The Formative Years of the Modern Corporation: The Dutch East India Company VOC, 1602-1623

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Version 23 june 2012

ERIM REPORT SERIES *RESEARCH IN MANAGEMENT*	
ERIM Report Series reference number	ERS-2012-007-F&A
Publication	June 2012
Number of pages	60
Persistent paper URL	http://hdl.handle.net/1765/32952
Email address corresponding author	ajong@rsm.nl
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REPORT SERIES
RESEARCH IN MANAGEMENT

ABSTRACT AND KEYWORDS	
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Free Keywords	Dutch East India Company, VOC
Availability	The ERIM Report Series is distributed through the following platforms: Academic Repository at Erasmus University (DEAR), DEAR ERIM Series Portal Social Science Research Network (SSRN), SSRN ERIM Series Webpage Research Papers in Economics (REPEC), REPEC ERIM Series Webpage
Classifications	The electronic versions of the papers in the ERIM report Series contain bibliographic metadata by the following classification systems: Library of Congress Classification, (LCC) LCC Webpage Journal of Economic Literature, (JEL), JEL Webpage ACM Computing Classification System CCS Webpage Inspec Classification scheme (ICS), ICS Webpage

The Formative Years of the Modern Corporation: The Dutch East India Company VOC, 1602-1623

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This version, 23 June 2012

Abstract

With their legal personhood, permanent capital with transferable shares, separation of ownership and management, and limited liability for both shareholders and managers, the Dutch East India Company (VOC) and subsequently the English East India Company (EIC) are generally considered a major institutional breakthrough. Our analysis of the business operations and notably the financial policy of the VOC during the company's first two decades in existence shows that its corporate form owed less to foresight than to constant piecemeal engineering to remedy original design flaws brought to light by prolonged exposure to the strains of the Asian trade. Moreover, the crucial feature of limited liability for managers was not, as previously thought, part and parcel of that design, but emerged only after a long period of experimenting with various, sometimes very ingenious, solutions to the company's financial bottlenecks.

INTRODUCTION

The intercontinental trading companies set up by the British and Dutch around 1600 are generally considered key institutional innovations because of their corporate form (North, 1990). They pioneered features which later became textbook characteristics of modern corporations: a permanent capital, legal personhood, separation of ownership and management, limited liability for shareholders and for directors, and tradable shares (Kraakman et al., 2004). The success of these trading companies in spearheading European colonization is generally associated with the competitive edge lent by their particular corporate form, which in turn counts as an example of the superiority of Western legal traditions over those in China or the Islamic world (Kuran, 2010a, 2010b).

The new corporate features are usually seen as purposeful adaptations of existing legal forms to the challenges of Europe's overseas trade with Asia, notably the large amounts of capital required, the long duration of voyages, and the increased risks along the way (Hansmann and Kraakman, 2000; Hansmann, Kraakman and Squire, 2006). They are also regarded as closely related to each other, a logical set making up a winning formula. This interpretation rests heavily on work by legal scholars seeking to unearth the roots of concepts such as limited liability and legal personhood (Van der Heijden, 1908; Van Brakel, 1908; Frentrop, 2003; Den Heijer, 2005; Harris, 2000, 2010). However, there are two major problems with it. First, for a long time the dominant British and Dutch companies faced identical challenges, but differed in their adoption of the associated legal solutions. By the early 1620s the Dutch East India Company (Vereenigde Oostindische Compagnie or VOC, founded in 1602) possessed transferable shares, a permanent capital, and limited liability for owners and managers (Gelderblom and Jonker, 2004; Gelderblom, De Jong and Jonker, 2011). This contrasts with the English East India Company (EIC, founded in 1600), which introduced similar features only during the 1650s (Harris, 2000). Second, while this particular lag may relate to political factors, notably the need for limited government (Harris, 2010; Dari Mattiacci et al. 2012), the time it took for the VOC to assemble various features shows that they did not form a coherent logical set from the start, but instead emerged one-by-one in response to particular circumstances, not the general challenges associated with the Asian trade. The company had transferable shares and limited liability for shareholders from the outset, but obtained a permanent capital only in 1612 and limited liability for directors in 1623.

In this paper we analyze the VOC's operations and financial policy during its first two decades to argue that the VOC's adoption of corporate features was not an intentional and logical adaptation of existing legal forms in response to general challenges such as the longer duration and increased risk of the Asian trade. Instead, we argue, the VOC's evolution should be understood as a process of piecemeal engineering to eliminate the financial constraints created by constantly changing operating conditions in Europe and overseas.[1] Four key factors determined the envelope within which directors acted. First, the boundaries of the business as originally conceived, and notably the total dependency on circulating capital for all investment. The company's operations created significant and long-term financing needs, which could not be met with the

[1] Cornelis de Heer (1929, p. 5-18) already identified the financial problems related to the decentralized governance structure of the company but he did connect these to the organizational changes of the first two decades. Niels Steensgaard (1982) documented the piecemeal engineering of the corporate form but overlooked the financial constraints shaping this process.

prevailing use of circulating capital.[2] This condemned the directors to juggle with solutions to particular issues instead of giving the company more stability by reforging the available elements of its constitution. Second, the European demand for spices, which proved too small and grew too slowly to generate the revenues needed to sustain the VOC's level of investment. Third, the unforeseen continuous rise of the company's overseas investment; and fourth, the pressure on the scarce financial resources of the need to satisfy shareholders' legitimate demands for dividends. In other words, the VOC's corporate form resulted not from the logic of any legal system, contractual form, or set of forms, but from a process of piecemeal engineering to relieve frictions between flaws in the company's original design, specific operational demands, and the available finance options. This piecemeal engineering generated both stopgaps and more lasting solutions which gradually hardened into corporate features as we know them.[3]

The paper is organized as follows. The first section analyzes how, between 1603 and 1609, low sales revenues and sharply rising costs confronted directors with the impossibility of keeping to the original intention of relying on circulating capital for finance and of winding up the company in 1612. Consequently from 1609 directors strove to obtain a permanent capital, which they could only get by increasing the company's cash constraints and by eliminating the option of raising more equity (Section 2). As Section 3 shows, this forced the company to continue relying on circulating capital as main source of finance, topped up with all kinds of expedients. In 1617, Section 4

[2] We examine the evolutionary process leading to the corporate form and not its costs. Adam Smith (1776) already referred to the costs of directors managing other people's money and Shleifer and Vishny (1997) describe these agency costs in general. Ville and Jones (1996) argue that the early chartered corporations were not efficient organizations but simply a contractually efficient form for extracting monopoly rents.
[3] Our analysis contributes to the finance and growth discussion, where some economists argue that financial development does not create growth, but that finance simple adapts to challenges from the real sector (Robinson, 1952). Others perceive financial market development to be a crucial condition for economic growth (Levine, 2005).

argues, the company directors finally tackled one of the charter's flaws by mutually guaranteeing the debts contracted by their respective chambers, thereby gaining access to crucial additional resources. When investors started questioning the status of bonds sold by other chambers in the main money market, Amsterdam, directors unilaterally rejected their personal liability for company debt in 1623. The conclusion explores the implications of these findings for our understanding how and why modern corporate features emerged.

CONTINUING AS BEFORE

Starting in 1595, merchants from the Dutch Republic built up a very successful overseas trade with Asia. In seven years they sent separate expeditions totaling 80 ships from Amsterdam, Middelburg, and Rotterdam. These expeditions usually yielded high returns, so directors had little difficulty in persuading investors to roll over stakes from one venture into the next (Gelderblom and Jonker, 2004). The intercity rivalry weakened the overall Dutch position overseas, however, notably in the face of the competition with Spain, Portugal, and Britain. Consequently the Estates General strove to merge the various local initiatives into a single, strong company, and achieved this with the launch of the VOC in 1602. The company's charter reflected the weight of political priorities over commercial ones by putting the Estates General in full control (Gelderblom, De Jong and Jonker, 2011).

The VOC changed the governance of the Asian trade, but not its financial structure. While the charter and trade monopoly bestowed by the Estates General were to run 21 years, the new company itself was conceived as a succession of separate, overlapping expeditions, the returns of one financing another. After ten years the entire concern was to be liquidated and the capital returned to shareholders, unless they chose to reinvest in a successor company set up to exploit the second half of the monopoly. Subscribers to the first account paid up in four installments. The first three were large enough to equip a fleet, but the fourth and smallest one in the autumn of 1606 amounted to no more than 8.3 per cent of capital, that is to say the company's founders clearly expected that by then enough ships would have come back from the first expedition to finance the fourth.

This back-to-back financing shows that the company's 6.4 million guilders' capital was not considered as money set aside to finance the fixed assets needed, but as circulating capital, a revolving fund to be replenished from sales revenues. The scope for fixed investments was thus limited to the money remaining after the equipment of subsequent fleets. In a large consolidated company this should not have mattered, but then the early VOC was no such thing because the merger had only been a partial one. The central board or *Heren XVII* laid down policy, prices, terms, and conditions, while the directors of the company's six chambers (*kamers*) remained responsible for running their share of the joint operations from their respective ports: equipping ships, recruiting labour, selling produce, and paying bills. Consequently an individual chamber's cash flow, and by extension its participation in expeditions, depended largely on the success or otherwise of preceding expeditions.

The boundaries of the revolving finance system become clear when we examine the VOC's first expeditions a little closer. The company kept up a regular flow of 10-12 ships on each of its first three expeditions between December 1603 and April 1606 for a total of 32. The biggest chamber, Amsterdam, provided the bulk with 19 vessels (See Appendix 1). The size of these expeditions was determined by the flow of installments coming in, with the amount of silver sent out to pay for purchases figuring as a balancing item. Even so the preparations for a new expedition started some time before shareholders had to pay up. The company charter had made a provision for that by awarding shareholders paying up early an eight per cent interest until the fleet sailed.[4] Since the Amsterdam chamber could borrow for seven per cent or less on the local money market, directors preferred that to calling subscriptions early, borrowing up to 400,000 guilders between January 1604 and April 1605 to prepare the second fleet (Figure 1). From July 1605 they did so again to anticipate on installments coming in, repaying most of the money six months later, either from the installments due in October 1605, or from sales revenues.[5] In April 1605 its ship *Hof van Holland* had returned to port after an exceptionally swift round trip of only 476 days, and sales from its cargo may have helped to extinguish debt. Whatever the case, by 1606 the revolving finance system did work for Amsterdam. During that year four more ships arrived back, enabling directors to pay off most of their debts.

[Figure 1 about here]

[4] Den Heijer (2005), p. 61; NA. 1.04.02 VOC, Inv. No. 7162, carta 72-302.
[5] The Amsterdam chamber spent less money on the third fleet than the amount it received from the third installment: De Korte (1984), p. 10.

The other chambers had a tough time keeping up. The second biggest chamber, Zeeland with a 25 per cent stake in operations, participated with two to three ships in each of the initial three expeditions, but its first ship returned only in October 1606, followed by a second one eight months later. Though Zeeland immediately started selling products, sales had generated no more than 650,000 guilders by July 1608 (See Appendix 1). Meanwhile the four small chambers could only muster sufficient resources for alternating participations. The chambers of Enkhuizen and Hoorn joined the first expedition with two ships each, skipped the second one, and then joined the third with one each. Delft and Rotterdam passed up on the first expedition, joined the second, skipped the third. Out of these four only Hoorn had received any products to sell, and thus money to reinvest, from its previous expedition. Both Rotterdam and Enkhuizen had lost ships, and Delft welcomed back its first vessel only in 1608.

One reason for the lack of return freight was the directors' decision to devote part of the company resources to warfare, both to establish a firm foothold and in order to fight Spain and Portugal to please their main principal, the Estates General of the Republic (Gelderblom, De Jong and Jonker, 2011). This meant sending over soldiers and investing in hardware such as forts and cannon, but also keeping ships on the spot. The company began to build up an Asian fleet by ordering nine ships of the first three fleets to stay there, and it supplemented this force by lengthening the tour of duty for other ships leaving the Dutch Republic to more than three years (1,200 days) on average (Figure 2).[6]

[Figure 2 about here]

[6] Cf. also Parthesius (2010) on the size of the Asian fleet in the first half of the 17th century.

Long tours of duty of course meant that chambers had to wait longer for return cargoes but it also translated into higher costs. More of the silver sent out to Asia had to be used locally for buying food and paying wages. Two further factors strained the cash flow. The chambers built up back pay liabilities, due immediately when ships finally returned. Between December 1606 and July 1608 the Middelburg chamber alone paid 130,000 guilders in costs over returning ships in back pay, storage, and directors' fees (Table 1).[7] Moreover, returning ships were totally worn out, so re-equipping them cost nearly as much as buying new, but the VOC had not budgeted for such a rapid depreciation rate.

[Table 1 about here]

Meanwhile spice markets were still supplied largely from stocks brought ashore by the early companies. This meant that the VOC could concentrate on establishing its overseas position without having to worry about the Republic's position as a leading market for spices, but at the same time it curtailed the VOC's own sales volume, leading to a crunch in 1606. The company had taken over the management of Van Warwijck's 1602 expedition of fourteen ships and wanted to sell the stocks of that enterprise first.[8] However, at the same time the VOC needed money to equip a fourth fleet with sufficient men and arms to bolster its overseas position and conduct the ongoing peace negotiations

[7] As early as 1608 the VOC operated an ingenious system enabling its employees to assign part of their pay to relatives, thereby at the same time smoothing the back pay liabilities problem: NA 1.0.02 VOC, Inv. No. 221, Resolutions Heren XVII, 4 August 1608.

