subsequent voyages. Its good results led to a call for a *Second Joint-Stock* in 1617, with planned investments of 2 million

guilders per year between 1617 and 1625 (Figure 1). Figure 4 charts the difference in investment in equipment by the EIC and VOC over 1600-1623. The VOC invested an average 3.5 million guilders a year after 1617, outspending and outgunning the EIC and producing long-term benefits. The conquest of Bantam, the creation of Batavia in 1619 and the seizure of key ports enabled to build a local trading network, and intra-Asian sales over time helped finance European purchases.

Figure 4. VOC investment in excess of the total for the EIC, 1600-1623

FIGURE HERE

The nature of the Asian trade, unlike other merchant activities, required investment in circulating and fixed capital well in excess of short-term revenues. The EIC model, based on rapid capital return by promised dividends, suffered a liquidity squeeze compounded by Dutch commercial and military pressure after consolidation. Yet EIC faced shareholder pressure to honor the promised distributions, and had to resort to debt made expensive by its limited own capital (Chaudhury, 1965). By 1622 the financial situation was so stressed that its officers threaten to resign. The company tried for years to consolidate its capital stock, but by 1628 it abandoned the attempt, and reverted to fund expeditions on individual accounts or shorter subscriptions.

Figure 5. Dividends paid by East India companies 1600-1630.

FIGURE HERE

Figure 5 compares the dividends paid to investors in England and the Dutch Republic. Up to 1608, pre-VOC Dutch companies had paid an estimated 21 million guilders in dividends. This was roughly the amount of profits the EIC returned to its investors in the first twenty years of existence. In contrast, the VOC paid out considerably less in its first thirty years. The two companies were clearly following a different model, with the EIC aiming at paying out its cash flow rapidly to investors. This reflected the shorter maturity of its equity (including promised dividends), the greater influence granted to its investors and the limited managerial discretion in its charter. The greater capital lock-in and managerial discretion granted by the fuller corporate status of the VOC enabled it to keep reinvesting earnings, and to raise large amounts of debt under limited liability.

5. The political roots of the corporate form

We turn finally to the role of political institutions. We first provide a simple model of organizational choice and then we turn to the historical account.

A simple model of organizational choice

As it is efficient to pool national resources to pursue colonial trade, all countries choose to pursue it through a monopoly, private or public. Aggregate profits are highest under long-term capital commitment, followed by short-term commitment. However, private governance costs (managerial moral hazard) are also higher with greater commitment. Assume that on balance a long-term commitment is desirable, as long as capital is not expropriated by the government.

The risk of expropriation of private capital by the executive power, to pursue military goals is assumed equal to 1 under a fully autocratic monarchy (Spain and Portugal) and 0 under a limited government (the Dutch Republic), irrespective of the length of commitment. In intermediate cases such as England or France, this risk can be kept to zero by investing only in short-term assets; in contrast, with commitment to long-term assets, the risk of expropriation equals e ($0 < e < 1$).

As a country moves towards limited government, expropriation risk e is reduced (England in the second half of the seventeenth century). A short-term commitment avoids the risk of expropriation but imposes early liquidation costs (or lower revenues) relative to a long-term commitment. We assume these costs exceed the private governance costs advantage of short-term commitment, but long-term commitment is subject to expropriation risk. On balance, short term-commitment is preferred as long as e remains sufficiently high.

In the Dutch Republic, there is no risk of expropriation, which makes the long-term commitment the superior option. England relies on short-term commitment of capital until the risk of expropriation e is reduced. Figure 6 illustrates these ideas.

Figure 6. A simple model of organizational choice.

FIGURE HERE

Organizational choice in the Asian trade

The creation of a private monopoly with permanent capital and limited liability could not be achieved by private contracting, and required legislative support. Monopoly rights had been long granted by sovereigns, but the other two interventions were unprecedented. The first required the overriding of an inalienable private right to withdraw from private partnerships, while maintaining the private purpose of the VOC

(i.e., without expropriating the locked-in investors). The second altered the classic liability regime by granting all investors in a private firm limited liability, a privilege until then uniquely reserved to public entities. Private contracts could not have achieved these goals, or only partially and at prohibitively high costs (Hansmann and Kraakman 2000:428-32; Punt 2010:279-83). Why did these legal innovations take place first in the Dutch Republic rather than in its competitors?

Among European competitors, the trade with Asia was mostly managed under monopoly rights, by the king (Spain, Portugal) or private investors (France, England). Private partnerships funded single purpose ventures to contain the agency costs associated with delegating discretion to active partners for a protracted time. A short maturity and limited investment were also natural responses to the risk of public expropriation, most salient for an activity with military consequences. But from the start, the VOC was set up to engage in a massive scale of operations for an unprecedented ten years, a commitment soon escalated in capital and time commitment. This would give them a strong starting advantage and an edge for a long time in the richest trade in Asia.

Why did the Dutch as first create this efficiency-enhancing institutional innovation? We argue that the constitutional setup of the Dutch Republic, where no king could overrule the main representative assembly and force the primacy of military over commercial policies, provided a critical factor to enable such innovations (Harris 2009).³⁸ Since its inception in 1579, the Republic had a federal structure with cities delegating some authority to provinces, whose delegates bargained over foreign and military policy in the Estates General. Merchants had no direct voice in the assemblies, but the articulated political structure rooting in cities ensured that the Estates General was responsive to commercial interests (Gelderblom 2013). Moreover, at the crucial juncture of 1612 commercial interests coincided with the Republic's military interests. In contrast, the English king was repeatedly tempted to revoke the monopoly to gain extra revenues. It would not be until the execution of the king in the Civil War and the 1657 grant of a new charter under Cromwell that the Dutch model of permanent capital could be adopted (Harris 2005, 2009).

