

ers and pamphleteers regularly linked the state of the company to the well being of the Dutch Republic further stresses my argument that support for the Dutch Republic was an important motivation for many to invest in the VOC; the authors of these texts realized that many people were susceptible on this point and therefore used it as an argument for their own cause.³⁰

This might also explain why l'Empereur chose to invest in the VOC at a moment when the future of the company was insecure. He bought a share in January 1609, when the outcome of the negotiations for a truce with Spain was still uncertain³¹, because by purchasing a share, he could show that he wanted the company to continue its activities in the East. Being an immigrant from the Southern Netherlands – like so many of the early investors in the VOC³² – l'Empereur was probably particularly sympathetic towards the Dutch cause in the conflict with Spain.³³ So, although the information available to l'Empereur was nowhere near enough to really know what was going on within the company, he probably did not care: l'Empereur learned that the VOC had a growing chance of success in the East and by investing he supported the Dutch cause.

Market reactions to information

During the period 1602-9, shareholders never received an official statement from the company, so the announcement of the first dividend in March 1610 was an important

³⁰ The company directors, for example, used it in 1609 to argue that short-selling should be prohibited: the short sellers not only disrespected the company, but also the United Provinces as a whole. Petition VOC directors to States General, 1609: Van Dillen, 'Isaac le Maire', 31-2 (doc. nr. 2). See also: De Marchi and Harrison, 'Trading "in the wind"', 51-2. The shareholders who made a case for leaving the share trade free, replied in a counter petition to the States of Holland that they were devoted to their fatherland: Van Dillen, 'Isaac le Maire', 34 (doc. nr. 3). The activist shareholder who took open action against the company management also linked the VOC to the condition of the country. E.g. *Vertooch aen de Ed. Ho. Mo. Heeren Staten Generael*. Finally, according to De la Vega, even in the late seventeenth century, there were still investors, so-called 'liefhebbers', who always held long positions; as 'devotees' of the company, *and the Dutch Republic*, they were constantly trying to push up the share price: De la Vega, *Confusión de confusiones*, 102.

³¹ See footnote 15.

³² 301 (or 26%) of the 1143 subscribers to the Amsterdam chamber capital stock in 1602 came from the Southern Netherlands. Their average subscription to the stock was relatively high; they subscribed slightly over 38% of Amsterdam's stock: Van Dillen, *Aandeelhoudersregister*, 55.

³³ Cornelius Plancius voiced similar feelings about the predecessors of the VOC in his late-sixteenth-century description of Amsterdam: they were deployed to maintain the freedom of the Dutch Republic, rather than to suppress other countries. Their revenues went to the churches and to other laudable institutions: Cornelius Plancius, 'Beschrijvinge der loflijkke ende wijtvermaerde coopstede Aemsteldamme' (1597), in: P. Scheltema (ed.), *Aemstel's oudheid of Gedenkwaardigheden van Amsterdam II* (1856), 1-12, there 11. Very little is known about Cornelius Plancius, but it could very well be that he belonged to the same family as Petrus Plancius, the famous cartographer and clergyman who immigrated from the Southern Netherlands to Amsterdam.

event. The market participants had to assess the value of this dividend; was it more or less than they had expected? The fact that the directors announced a dividend in kind (shareholders were given the opportunity to receive 75% of the nominal value of their shares in mace³⁴) did not make the assessment any easier. Did this, for instance, indicate that the company had cash-flow problems? And what was the market value of the batch of spices shareholders could collect at the East India house?

The company set a price for the mace (11 and 9 *stuivers* per pound, for high and lower quality mace, respectively) to be able to calculate the amount of mace each individual shareholder was entitled to. To make the offer more inviting, the company promised that it would not sell mace at a lower price in the next two years.³⁵ De Velaer advised his uncle to accept this dividend, because he did not expect a cash dividend to be imminent. He also wrote that l'Empereur should ship it to another place, as the dividend deluged the Amsterdam market for mace.³⁶ l'Empereur hesitated and did not take any action. This pattern recurred in September 1610, when De Velaer advised his uncle to accept the second dividend (50% of the nominal share value in pepper plus, only for those shareholders who had accepted the dividends in kind, 7.5% in cash) and either grant a spice trader authority to sell it on the Amsterdam market or ship it to Venice, Naples or Danzig: there were 'good ships' leaving for these places shortly.³⁷