[8] Cf. for Zeeland's sales of spices from the fourteen ships: NA 1.04.02 VOC, Inv. No. 11349 Copieboeck van diversche Rekeningen, carta 21, 39, 50, 77, 82, 122-125, 127. Dividends from Amsterdam's six ships in the 1602 fleet paid to the Amsterdam investor Hans Thijs suggest that by November 1607 sales from these ships already amounted to 870,000 guilders (University Library Leiden, Biblioteca Thysiana, Ledgers Hans Thijs 1604-1610; Gelderblom and Jonker, 2004). In addition to spices purchased in Asia, the fleet of Warwijck also captured the Portuguese carrack Santa Catharina, a prize worth 3.4 million guilders: Van Dam 1927, Vol. I.2, p. 485).

with Spain from strength. Gathering that money took time, so the sailing of the fourth fleet was postponed to December 1607, but even that was insufficient. Middelburg could muster its share in the expedition only by obtaining a subsidy from the Zeeland Estates and Enkhuizen decided not to take part at all.[9] Rotterdam and Delft, which like Enkhuizen still waited on their first ship to return, probably obtained funds through Amsterdam to finance their participation of one ship each in the 1607 expedition. Amsterdam chamber itself had to stretch its resources, short-term debt rising with another 500,000 guilders during the first half of 1608 (Figure 1). The money may have been used to cover the costs of returning ships, but Amsterdam had also started to relieve the cash constraints of other chambers by allowing them to run substantial overdrafts on their current account.[10]

These internal credit lines required changing the VOC's governance by introducing uniform accounting standards and procedures as well as regular inspections so as to inspire the necessary mutual confidence. Chambers took turns in pairs to inspect others and all chambers had to submit statements of revenues and expenses to each meeting of the central board, the *Heren XVII*.[11] By providing a firm basis for easing the cash flow constraints of individual chambers this accounting harmonization signaled a marked step forward, but it failed to improve the VOC's overall cash position. The

[9] NA 1.04.02 VOC, Inv. No. 11046, Resolution of the Zeeland Estates, 11 September 1606, granting a subsidy of 300,000 guilders to the VOC, funded with customs revenues and payable over the course of three years, 'to build fortications and establish and maintain a garrison in East India'.

[10] For instance, in July 1610 Middelburg's cash outflows exceeded inflows by 500,000 guilders. Eighty per cent of this shortfall was covered by an overdraft of 400,000 guilders on the current account with Amsterdam of 400,000 guilders (NA 1.04.02 VOC, Inv. No. 11349, Copieboek rekeningen Zeeland, carta 74). Loans between chambers were coordinated in the meetings of the Heren XVII: Van Dam 1927, I, p. 233; De Heer, 1929, pp. 12-13, 26-27.

[11] On May 26th, 1606, the company directors decided that chambers would inspect each others' accounts (NA 1.04.02 VOC, Inv. No. 221, fol. 66). On August 4th, 1608, the Heren XVII resolved that the chambers had to send each other monthly reports: NA 1.04.02 VOC, Inv. No. 221, fol. 253.

maturity mismatch between short-term debts and longer voyages remained, creating liquidity or refinancing risk (Diamond, 1991) and forcing the company to reduce its operations. During 1608 and 1609 only three small ships were sent to Asia and it took until January 1610 before the VOC could again muster a full expedition of nine ships.

PAYING FOR PERMANENCE

The dependency on circulating capital for finance thus formed a serious check on operations, let alone on expansion. Yet expansion was what the company needed. In 1608 the commander of the second fleet, Cornelis Matelieff de Jonge, returned to the Republic and sounded the alarm in a series of memos to the company directors, the Estates General, and to prominent public figures such as Hugo Grotius and Johan van Oldenbarnevelt.[12] According to him the company had wrongly attempted to combine warfare with business, and therefore failed to achieve much in either. The situation demanded a determined push which the admirals of successive fleets had not been able to give. Matelieff recommended that the VOC put its operations on a more permanent footing by establishing a central hub, such as the Portuguese possessed in Malaya, and by appointing a governor-general there to take charge. Only then could the company hope to get a firm grip on spice supplies. Matelieff recognized that this policy change required heavy investment, but considered this necessary to realize the VOC's military and commercial aims (Van Rees, 1868; Gaastra, 1985; Witteveen, 2011).

[12] Matelieff de Jonge to Van Oldenbarnevelt, 18 mei 1609 (Veenendaal 1962, p. 319-327); Matelieff de Jonge to Grotius, 31 August 1610, *Correspondence Hugo Grotius*, 198A, p. 71-75.

[Table 2 about here]

However, the company's finances left no room for long-term investments in military spending. In 1609 the VOC's annual war costs already amounted to more than 400,000 guilders in wages, food, maintenance, and depreciation (Table 2). Sales yielded barely enough to cover these expenses, let alone expand the military effort or sustain long-term investment. Moreover, with the VOC's statutory liquidation only three years away, large investments would seriously reduce the chances of launching a successor company, for investors were unlikely to participate in another venture with high costs and low returns (Dari Mattiacci et al., 2012). Matelieff understood that the statutory liquidation created an unbridgeable conflict of interests between current and prospective investors. The former had no interest to invest heavily in operations if these were to prove of little or no value by 1612, while the latter had no incentive to participate in a successor if the old one had failed to establish a firm position overseas. Matelieff came to the logical conclusion and recommended to the Estates General that the statutory liquidation be ignored so as to turn the VOC into a permanent concern (Steensgaard, 1982; Witteveen, 2011).

Matelieff's proposal did not remain secret; in May 1609 Isaac Lemaire, a former VOC director who had left the board in 1605 after policy dispute, angrily petitioned Grand Pensionary Johan van Oldenbarnevelt. Ignoring the statutory liquidation would be illegal, improper, and unfair to shareholders, Lemaire argued, and warned that without dividends, full accounts and liquidation, no investor would subscribe to a successor (Frentrop, 2009; *Shareholder rights*, 2009). On the basis of his subsequent bear raid on the VOC shares Lemaire earned his reputation as a rancorous renegade, but his petition was a fair argument about a point of law and his justified complaint about the company's failure to pay dividends must have reflected a wider dissatisfaction (Van Dillen, 1930; Gelderblom, De Jong and Jonker, 2011). The VOC directors responded by posting dividends, clearly in the hope of appeasing shareholders and thereby smoothing political opposition against Matelieff's proposal. During 1610 and 1612 the VOC awarded dividends totaling 162.5 per cent, or 10.4 million guilders, an amount clearly meant as a pay-off to shareholders: full reimbursement plus ten times the going interest rate of 6.25 per cent for each year their capital had been tied up in the company (Steensgaard, 1982; Gelderblom, De Jong and Jonker, 2011). The board could now claim that it had fulfilled a key part of their charter obligations.

This was a risky gambit because the VOC lacked the cash to pay dividends, but the directors probably expected sales to pick up. The early companies' stocks were dwindling and the Twelve Years' Truce with Spain (1609-1621) opened markets in the Spanish Netherlands and southern Europe. Moreover, the first dividend was announced just after four heavily laden ships had arrived back during the summer of 1610. However, even fast rising sales revenues would be insufficient to equip new fleets *and* pay the dividend, so the VOC offered the dividend largely in kind using the company's own official prices as conversion measure. In August and September shareholders were awarded an initial 125 per cent in mace or money followed by another 7.5 per cent in money during September.[13]

[13] NA 1.11.01.01 Aanwinsten Eerste Afdeling, Inv. No. 626 (1893, 29b), Resolutions of the Heren XVII, 30 August 1610 (75%), 15 September 1610 (50%), and 16 September 1610 (7.5%).

If directors had hoped that shareholders would accept the payments in kind, they were mistaken, as dividend payments recorded by the Zeeland Chamber show (Table 3). The directors of the Middelburg chamber had anticipated on the dividends during 1609, selling shareholders small quantities of spices, with one quarter of their value being discounted against future dividends. Three years later, in November 1612, the chamber had still only paid out 0.5 million guilders, 38.5 per cent of equity, as dividend in kind. If we take this ratio as representative for the company as a whole, dividends in kind amounted no more than 2.5 million guilders until the end of 1612, i.e. barely a quarter of the total.[14]

[Table 3 about here]

The shareholders' refusal to accept dividends in kind left the company with a substantial liability at a time when it needed all its money for operations in Asia. Though the 1609 truce with Spain appeared to ease the pressure of warfare overseas somewhat, the company could not afford to let down its guard there. Under the terms of the truce a resumption of hostilities in Asia would not necessarily have repercussions for the situation in Europe and news about a military buildup in the Philippines raised the spectre of a Spanish offensive. Consequently the VOC spent an estimated 2.4 million guilders to send 14 ships in three smaller fleets sailing between January 1610 and 1611, and another 2.6 million guilders on 16 ships between 1611 and 1612 (cf. Appendix 1).

[14] In November 1613 the company directors reported to the Estates General that up to then the VOC had paid 57.5 per cent in cash and only 'some spices to some shareholders' ('*eenige specerijen aen sommigen uuijtgedeelt*'): NA 1.04.02 VOC, Inv. No. 368, 22 November 1613.

These equipments tested the financial limits of several chambers. The directors tried to offload some of their costs on the Estates General by petitioning for a subsidy, claiming that a commercial company ought not to bear costs incurred for the country's interests, but they had limited success.[15] Between 1609 and 1612 the Estates General awarded subsidies of only 390,000 guilders in tax relief plus some material assistance in the form of ships and ordnance (De Jong 2005, 116). The company therefore had to finance the expeditions primarily from money raised by the selling of goods brought ashore during 1610 and 1611. To speed up revenues the chambers offered buyers *rebates*, i.e. discounts on a given sale's price for cash up front rather than after the customary term of nine months (Schalk, 2010).

The discounts generally translated into an annualized interest rate of slightly over 10 per cent, which was high compared to regular debt, but rebates offered the advantage of not exposing the directors to creditors' claims as borrowing on the money market would. Admittedly, charter clause 47 exempted the directors from liability for specified debts, such as wage arrears. In line with the literature we have interpreted this clause before as really meaning to exempt them from liability for all debts (Gelderblom, De Jong and Jonker, 2011), but new material has made us change our view. Surviving VOC bonds show that directors contracted debt for their personal account, pledging their person and goods in the accustomed way of such bonds.[16] Moreover, we possess clear indications that outsiders did indeed hold them personally liable for these debts. When in 1611 the Middelburg chamber had postponed paying import duties for so long that the

[15] NA 1.01.03 Staten Generaal, Inv. No. 4841, fol. 89v, resolution 8 September 1609; fol. 100-107v petition, 16/17 November 1610.

[16] Three such bonds in NA 1.04.02 VOC, Inv. No. 7064 (insurance contract), Film No. 4883, one bond from December 1621 and two from January 1622.

Zeeland Estates' patience had run out, officials did not sequester the chamber's possessions, the logical course of action if Clause 47 had given directors full limited liability. Instead, the Estates threatened them with imprisonment for debt.[17] This personal liability had not really been a problem as long as debts raised were fairly quickly extinguished by incoming shareholders' installments, but it clearly put a limit on the sums and terms which the directors were prepared to shoulder.

The VOC's precarious finances will not have encouraged them to increase their exposure. In July 1612 the Estates General formally allowed the company to ignore the statutory liquidation due that year. To appease shareholders directors gave them the still unpaid 7.5 per cent in cash promised back in 1610, and then offered those who had refused to accept spices a payment of 50 per cent in cash on condition that the remainder of their dividend would be paid later still, 42.5 per cent in cash in 1613 and 62.5 per cent in cash or nutmeg in 1616.[18] In other words, the cash required to pay reluctant shareholders their promised due was such a strain that payment had to be stretched out over a very long period, effectively forcing them to re-invest their earnings for a period of uncertain duration. Moreover, the unilateral decision to ignore liquidation barred the company from raising more equity, since snubbed investors were unlikely to subscribe without demanding firm guarantees that charter clauses would be honored in the future.

Permanence thus came at the high price of further financial strains. Yet the company needed a stronger and more durable financial basis to maintain its overseas

[17] NA 1.04.02 VOC, Inv. No. 11046, resolutions Estates Zeeland concerning the VOC, 1607-1700, 9 May, 8 June, 20 and 22 September 1611. The resolutions do not mention what happened, so the two sides probably settled.

[18] NA 1.11.01.01 Aanwinsten Eerste Afdeling, Inv. No. 626 (1893, 29b), Resolutions of the Heren XVII, March 1612 (30% in nutmeg), 31 October 1612 (57.5% in cash), August 1613 (42.5%), and August/October 1616 (62.5% in nutmeg or cash). Schalk (2010) shows that Enkhuizen postponed part of the first payment until 1615.

position and finally reap its benefits. If not, the VOC risked losing its spice trade share to the Spanish and Portuguese, or else to English or French traders looking for an opportunity to move in.

ESTABLISHING AN OPERATIONAL HUB

Our reconstruction of sales revenues and equipment costs, summarized in Figure 3, demonstrates to good effect the precariousness of the VOC's overall position after 1612 and more specifically the failings of the circulating capital system.[19] Until 1610 the early companies' remaining stocks restricted the volume of company sales. Once these had sold out the VOC's sales picked up and rose to an estimated 4 million guilders per year in 1612, but up to and including 1616 annual sales averaged still no more than 3 million guilders a year. At first sight this ought to have sufficed for raising the size of fleets sent out, but in fact the company could only invest some 2 million guilders a year and in 1615 even only half that amount, simply because the return costs continued to absorb large sums of money and dividends due in 1613 and 1616 may have required up to 5 million guilders.

[Figure 3 about here]

[19] We estimated annual sales on the basis of the average monthly sales calculated in Appendix 1, table G. The reported sales in Figure 3 are an approximation of actual sales revenues because we do not know the distribution of sales within the periods for which the VOC directors reported their commission fees, nor do we know how often rebates (reducing the sales value in exchange for direct payment) were granted to buyers.