After the VOC achieved permanent capital lock-in, the EIC recognized the inefficiency of chartering single voyages, and sought to move to a longer capital commitment cycle. Yet progress in capital lock-in was quite slow and subject to reversals, also in response to uncertainty over changes in the monopoly status. Until mid-century, the EIC could raise capital only on short maturity, and its shareholders granted managers much less discretion than in the VOC (Harris 2005:28-31; Harris

³⁸ While Harris (2009) stresses the importance of limited government for the creation of a financial market, while we stress that it was crucial for the commitment of capital. In turn, capital commitments required easily tradable shares—which in turn stimulated the development of a stock market—in order to counterbalance the loss of liquidity for investors.

2009). These choices suggest a concern to avoid excessive exposure to public expropriation, a clear concern at the time (Coornaert 1967:227). The English came to capital commitment only when the risk of royal expropriation receded after the English Civil Wars. The timing of the adjustment of the EIC charter to the Dutch model bears support to our hypothesis. At the time when the Dutch example called for institutional change, its investors hesitated for many years, a delay which granted a critical advantage to the VOC.

England ultimately resolved its power struggle between Parliament and the monarchy. After dissolving Parliament, Charles I ruled without calling a new assembly for 11 years. In the English Civil War of 1642-51, the king was defeated and executed. The war led to stronger popular support on the constraining role of Parliament (Hoppitt 2000). Once Charles II came back to the throne in the Restoration, its powers had been placed under greater check. In particular, the king's power to raise taxes was put largely under parliamentary control (Cox 2012:572). Upon Charles II's death his brother, a Catholic with autocratic ambitions, soon faced a major insurrection and fled. The Glorious Revolution of 1688 crystallized once and for all in limited government. Interestingly, the English choose as their new king Willem III of Orange, a Dutch stadhouder used to serve under a parliamentary mandate. He agreed to a Bill of Rights, which firmly established the supremacy of Parliament and strengthened property rights.³⁹ As England caught up with the Dutch limited government model, it could adapt its corporate governance model and build its colonial empire. Significantly, in the years following the Glorious Revolution, both the number and the capitalization of joint-stock companies in England jumped up (Scott 1912, I:439); likewise, public debt increased rapidly and substantially, signifying a lower perceived risk of expropriation (Harris 2009).

The full corporate form at the VOC had naturally its limits, especially in limiting shareholder rights to challenge corporate decisions. Its early history was strewn with legal challenges from frustrated investors not used to such a loss of control over their capital, a consequence of the capital commitment, which gave the VOC such a capacity to act decisively for its long-term goals. From the start, the EIC had overcome investor concerns by offering more participation rights, providing information on a regular basis and offering an exit option at the end of every voyage (Harris 2005). Such repeated interaction supported reputation as a governance mechanism, and enabled frequent new subscriptions. Yet its reliance on short-term capital undermined its effectiveness in building long-term assets and a strong presence in South-East Asia.

Historical research offers a limited ability for extensive empirical validation, as the sample of significant European powers able to engage in Atlantic trade was small.

³⁹ Clark (1996) argues that returns on charities' assets (land, tithes, houses, rent charges, and private bonds) were unaffected over 1540-1837. Yet, the assets at risk of royal predation were those with public uses, such as local infrastructure (Bogart 1980) and foreign trading rights (Jha 2012). It is in these assets that investment boomed in volume and value after the Glorious Revolution. See also Harris (2009).

Consistently with our model, there was no private capital commitment under the autocratic monarchs of Spain and Portugal, which ran a royal monopoly on colonial trade. This was arguably the most efficient arrangement in a context where private sector investment could not be protected from executive intervention, and the king was in the end going to be the main beneficiary. In France and Denmark, where the king had an intermediate degree of power, the solution resembled the early English model of short-term opportunistic trade journeys with low capital commitment, run by private partnerships occasionally paying dues to the king for the privilege of an uncertain monopoly.

Another interesting conclusion is that while institutional change arises from the need to capture unique opportunities, a structural change may well have self-reinforcing effects on institutional development. Acemoglu et al. (2005) show how colonial trade reinforced property rights wherever political institutions enabled an emerging class of traders to share in the benefits. Our approach shares their critical insight that political institutions constrained the set of possible solutions in terms of organizational structure of colonial trade in these countries, and defined its path of evolution. Jha (2012) presents empirical evidence that support for parliamentary rule was influenced by the development of joint stock companies, showing how individual shareholdings affected the choice between the royal or the parliamentary factions.⁴⁰ Previously, traders were organized in “regulatory companies” similar to medieval merchant guilds, whose membership required long apprenticeships. According to Jha (2012:26), “the new ‘political parties’ that emerged between the Civil War and the Glorious Revolution transcended old landowner-merchant distinctions, consolidating their memberships within joint stock companies and bargaining over the burdens of state finance.” By contrast, in circumstances when the gains from colonial trade went to the monarch or an aristocratic elite, such as in Spain or Portugal, they may have undermined the emergence of new economic subjects (Acemoglu et al. 2005).