The De Velaer-l'Empereur correspondence clearly shows that the company's decision to distribute spices burdened the investors with a hard choice. The directors of the first hour were all experienced spice traders themselves (they were the pioneers of the East India trade for a reason) and there were quite a few investors who were keen on receiving the dividend³⁸, but traders with little or no experience as commodity merchants – there were quite a few of them amongst the shareholders – must probably have had no idea what to do with the spices.³⁹ Even those who had an interest in

³⁴ See footnote 39 on page 28.

³⁵ De Velaer to l'Empereur, 19 March 1610, BT, inv. nr. 215, nr. B1/5. The prices of 11 and 9 *stuivers* equaled the prices at which the company had recently sold mace on the market.

³⁶ De Velaer to l'Empereur, 24 March 1610, BT, inv. nr. 215, nr. B1/6. l'Empereur to De Velaer, 21 March 1610, BT, inv. nr. 265.

³⁷ De Velaer to l'Empereur, 30 September 1610, BT, inv. nr. 215, nr. B1/11.

³⁸ There were even people who bought shares after the dividend announcement in order to be able to receive the mace: De Velaer to l'Empereur, 24 March 1610, BT, inv. nr. 215, nr. B1/6.

³⁹ De Velaer wrote to his uncle that many shareholders were hesitant about what to do with the mace: De Velaer to l'Empereur, 24 March 1610, BT, inv. nr. 215, nr. B1/6.

East-Indian wares did not know what to do with spices, as the example of l'Empereur, a silk trader⁴⁰, shows.

The market nevertheless reacted positively to the earliest dividend announcements. The *cum*-dividend price – the price paid for shares that were entitled to receiving the dividend distribution – increased from around 130% in October 1608 to 156-8% right after the announcement.⁴¹ The *cum*-dividend price rose further to 170% after the second dividend.⁴² The dividends were of course not isolated events, so these increases in the share price cannot be solely attributed to the announcements, but the market undoubtedly reacted positively to the dividend distributions. Shareholders probably regarded them as official confirmations of the news shareholders had already received via information channels external to the company: business was going well in the East Indies.

From 1623 onwards, the VOC started distributing dividends on a regular basis.⁴³ It is not surprising that the company changed its policy in 1623; this was the principal reaction to activist shareholders' requests for financial reports. The shareholders did not get permission to inspect the company's financial records, but from this moment on the dividend distributions functioned as reports on the financial situation of the VOC. The information concealed in the dividends was of course inadequate to assess, for example, the value of the company's assets and liabilities, but it did give the shareholders an impression of the performance of the company. A dividend increase could very well be a sign that the company's financial situation had improved. A decrease, on the other hand, meant bad news. A conversion from dividends in cash to either kind or obligations would also be negatively interpreted. In sum, the absolute value of the dividend was of no particular importance to the shareholders; what really interested them was the size of the dividend compared to earlier years and hence the informational value of the dividend.⁴⁴

⁴⁰ l'Empereur regularly asked De Velaer if the VOC return cargo contained silk and he had a special interest in the silk price on the Amsterdam market.

⁴¹ This price quote, 9 April 1610: SAA, Notaries, inv. nr. 120, fo. 2. See chapter 2, section Share price and dividends on page 65 ff. for a discussion on *cum*- and *ex*-dividend prices in the period before 1618.

⁴² This price quote, 30 October 1610: SAA, Notaries, inv. nr. 196, fo. 597v-598r.

⁴³ Two-yearly dividends in the 1620s and first half of the 1630s; from 1635 onwards every year. In the remainder of the century, only the wars with England and France made the company deviate temporarily from the distribution pattern. See also chapter 2, section Share price and dividends on page 65 ff. and Appendix B – Dividend distributions VOC, 1602-1700.