In these circumstances conserving the company's overseas position through collaboration rather than expansion posed an appealing alternative. If the VOC could form a united front against the Iberians with the EIC, for instance, the company could gain military strength and offload some of its costs. The EIC had operated quite successfully during 1609-1612, organizing seven voyages which paid average dividends of 174 per cent per voyage (Chaudhuri 1965, 209). This rankled in the Republic. Van Oldenbarnevelt, for instance, thought that the British were freeriding on Dutch power and ought to be made to pay their share (Van Ittersum 2006, 377). Moreover, in 1613 the EIC followed the VOC's 1602 example and had its shareholders commit their money for a span of eight years, enabling directors to finance equipments with retained earnings. The EIC also posed a threat to the VOC's attempt to control the market for spices and thereby prop up prices and revenues. However, talks between British and Dutch representatives in 1613 and again in 1615 ended without resolving any of the issues, sales coordination, joint operations, or a possible amalgamation of interests.[20]

Meanwhile the VOC had been corresponding about strategy with its newly appointed manager of the Bantam factory and future governor general, Jan Pietersz Coen. Like Matelieff before him, Coen argued in January 1614 that the VOC needed to establish a permanent operational hub if it was to deal effectively with the Spanish aggression and British freeriding on its military efforts. At that moment the VOC lacked the money even to maintain a steady flow of ships, let alone to increase efforts. Coen accepted this and first wanted the Estates General to step in and send the forces required

[20] Nellen, 2007, P. 173-174; Van Ittersum, 2006; Clark, 1935; Van Oldenbarnevelt to Caron, 3 May 1613 (Veenendaal, 1962, p. 543-546); Cf. Van Oldenbarnevelt to the Dutch ambassador in London, 7 May 1615 (Veenendaal, 1967, p. 107); See also the report ('verbaal') written by Grotius in May 1613 (*Correspondence Hugo Grotius*, 627-636).

(Colenbrander, 1934, 48-54, 75, 451-474). When the board turned his plan down, Coen fell in with a policy suggested by the Amsterdam chamber's directors, who wanted to neutralize the EIC's potential threat to European prices by raising the amount of silver sent out and buy up all spices.[21] In November 1615 the board agreed. Subsequent fleets were to carry more than the usual amount of silver in order to raise the volume of purchases and directors hoped that the resulting sales would also generate the revenues needed to mobilize the forces for Coen to capture his hub.[22]

The company's sales and equipments reported in Figure 3 reflect this policy change. From 1616 the VOC raised silver shipments by a factor of two, resulting in larger return cargoes and a boost to sales from 250,000 guilders per month in 1616 to more than 600,000 guilders by the end of 1618.[23] This translated into substantially bigger fleets sent out; a total of 66 ships left the Republic for Asia between December 1618 and December 1621, representing a value of almost 17 million guilders. Now Coen could embark on his expansion. In 1619 he captured the fort Jacatra on Java, renamed it Batavia, and started to build the VOC's operational hub there. Two years later he launched a campaign to gain control over the spice trade by capturing the Moluccas, which he succeeded in doing by unleashing a storm of violence (Colenbrander, 1934, 166-169; 234-246).

At first sight Coen's bold expansion appears the result of directors finally mastering the revolving finance system simply by raising its scale. However, a closer look reveals that this was not the case. The VOC was forced to continue juggling with resources and spending priorities as before. For instance, our reconstruction of cash flows

[21] Amsterdam directors to Coen, 28 November 1614 and 15 November 1615; Coen, *Bescheiden* IV, p. 294, 333.
[22] Amsterdam directors to Coen, 15 November 1615; Coen, *Bescheiden* IV, p. 332.
[23] On silver shipments, see Bruijn et al. (1987) vol. I, p. 226-229.

does show a revenue peak in 1618, but directors had to use this money for paying a 37.5% dividend in 1620 so as to appease shareholders in the run up to the 1622 charter expiry.[24] Meanwhile annual sales stalled at some four million guilders and stocks mounted sharply, while equipment costs continued to rise, peaking at double estimated sales revenues in 1621. Consequently the VOC, instead of escaping the constraints of revolving capital through expansion, remained caught in it much as before, only at a higher level. This forced the directors to explore and finally to move the company's financial boundaries. In 1613 the first of these explorations yielded an intriguing financial innovation.

THE 1613 INSURANCE CONTRACT

Immediately following the acquisition of permanence and the related restructuring of dividend payments in the second half of 1612, directors needed to secure the company's cash position for 1616, when the final installment of cash dividends fell due. This sum was too large to secure through rebates or other short-term debt. The chambers and Amsterdam in particular never borrowed more than a million guilders in short-term deposits, so the directors had to find an alternative. On March 1, 1613 they insured this liability with an ingenious contract guaranteeing that the revenues from the fleet setting sail that spring would not fall below 3.2 million guilders (Gelderblom, De Jong and

[24] In June 1619 the *Heeren XVII* resolved to pay a 37.5 % cash dividend per 1 April 1620: NA1.11.01.01 Aanwinsten Eerste Afdeling, Inv. No. 626 (1893, 29b).

Jonker, 2012).[25] The contract differed from regular insurance policies in setting a specific value rather than insuring a particular ship or its cargo (Van Niekerk, 1998, p. 83). That value was based on the VOC's official prices for the standard commodities pepper, nutmeg, cloves and mace, and market prices for other goods. Insurers would pay the difference between the sales value of the return cargo and the sum insured. With return trips averaging 38 months (Figure 2), the policy set a fairly long term of three-and-a-half years within which the returns should have materialized. The underwriters were to pay up half of the sum eventually due in February 1617, and the other half six months later. Ships from the fleet returning after the contract's due date would still count, the insurers being reimbursed pro rata with the proceeds of those cargoes.

Scholars have regarded this contract as an oddity at best, or else as a con trick played by the directors on hapless shareholders and other underwriters, the contract being interpreted as a devious way for directors to safeguard their income (Stapel and Den Dooren de Jong, 1927). A revision of this perspective is provided by Gelderblom, De Jong and Jonker (2012) from the perspective of modern risk management. They describe that the contract was offered almost exclusively to shareholders, who took up more than 95 per cent of the sum underwritten in return for a 5 per cent premium.[26] The directors themselves bore a disproportionally large share of the risk. In Amsterdam, for instance, they owned 14.3 per cent of the company shares at the end of 1612, while they

[25] The contract detailed in Van Dam (1977) Vol. I.1, pp. 207-208; see Gelderblom, De Jong and Jonker, (2012) for an English translation of the policy.
[26] Van Dillen (1958, 81, 97) documented the subscriptions of 101 out of 252 insurers. Together they subscribed 1.4 million guilders (76%) out of a total of 1.8 million. All but five of these insurers owned shares in the company in December 1612: NA 1.04.02 VOC, Inv. No. 7066. With only 22,000 guilders the subscriptions of these outsiders was negligible. The administration of insurers kept by the directors of the Zeeland chamber reveals that 69 shareholders and 4 outsiders underwrote the policy in Middelburg. NA 1.04.02 VOC, Inv. No. 13860, 13861.

underwrote 25 per cent of the policy.[27] Given this exposure we may ignore the possibility that managerial self-interest drove the directors to insure the company's 1616 revenues (Tufano, 1996). Rather, Gelderblom, De Jong and Jonker (2012) argue that the contract should be understood in the framework developed by Froot, Scharfstein and Stein (1993) for modern firms. In 1613 the VOC was exactly the position described by them: facing the need to continue heavy, strategic investment, about to reap the benefits but strapped for cash and finance. Under such circumstances insurance becomes a sensible safeguard for the continuity of operations.

For our purpose three aspects of the insurance contract matter. First, the contract, by its very ingenuity, shows the VOC directors at wits' end, having exhausted conventional means of raising finance. Second, the company did not use it again, so directors succeeded in eliminating the bottleneck which constrained them in 1613.[28] Third, it looks as if the contract's conditions were probably met (Gelderblom, De Jong and Jonker, 2012) and the VOC could well use the money, but did not pursue claims. The likely explanation is the fact that virtually all insurers doubled as shareholders, many of whom still had an outstanding claim on 62.5% dividend in 1616. Even though the 1613 policy stipulated that sums due under the contract were not to be offset against any other claims between parties, the VOC could hardly press insurers to pay up without risking

[27] Based on their initial shareholdings and share transactions registered in the 'Journaal van Actien' of the company (NA 1.04.02 VOC, Inv. No. 7066) we can calculate the holdings of the initial directors (excluding Isaac Lemaire) at 517,300 guilders in December 1612. In 1613 fourteen directors signed the insurance contract for a total of 462,060 guilders (Van Dillen, 1958, pp. 81, 97)

[28] Although the VOC did not use similar insurance contracts after 1613, the EIC did. In the period 1636-1643 several insurance contracts where issued (Stapel and Den Dooren de Jong, 1927, p. 102-105). Typically, the contract size equaled the face value of the debts outstanding. Because the EIC had unlimited liability and relied on debt financing, the main purpose of the insurance contract seems to be shielding shareholders from claims by debtors.

counterpressure to pay up itself. Consequently the company's lack of cash appears to have prevented it from using the ingenious stopgap designed to relieve it in case of need.

GROPING TOWARDS LIMITED LIABILITY

Having drafted an ingenious contract only to forego the option of claiming the sum insured, the VOC board found itself back at square one, searching for ways to finance its overseas expansion. Rebates on spice sales provided insufficient stretch and the Estates-General limited its support in the form of loans given by the Admiralties to about half a million guilders.[29] In 1614 the Heren XVII allowed the postponement of dividends due to 1615, and in 1616 it decided to convert unpaid dividends into interest bearing loans.[30] Meanwhile the Amsterdam chamber continued to borrow money through deposits (Van Dillen, 1958: 100-102; Coen *Bescheiden* IV, 328-329), and once it was decided in 1615 to send more silver and ships the others followed suit. The Enkhuizen chamber, for example, borrowed up to 250,000 guilders during 1616 and 1617 (Schalk, 2010). Zeeland, which had managed to equip its fleets from revolving capital until 1616, had to borrow almost the entire amount for the single ship sent out in 1617.[31]

[29] A resolution taken by the Estates General on 14 January 1623 records a debt owed by the VOC to the Admiralties of 498,430 guilders for five ships lent to the company in 1619: NA 1.04.02 VOC, Inv. No. 4643.
[30] On postponement: NA 1.04.02 VOC Inv. No. 100, 20 September 1614, 10 October 1615. On the payment of interest on dividend claims: NA 1.04.02 VOC, Inv. No. 100, 4-17 August 1616 and fol. 396 (August 1617), fol. 418 (20 October – 4 November 1617). In Enkhuizen dividends were postponed until 1618, so the chamber had to pay interest over the arrears: Schalk 2010, p. 86-92.
[31] In 1617 the Zeeland chamber charged 30,092 guilders of interest payments on deposits to the account of the 12th fleet. Taking interest at 6.25 per cent yields a debt of more than 480,000 guilders. NA 1.04.02 VOC, Inv. No. 13790, carta 102.

Such large-scale borrowing required stiffening the corporate structure. Chambers preferred to borrow in Amsterdam, possibly through the Amsterdam chamber, since that was cheaper than doing it locally: the interest rate differential with Middelburg was two per cent to the latter's disadvantage.[32] The chambers' directors contracted these debts personally and, as we have noted, they remained personally liable for them. This posed a serious bottleneck for borrowing the sums which the VOC needed for the planned offensive overseas. Unless backed up by some form of safeguard, directors would not likely shoulder the liabilities asked of them, nor could the other chambers fully exploit the facilities open to the Amsterdam chamber. Consequently in October and November 1617 the Heren XVII took further steps in centralizing financial policy. First they resolved that henceforth all decisions to borrow would be theirs alone, so chambers needed prior permission to raise any money. To keep a check on this delegates would have to bring full details about their respective chambers's financial position to every board meeting. At the same time the board transformed the chambers' debt from a personal liability of the director responsible into a joint liability of all directors, who were made to sign a contract guaranteeing their chamber's share in future debt pro rata of that chamber's share in the company capital. Their successors would have to do the same.[33]

The contract shows the extent to which the VOC continued to suffer from the local particularism which had inspired the decentralized structure. After fifteen years in business together the six chambers still mistrusted each other's financial policy

[32] The Zeeland Chamber paid 7 and 7.5 per cent on deposits from two of its directors in September 1616. Four months later the Zeeland directors feared deposits could only be had at 8 per cent. In December 1617 they expected to pay 7.5 to 8 per cent (NA 1.04.02 VOC, Inv. No. 11340, fol. 29r, 32, 46r, 48r). In June 1617 the Amsterdam chamber resolved to pay 5 per cent on deposits from outsiders and 6 per cent on deposits from insiders (presumably, shareholders). On October 9th the target rate was set at 5 to 5.5 per cent for all deposits. NA 1.04.02 VOC, Inv. No. 228, resolution 19 June 1617.
[33] NA 1.04.02 VOC, Inv. No. 100, fol 422-424; cf. Van Dam, *Beschrijvinge* Vol. I, p. 233.

sufficiently to require the signatures of all present and future directors if they were to take on joint liabilities. Moreover, the contract demonstrates that the directors themselves conceived debt as a personal, and not a corporate, liability. Indeed, the Heren XVII apparently did not consider the VOC chambers as corporate bodies in the legal sense, able to conduct business in their own name, or else future directors would not have needed to sign as well. By the same token directors could not make the step towards claiming limited liability for themselves, since there existed no entity to assume full liability in their place.[34] Consequently they made half a step and assumed joint full liability with the 1617 contract, freeing individual directors from risks which the company as a whole had to bear.

This provided a sufficiently strong basis to increase the VOC's leverage. By May 1620 the six chambers had debts of some 5 million guilders, of which 72 per cent had been raised by the Amsterdam chamber, and by March 1623 total debt had risen to over 8 million guilders (Figure 4). Most of that money went into expanding operations, so when sales slowed down after a record year in 1618 the company found itself in a familiar predicament. Investment continued at a high level without as yet producing sales to match. As a result the company was burdened with a debt of 8 million guilders just when full accounts would finally have to be published and a new charter obtained.

[Figure 4 about here]

[34] In 1618 the Heren XVII discussed, but did not adopt, a draft contract conceived in Zeeland freeing the Middelburg directors from claims issuing from loans contracted by other chambers: NA 1.04.02 VOC Inv.No. 100, fol. 460, September 1618.

It thus became of the utmost importance not just to avoid publication, but also to reject the directors' liability for debt, since the sum involved could easily bankrupt them all. The threat of disclosure loomed large indeed. Dissatisfied shareholders conducted a determined and unprecedented pamphlet campaign during 1621-1622, calling on the Estates General not to renew the charter without prior publication of its accounts and demanding firm new clauses to give them more power over company policy. Though the shareholders had the better arguments and the law on their side, the VOC got its way. In December 1622 it obtained a new charter to run from January 1623 for 21 years, having promised to let a committee of shareholders draft accounts for publication. Supported by the Estates of Holland the directors then sabotaged the committee's work until after several years they gave up in frustration (De Jongh, 2011).