6. Conclusions

The Dutch East India Company came to dominate South-East Asian trade in the seventeenth century due to some fundamental legal innovations. The decision in 1602 to lock in capital for ten years allowed the company to retain profits for medium term investment in trade and warfare. While this capital commitment gave it an advantage over competitors, it proved insufficient. Once the ten-year term was set to expire in

⁴⁰ “The effect of shareholding is largest on those without existing mercantile back- grounds. Despite the broad similarities [...] in endowments, three in four shareholder MPs supported the expansion of Parliamentary control in the Civil War, compared to around half of non-shareholders. Shareholder MPs were [...] more likely to offer a loan to defend Parliament in 1642, and less likely to be purged for favoring compromise with the King, allowing them to sit in the Rump Parliament” (Jha 2012:14).

1612, the Estates General intervened to prevent the liquidation of the account, and made capital permanent. Such a degree of capital commitment associated with a major loss of control of shareholders had never been accomplished, and it called for further legal innovation. An indefinite life created an open ended financial exposure of managing partners. The demand by VOC directors for limitation of their financial liability came in due turn. These steps secured to the VOC all the main features of a modern corporation with legal personality. Significantly, in the eighteenth century, VOC directors were referred to as *curators* (caretakers) rather than *socii* (partners), as would have been normal in a partnership; this usage emphasized the fact that the directors were managing assets that did not belong to them, but rather to people not able to manage them directly (Punt 2010:290). Private partnerships limited by shares and chartered by the state were referred to by the Supreme Court in the eighteenth century as a *corpus* (body) (Punt 2010:292). These were signs of a growing awareness of corporate personhood.

While all European countries were tempted by the enormous prospects of the Asian trade, only those with the necessary political institutions were able to create large, permanent trading corporations with committed private capital. Elsewhere private capital was held back by a higher risk of expropriation by autocratic monarchs. Until the Glorious Revolution enabled England to become militarily dominant (North and Weingast, 1986), the time advantage of the Dutch Republic in South-East Asia came from its political institutions ensuring strong protection of property rights.⁴¹

There is some evidence of a feedback loop between the development of the corporate form and the strengthening of private property rights. Acemoglu et al. (2003) argue that access to colonial trade reinforced protection of property rights in societies with less autocratic institutions, as it strengthened trading interests over traditional elites. Joint stock companies enabled any investor to take advantage of the new opportunities, supporting a broader coalition in favor of protecting the value of overseas investments (Jha 2012). The opposite occurred in countries where colonial trade came to be under direct royal control, such as Spain.

The VOC's original corporate form owed much to it having been modeled on existing public utility bodies in the Dutch Republic such as the admiralties (Gelderblom et al. 2011). Subsequently, the corporate form was slowly adopted in other countries in Europe and beyond. It remained a privilege granted by the state until the end of the eighteenth century, when general incorporation statutes were enacted under political pressure (Lamoreaux and Rosenthal 2006:127). By the end of the nineteenth century most western countries had fully embraced this format (Harris 2000:277-85; Guinane et al. 2007).

The corporate form is now the foundation of modern economic organization. Its

⁴¹ Even if formally the 1612 decision to extend the capital-lock indefinitely violated shareholders' right, it did so in line with the general shareholders' interests. As we have show, the lock-in of capital solved a sever holdout problem and ensured continued profits.

benefits are well appreciated. Capital permanence grants corporations an independent and indefinite life. The privilege of limited liability came as a subsequent and necessary step. The side effects, such as the role of limited liability in creating risk-shifting incentives, become very visible in default, and not least in the recent financial crisis.

References

- Abatino, Barbara, Giuseppe Dari-Mattiacci, and Enrico Perotti. 2011. "Depersonalization of Business in Ancient Rome," 31 *Oxford Journal of Legal Studies* 365-89.
- Acemoglu, Daron, and Simon Johnson. 2005. "Unbundling Institutions." 113 *Journal of Political Economy* 949-995.
- Acemoglu, Daron, Simon Johnson and James Robinson. 2005. "The Rise of Europe: Atlantic Trade, Institutional Change, and Economic Growth," 95 *American Economic Review*, 546-579.
- Aghion, Philippe, Alberto Alesina, and Francesco Trebbi. 2004. "Endogenous Political Institutions," 119 *Quarterly Journal of Economics* 565-611.
- Arangio-Ruiz, Vincenzo. 1993. *Istituzioni di diritto romano* (14th ed.), Napoli: Jovene.
- Armour, John, Henry Hansmann and Reinier Kraakman. 2009. "What is Corporate Law?" in Reinier Kraakman, John Armour, Paul Davies, Luca Enriques, Henry Hansmann, Gerard Hertig, Klaus Hopt, Hideki Kanda, and Edward Rock, eds., *The Anatomy of Corporate Law. A Functional Approach* (2nd ed.). Oxford: Oxford University Press 1-34.
- Bavel, Bas van, and Oscar Gelderblom. 2009. "The Economic Origins of Cleanliness in the Dutch Golden Age," 205 *Past and Present* 41-69.
- Bieleman, Jan. 1992. *Geschiedenis van de landbouw in Nederland, 1500-1950: Veranderingen en verscheidenheid*, Meppel: Boom.
- Blair, Margareth. 2003. "Locking in Capital: What Corporation Law Achieved for Business Organizers in Nineteen Century America," 51 *UCLA Law Review* 387-455.
- Blair, Margareth. 2012. "The Four Functions of Corporate Personhood," in Anna Grandori, ed., *Handbook of Economic Organization*, forthcoming with Edward Elgar.
- Blumberg, Phillip I. 1986. "Limited Liability and Corporate Groups," 11 *Journal of Corporation Law* 573-631
- Bogart, Daniel E. 2011. "Did the Glorious Revolution Contribute to the Transport Revolution? Evidence from Investment in Roads and Rivers," 64 *Economic History Review* 1073-112.
- Bruijn, Jaap R., Femme S. Gaastra, and Ivo Schöffer, 1979-1987, *Dutch-Asiatic shipping in the 17th and 18th centuries*, 3 vols., Nijhoff: The Hague.