⁴⁴ In corporate finance models, which assume the existence of perfect capital markets, a firm's value is unaffected by its dividend policy. See e.g. the famous article by Modigliani and Miller: Merton H. Miller and Franco Modigliani, 'Dividend policy, growth, and the valuation of shares', *The journal of business* 34 (1961) 411-33. In these models, a share's value equals the present value of all future divi-

In the first half of the seventeenth century, the company directors determined the size of the dividend soon after the arrival of the return fleet, generally in autumn. The management thus really let the owners of the company have a share in the success of the trade. This policy changed in the second half of the century. From now on, the dividends were announced at the end of the yearly meeting of the *Heeren XVII* in spring. At this meeting the directors also drafted the annual report, allowing them to adjust the size of the dividend to the performance of the company as a whole.⁴⁵ Clearly, the outcome of this meeting was very important for the shareholders. The transaction data from the VOC capital books show a heightened level of activity in the share trade around the spring meetings in March (see Figure 2.1 on page 78 and Figure 2.5 on page 80) and a letter of share trader Rodrigo Dias Henriques confirms this. He wrote that as soon as the first rumors about the dividend went round on the exchange, a great game for *liefhebbers* (those who loved the trade) started.⁴⁶ In other words, the traders immediately started speculating on the correctness of the rumors and the impact the dividend would have on the share price.

The tension amongst the share traders on the night of the dividend meeting of the directors becomes clear from a letter of Jeronimus Velters, dated 13 March 1688. The meeting was closed and the outcome confidential, so shareholders had to rely on rumors until the directors made an official announcement – some weeks after the meeting. Already months before the meeting, however, traders started assessing the size of the upcoming distribution. In 1688, many traders had expected the dividend to be 25% in cash.⁴⁷ But then Velters heard a rumor, which he held to be correct, that the distribution would amount to only 22.5% of the nominal value of the company stock. He instantly liquidated his position and sold two forward contracts (nominal values: *f*6,000 and *f*30,000 at 557.75 and 559% – please note that these were short sales) with a settlement date of 1 May. Not everybody believed the rumor, though, so the price increased a bit in the next few days.

dends – which instantly explains why the share price decreases by the value of the dividend just distributed. However, this does not hold in a world with capital markets that are imperfect, due to e.g. asymmetric information, where dividends also have information content. See e.g. Merton H. Miller and Kevin Rock, ‘Dividend policy under asymmetric information’, *Journal of finance* 40 (1985) 1031-51.

⁴⁵ J.P. de Korte, *De jaarlijkse financiële verantwoording in de VOC, Verenigde Oostindische Compagnie* (Leyden 1984) 65, 68.

⁴⁶ Dias Henriques to Levy Duarte, 17 February 1698, SAA, PIG, inv. nr. 681b, p. 109.

⁴⁷ *Ibidem*. In previous years, the VOC had distributed 20% in cash (15 April 1687) and 12.5% in cash (1 May 1686): Van Dam, *Beschryvinge* 1A, 433-436.

On the night of the meeting, broker Gerrit Loot offered many shares for sale; there were rumors amongst the traders who were present on Dam Square that these shares belonged to Adolf Visscher, others said Jacob Quina, Isaac les Paul, Gerard Putmans, Cornelis de Groot or Velters himself – these were prominent share traders and they were generally considered to be well-informed. Consequently, nobody dared to buy the shares; the price sunk 2%, but Loot refused to sell for less.⁴⁸ This situation lasted until 8.30 p.m. and then reversed: the price rose to 566% and there were suddenly only buyers on the market. Minutes earlier, the meeting of the *Heeren XVII*, which took place in the East India house, less than 500 meters from Dam Square, had ended. The company directors did not want to release any information about the size of the dividend, but after having talked to some of the directors, the shareholders got the feeling that they had had a pleasant meeting. Hence they concluded that the dividend would be higher than expected. The next day, many shareholders held the opinion that the company would distribute 22.5% in cash and another 15% if the return fleet arrived safely. Velters had tackled all his contacts about extra information and he was pretty sure that the dividend would be 33 1/3% in cash, to be distributed on 1 May.⁴⁹ His information proved correct. Apparently Velters had personal access to (one of) the company directors, chief participants or their close relatives – not surprising, for Velters himself belonged to the regent clique.