Formally the new charter changed nothing with regard to the managers' personal liability for debt, its Clause 47 was identical to the old one. However, the clause had already been undermined by a subtle administrative change, possibly pioneered by the Middelburg chamber. Surviving bonds show directors guaranteeing debt in the customary way with person and goods in December 1621 and January 1622.[35] However, by late July 1622 the chamber had started using a substantially different type of bond. This was no longer issued and signed by the *bewindhebbers* or directors, but by the *rekenmeesters* or bookkeepers, and it no longer carried the signatories' customary guarantee of person and goods.[36] The new bonds appear to have raised investors' eyebrows in Amsterdam, where the Middelburg bonds were issued. Who was liable for them: the Middelburg directors,

[35] Three such bonds in NA 1.04.02 VOC, Inv. No. 7064 (insurance contract), Film No. 4883, one bond from December 1621 and two from January 1622.
[36] One such bond dated 30 July 1622 in NA 1.04.02 VOC, Inv. No. 7064 (insurance contract), Film No. 4883. Two more dated October and November 1622 in the Beinecke Library's possession.

their officials signing the obligations, or the Amsterdam directors placing the debt? To end the confusion the Amsterdam chamber passed a resolution in October 1623.[37] The directors rejected creditors' claims that bond signatories were personally liable for the debt which it represented. However, the resolution continued, in order to quell any doubts the text of bonds would be rewritten to explicitly exclude a creditor's recourse to the signatories' person or possessions.

With this final, momentous step the directors incorporated limited liability in the VOC's governance structure, one of several unintended consequences of the financial constraints within which the company operated. We do not know exactly what emboldened directors to take this step. Given their ongoing, acrimonious debate with disgruntled shareholders it was not a good moment to ruffle investors' feathers, yet they did. Moreover, Middelburg had started issuing the new type of bonds six months before the Estates-General's decision about the charter renewal, so, though the formal rejection of unlimited liability followed the company acquiring quasi permanence, the initial steps towards that position had been taken well before. Presumably the VOC directors felt entitled to do this following the 1621 verdict of the Supreme Court of Holland and Zeeland in an unrelated court case. Originating as far back as 1608, this case turned on the question whether or not the Amsterdam directors were personally liable for the consequences of fictitious share transfers performed by fraudulent clerks in the chamber's books under their supervision. Overturning verdicts of lower courts, the Supreme Court finally rejected the claims of duped investors, ruling that the company

[37] NA 1.04.02 VOC, Inv. No. 228, Revolutions Chamber Amsterdam, 25 October 1623.

was liable, not its directors. [38] This suggests legal opinion had moved into the direction of according the VOC some form of legal personhood exhonerating directors of liability, and this may have inspired them to do the same for debt.

CONCLUSION

Our analysis of the VOC's first two decades in operation yields some surprising results. First of all, the company traded on a much bigger scale than its immediate predecessors, the early Asian ventures, but turnover, revenues, return on capital and return on assets were surprisingly low in comparison. This was a consequence of its policy of building a sufficiently strong overseas position, both to keep the competition at bay and to forge a monopoly in the spice trade. The financial structure underpinning that policy, revolving capital, was too weak to sustain it and locked the VOC in a continuous search to stretch available finance.

Our analysis has also highlighted that, during its initial two decades, the VOC discovered a number of serious flaws in its original design: the company's decentralised structure, the unwise reliance on circulating capital for fixed investment, the lack of a permanent capital, and the directors' unlimited liability for debt. These flaws surfaced under the pressure of operational circumstances, which included the small chambers' greater exposure to negative cash flows and the spice stocks inherited from preceding companies. However, the most important of those circumstances was a consequence of

[38] NA 3.03.02 Hoge Raad, Inv. No. 714, Film No. 251, sentence 22 December 1621. For the Court of Holland's earlier verdict dated 22 December 1616, see NA 192 Hof van Holland, Inv. Nr. 640.

the company's own policy: to establish a commanding presence overseas required heavy investment and, above all, a scale of operations which drained revenues and forced directors to choose between keeping large stocks or ruining their own market.

Flaws and circumstances combined explain successive steps in the VOC's corporate evolution: the harmonization of the chambers' financial policy and its centralization in the hands of the Heren XVII from 1607, the 1612 acquisition of a permanent capital, the 1613 insurance contract, the 1617 mutual guarantee for debts contracted by directors, the issuing of bonds from other chambers by Amsterdam, and finally the 1623 rejection of directors' liability for company debt. Consequently, having acquired two key features of the modern corporation, that is to say the split between ownership and management and transferable shares, from the outset, the VOC obtained three more, i.e. a permanent capital, limited liability for directors and by extension legal personhood, step-by-step over a period of some twenty years. Thus the five features did not come as a package, as a coherent logical set. Nor did the adoption of one automatically lead to the adoption of the others in a process of natural legal evolution from simple partnerships via various forms of Roman law-based corporations to joint-stock limited liability companies. Nor were the features a natural response to the challenges of the intercontinental trade, but the result of friction between financial constraints and operational demands. Since the constraints were determined by outside shareholders and creditors, the driving force behind the VOC's corporate evolution was ultimately its need to raise outside finance.

If we accept this, we have to consider two wider implications. First, the long debate about the exact legal origins of modern corporations misses a vital point. The process of corporate evolution was no doubt shaped by early modern businessmen and lawyers borrowing or modifying concepts from then-current legal and business practice to suit their needs. But the process derived its logic and driving force from the demands of outside finance, and not from a legal system. Tracing the exact antecedents of this or that corporate feature back in Roman law or common law makes sense only if we keep in mind that it was adopted or adapted for economic reasons, not legal ones. To borrow a term from design theory: legal form followed economic function, and not the other way around. The VOC's case does highlight, though, one important precondition for processes of institutional change such as this, namely freedom of contract, the freedom to choose the best solution from a range of alternatives. Having this enabled the VOC to swap the insurance contract for something better, the mutual guarantee, and then to improve on that by claiming directors' limited liability. By contrast, the EIC did not possess it, forcing the company to continue relying on the complicated and comparatively expensive insurance contracts until fundamental institutional changes during 1650s.

Second, we need to rethink current conceptions about the supposed superiority of Western legal constructs such as the corporation in establishing European dominance. For the corporation was really the Western solution to a specific Western problem, i.e. the need to attract outside finance through the market. Consequently societies with alternative ways of mobilizing resources, for instance through kinship or clan ties, did not develop similar corporations – but the point is really, to what extent could these alternative ties provide effective substitutes for Western institutions? There is no reason to suppose such ties a priori inferior to market-based formal legal constructs in facilitating key economic functions such as searching, contracting, monitoring, and enforcing. Indeed, they may have been superior, but as long as we keep looking for Western-style corporations we will not find business enterprises organized on the basis of such ties, nor will we be able to understand the advantages and disadvantages of alternative ways of organizing business compared to Western solutions. In short, we need to retrain our sights and the VOC example suggests that a good way to start is to examine the logic of a given concern's financial structure.

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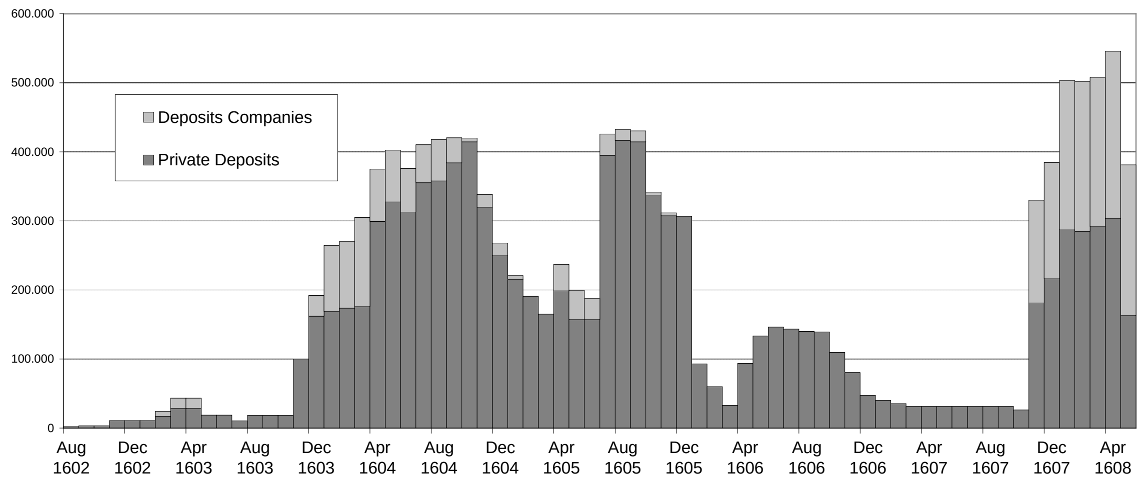
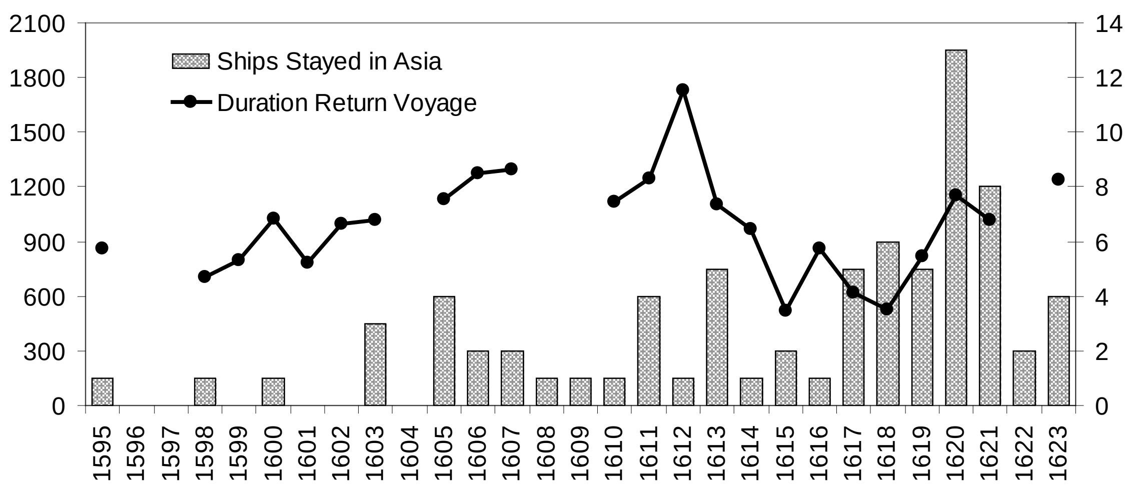
FIGURES

Figure 1: Debt raised by directors of the Amsterdam Chamber of the VOC, August 1602-May 1608



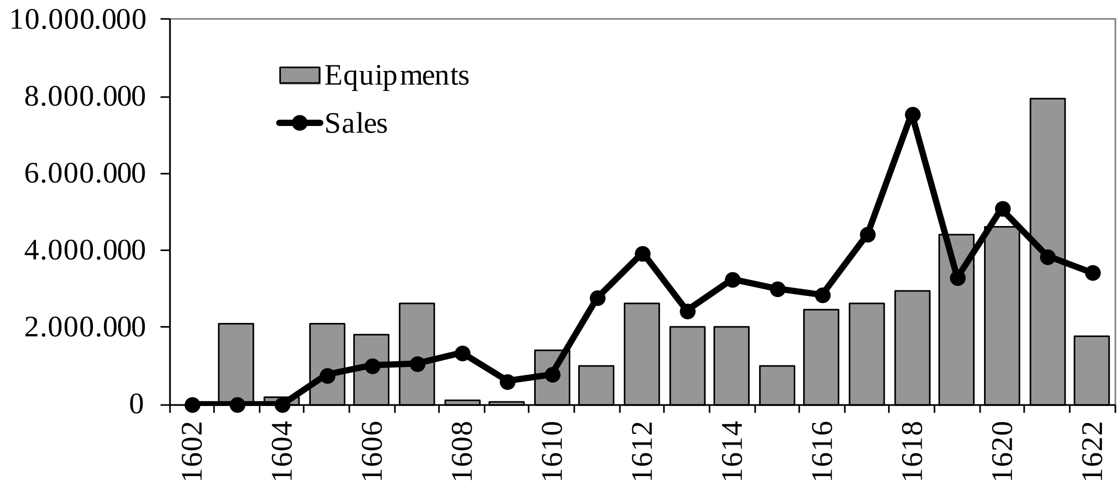
Source: NA. 1.04.02 Inv. No. 7162, carta 72-302

Figure 2: Average duration (in days) of return voyages to Asia and the number of ships that stayed there, per year of departure from Dutch Republic



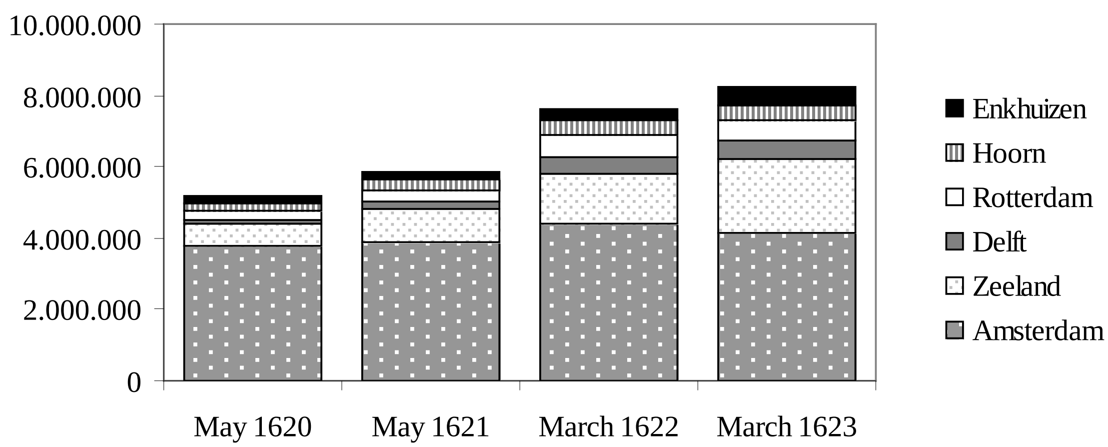
Source: Bruijn et al (1987); the calculated duration does not include the ships remaining in Asia.