- Carlos, Ann M. and Stephen Nicholas. 1996. "Theory and History: Seventeenth-century Joint-stock Chartered Trading Companies," 56 *Journal of Economic History* 916-24.
- Chaudhuri, K. N. 1965. *The English East India Company: The Study of an Early Joint-Stock Company 1600-1640*, Cass: London.
- Clark, Gregory. 1996. "The Political Foundations of Modern Economic Growth: England 1540-1800," 26 *Journal of Interdisciplinary History* 563-88.
- Colenbrander, Herman Theodoor, and W. Ph. Coolhaas, eds., 1919-1952. *Jan Pietersz. Coen, bescheiden omtrent zijn bedrijf in Indië*, 7 vols. Nijhoff: The Hague.
- Colenbrander, Herman Theodoor. 1934. *Jan Pietersz. Coen, levensbeschrijving*, Nijhoff: The Hague.
- Cox, Gary W. 2012. "Was the Glorious Revolution a Constitutional Watershed?" 72 *Journal of Economic History* 567-600.
- De Vries, Jan. 1974. *The Dutch Rural Economy in the Golden Age, 1500-1700*. New Haven: Yale University Press.
- De Vries, Jan. 2003. "Connecting Europe and Asia: A Quantitative Analysis of the Cape-route Trade, 1497-1795", in D.O. Flynn, R. Giraldez and R. von Glahn, *Global connections and monetary history, 1470-1800*. Aldershot: Ashgate, 36-105.
- Demsetz, Harold. 1967. "Toward a Theory of Property Rights," 57 *American Economic Review* 347-59.
- Dillen, J. G. Van. 1930. "Isaac le Maire en de handel in actiën der Oost-Indische Compagnie," 16 *Economischhistorisch jaarboek* 1-165.
- Ekelund, Robert B., and Robert D. Tollison. 1980. "Mercantilist Origins of the Corporation," 11 *Bell Journal of Economics* 715-20.
- Epstein, Stefan. R. 2000. *Freedom and Growth: The Rise of States and Markets in Europe, 1300-1750*, London: Routledge.
- Favali, Lydia. 2004. *Qirad islamico, commenda medievale e strategie culturali dell'occidente*. Torino: Giappichelli.
- Findlay, Ronald, and Kevin H. O'Rourke. *Power and Plenty. Trade, War, and the World Economy in the Second Millennium*. Princeton: Princeton University Press.
- Fleckner, Andreas. 2010. *Antike Kapitalvereinigungen: Ein Beitrag zu den konzeptionellen und historischen Grundlagen der Aktiengesellschaft*, Cologne: Boehlau.
- Gaastra, Femme. 2007. *De geschiedenis van de VOC*, Walburg Pers: Zutphen.
- Gelderblom, Oscar and Joost Jonker. 2004. "Completing a Financial Revolution: The Finance of the Dutch East India Trade and the Rise of the Amsterdam Capital Market, 1595-1612," 64 *The Journal of Economic History* 641-72.
- Gelderblom, Oscar, Abe de Jong and Joost Jonker. 2011. "An Admiralty for Asia. Isaac le Maire and Conflicting Conceptions about the Corporate Governance of the VOC," in Jonathan G.S. Koppell, ed., *The Origins Of Shareholder Advocacy*, Palgrave Macmillan: New York, 29-60.

- Gelderblom, Oscar, Abe de Jong, and Joost Jonker. 2012. "The Formative Years of the Modern Corporation: The Dutch East India Company (VOC), 1602-1623" (June 23, 2012). *ERIM Report Series Reference No. ERS-2012-007-FandA*. Available at SSRN: <http://ssrn.com/abstract=2116137>
- Gelderblom, Oscar, and Joost Jonker. 2009. "With a view to hold. The emergence of institutional investors in the Amsterdam securities market during the 17th and 18th centuries," in Jeremy Atack and Larry Neal, eds., *The Evolution of Financial Institutions*, Cambridge: Cambridge University Press, 71-98.
- Gelderblom, Oscar. 2003. "From Antwerp to Amsterdam: The Contribution of Merchants from the Southern Netherlands to the Rise of the Amsterdam Market," *26 Review. A Journal of the Fernand Braudel Center* 247-283.
- Gelderblom, Oscar. 2009. "The organization of long-distance trade in England and the Dutch Republic, 1550–1650," in Oscar Gelderblom, ed., *The Political Economy of the Dutch Republic*, Aldershot: Ashgate, 223-54.
- Gelderblom, Oscar. 2010. "The Golden Age of the Dutch Republic," in David S. Landes, Joel Mokyr and William J. Baumol, eds., *The Invention of Enterprise: Entrepreneurship from Ancient Mesopotamia to Modern Times*, Princeton: Princeton University Press, 156-182.
- Gelderblom, Oscar. 2013. *Cities of Commerce. The Institutional Foundations of International Trade in the Low Countries, 1250-1650*. Princeton: Princeton University Press.
- Goetzmann, William N. and Sebastien Pouget. 2011. "A Shareholder Lawsuit in fourteenth Century Toulouse" in Jonathan G.S. Koppell (ed.), *Origins of Shareholder Advocacy*, New York: Palgrave-MacMillan.
- Goetzmann, William N., David le Bris and Sebastien Pouget. *Forthcoming*. "Modern Introduction to Germain Sicard's The Mills of Toulouse," in Germain Sicard (William N. Goetzmann, David le Bris and Sebastien Pouget,eds.), *The Mills of Toulouse*, Yale: Yale University Press.
- Guinnane, Timothy, Ron Harris, Naomi R. Lamoreaux, and Jean-Laurent Rosenthal. 2007. "Putting the Corporation in its Place," *8 Enterprise and Society* 687-729.
- Guiso, Luigi, Paola Sapienza and Luigi Zingales. 2009. "Cultural Biases in Economic Exchange," *124 Quarterly Journal of Economics* 1095-1131.
- Hansmann, Henry, and Reinier H. Kraakman. 2000. "The Essential Role of Organizational Law," *110 Yale Law Journal* 387-440.
- Hansmann, Henry, Reinier H. Kraakman and Richard Squire. 2006. "Law and the Rise of the Firm," *119 Harvard Law Review* 1335-403.
- Harris, Ron. 2000. *Industrializing English Law: Entrepreneurship and Business Organization, 1720 – 1844*, Cambridge: Cambridge University Press.
- Harris, Ron. 2005. "The Formation of the East India Company as a Cooperation-Enhancing Institution," working paper (December 2005). Available at SSRN: <http://ssrn.com/abstract=874406>.