This example clearly shows how important the outcome of the meeting was for the shareholders: a large number of them were present on Dam Square during the meeting to be able to instantly react to any rumors regarding the dividend. Share-price movements around the yearly meeting are thus particularly telling about how the shareholders interpreted the signal that was concealed in the proposed dividend distribution. Unfortunately, my dataset does not allow for a more thorough analysis of these (probably) volatile periods; I have too few price observations for the periods around the dividend announcement dates.⁵⁰

Naturally, the market not only reacted to company-specific information. On the contrary, political and military events were of major influence to the share price. The share price movements of 1672 and 1688 give insight into the kinds of informa-

⁴⁸ Velters to Holla, 14 March 1688, SAA, Velters, inv. nr. 4, fo. 78.

⁴⁹ *Idem*.

⁵⁰ Nor do I know when exactly during the meetings, which took several days, the subject of the next dividend distribution came up. The official dividend announcement dates are known, but as the Velters-Holla correspondence shows, the information concealed in the announcement already filtered through long before the official announcement.

tion the market reacted to and how it reacted. Both years witnessed large price falls, which led to a high number of *insinuaties* – share traders wanted to make sure that their counterparties would not walk away from their losses. Hence there is a relatively high number of price observations available for these years (55 and 35 for 1672 and 1688, respectively).

Figure 5.1 shows the price of Amsterdam chamber VOC shares for the period 7 July 1671 – 28 December 1672. The 7 July 1671 (566%) observation is the highest price I have found for the entire seventeenth century – accidentally, the share price reached the exact same level on 13 March 1688. The shareholders received several indications that things were going very well with the company: in May 1671, the VOC announced a record-high dividend (60% of the nominal value of the company's stock in cash; 45% was distributed on June 1, the remaining 15% on July 20)⁵¹ and also in this year, a total of 22 ships arrived from the East Indies.⁵² But the bullish* atmosphere made way for fear that war would break out.⁵³ On 30 October, Jeronimus Velters wrote that the share traders' fear of war had brought the share price down to 480%.⁵⁴ Over the next months, it became clear that war would be unavoidable and the share price decreased steadily to 406-13% in late February.⁵⁵ The price remained stable – it even rose slightly – until the day England declared war on the Netherlands (March 12). It then tumbled to around 370% in late March and fell even further when France followed England and also declared war on April 8th. The share price decreased by more than 100 percentage points in a single month and stood at 311% in early April.⁵⁶ The lowest point was reached only in July (290% on July 20)⁵⁷, however, after the enemy forces had occupied much of the east and north of the Dutch Republic. A month earlier, on 13 and 16 June, the French armies had even taken the towns Utrecht and Naarden – both very close to Amsterdam.

The share price again started an upward trend in early August, after a convoy of fourteen VOC ships had managed to sail around the English navy and the momen-

⁵¹ Van Dam, *Beschryvinge* 1A, 435.

⁵² Eleven ships arrived in mid-June, another nine ships in mid-July, and the remaining two arrived on August 24th and September 2nd: DAS.

⁵³ See, for a general account of the political and military events of 1672, Israel, *The Dutch Republic*, chapter 31. See, for the economic impact of 1672: Jonathan I. Israel, *Dutch primacy in world trade, 1585-1740* (Oxford 1989) 292-9.

⁵⁴ Velters to Fletcher, 30 October 1671, SAA, Velters, inv. nr. 1, fo. 237.

⁵⁵ Velters to Fletcher, 26 February 1672, SAA, Velters, inv. nr. 1, fo. 252.

⁵⁶ Velters to Fletcher, 29 March and 5 April 1672, SAA, Velters, inv. nr. 1, fo. 258-9.