Figure 3: Estimated annual sales revenues and expenditure on the equipment of VOC fleets, 1602-1622.



Source: Appendix 1

Figure 4: Debt Outstanding of the VOC Chambers, 1620-1623



Source: NA 1.04.02 VOC, Inv. No. 100, Resolutions Heren XVII, fol. 550-551, 591, 599, 650

Tables

Table 1: VOC Zeeland, Bills paid for Returned Ships, December 1606- July 1611

Period	Wages	Other Costs	Commission	Total
Dec 1606 – Jul 1608	137,053	22,267	32,540	191,860
Aug 1608 – Feb 1609	14,396	9,425	0	23,821
Mar 1609 – Aug 1609	39,406	1,700	17,862	58,968
Sep 1609 – Feb 1610	42,513	4,783	0	47,296
Mar 1610 – Aug 1610	34,744	9,616	0	44,360
Sep 1610 – Jul 1611	24,492	44,126	0	68,618
Total	**292,604**	**91,917**	**50,402**	**434,923**

Source: NA 1.04.02 VOC, Inv. No. 11349, carta 61, 62, 75, 97, 119-120, 137-139

Table 2: The estimated annual cost of the VOC's military effort in Asia, 1609

Expenses	Amount
soldiers	120,000
Sailors	90,000
provisions	100,000
fortifications	50,000
depreciation	60,000
Total	**420,000**

Source: Van Dam (1927) Vol. 1.2, p. 525-526

Table 3: Dividends in kind paid to the shareholders of the Zeeland Chamber, 1609-1612

Period	Pepper	Mace	Nutmeg	Total
Mar 1609 – Aug 1609	19,647	0	0	19,647
Sep 1609 – Feb 1610	63,532	0	0	63,532
Mar 1610 – Aug 1610	1,630	0	0	1,630
Sep 1610 – Jul 1611	115,386	10,213	0	125,598
Aug 1611 – Jul 1612	94,996	43,606	116,072	254,674
Sep 1612 – Nov 1612	0	0	36,133	36,133
Total	**295,191**	**53,818**	**152,205**	**501,214**

Source: NA 1.04.02 VOC, Inv. No. 11349, *Copieboek rekeningen Zeeland*

Appendix 1

The Finances of the VOC, 1602-1623

As explained in the main text, so as to better understand how the VOC evolved as a corporation we collected and, where necessary, reconstructed the financial data from the company's first two decades. Until now scholars have accepted De Korte's expert opinion (De Korte 1983/2000), that the scarcity of administrative data for the period up to 1640 prevents a reconstruction of annual income and expenditure, let alone for details such as financial resources, operating costs, and profitability. According to us there is a way out, however, at least for the years 1602-1623. We started by estimating the cash flow. This can be done by combining the data on outward and inward shipping collected by Bruijn et al. (1987) with the cost of equipments and revenues from sales as recorded in surviving ledgers of individual chambers on one hand, and on the other with information from financial reports submitted by the Zeeland chamber to the general board, the *Heren XVII*, between 1608 and 1612. We did this assuming that data on individual ships or chambers may be made to stand for the company as a whole because of the VOC's practice to allocate costs and revenues, evenly to its six chambers, each according to their share in the original capital: Amsterdam 50 per cent, Zeeland 25 per cent, Rotterdam, Delft, Hoorn, and Enkhuizen 6.25 per cent each. These shares also served as the basis for calculating the directors' income, a percentage of fitting costs and sales revenues, so they saw to it that their chamber got its due. Since accounts for successive outward fleets were kept separate, fitting costs or revenues per ton from one chamber's ship may therefore be taken as a guide for the other ships in that same fleet. Wherever possible we have refined the cash flow estimates with occasionally available data on total fleet size at a given moment, cargoes of individual ships, short-term debt, the cost of refitting returned ships, and dividend payments to shareholders.

EQUIPMENTS

The fourteen ships sent out in 1602 under Van Warwijck were administered by the VOC, but they belonged to the shareholders in one of the company's forerunners. The company's own first three fleets sailed in **1603**, **1605** and **1606** and were funded by shareholders' subscriptions. Van Dam (1977) and surviving accounts of the chambers of Zeeland and Enkhuizen yield the fitting costs of all chambers except Hoorn.[39] Based on the average costs of 31 ships of the five chambers we estimate the value of the three ships Hoorn contributed to the first three fleets, plus the one ship which sailed from Amsterdam in 1604. Total cost of the **1607** fleet can be estimated by extrapolating the known costs of ten ships from Amsterdam and Zeeland to the four ships equipped by Rotterdam, Hoorn, and Delft.[40]

During **1608** and **1609** a total of only three small ships (250, 80, and 80 tons) sailed for Asia from Amsterdam. We do not know their cost. Based on the average value for all ships sailing between 1603 and 1607 (approximately 350 guilders per ton) the three ships' cost may have totalled 143,500 guilders. In 1610 Enkhuizen equipped two small ships (100 and 120 tons) for 74,319 guilders.[41] Combining this information, we estimate the total value of the two ships in 1608 at 100,000 guilders, and that of the ship in 1609 at 50,000 guilders.

We know the value of five of the nine ships of Pieter Both's fleet of **1610**, two from Enkhuizen and three from Zeeland, but not of the four from Amsterdam. The equipment cost of the two Enkhuizen ships was relatively low because they sailed without silver, so we have used the average value of the three Zeeland ships as proxy for

[39] Enkhuizen: NA 1.04.02 VOC, Inv. No. 14854-I, fol. 169; inlaid sheaf of papers, fol. 595. Zeeland: NA 1.04.02 VOC, Inv. No. 11349, carta 62 and Inv. No. 13784, carta 141-142. Amsterdam: De Korte, *Jaarlijkse*, p. 10. Delft and Rotterdam: Van Dam, *Beschrijvinge*, Vol. 1.1, p. 224.

[40] Zeeland: NA 1.04.02 VOC, Inv. No. 11349, carta 62, Inv. No. 13784, carta 141-142. Amsterdam: De Korte, *Jaarlijkse*, p. 10. In July 1608 the Zeeland Chamber registered 32,540 guilders' worth of commission fees 'for the fourth equipment paid to the other chambers': NA 1.04.02 VOC, Inv. No. 11349, carta 59-60. At the usual 1 per cent rate these fees would imply the six chambers spending a total of 3.25 million guilders on the fourth fleet, that is to say about 600,000 guilders more than our estimate. We cannot account for this difference.

[41] NA 1.04.02 VOC, Inv. No. 14854-I, fol. 169.

the value of the four ships from Amsterdam, which undoubtedly carried silver as well.[42] As for the small fleet sailing under Brouwer in **1610/11**, the Zeeland ship in it had cost 212,870 guilders and we assume the two Amsterdam ships to have cost the same. In **1611** Amsterdam and Enkhuizen dispatched one ship each under Reael. The 'Bantam' from Enkhuizen probably cost 162,195 guilders.[43] We assume the ship from Amsterdam to have cost the same as the 1610/1611 Zeeland ship, i.e. 212, 870 guilders.[44]

In September 1612 Zeeland recorded the contribution of each chamber to the seventh fleet of 14 ships under Blok during **1611/12**: Amsterdam 1.8 million guilders, Zeeland 426,374 guilders, Rotterdam 227,303 guilders, and Enkhuizen 321,857 guilders.[45] Zeeland's detailed account lacks a separate entry for two more ships sailing from Amsterdam under Coen in May 1612, so we assume their cost to have been included in the total for the seventh fleet.

We estimate the value of the fleets of **1613** and **1614** from a VOC request for financial support submitted to the Estates General in 1614. The company argued that recent fleets had averaged 10 to 12 ships for a total value of 1.8 to 2 million guilders per fleet. These fleets were said to have carried between 500,000 to 600,000 guilders' worth of silver.[46] On the basis of these reported figures we set the value of each fleet at 2 million guilders. To estimate the cost of the five-ship fleet of **1615** we extrapolate the figure for the two Zeeland ships (393,000 guilders) to yield a total of 984,000 guilders, which tallies with the value of the two previous fleets. [47]

The costs of the three fleets sailing in **1616** and **1617** plus three ships setting out early in 1618 can be estimated by extrapolating the value of four ships from Zeeland and

[42] The two ships from Enkhuizen carried 2,820 guilders in silver: NA 1.04.02 VOC, I Inv. No. 14854-I, fol. 169. Zeeland reported that admiral Both's fleet, which included the two Enkhuizen ships, carried a total of 709,000 guilders, and the five ships of Brouwer and Reael (1610-1611), 601,600 guilders: NA 1.04.02 VOC, Inv. No. 11349, accounts Zeeland, Carta 142.

[43] Calculating commission fees in 1612, Zeeland recorded a total cost of 321,857 for the *Patania* from Enkhuizen (which sailed under Blok in 1612), but subtracted 162,195 guiders for expenses during 1611. An Enkhuizen ledger has the same amount of 321,857 guilders for the *Bantam* and *Patania* combined. Taken together this suggests that the *Bantam* had cost 162,195 guilders and the *Patania* 159,661 guilders.

[44] *Check: silvervalue Bantam from Enkhuizen: if it is zero or close to zero estimate of silver in ships from other chambers needs to be adjusted.*

[45] NA. 1.04.02 VOC, Inv. No. 11349, accounts Zeeland, Carta 127.

[46] Van Dam, *Beschrijvinge*, Vol. 1.2, p. 524. The one Enkhuizen ship whose exact value we know had cost about 100,000 guilders, much lower than the value per ship in the VOC's figure. However, financial constraints had forced Enkhuizen to dispatch its ship without any silver (Schalk 2010).

[47] The two ships from Isaac Lemaire's Australsche Compagnie, *Eendracht* and *Hoorn*, have of course been excluded from our calculations for 1615, since they did not belong to the VOC.

two from Enkhuizen in these expeditions, which averaged 307,243 guilders. This figure was much higher than before, managers in Asia having demanded much more silver to be sent, so each of these three fleets carried at least double the amount of silver.[48]

In December 1620 the Amsterdam chamber's directors wrote to Jan Pietersz Coen that two fleets, one of 16 ships sailing **between December 1618 and May 1619**, and one of 23 ships which left **between December 1619 and June 1620**, including a yacht which had sailed from Amsterdam in September 1619, had cost a total of 90 chests of gold or 9 million guilders. The second one had cost 4.6 million guilders, so the first one must have cost 4.4 million.[49] Surviving accounts from Zeeland and Enkhuizen enable us to estimate the share of individual chambers in these two fleets. The five ships which Zeeland and Enkhuizen had contributed to the 1618/19 fleet had cost 1.8 million guilders, so we divide the remaining 2.6. million guilders between the remaining 11 ships. For the **1619/20** fleet we follow the same procedure. Two Zeeland ships had cost 600,000 guilders, leaving 4 million guilders to be spread evenly over the other nineteen ships.

In the same December 1620 letter the Amsterdam directors gave a total value of the 15-ship fleet sailing **between December 1620 and May 1621** as 3.6 million guilders, including 1,125,000 guilders worth of silver. Three months later the *Heren XVII* wrote that another 13 chests of silver (260,000 guilders) would be shipped with this fleet, raising the total to 3,860,000 guilders.[50] The Zeeland accounts show this chamber's four ships to have cost 790,000 guilders, so again we divide the remaining, approximately 3 million guilders by the other 11 ships.

We have few details about the two remaining fleets during the company's initial charter period. The first one of twelve ships sailed during **November and December 1621**, preceded by two Amsterdam yachts departing on the 1st of October. According to the *Heren XVII* they had 'exerted themselves' (*ons selven geeforceert*) to send 800,000 Spanish pieces of eight (realen) or no less than 2 million guilders with this fleet.[51] Zeeland's ship had cost 175,000 guilders without its silver cargo and we assume the same

[48] (Coen, *Bescheiden* IV***, DAS***).
[49] Coen, *Bescheiden* IV, p. 476.
[50] Coen, *Bescheiden* IV, p. 507.
[51] Coen, *Bescheiden* IV, p. 519.

amount for each of the other ships, bringing the total value of the fleet to 4 million guilders.

The final one was a small fleet of seven ships sailing during **December 1622 and January 1623,** Rotterdam having dispatched an additional yacht in April 1622. We have no detailed information on the cost of this equipment. However, in April 1622 the *Heren XVII* warned their overseas commander Coen that financial resources were stretched, so future fleets would be smaller. We therefore estimate the value of each of the ships in this fleet, including the Rotterdam yacht, at 250,000 guilders, i.e. the average value of the ships sailing during 1625, for which we have the exact cost.[52]

[52] NA 1.04.02 VOC, Inv. No. 13771: Amsterdam, 5 ships, 1,319,338 guilders; Zeeland, 3 ships, 798, 645 guilders; Delft, one ship, 213,852 guilders , Enkhuizen, one ship, 192,988 guilders.