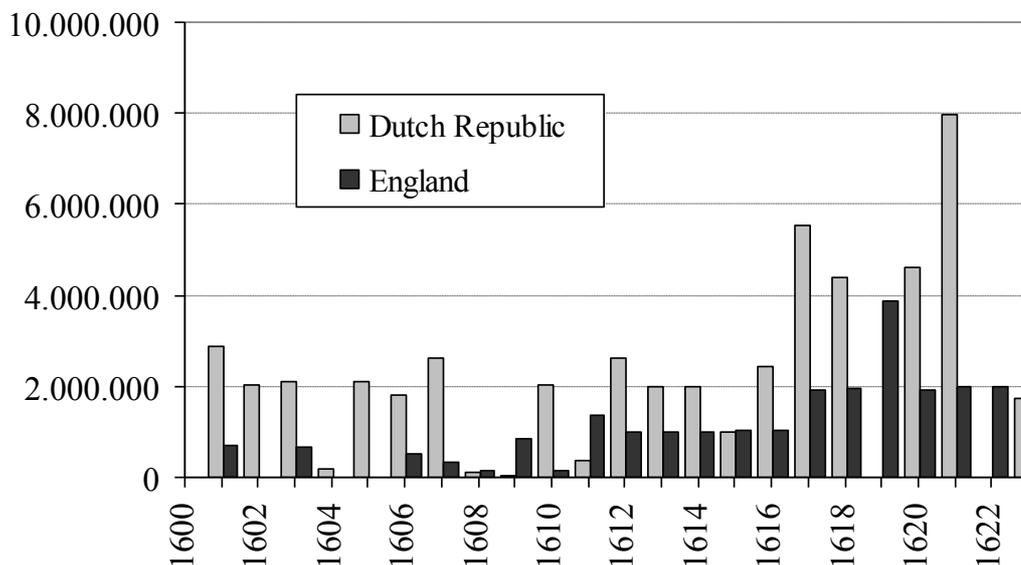
- Harris, Ron. 2009. "Law, Finance and the First Corporations," in James J. Heckman, Robert L. Nelson and L. Cabatingan (eds.), *Global Perspectives on the Rule of Law*, Abingdon: Routledge-Cavendish.
- Heijer, Henk den. 2005. *De geotrooieerde compagnie, de VOC en de WIC als voorlopers van de naamloze vennootschap*, Deventer: Kluwer.
- Holmes, Oliver Wendell. 1952. "Agency," in Oliver Wendell Holmes, *Collected Legal Papers*, New York: Peter Smith, 49-116.
- Hoppitt, Julian. 2000. *A Land of Liberty? England, 1689-1727*. Oxford: Oxford University Press.
- Jha, Saumitra 2010. "Financial Innovations and Political Development: Evidence from Revolutionary England", working paper.
- Jha, Saumitra. 2005. "*Shares, Coalition Formation and Political Development: Evidence From Seventeenth Century England*," Stanford working paper.
- Jones, S. R. H. and Simon P. Ville. 1996a. "Efficient Transactors or Rent-Seeking Monopolists? The Rationale for Early Chartered Trading Companies," 56 *Journal of Economic History* 898-915.
- Jones, S. R. H. and Simon P. Ville. 1996b. "Theory and Evidence: Understanding Chartered Trading Companies," 56 *Journal of Economic History* 925-27.
- Jongh, J. Matthijs, de. 2011. "Shareholder Activists Avant la Lettre, the 'Complaining Participants' in the Dutch East India Company, 1622-1625," in Jonathan G.S. Koppell, ed., *Origins of shareholder advocacy*, New York: Palgrave Macmillan, 61-88
- Kessler, Amalia D. 2007. *A Revolution in Commerce: The Parisian Merchant Court and the Rise of Commercial Society in Eighteenth-Century France*, New Haven: Yale University Press.
- Kessler, Amalia. 2003. "Limited Liability in Context: Lesson from the French Origins of the American Limited Partnership," 32 *Journal of Legal Studies* 511-48.
- Lamoreaux, Naomi, R. and Jean-Laurent Rosenthal. 2006. "Corporate Governance and the Plight of Minority Shareholders in the United States before the Great Depression," in Edward L. Glaeser and Claudia Goldin, eds., *Corruption and Reform: Lessons from America's Economic History*, Chicago: University of Chicago Press, 125-52.
- Lane, Frederic C. 1966. *Venice and History: the Collected Papers of Frederic C. Lane*, Baltimore: The Johns Hopkins University Press.
- Linden, Hendrik van der. 1955. *De Cope. Bijdrage tot de rechtsgeschiedenis van de openlegging der Hollands-Utrechtse laagvlakte*, Assen: Van Gorcum.
- Malmendier, Ulrike. 2009. "Law and Finance at the Origin," 47 *Journal of Economic Literature* 1076-108.
- Mignone, Gianni. 2005. *Un contratto per i mercanti del Mediterraneo*. Napoli: Jovene.
- Montanari, Massimo. 1990. *Impresa e responsabilità. Sviluppo storico e disciplina positive*, Milano: Giuffrè.