⁵⁷ SAA, Deutz, inv. nr. 293, fo. 86. Please note that this is an ex-dividend price; the VOC distributed 15% of the nominal value of the company's stock on June 2.

tum of the war in the east and the north changed. The fact that the murder of the De Witt brothers is not visible in the share price indicates that the share traders were either not surprised by the political upheaval, or that domestic politics were deemed of lesser importance for the profitability of the VOC than foreign relations. The upward trend stalled in May 1673, when the share price fell back to 314%. This price, however, incorporates the dividend distribution of $33\frac{1}{3}\%$ of the nominal value of the company's stock in obligations of the States of Holland and Zeeland (June 1), which had been announced on May 16. Interestingly, the share price fell by about the size of the dividend distribution. This indicates that the shareholders did not react strongly on the signal that the company was unable to distribute cash to its shareholders. Put another way, they did not update their beliefs on the state of the company after this dividend announcement. In the following years, the share price started to rise quickly. The war with England had come to an end and the Dutch Republic had found several allies in its war with France. The dip in 1678 (see Figure 2.6) must probably be attributed to the disappointing outcome of the Peace of Nijmegen. The share price movements of 1672 and the years thereafter thus show that the share price reacted particularly strongly to events in the international political and military situation.⁵⁸ Hence shareholders would have derived benefit from an international information network.

Figure 5.2 shows the share price for 1688. A $33\frac{1}{3}\%$ dividend distribution caused the price decrease that is visible in April⁵⁹, but the large price fall in late August and the smaller one in October of course deserve all the attention. Israel has dealt with this episode extensively in his article 'Jews and the stock exchange: the Amsterdam financial crash of 1688'. Using mainly the reports to London of Daniel Petit, English consul at Amsterdam, Israel has shown that until the end of August only a very small number of people knew about Stadholder William III's plans for an invasion of England, even though William had started preparations for the invasion already in May. In early August, some marine preparations were underway, but on such a small scale that people believed that they were aimed at Algerian corsairs. Around this time, moreover, share traders were mainly concerned with the news about the return fleet.

⁵⁸ Israel has noticed the same: Israel, *Dutch primacy*, 86.

⁵⁹ This is thus not a structural price change, but merely the difference between the *cum*- and *ex*-dividend price.

According to Israel, the first rumors about the invasion reached the stock exchange on August 24, on which day foreign diplomats at The Hague also mentioned the possibility of war with England for the first time.⁶⁰ Israel got his information on this episode from De la Vega's *Confusión de confusiones*, who wrote that the news reached the share market via Jewish trading clubs. Hence, Israel argues that the Sephardic community, and in particular a number of influential Jews who stood in close contact with William III⁶¹ and who may therefore have had private information about the invasion, played a very important part in this stock market crash. They probably deliberately manipulated the news in order to bring the share price down.⁶²

Surprisingly, Jeronimus Velters gave a different explanation for the price fall of late August 1688. On August 24, he wrote to Jacob Boreel that the first price decrease had occurred in the afternoon of Saturday, August 22. The night before, the Amsterdam delegates to the States of Holland had returned to the city. On Saturday, Jacob ten Grotenhuijs, one of the delegates, ordered several brokers to sell shares at any price. This instantly brought the price down to 480%. Velters named four reasons for the setback of the price: the naval preparations that were underway, the recruitment of 18,000 soldiers, the decree to levy a tax on French produce and lastly, and according to Velters most importantly, a plan of the provincial authorities to curb the share trade. Velters took this point very seriously, because the Grand Pensionary, the highest official in the Dutch Republic, had started the discussion on this topic.

Velters further wrote that in the following days, the price fluctuated. It even temporarily climbed back to 505% on August 24, the day on which, according to Israel, the price started to collapse, but later that afternoon news about French troops advancing to Liège brought the price down to 488%.⁶³ Velters had been to the exchange that day, but had not linked the naval preparations to an invasion of England. He sent Boreel an update of the share price (491%) on August 27, without specifying

⁶⁰ Israel, 'The Amsterdam financial crash of 1688', 472-4.

⁶¹ Israel names the following members of the Sephardic community: Jacob Pereira, Antonio (Moseh) Alvares Machado, Jeronimo Nunes da Costa and Francisco Lopes Suasso: Israel, 'The Amsterdam financial crash of 1688', 482-3.