Year	Ships	Admiral	Ship Names	Tonnage	Chamber	Total	Silver	%
1595-1602	**80**		**Early companies**	**29,450**		**8,209,438**		
1603	2	v.d. Hagen	Westfriesland, Enkhuizen	1,000	Enkhuizen	320,112		
1603	2	v.d. Hagen	Dordrecht, Zeelandia	1,400	Zeeland	429,276	150,000	35%
1603	6	v.d. Hagen	Amsterdam, Delft, Duifje, Gelderland, Hof van Holland, Geünieerde Provinciën	2,620	Amsterdam	993,058	358,140	36%
1603	2	v.d. Hagen	Hoorn, Medemblik	950	Hoorn	*346,943*		
1604	1		Gouda	260	Amsterdam	*173,472*		
1605	2	Matelieff	Amsterdam, Kleine Zon	920	Zeeland	268,787		
1605	7	Matelieff	Witte Leeuw, Mauritius, Zwarte Leeuw, Nassau, Oranje, Grote Zon	4,000	Amsterdam	1,437,682	606,300	42%
1605	1	Matelieff	Erasmus	540	Rotterdam	231,567		
1605	2	Matelieff	Eendracht, Geunieerde Provintien	640	Delft	166,217		
1606	3	v.Caerden	Ter Veere, Walcheren, Zierikzee	2,160	Zeeland	706,023		
1606	1	v.Caerden	Patania	340	Enkhuizen	106,423		
1606	5	v.Caerden	Banda, Bantam, Ceylon, Gelderland, Gouda	2,400	Amsterdam	830,146	340,750	41%
1606	1	v.Caerden	China	420	Hoorn	*173,472*		
1607	7	Verhoef	Gelderland, Amsterdam, Arend, Hollandia, Rode Leeuw met Pijlen, Pauw, Geünieerde Provinciën	3,580	Amsterdam	1,295,905	526,900	41%
1607	3	Verhoef	Middelburg, Valk, Zeelandia	1,440	Zeeland	570,055	277,757	49%
1607	2	Verhoef	Griffioen, Rotterdam	940	Rotterdam	*375,147*	185,171	49%
1607	1	Verhoef	Delft	800	Delft	*187,574*	92,586	49%
1607	1	Verhoef	Hoorn	700	Hoorn	*187,574*	92,586	49%
1603-1607	**49**			**25,110**		**8,799,433**		
1608	2		Hoop, Medemblik	330	Amsterdam	*100,000*		
1609	1		Halve Maan	80	Amsterdam	*50000*		
1610	4	Both	Ceylon, Witte Leeuw, Zwarte Leeuw, Wapen van Amsterdam	2,280	Amsterdam	*748,551*		
1610	3	Both	Ter Goes, Oranje, Vlissingen	1,540	Zeeland	561,413	302,649	54%
1610	2	Both	Hasewint, Brack	220	Enkhuizen	74,319	2,820	4%
1610/11	2	Brouwer	Gouda, Rode Leeuw met de Pijlen	660	Amsterdam	*425,739*		
1611	1	Brouwer	Ter Veere	700	Zeeland	212,870	120,320	57%
1611	1	Reael	Banda	800	Amsterdam	*212,870*		
1611	1	Reael	Bantam	900	Enkhuizen	162,195	120,320	74%
1611/12	11	Blok	Halve Maan, Grote Aeolus, Ceylon, Duifje, Gelderland, Groene Leeuw, Rode Leeuw, Grote Maan, Ster, Zon, Oranje	3,870	Amsterdam	1,800,862		
1611/12	1	Blok	Rotterdam	800	Rotterdam	227,303		
1611/12	1	Blok	Patania	340	Enkhuizen	159,661		
1611/12	1	Blok	Zeelandia	500	Zeeland	426,374		
1611/12	2		Hoop, Geunieerde Provincien	1,200	Amsterdam			
1608-1612	**33**			**14,220**		**5,162,156**		

1613	2	v. Surck	Middelburg, Zeelandia	1,600	Zeeland	*333,333*		
1613	2	v.d Zande	Arend, Witte Valk	660	Amsterdam	*333,333*		
1613	1	v.d Zande	Hoorn	700	Hoorn	*166,667*		
1613	4	v.d. Haghen	Wapen van Amsterdam, Hollandia, Mauritius, Nassau	2,900	Amsterdam	*666,667*		
1613	1		Neptunus	220	Amsterdam	*166,667*		
1613	1		Kleine Aeolus	240	Rotterdam	*166,667*		
1613	1		Delft	800	Delft	*166,667*		
1614	1		Hert	280	Rotterdam	*135,256*		
1614	2	Stoop	Vlissingen, Walcheren	1,200	Zeeland	*270,511*		
1614	1	Stoop	Wapen van Amsterdam	800	Amsterdam	*135,256*		
1614	1	Stoop	Engel	600	Delft	*135,256*		
1614	1	Stoop	Enckhuysen	500	Enkhuizen	106,423	0	0%
1614	1	Stoop	Oranjeboom	360	Hoorn	*135,256*		
1614	1	Spilbergen	Grote Aeolus (jacht)	320	Zeeland	*135,256*		
1614	4	Spilbergen	Jager, Grote Maan, Meeuwtje, Grote Zon	1,400	Amsterdam	*541,022*		
1614	1	Spilbergen	Morgenster	300	Rotterdam	*135,256*		
1614	2		Witte Beer, Zwarte Beer	620	Amsterdam	*270,511*		
1615	2		Dolfijn (jacht), ter Veere	980	Zeeland	393,761	170,160	43%
1615	2		Bergerboot, Zwarte Leeuw	880	Amsterdam	*393,761*		
1615	1		Galiasse	280	Hoorn	*196,881*		
1616	1		Wapen van Zeeland	700	Zeeland	382,401	173,280	45%
1616	2		Eendracht, Trouw	1,200	Amsterdam	*614,487*	345,600	56%
1616	1		Nieuw Bantam	800	Enkhuizen	222,271	96,000	43%
1616	1		Gouden Leeuw	550	Rotterdam	*307,243*	172,800	56%
1616	2		Westfriesland, Oranjeboom	1,160	Hoorn	*614,487*	163,200	27%
1616	1		Hert	280	Delft	*307,243*	115,200	37%
1617	1		Zierikzee	800	Zeeland	557,550	288,480	52%
1617	1		Postpeerdt	300	Enkhuizen	201,960	115,200	57%
1617	6		Eenhoorn, Goede Fortuin, Groene Leeuw, Vosje, Witte Beer, Tijger	1,660	Amsterdam	*1,843,461*	,	
1617	2		Dolfijn (jacht), Ter Tholen (jacht)	660	Zeeland	479,279	297,960	62%
1617	5		Witte Beer, Tijger, Zwarte Beer, Zeewolf, Mauritius	1,920	Amsterdam	*1,536,217*	376,275	24%
1618	1		Delft	800	Delft	*307,243*	75,255	24%
1618	1		Wapen van Haarlem	360	Amsterdam	*307,243*	75,255	24%
1618	1		Hert	280	Rotterdam	*307,243*	75,255	24%
1613-1618	**58**			**27,110**		**12,972,733**		
1618/19	4	De Houtman	Westfriesland, Wapen van Zeeland, Ter Tholen, Walcheren	2,500	Zeeland	1,438,020	385,920	27%
1618/19	1	De Houtman	Enckhuysen	500	Enkhuizen	348,348	205,140	59%
1618/19	1	De Houtman	Hoorn	700	Hoorn	*237,603*		
1618/19	1	De Houtman	Oranjeboom	360	Rotterdam	*237,603*		
1618/19	9	De Houtman	Dordrecht, Eenhoorn, Goede Hoop, Postpaard, Zeelandia, Amsterdam, Witte Beer, Eendracht, Goede Fortuin	5,300	Amsterdam	*2,138,426*		

1619/20	2	Baccum	Zierikzee, Middelburg	1,500	Zeeland	613,980	117,422	19%
1619/20	13	Baccum	Vrede, Weesp, Noord-Holland, Zuid-Holland, Bruinvis, Eenhoorn, Heilbot; Hollandia, Leiden, Mauritius, Schoonhoven, Groningen, Muiden	6,610	Amsterdam	2,467,536		
1619/20	3	Baccum	Purmerend, Medemblik, Wapen van Hoorn	1,100	Hoorn	*569,431*		
1619/20	2	Baccum	Alkmaar, Wapen van Enkhuizen	1,300	Enkhuizen	*379,621*		
1619/20	2	Baccum	Delft, Oranje	1,160	Rotterdam	*379,621*		
1619/20	1	Baccum	Schiedam	300	Delft	*189,810*		
1620/21	4		Westfriesland, Arnemuiden, Oranjeboom (jacht), Westkapelle (jacht)	1,400	Zeeland	790,010	381,331	48%
1620/21	7		Zwarte beer, Gouda, Naarden, Dordrecht, Haan, Valk, Leeuwin	2,570	Amsterdam	*1,953,630*		
1620/21	1		Wapen van Delft	700	Delft	*279,090*		
1620/21	1		Haring	180	Enkhuizen	*279,090*		
1620/21	1		Hazewind	120	Hoorn	*279,090*		
1620/21	1		Gouden Leeuw	550	Rotterdam	*279,090*		
1621	1		Walcheren	600	Zeeland	438,385	262,104	60%
1621	1		Wapen van Rotterdam	700	Rotterdam	*332,991*		
1621	1		Delfshaven	400	Delft	*332,991*		
1621	6		Gorkum, Heusden, Mauritius, Woerden, Witte Beer, Vrede	2,240	Amsterdam	*1,997,943*		
1621	2		Edam, Wapen van Hoorn	900	Hoorn	*665,981*		
1621	1		Monnikendam	300	Enkhuizen	*332,991*		
1622/23	1		Middelburg	700	Zeeland	*250,000*		
1622/23	1		Kleine Erasmus	240	Rotterdam	*250,000*		
1622/23	2		Makreel, Wapen van Enkhuizen	1,000	Enkhuizen	*500,000*		
1622/23	2		Leiden, Schoonhoven, Naarden	1,280	Amsterdam	*500,000*		
1622/23	1		Medemblik	300	Hoorn	*250,000*		
1618-1622	**73**			**35,510**		**18,711,281**		

SALES

To estimate the VOC's annual sales for the period 1602-1622 we draw on a number of sources. We base our estimates of the company's sales during 1602-1612 on accounts prepared by the Zeeland chamber for the *Heren XVII* from July 1608 onwards.[53] In them the Zeeland directors noted that, on 13 October 1607, the *Heren XVII* had calculated their share in overall sales commission at 6,500 guilders. Directors received one per cent commission on sales, of which Zeeland received 25 per cent, so the VOC total sales **until October 1607** must have amounted to 2.6 million guilders.[54] Of this total Zeeland itself had sold very little. By July 1608, that is to say, nine months after calculating the commission fees, the chamber had sold no more than 200,000 guilders worth of pepper, cloves, and other colonial imports (Table A).

Table A, Sales of the Chamber Zeeland, December 1606 – November 1612

Period	pepper	mace	cloves	nutmeg	Other	Total
December 1606 - July 1608	116,468		58,475		28,930	**203,873**
August 1608 - February 1609	68,336				6,831	**75,166**
March 1609 – August 1609	26,196				2,025	**28,221**
September 1609 – February 1610	85,731	12,137	6,094	49,248	9,487	**162,697**
March 1610 – August 1610	138,947		9,976	23,446	10,000	**182,369**
September 1610 - July 1611	440,366	10,718	660	61,387	42,935	**556,066**
August 1611 - June 1612	747,131	44,394	172,645	130,962	28,069	**1,123,200**
July 1612 - November 1612	55,066	11,928	180,455	36,133	28,564	**312,145**
Total	**1,678,242**	**79,177**	**428,305**	**301,176**	**156,840**	**2,643,739**

Source: NA 1.04.02 VOC, Inv. No. 11349, carta 5v, 59-62, 75, 97

Why did Zeeland sell so little for the VOC? Presumably the chamber had to sell old stock first, for instance the spices imported by the three Zeeland ships in the 1602 Van Warwijck fleet, which had returned to Middelburg during 1605 and 1606.[55] Moreover, the volume of spices received by Zeeland was lower than the capacity of ships sent out would suggest. In 1608 the Zeeland directors booked receipts of 408,722 guilders for

[53] NA 1.04.02 VOC, Inv. No. 11349, "Rekeningen ende bewijsen die de caemer van Middelburch is doende aende respective Caemeren van alle de vercochte goederen gecommen mette schepen Zeelandt, Dordrecht, ende Amsterdam voor rekeninge vande 10-jarige, anno 1608"
[54] Carta ***
[55] During 1605-1607, the company of 14 ships which had sailed in 1602 could pay out 1,651,488 guilders to shareholders from sales revenues of goods from a captured Portuguese vessel: Van Dam, *Beschrijvinge* Vol. 1.1., p. 17-19; Vol. 1.2, p. 485. *Check: can we reconstruct exact sales from Zeeland reports?*

freight carried 'for other companies' by the ships *Zeeland*, *Dordrecht*, and *Amsterdam*, which had returned respectively during 1606, 1607, and 1608.[56]

In any case, the bulk of the company's 2.6 million guilder total sales up to October 1607 was done by Amsterdam, largely because that chamber received most of the returns: five of its ships came back during this period, against two for Zeeland and a single one for Hoorn. The other three chambers lost ships and therefore did not receive any spices until 1608 (Delft), 1610 (Enkhuizen) or even 1611 (Rotterdam). Since Zeeland sold less than 200,000 guilders' worth of spices of its own up to July 1608, sales by Amsterdam and Hoorn between May 1605 and November 1607 must have amounted to 2.4 million guilders.

In August 1609 the Zeeland chamber recorded a payment of 17,862 guilders for 'commission fees for traded [goods] to the respective chamber, calculated until the last day of February 1609'. Since the chamber's previous recording of commission fees paid for sales dated from November 1607, we assume, applying the same gauge used above, sales of 1,786,200 guilders **between December 1607 and February 1609**. Zeeland sold only an estimated 171,000 guilders' worth of spices during this period, so the other three chambers with return cargoes in 1608, that is to say three ships for Amsterdam, one each for Hoorn and for Delft, must have sold over 1.6 million guilders' worth of spices, averaging approximately 320,000 guilders per ship.

For the period **March 1609 – July 1611** we have no references to fees earned, so we need to estimate VOC sales in another way. We have done this in two steps. We first take the value of the cargo of three three return ships, two to Zeeland and one, the first one, to Enkhuizen. Combining recorded sales from the two Zeeland ships, the *Ter Veere* and the *Zeelandia*, with the remaining stock of spices in Zeeland in July 1611, we calculate that the cargo of these two ships was worth 1,633,535 guilders (cf. infra). Recorded sales of spices from the *Patania*, the first ever ship returning to Enkhuizen in 1610, show a total cargo worth 1,050,007 guilders. Six more ships returned between March 1609 and July 1611, all to Amsterdam; if we value their cargo at 895,000 guilders, the average of these three ships, we get an estimated total value of VOC return cargoes of 8,055,000 guilders.

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[56] NA 1.04.02 VOC, Inv. No. 11349, carta 20, 59, 60.

We then estimate sales from these cargoes. Only a small part appears to have sold during the period under consideration. As late as 1610 the VOC directors still sold pepper mostly from stocks delivered by Van Warwijck's 1602 fleet, and only a small volume of its own.[57] Moreover, the total of 125 per cent dividend in kind, against only 7.5 per cent in cash, awarded to shareholders by the *Heren XVII* in April and November 1610 suggests a need to clear overstocks.