- Nienes, A. P. van, J. Rinzema, M. Offringa, P. and A.J. van den Berg. 1985. *De archieven van de universiteit te Franeker 1585-1812*, Leeuwarden: Rijksarchief in Friesland.
- North, Douglass C. and Barry R. Weingast. 1989. "Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England," 49 *Journal of Economic History* 803-32.
- O'Brien, Patrick K. 2001. "Fiscal Exceptionalism: Great Britain and Its European Rivals: From Civil War to Triumph at Trafalgar and Waterloo." *Working Paper Department of Economic History*, London School of Economics.
- Parthesius, Robert. 2010. *Dutch Ships in Tropical Waters. The development of the Dutch East India Company (VOC) shipping network in Asia 1595-1660*, Amsterdam: Amsterdam University Press.
- Petram, Lodewijk. 2011a. *The World's First Stock Exchange*. Dissertation, University of Amsterdam.
- Petram, Lodewijk. 2011b. *De bakermat van de beurs. Hoe in zeventiende-eeuws Amsterdam de moderne aandelenhandel ontstond*. Amsterdam: Atlas.
- Poelwijk, Arjan. 2003. "In Dienste vant Suyckerbacken". *De Amsterdamse suikernijverheid en haar ondernemers, 1580-1650*, Hilversum: Verloren.
- Puga, Diego and Daniel Trefler. 2012. "International Trade and Institutional Change: Medieval Venice's Response to Globalization," *NBER Discussion Paper No. 9076*.
- Punt, Hendrik M. 2010. *Het vennootschapsrecht van Holland*, PhD dissertation, University of Leiden.
- Rees, O. van. 1868. *Geschiedenis der koloniale politiek van de Republiek der Vereenigde Nederlanden*, Kemink: Utrecht.
- Ribstein, Larry E. 2005. "Why Corporations?" 1 *Berkeley Business Law Journal* 183-231.
- Rijpma, Auke. 2012. "Funding public services through religious and charitable foundations in the late-medieval Low Countries," *unpublished PhD thesis*, Utrecht University
- Robertson, Jeffrey and Warwick Funnell. 2012. "The Dutch East-India Company and Accounting for Social Capital at the Dawn of Modern Capitalism 1602-1623", 37 *Accounting, Organizations and Society* 342-361
- Scott, W.R. 1912. *The Constitution and Finance of English, Scottish, and Irish Joint-Stock Companies to 1720*, 3. vols., Cambridge: (reprint 1968, Gloucester Mass: P. Smith).
- Shareholder Rights at 400, Commemorating Isaac Le Maire and the First Recorded Expression of Investor Advocacy*, APG: s.l. 2009.
- Sicard, Germain. 1953. *Les Moulins de Toulouse au Moyen Age*. Paris: Armand Colin.
- Sluijter, Ronald. 2004. 'Tot circaet, vermeerderinge ende heerlyckmaeckinge der universiteyt'. *Bestuur, instellingen, personeel en financiën van de Leidse universiteit, 1575-1812*, Hilversum: Verloren.

- Smith Adam. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*, Oxford: Clarendon.
- Steenstra, Niels. 1982, “The Dutch East India Company as an institutional innovation” In Maurice Aymard, ed., *Dutch capitalism and world capitalism* Cambridge University Press: Cambridge, 235-257.
- Tabellini, Guido. 2010. “Culture and Institutions: Economic Development in the Regions of Europe,” 8 *Journal of European Economic Association* 677-716.
- The Correspondence of Hugo Grotius*, P.C. Molhuysen, B.L. Meulenbroek, P.P. Witkam, H.J.M. Nellen, and C.M. Ridderikhoff, eds. <http://grotius.huygens.knaw.nl/years> (The Hague)
- Tielhof, Milja van. 1995. *De Hollandse Graanhandel, 1470-1570. Koren op de Amsterdamse molen*. The Hague: Stichting Hollandse Historische Reeks, 1995
- Tielhof, Milja van. 2002. *The ‘Mother of All Trades’. The Baltic Grain Trade in Amsterdam from the Late 16th to the Early 19th Century*. Leiden: Brill.
- Tielhof, Milja van. 2009. “Financing Water Management in Rijnland, 1500-1800,” in Oscar Gelderblom, ed., *The Political Economy of the Dutch Republic*, Aldershot: Ashgate 197-222.
- Van Dam, Pieter. 1927. *Beschryvinge van de Oostindische Compagnie*, edited by F.W. Stapel, Nijhoff: The Hague.
- Van Dillen, J.G. 1958. *Het oudste aandeelhoudersregister van de Kamer Amsterdam der Oost-Indische Compagnie*, Nijhoff: The Hague.
- Veenendaal, A.J. 1962. *Johan van Oldenbarnevelt. Bescheiden betreffende zijn staatkundig beleid en zijn familie. Vol. 2 1602-1613*, Nijhoff: The Hague.
- Veenendaal, A.J. 1967. *Johan van Oldenbarnevelt. Bescheiden betreffende zijn staatkundig beleid en zijn familie. Vol. 3 1614-1620*, Nijhoff: The Hague.
- Vries, Jan de. 2003. “Connecting Europe and Asia: A Quantitative Analysis of the Cape-route Trade, 1497-1795” in Dennis O. Flynn, Richard von Glahn, and Arturo Giraldez, eds., *Global Connections and Monetary History, 1470-1800*, Ashgate: Aldershot 35-105.
- Witteveen, Menno. 2011. *Antonio van Diemen. De opkomst van de VOC in Azië*, Amsterdam: Pallas Publicaties.
- Yntema, Richard J. 1992. “The Brewing Industry in Holland, 1300-1800: A Study in Industrial Development,” *unpublished PhD Thesis*, University of Chicago.
- Zimmernann, Reinhard. 1996. *The Law of Obligations: Roman Foundations of the Civilian Tradition*, Oxford: Oxford University Press.
- Zuijderduijn, C. Jaco. 2009. *Medieval Capital Markets. Markets for renten, state formation and private investment in Holland (1300-1350)*, Leiden: Brill.
- Zwet, Han van. 2009. *Lofwaardighe dijckagies en miserabele polders. Een financiële analyse van landaanwinningsprojecten in Hollands Noorderkwartier, 1597-1643*. Hilversum: Verloren.