⁶² Israel quotes the pamphlet *Relaes en contradictie* to prove this claim: Israel, 'The Amsterdam financial crash of 1688', 484. However, the anonymous author of *Relaes en contradictie* only stated in general that it had occurred that people deliberately tried to bring the share price down. He did not specifically mention the Jews or the price crash of 1688, which, incidentally, would not even have been possible, for the pamphlet was published in 1687. *Relaes en contradictie op de motiven, om het koopen en verkoopen van Oost- en West-Indise actien, die niet getransporteerd werden, ende optie partyen te beswaren met een Impost by de Heer Nicolaes Muys van Holy, Advocaet tot Amsterdam, onwetende voorgesteld, en daer en boven getoont waer in waerlyk Hollants intrest en welvaeren bestaende is* (s.l. 1687) 1. See also: Smith, *Tijd-affaires*, 76.

⁶³ Velters to Boreel, 24 August 1688, SAA, Velters, inv. nr. 4, fo. 87.

more details.⁶⁴ On August 31, he reported that VOC shares now sold for 463%. The share traders feared that the authorities would decide to levy a tax on every share transaction – following the proposal of Nicolaas Muys van Holy.⁶⁵ Three days later, the share price had recovered to 474%.⁶⁶

The most plausible explanation for Velters not mentioning the fear that war would break out is that he tried to link what he saw happening on the stock exchange with the information he was sure to be correct. Velters, himself city secretary of Amsterdam, had good connections with the authorities, so he knew what was going on within the governmental bodies of the Dutch Republic. And indeed, the States of Holland had held deliberations about a renewal of the ban on short-selling on August 21.⁶⁷ He probably also heard rumors about the invasion, but deemed these to be premature and decided not to write about them.

But Israel's account, heavily influenced by De la Vega's dramatized account of this episode, is not fully correct either. The Jewish traders were not solely responsible for the price fall and, more importantly, the crash was not as large as Israel's sources suggest. Velters may not have reported all the causes for the price fall to Boreel, but his price observations were no doubt correct – he had been among the share traders in the days of the crash and he had even traded shares himself. The share price did not tumble from 580 to 370% between August 24 and 28 and even to 366% in early September, as De la Vega and Israel write⁶⁸, but from 563% in March to 463% on August 31. The strong 'patriotic' rally, that should have followed in the first half of September, where the share traders suddenly endorsed William's plans, never occurred⁶⁹, the share price rather continued falling until it reached its lowest point on September 14 (414%)⁷⁰, the day on which the Amsterdam city council made inquiries about the purpose of the naval preparations.⁷¹ It then climbed up again to 433%⁷² on September 16, and fell back for the last time to 416%⁷³ on October 17, just after the

⁶⁴ Velters to Boreel, 27 August 1688, SAA, Velters, inv. nr. 4, fo. 88.

⁶⁵ Velters to Boreel, 31 August 1688, SAA, Velters, inv. nr. 4, fo. 89. For the Muys van Holy proposal, see p. 72.

⁶⁶ Velters to Boreel, 3 September 1688, SAA, Velters, inv. nr. 4, fo. 91.

⁶⁷ Resolutions States of Holland, 21 August 1688, NA, States of Holland, inv. nr. 121, fo. 491.

⁶⁸ Israel's price observations can be found in the appendix to his article: Israel, 'The Amsterdam financial crash of 1688', 487.

⁶⁹ Israel, 'The Amsterdam financial crash of 1688', 484-5.

⁷⁰ Israel, 'The Amsterdam financial crash of 1688', 478.

⁷¹ Dreiskämper, *Aan de vooravond*, 61.

⁷² Israel, 'The Amsterdam financial crash of 1688', 478.

⁷³ Velters to Holla, 17 October 1688, SAA, Velters, inv. nr. 4, fo. 92.

authorities in the Dutch Republic had decided on economic sanctions against France.⁷⁴ Hence, by the time William III's invasion actually took place (the first attempt to sail away on October 30 failed, the second attempt on November 12 was successful⁷⁵), the share price had already started an upward trend. In the following decade, it fluctuated between 485 and 517%.

So far, this chapter has discussed the factors that influenced the share price. Share traders were interested in news about the state of affairs in the East Indies, about the return cargo that was underway, about the size of dividend distributions and the political and military situation in Europe. The trading behavior of other share traders of course also influenced the price, so it was also profitable to have some knowledge of the investment sentiment of other traders. Speculators needed constant updates on all these different categories of information. Furthermore, for their trades to be profitable, they needed to be the first to get news that could influence the share price. The next section will explore how share traders managed these information needs.