Table B, Sales of goods from different ships returning to Zeeland between December 1606 and November 1612.

	Unknown	*Dordrecht*	*Zeeland #1*	*Amsterdam*	*Ter Veere*	*Zeeland #2*	*oranje*	*Middelburg*	*Other chambers*	***Total***
Dec 06 – July 08	0	81,869	122,005	0	0	0	0	0	0	203,874
Aug 08 – Feb 09	1,029	0	73,971	166	0	0	0	0	0	75,166
Mar 09 – Aug 09	2,025	0	0	26,196	0	0	0	0	0	28,221
Sep 09 – Feb 10	1,023	0	0	84,709	76,966	0	0	0	0	162,697
Mar 10 – Aug 10	2,174	0	0	136,774	43,422	0	0	0	0	182,369
Sep 10 – Jul 11	5,237	0	0	24	77,167	473,640	0	0	0	556,067
Aug 11 – Sep 12	0	0	0	0	142,283	8,709	535,890	0	433,687	1,120,570
Sep 12 – Nov 12	0	0	0	0	18,363	2,818	53,266	199,128	38,571	312,145
Total	**11,487**	**81,869**	**195,976**	**247,868**	**358,201**	**485,167**	**589,156**	**199,128**	**472,258**	**2,641,110**

Source: NA 1.04.02 VOC, Inv. No. 11349, carta 59-62, 81, 97.

Zeeland data enable us to estimate how much of the cargoes returning between March 1609 and July 1611 was sold (Table B). The Zeeland Chamber recorded spice sales, mostly pepper, worth 247,702 guilders from the *Amsterdam* and 671,195 guilders from the *Ter Veere* and the *Zeelandia*. At the end of this period, in July 1611, the stock of spices from the last two ships was valued at 962,340 guilders.[58] In other words, almost 60 per cent of the spices imported from Asia remained unsold. However, actual sales were lower still. More than half of the deliveries booked as sales, spices from the *Amsterdam* included, were really given away as dividends in kind (22.4 per cent) and spices supplied

[57] Van Dam, *Beschrijvinge* Vol. 1.2, 149.

[58] In July 1611 the Zeeland directors recorded a total stock of 962,340 guilders in July 1611, consisting primarily of nutmeg and mace. NA 1.04.02 VOC, Inv. No. 11349, carta 98. The Chamber's detailed sales records from December 1606 onwards suggest that the cargoes of the *Dordrecht* (1606) and *Zeeland* (1607) had sold out already by August 1608. Sales from the *Amsterdam* (1608) had stopped by September, and as this ship's cargo mainly consisted of pepper for the VOC and unspecified goods for 'other companies', it is unlikely that spices from the *Amsterdam* were sold in 1611: NA 1.04.02 VOC, Inv. No. 11349, carta 59-62, 81, 97.

to other chambers for them to use as dividends in kind (34 per cent).[59] Taking this into account, Zeeland sold only 17.5 per cent of its imports between March 1609 and July 1611.[60]

At first sight the Enkhuizen chamber did better. Until July 1611 it recorded sales of 927,126 guilders from the *Patania*, i.e. 90 per cent of the total cargo. Still, over a third of these 'sales' (35.4 per cent) consisted of deliveries of cloves to other chambers for dividend payments, while an unknown part of the remaining 'sales' likely consisted of dividends in kind, as in Zeeland. Combining the available data for Zeeland and Enkhuizen, we estimate that the VOC sold only 25 per cent of the return cargoes arriving in the Republic between March 1609 and July 1611. From the timing of the Zeeland sales, we also estimate that two-thirds of the sales during this period were transacted between September 1610 and July 1611.

We have more information about subsequent sales. A calculation of commission fees by the Zeeland chamber in September 1612 details sales reported by all six chambers for **July 1611 to early September 1612** (Table C). This report puts total turnover at 5.7 million guilders, but this figure probably includes the back pay and other costs which chambers incurred over returned ships during these months. We put these costs at 85,000 guilders per ship for the six ships returning during the summer of 1611, resulting in actual sales revenues of 5.2 million guilders, or 385,000 guilders per month, for the period July 1611-early September 1612.

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[59] In August 1609 and February 1610 pepper from the ship *Amsterdam* worth 110,903 guilders was delivered to Zeeland shareholders. One quarter of that was considered a sale, whereas three quarters or 83,177 guilders' worth represented an advance on expected dividends. In addition Zeeland delivered pepper and mace for an amount of 122,870 guilders to its shareholders plus 315,254 guilders' worth of pepper to other chambers for them to pay out to their shareholders.

[60]

Table C, Sales revenues based on commissions paid to the directors of the six VOC chambers, July 1611 - September 1612

Chamber	Value	Share
Amsterdam	2,935,455	51.4%
Zeeland	998,050	17.5%
Enkhuizen	10,543	0.2%
Rotterdam	505,068	8.9%
Delft	776,582	13.6%
Hoorn	479,876	8.4%
Total	**5,705,573**	**100.0%**

Source: NA 1.04.02 VOC, Inv. No. 11349, *Copieboek rekeningen Zeeland*, Carta***

Most of the spices sold between August 1611 and September 1612, but not all, came from six ships arriving at the beginning of this period. The *Ceylon* returned to Amsterdam with its own cargo plus that of the *Erasmus*, equipped by Rotterdam in 1605 and shipwrecked at Mauritius in November 1608. This combined cargo was valued at 1,082,854 guilders. The *Geunieerde Provincien*, also from Amsterdam, carried goods worth 572,000 guilders. The *Hoorn* and *Rotterdam*, named after their respective chambers, returned home with 559,488 and 802,106 guilders' worth respectively.[61] The *Oranje* from Zeeland probably carried 589,000 guilders' worth of merchandise (Table B). If we assume that the sixth ship – the *Delft* from Delft – also had a cargo of 600,000 guilders, the total value of imports during this period, from seven ships with a total tonnage of 4,380, amounted to 3.5 million guilders (or 799 guilders per ton). Consequently the VOC must have sold about 1.7 million guilders of spices from stock.

For the period **from September 1612 through April 1618** we can calculate total sales from the Enkhuizen chamber accounts, which recorded the VOC directors' commission fees totaling 330,557 guilders for these months, split into five sub-periods. The directors received one per cent over equipment costs and sales revenues.[62] To arrive at sales revenues, we need to deduct equipment costs and the back pay and other costs incurred over returned ships.

[61] Source: NA 1.04.02 VOC, Inv. No. 11349, carta 141.
[62] The 1602 charter stipulated that company directors would not receive commission fees for dividend payments in kind or loans they contracted: Van Dam, 1927, I.1, 163. In addition to this the new company charter (per January 1st, 1623) stipulated that commissions would be calculated on the basis of net sales revenues, i.e. with cash rebates subtracted from gross revenues (Ibidem).

Table D. Wages and Miscellaneous Costs Related to Four Ships Returning to Enkhuizen (1610-1619)

Year	Wages	Other costs	Total costs
1610	47,910		47,910
1611	57,086		57,086
1612			0
1613	10,376	17,351	27,727
1614	55,819	84,228	140,047
1615			0
1616	13,189	1,487	14,676
1617	17,861	678	18,539
1618	29,931	3,309	33,240
1619	60,495	20,134	80,629
Total	**292,667**	**127,187**	**419,854**

Source:

Based on back wages and other return costs incurred by the Enkhuizen Chamber for four ships returning to port between 1610 and 1619 (Table D), we estimate that in these years every ship arriving in the Dutch Republic cost the VOC 100,000 guilders. The resulting sales estimates for the period from September 1612 to April 1618 are reported in Table E.

Table E, VOC sales estimates based on commission fees paid to company directors for the period from 15 September 1612 to 15 April 1618

Period	Commission paid to VOC directors	Est. sales + equipments	Equipments (estimate)	Return costs (estimate)	Total sales (estimate)	Per month
Sep 1612 - Oct 1613	47,402.80	4,740,280	2,000,000	200,000	2,540,280	175,192
Nov 1613 - Oct 1614	56,019.20	5,601,920	2,000,000	300,000	3,301,920	275,160
Nov 1614 – Mar 1616	81,957.60	8,195,760	3,432,535	500,000	4,263,225	250,778
Apr 1616 - Mar 1617	59,032.20	5,903,220	2,602,971	500,000	2,800,250	233,354
Apr 1617 - Apr 1618	86,146.00	8,614,600	2,937,227	500,000	5,177,373	431,448
Total	**330,557.80**	**33,055,780**	**12,972,733**	**2,000,000**	**18,083,047**	**273,986**

Source: NA 1.04.02 VOC, Inv. No. 14854-I, carta 408: Reeckeninghe van Provisie

For the period of **April 1618 to March 1623** directors' commission data are lacking, but from time to time letters sent to the company's commander in Asia, Jan Pietersz Coen, mention sales figures amongst other data.[63] In December 1620 the Amsterdam directors told him that their most recent equipment had cost 3.6 million guilders and at the same

[63] In November 1615 and again in December 1616 the Amsterdam directors wrote to Coen that the company's pepper, by far the most important product, had sold out: Coen, *Bescheiden* IV, p. 333, 368). *In *** and *** werd alle peper in een keer doorverkocht aan consortium of merchants. Check Glamann.* In May 1619 the *Heren XVII* wrote to Coen that the nutmeg had sold out: Coen, *Bescheiden* IV, p. 420.

time they put the revenues of the four ships which had returned during **1620** at 3.5 million guilders plus the back pay due. If we set this back pay at 75,000 guilders per ship (i.e. the average wages Enkhuizen paid to the crews of four returning ships between 1610 and 1619) then the sales proceeds of these four ships amounted to 3.8 million guilders.[64]

In the same letter to Coen the Amsterdam directors emphasized the company's difficult financial situation, stating that the fitting of 39 ships between May 1618 and July 1620 plus the costs of ships returning during that same period almost equaled the sales revenues in that same period, although 1618 had seen 'a very good return'.[65] If we assume return costs of 100,000 guilders for each of the fifteen ships arriving between April 1618 and April 1620 (cf. Table D) then we get sales revenues of 10.5 million guilders during these two years.[66]

We can refine this estimate with a calculation made by the *Heren XVII* in a letter to Coen of March 1620. They estimated that they could sell between 455,000 and 490,000 pounds of cloves, per year, 400,000 pounds of nutmeg, and 112,000 pounds of mace (pounds are Amsterdam pounds of 494,09 grams).[67] Multiplying these figures with the company's official spice prices for the years 1618-1620 given in Van Dam's *Beschryvinge* gives an annual turnover in mace, nutmeg and cloves of 2.3-2.4 million guilders.[68]

To this we need to add sales of the most important product, pepper. We do not have details about the annual volume of pepper which the company sold or expected to sell, but we can estimate it from a January 1618 report on the VOC's financial position

[64] Coen, *Bescheiden* IV, p. 478. For a number of reasons it looks likely that the directors' figure of 3.5 million guilders was based on actual sales revenues. They wrote four months after the arrival of the four ships, and they themselves linked the amount to the expenses of the large fleet of 15 ships, of which 9 departed in December 1620. Moreover, Van Dam's *Beschrijvinge* (Vol. 1.2, p. 161) refers to the sale of all pepper during that year to a syndicate of merchants.

[65] "…hierby sullen cunnen sien, dat de twee jongste equipagien van 16 ende 23 schepen van den jare 1618 ende 1619 gecost hebben volle 90 tonnen gouts, soodat deselve ende de betaelde maentgelden van de overgecommen retourschepen ende andere costen ende ongelden van de Generale Compagnie bynae soveel bedragen als de retoeren waerdich sijn geweest, die wy uyt Indien in dese twee jaren becommen hebben, nietyegenstaende 't goet retour anno 1618 by U.E. ons gesonden." Amsterdam directors to Coen, 12 December 1620, (Coen, *Bescheiden* IV, p. 476)

[66] De formulering van de brief uit 1620 maakt duidelijk dat de bewindhebbers bij deze berekening de verkoopopbrrengst van de Gouden Leeuw, Orangieboom, Dordrecht ende Westvrieslant, die tussen May and August 1620 terugkeerden in de Republiek, buiten beschouwing lieten.

[67] Coen, *Bescheiden* IV, 452-453.

[68] Van Dam, *Beschrijvinge*, Vol. 1.2, p. 163.

amongst the personal papers of the Amsterdam director Arnout Buchelius.[69] According to the report the ships returning in 1618 were expected carry 8,000 bales of pepper worth 3 million guilders, 2 million guilders' worth of cloves, 1 million guilders in mace and nutmeg, and 0.5 million of mixed cargo, that is to say indigo, porcelain, diamonds, and other colonial wares. We also know from Van Dam's *Beschrijvinge* that all pepper and mace imported during 1618 and 1619 was sold to merchant syndicates.[70] Assuming that between April and December 1618 the company did indeed receive 8,000 bales or 2,880,000 pounds of pepper and sold them for the price specified by Van Dam, then revenues from pepper sales during 1618 amounted to almost 3.3 million guilders.[71] Adding revenues from the sale of cloves, nutmeg, and mace at 2.3 million guilders plus miscellaneous merchandise worth another 500,000 guilders, we arrive at total sales revenues **between April and December 1618** at 6.1 million guilders. This is a comparatively high figure, but, as we have seen, the company directors also referred to a 'very good return'.[72] Combined with the estimated sales of 10.5 million guilders for the entire period from April 1618 to April 1620, this would put sales **between January 1619 and May 1620** at 4.4 million guilders.[73]

To estimate sales **between June 1621 and March 1623** we use several scattered references about expected and actual sales in letters to Jan Pietersz. Coen. In March 1621 the *Heren XVII* reported the gist of talks with the English East India Company about European demand for pepper, mace, nutmeg, and cloves. The VOC representatives had told their English counterparts that they expected demand for nutmeg to fall by 25 per cent, that for cloves by 30-35 per cent (Table F). The directors did not expect pepper and mace sales to fall just then, but six months later, in October 1621, they wrote to Coen that

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[69] NA 1.11.01.01 (Aanwinsten Eerste Afdeling), Inv. No. 255, fol. 78v.