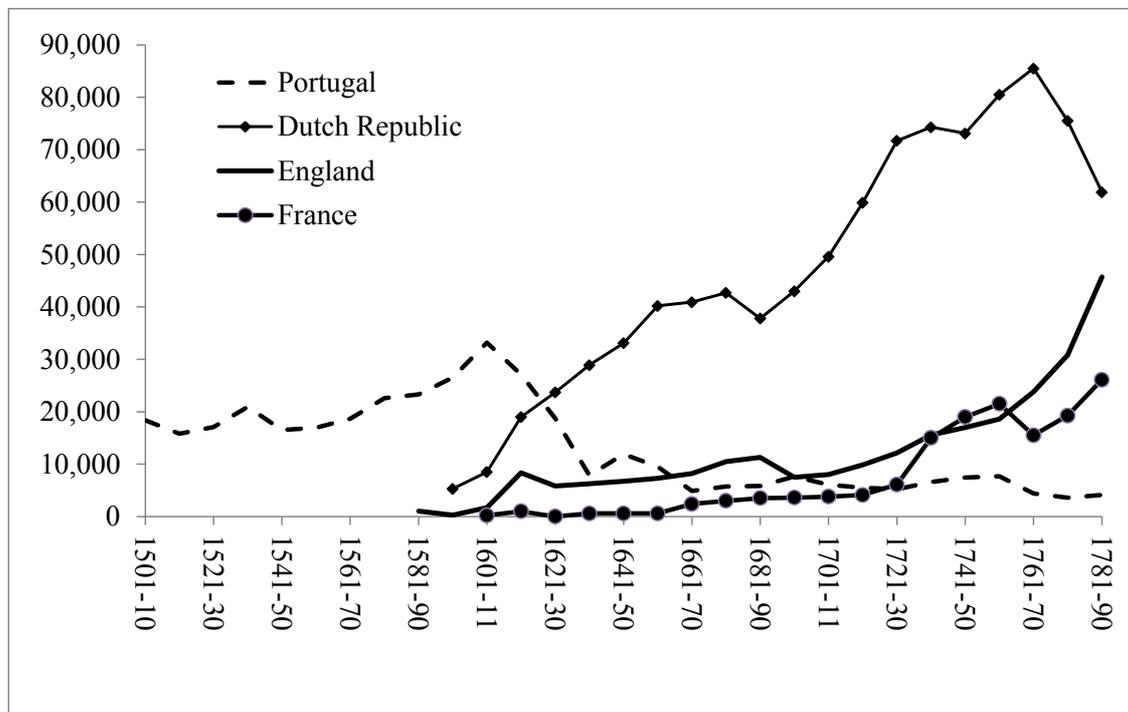
FIGURES

FIGURE 1



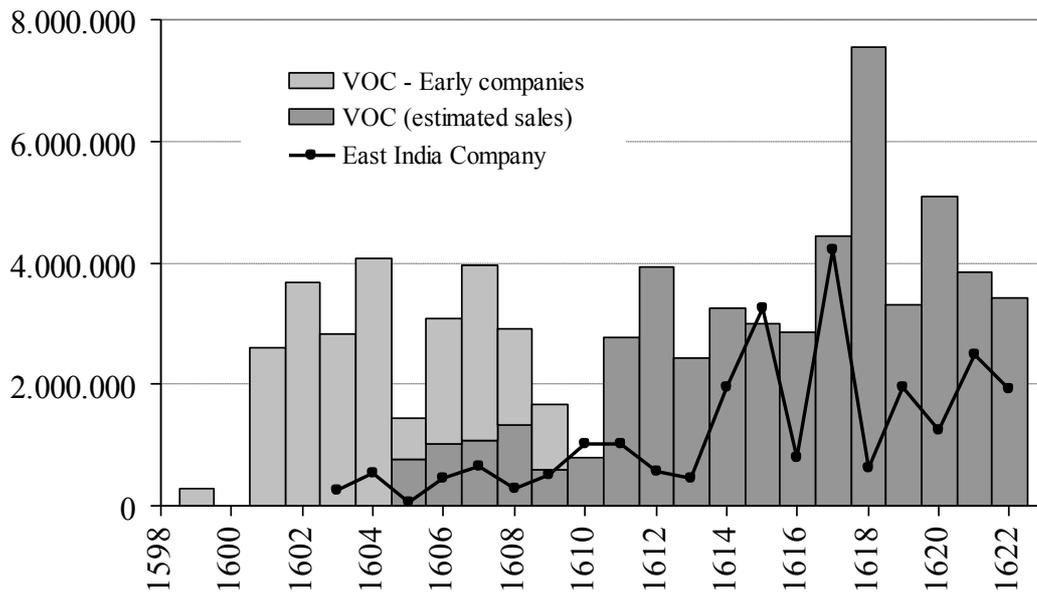
Sources: Chaudhuri (1965); Scott (1912); Gelderblom (2009); Gelderblom et al. (2012).