The information networks of Christian and Jewish share traders

De la Vega already noticed that speculators needed to have private correspondents in the Indies, who could send them the latest news via the overland route or on an English ship, thus trying to get information on return cargoes and the overseas branches of the company quicker to the Dutch Republic than on the VOC return fleet. He also wrote that it was vital for a share trader to keep abreast of news about the political situation in Europe.⁷⁶ It is doubtful whether all share traders had private correspondents, but the correspondence of two active share traders, Jeronimus Velters and Manuel Levy Duarte⁷⁷, shows that these investors were constantly trying to get information concerning the East India trade. Their correspondence reveals how early modern share traders managed their information needs.

Comparing the correspondence of the two traders is interesting for yet another reason: these traders belonged to two distinct groups of share traders – Christians and

⁷⁴ Dreiskämper, *Aan de vooravond*, 62.

⁷⁵ J.R. Bruijn, *Varend verleden. De Nederlandse oorlogsvloot in de zeventiende en achttiende eeuw* (Amsterdam 1998) 122.

⁷⁶ De la Vega, *Confusión de confusiones*, 92.

⁷⁷ The Levy Duarte correspondence is kept in the archive of Amsterdam's Portuguese-Jewish synagogue: SAA, PIG, inv. nrs. 675-91. The Velters papers can be found in the Velters family archive, which, incidentally, contains the correspondence of only Jeronimus Velters: SAA, 2.

Portuguese Jews. Their letters therefore give insight into the information networks of both communities. Velters was a very wealthy Christian merchant: his estate was valued at *f*107,760 at his death in 1707. He (and his family) had gained this wealth in commodity trade with France and Spain. But Jeronimus shifted the focus from international trade to civil administration. He became city secretary of Amsterdam in 1673, accepted other administrative duties in regions around the city and became a VOC director for the Amsterdam chamber in 1693.⁷⁸ Levy Duarte, on the other hand, was a Portuguese-Jewish merchant jeweler, who formed part of an international network of merchant jewelers.⁷⁹ Moreover, as a member of the Portuguese-Jewish community, he could probably benefit from the information network of the Diaspora. The Sephardic Jews had business and family connections in the Iberian Peninsula, the Caribbean, France, Italy, India, North Africa and London.

Israel has pointed out that the cohesion of the Diaspora's information network was unsurpassed and this seems to have also held true for the Portuguese Jews who traded shares.⁸⁰ When, for example, Rodrigo Dias Henriques, the exchange agent of Manuel Levy Duarte who was also in charge of gathering information for his master⁸¹, met some other Portuguese Jews during the Sabbath in the first week of October 1693, they sat together and shared their news about the VOC.⁸² Dias Henriques had the advantage, moreover, that he was the exchange agent of several Portuguese Jews, including, from 1697 onwards, Francisco Lopes Suasso and Abraham del Sotto.⁸³ These cousins were prominent members of the Sephardic community of Amsterdam. Lopes Suasso was the political and financial agent of the King of Spain in the Dutch Republic and he was also one of the Jews who had access to the court of William III, stadholder of the Netherlands and king of England.⁸⁴ He had thus a very good network in several parts of Europe.

⁷⁸ Elias, *Vroedschap* II, 669.

⁷⁹ Edgar Samuel, 'Manuel Levy Duarte (1631-1714): An Amsterdam merchant jeweler and his trade with London', *Transactions* 27 (1982) 11-31.

⁸⁰ Israel, 'The Amsterdam financial crash of 1688', 457-8.

⁸¹ Levy Duarte sometimes gave Dias Henriques specific buying or selling orders: e.g. Levy Duarte (from Antwerp) to Dias Henriques, 9 October 1692, SAA, PIG, inv. nr. 683, p. 20. But in August 1692, Dias Henriques received *f*15,000 to trade as he thought proper: Levy Duarte to Dias Henriques, 25 August 1692, SAA, PIG, inv. nr. 683, p. 18.