[70] Van Dam, *Beschrijvinge*, Vol. 1.2, p. 160-161.

[71] The pepper sales were contracted for 45½ groats, or 0,11375 cents, per pound : Van Dam, *Beschrijvinge* Vol. 1.2, p. 160.

[72] '…hierby sullen cunnen sien, dat de twee jongste equipagien van 16 ende 23 schepen van den jare 1618 ende 1619 gecost hebben volle 90 tonnen gouts, soodat deselve ende de betaelde maentgelden van de overgecommen retourschepen ende andere costen ende ongelden van de Generale Compagnie bynae soveel bedragen als de retoeren waerdich sijn geweest, die wy uyt Indien in dese twee jaren becommen hebben, nietyegenstaende 't goet retour anno 1618 by U.E. ons gesonden', Amsterdam directors to Coen, 12 December 1620, Coen, *Bescheiden* IV, p. 476.

[73] During August ***16???* the VOC once again sold all its pepper to a consortium of merchants but at a considerably lower price of 31 and 32 groats for pepper from the ships *Mauritius* en *Zierikzee*. Only the pepper from the *Delft* was sold at 43 to 46 groats per pound (Van Dam, *Beschrijvinge* Vol. 1.2, p. 158).

the pepper which had arrived during June and July with the ships *Walcheren*, *Mauritius* en *Wapen van Hoorn* still had not been sold, and in December 1621 they again referred to stocks of unsold pepper.[74] By then they had revised the sales estimates for pepper downward, from 2.8 million pounds per year to 1.7-2.0 million pounds . [75]

Table F, The VOC directors' estimated European demand for spices in pounds, 1620-1622

	March 1620	March 1621	December 1621	September 1622
Pepper		2,800,000	1,680,000 – 1,980,000	
Cloves	468,000 – 504,000	325,000		252,000
Nutmeg	400,000	300,000		
Mace	112,000	120,000		

Source: Coen, *Bescheiden* IV, pp. 452, 482, 533, 563; Van Dam, *Beschrijvinge*, Vol. 1.2, p. 163

For lack of a better gauge, we take the directors' adjusted estimates for 1621 to reflect actual quantities of spices sold during that year. Based on the official prices in Van Dam's *Beschrijvinge* for 1621 we set the sales of 2 million pounds of pepper at 0.8125 guilders per pound, giving a sales total of 1,625,000 guilders; cloves sales of 325,000 pounds at 3.30 guilders per pound resulting in a total of 1,089,000 guilders; 300,000 pounds of nutmeg at 1.80 guilders per pound yielding 540,000 guilders, and finally mace at 3.30 guilders per pound totaling 396,000 guilders.[76] Total spice sales would then have amounted 3,515,000 guilders. Total revenues will have been a different figure because the company sold an unknown amount of other colonial goods. Following the company's own estimate of 1620 these may have amounted to as much as 500,000 guilders a year. Including these sales, we put total sales revenues for **1621** at 4 million guilders.

During 1622 spices sales remained sluggish. The mace market proved saturated, but this problem had been shifted onto a consortium which had bought all mace for 1621 and 1622. We therefore assume the VOC's mace revenues during 1622 to have been equal to the year before. Slow nutmeg sales forced the company to repeated price cuts.

[74] VOC directors to Coen, 24 October 1621, Coen, *Bescheiden* IV, p. 519.

[75] According to the VOC directors, total European pepper demand had dropped from 20,000 bales to 12,000-14,000 bales. We assume that the VOC's prospective revenues had deteriorated accordingly, the more so because the company directors wanted Coen to limit purchases to 6,000-8,000 bales (i.e. 2.16 to 2.88 million pounds . Anything more would remain unsold. VOC directors to Coen, 6 December 1621, Coen, *Bescheiden* IV, p. 532-533.

[76] Van Dam, *Beschrijvinge* Vol. 1.2, p. 161-162; Coen, *Bescheiden* IV, p. 543.

The 1621 contract with a merchants' syndicate was not renewed and in April 1622 directors complained that the nuts were difficult to shift, even at a reduced price of 1.65 guilders per pound.[77] Only a further reduction to 1.35 guilders per pound attracted sufficient buyers for the nutmeg to sell out by September.[78] If volume remained the same as 1621, i.e. 300,000 pounds, then 1622 nutmeg sales at 1.35 guilders per pound should have generated revenues of 405,000 guilders.

Sales of cloves and pepper were still more problematic. In September 1622 the company directors wrote to Coen that European demand for cloves had now dropped to 320,000-360,000 pounds per year. A market sharing agreement between the VOC and the EIC from 1619 gave the English company one-third of these sales, so the VOC directors thought their own sales would not exceed 252,000 pounds per year, i.e. half the 1620 volume.[79] We assume that in 1622 these 252,000 pounds were sold at 3.30 guilders per pound.[80] As for pepper, the company cleared its entire stock in September 1622 by selling out to a consortium of merchants at a very high discount and on condition that the company stopped selling pepper until June 1623.[81] The 10,000 bales of pepper were sold for 60 cents per pound or a total of 2,160,000 guilders cash.[82]

Slow sales boosted spice stocks during late 1622 and early 1623. As early as April 1622 VOC directors estimated their current stock of cloves (1.4 million pounds) sufficient to meet European demand during three to four years, and with another 700,000 pounds on the way the company had enough cloves for up to 8 years.[83] At the official price of 3.30 guilders per pound these cloves represented a value of almost 7 million guilders, but given the huge surplus there was no way the company could realize this.

[77] ***ref.
[78] ***ref.
[79] 'Dan in t jaar 1622 is van hier geschreven, dat jaerlijcx niet meer soude kunnen werden verkogt als: Nagelen, 900 a 1000 quarteelen, yder van 360 pond is 314000 of 360000 pond respective, en dat de Engelse voor haar derde part daarin soude verkopen 350 quarteelen,ordonneerende dienvolgende, dat jaarlijcx niet meer souden senden als 700 quarteelen tot nader avijs, en 't overige in Indien houden, om aldaar te werden gebenificeert ten meesten profyte van de Compagnie'. Probleem is: 'En wort wyders daarby geschreven, dat men by experentie hadde bevonden, dat de Moluccos en Amboina wel tweemael sooveel nagelen voortbragten, als de geheele wereld konde vertieren'. En dan over de voorraad: 'Men was doentertijt hier nog voorsien met 4000 quarteelen, behalven 2000, die in 't volgende jaar wierden verwagt, hetwelke men stelde voor 7 a 8 jaren genoeg te weesen', Van Dam, *Beschrijvinge* Vol. 1.2, p. 163; *Heren XVII* to Coen, 17 September 1622, Coen, *Bescheiden* IV, 563.
[80] Cf. Van Dam, *Beschrijvinge* Vol. 1.2, p. 163 for the price of cloves.
[81] Cf. on the mounting pepper stocks in the company's warehouses: Coen, *Bescheiden* IV, pp. 542, 552.
[82] *Heren XVII* to Coen, 17 September 1622, Coen, *Bescheiden* IV, p. 562.
[83] Van Dam, *Beschrijvinge* Vol. 1.2, p. 163.

Consequently directors decided in October 1623 to offload their problem on the shareholders by awarding a 25 per cent (1.6 million guilders) dividend in cloves, which, at 3.30 guilders per pound, reduced the value of that stock with 22.5%.[84] Between April 1622 and June 1623 pepper stocks worth 2.5 million guilders built up, forcing the company to another bulk transaction with a syndicate.[85]

We assume total spice sales of 3.8 million guilders in cash between January 1622 and March 1623, and again we add 500,000 guilders worth of other colonial wares, bringing total sales revenue for the sixteen months **between January 1622 and March 1623** to an estimated 4.3 million guilders. Table G shows estimated total sales per subperiod.

[84] Van Dam, *Beschrijvinge* Vol. 1.2, p. 163. This stock's actual value was of course much lower, and the directors' resolutions about payment of dividends in kind in 1622 acknowledged this: Van Dam, *Beschrijvinge* Vol. 1.2, p. 165.

[85] Van Dam, *Beschrijvinge*, 1-2, p. 167.

Table G, Ship arrivals and estimated sales for the VOC, 1605-1623

Year	Month	Ship	Tonnage	Chamber	Invoice value	Sales value	Total sales	Sales per month
1605	April	Hof van Holland	360	Amsterdam				
1606	April	Gouda	260	Amsterdam				
1606	April	Gelderland	500	Amsterdam				
1606	July	Geunieerde Provincien	700	Amsterdam				
1606	July	Hoorn	700	Hoorn				
1606	October	Amsterdam	700	Amsterdam				
1606	October	Zeelandia	500	Zeeland				
1607	June	Dordrecht	900	Zeeland				
		April 1605 - October 1607					**2,600,000**	***86,667***
1608	May	Witte Leeuw	540	Amsterdam				
1608	August	Zwarte Leeuw	600	Amsterdam				
1608	September	Oranje	700	Amsterdam				
1608	May	Geunieerde Provintien	400	Delft				
1608	May	Medemblik	250	Hoorn				
1608	May	Amsterdam	700	Zeeland				
		November 1607 - February 1609					**1,786,200**	***111,638***
1609	August	Bantam	700/(900)	Amsterdam				
1609	August	Ceylon	340	Amsterdam				
1609	August	Gouda	260	Amsterdam				
1609	August	Ter Veere	700	Zeeland				
		March 1609 - August 1610					***671,250***	***37,292***
1610	June	Gelderland	500	Amsterdam				
1610	June	Zeelandia	500	Zeeland				
1610	July	Rode Leeuw met Pijlen	400	Amsterdam				
1610	July	Banda	600/(800)	Amsterdam				
1610	July	Patania	340	Enkhuizen		1,050,007		
		September 1610 - July 1611					***1,342,500***	***122,045***

1611	June	Ceylon *(+Erasmus)*	340	Amsterdam		1,082,854		
1611	June	Hoorn	700	Hoorn		559,488		
1611	June	Geunieerde Provincien	700	Amsterdam		572,405		
1611	June	Rotterdam	800	Rotterdam	461,378	802,106		
1611	August	Oranje	700	Zeeland		*589,156*		
1611	August	Delft	800	Delft				
		August 1611 - 15 September 1612					**5,195,573**	***384,857***
1612	July	Middelburg	800	Zeeland				
1612	July	Hollandia	800	Amsterdam				
		15 September 1612 - October 1613					**2,540,280**	***188,169***
1613	October	Wapen van Amsterdam	800	Amsterdam				
1613	September	Bantam	900/(700)	Enkhuizen				
1613	September	Vlissingen	600	Zeeland				
		November 1613 - October 1614					**3,301,920**	***275,160***
1614	August	Zwarte Leeuw	600	Amsterdam	268,964			
1614	August	Ter Veere	700	Zeeland	164,562			
1615		Delft	800	Delft	127,181			
1615	April	Hert	280	Rotterdam	23,982			
1615	November	Oranjeboom	360	Hoorn				
		November 1614 - Maart 1616					**4,263,225**	***250,778***
1616	June	Groene Leeuw	140	Amsterdam	21,160			
1616	August	Witte Beer	300	Amsterdam				
1616	September	Mauritius	800	Amsterdam	231,099			
1616	September	Rotterdam	800	Rotterdam	192,449			
1616	September	Dolfijn	280	Zeeland	32,449			
		April 1616 - Maart 1617					**2,800,250**	***233,354***
1617	March	Zwarte Beer	320	Amsterdam	88,907			
1617	March	Hert	280	Delft	39,787			
1617	June	Zeelandia	800	Zeeland	189,448			
1617	July	Wapen van Amsterdam	800	Amsterdam				
1617	October	Westfriesland	800	Hoorn	136,414			
		April 1617 - 15 April 1618					**5,177,373**	***414,190***

1618	March	Postpaard	300	Enkhuizen	48,766		
1618	April	Oranjeboom	360	Hoorn	56,526		
1618	July	Eenhoorn	300	Amsterdam	145,787		
1618	July	Enkhuizen	500	Enkhuizen	140,348		
1618	July	Wapen van Zeeland	700	Zeeland	243,775		
1618	October	Eendracht	700	Amsterdam	235,346		
1618	October	Walcheren	500/600	Zeeland	137,398		
1618	November	Goede Fortuin	700	Amsterdam	300,010		
		16 April 1618 - December 1618				***6,100,000***	***717,647***
1619	January	Ter Tholen	400	Zeeland	143,970		
1619	January	Witte Beer	300	Amsterdam	60,491		
1619	May	Mauritius	800	Amsterdam	249,883		
1619	May	Zierikzee	800	Zeeland	157,705		
1619	August	Delft	800	Delft	461,998		
1620	January	Eenhoorn	300	Amsterdam	87,711		
1620	March	Zwarte Beer	320	Amsterdam	123,667		
		Jan 1619 - April 1620				***4,400,000***	***275,000***
1620	May	Gouden Leeuw	550	Rotterdam	195,913		
1620	July	Oranjeboom	360	Rotterdam	37,096		
1620	August	Westfriesland	800	Zeeland	214,263		
1620	August	Dordrecht	800	Amsterdam	218,086		
		May 1620 - December 1620				***4,000,000***	***500,000***
1621	February	Vrede	340	Amsterdam	95,238		
1621	March	Witte Beer	300	Amsterdam	83,309		
1621		Mauritius	800	Amsterdam	278,968		
1621	July	Wapen van Hoorn	400/600	Hoorn	203,256		
1621	June	Walcheren	500/600	Zeeland	118,121		
		January - December 1621				**3,842,820**	**320,235**
1622	February	Leiden	700	Amsterdam	315,137		
1622	February	Wapen van Enkhuizen	700	Enkhuizen	228,100		
1622	April	Medemblik	300	Hoorn	130,191		
1622	June	Hollandia	700	Amsterdam	316,067		
1622	June	Middelburg	700	Zeeland	268,324		
1622	August	Westfriesland	800	Zeeland	283,047		
1622	September	Gouda	800	Amsterdam	275,888		
1622	December	Schoonhoven	400	Amsterdam	151,234		
1622	December	Naarden	180	Amsterdam	62,754		
		January 1622 – March 1623				**4,292,600**	**286,173**