FIGURE 2



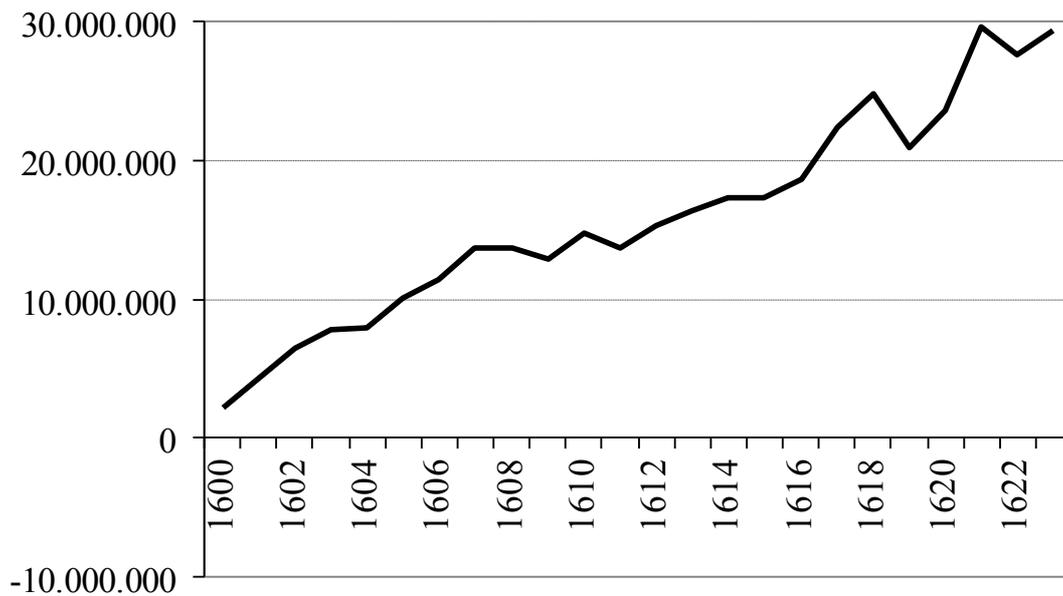
Source: De Vries (2003)

FIGURE 3



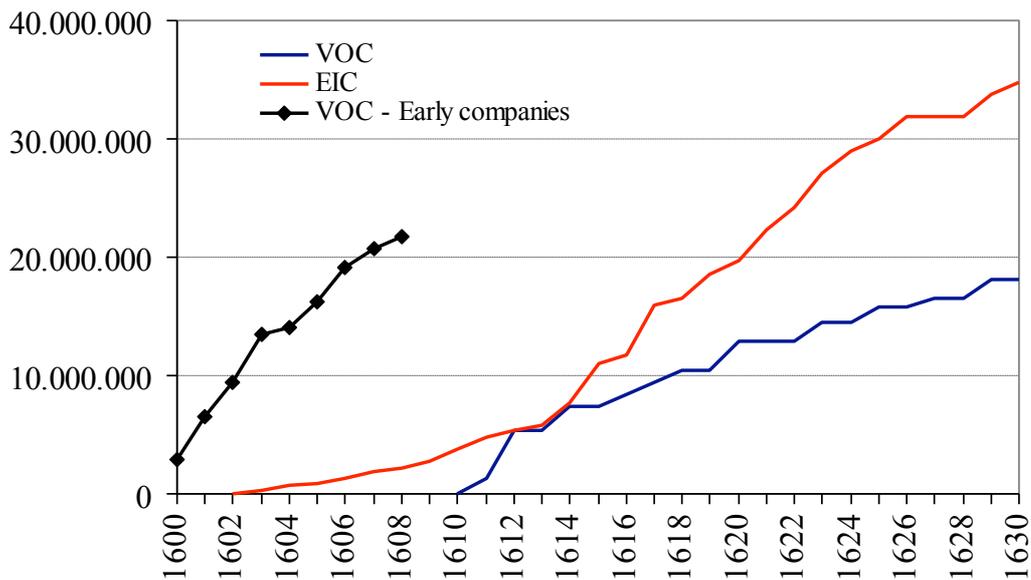
Sources: Chaudhuri (1965); Scott (1912); Gelderblom (2009); Gelderblom et al. (2012).

FIGURE 4



Sources: Chaudhuri (1965); Scott (1912); Gelderblom (2009); Gelderblom et al. (2012).

FIGURE 5



Sources: Chaudhuri (1965: 207-223); Scott (1912, 91-113); Gelderblom (2009); Gelderblom et al. (2012, appendix); the value of VOC dividends include payments in kind (at prices set by the VOC).

FIGURE 6