⁸² Dias Henriques to Levy Duarte, 8 October 1693, SAA, PIG, inv. nr. 677, pp. 887-9.

⁸³ Dias Henriques to Levy Duarte, 16 January 1697, SAA, PIG, inv. nr. 681a, pp. 534-5 and 11 February 1698, SAA, PIG, inv. nr. 681b, pp. 125-6.

⁸⁴ Daniel Swetschinski and Loeki Schönduive, *De familie Lopes Suasso, financiers van Willem III = The Lopes Suasso family, bankers to William III* (Zwolle 1988). D.J. Roorda, 'De joodse entourage van de Koning-Stadhouder', *Spiegel Historiae* 14 (1979) 258-66. Israel, 'The Amsterdam financial crash', 458. The Por-

The traders on the Amsterdam market were well aware that different groups could dispose of different information sources; they watched each other closely. Dias Henriques noticed in September 1697 that the Dutch traders sold large amounts of shares. This led him to question the correctness of his own information, but in the end he trusted his personal information and decided to hold on to his shares.⁸⁵ On 3 September 1688, Velters stepped up to Alvares⁸⁶, the only big share trader who gave selling orders after the large price fall of August 1688, to ask him for his motivation, but he did not get an answer.⁸⁷ This shows that the information of the Portuguese Jews was unattainable for someone like Velters.

It was not only the Sephardic community, however, that frequently possessed valuable information. Velters also observed the English traders on the exchange, who obviously had reliable information from England.⁸⁸ As shown in the previous section, the English news was very important, for threats of naval war had large impact on the profitability of the VOC and thus on the share trade. During the Anglo-Dutch naval wars, the English tried to hijack all Dutch ships, including those belonging to VOC return fleets. The Dutch let navy ships escort the trading vessels to reduce the risk of hijacking, but they could not take it away entirely.⁸⁹ Moreover, since Dutch politics could influence the share price, share traders also closely watched the trading behavior of members of the various governmental bodies. Velters thus instantly grew suspicious when he observed in late November 1687 that a number of these men sold their shares. He had heard three different rumors⁹⁰, but wanted to get confirmation before he took action. He therefore turned to Theodore Holla, one of his correspondents

tuguese Jews of Amsterdam were famous for their information network. The example of Sir Salomon de Medina is telling of the way Portuguese Jews organized the supply of information. De Medina, a famous supplier to the English troops, stood at the rear of the army during military campaigns in the War of the Spanish Succession (1701-14). He sent his information through special couriers to his agent on the exchange. His agent was the first to receive the news from the war and could thus perform very profitable transactions: Oskar K. Rabinowicz, *Sir Solomon de Medina* (London 1974) 35.

⁸⁵ Dias Henriques to Levy Duarte, 22 September 1697, SAA, PIG, inv. nr. 681a, pp. 440-1.

⁸⁶ Velters did not mention Alvares' first name. He might have been Rodrigo Alvares Pinto or Isaac Alvares.

⁸⁷ Velters to Boreel, 3 September 1688, SAA, Velters, inv. nr. 4, fo. 108.

⁸⁸ Velters to Holla, 25 July 1687, SAA, Velters, inv. nr. 4, fo. 59.

⁸⁹ The East India return fleet also took a different route in times of war; they went round the British Isles and sailed as close as possible to the Norwegian coast.

⁹⁰ He wrote to Theodore Holla that he had heard that there was something concerning the relation with the County of Bentheim, close to the eastern border of the United Provinces; others said that the authorities were recruiting 9,000 navy men and he had also overheard that certain members of the ruling elite were susceptible to a proposal 'by a certain Muys van Oli' to reform the regulations of the share trade. Velters to Holla, 28 November 1687, SAA, Velters, inv. nr. 4, fo. 66. For the Muys van Holy proposal, see p. 72.

who was a delegate to the States of Holland in The Hague, to find out what was going on.⁹¹

Velters used his The Hague correspondent to get any political news that could have an effect on the share price as quickly as possible. This information was vital for his investment decisions, but Holla was not as reliable a correspondent as Velters had hoped for.⁹² On 24 February 1688, for example, Velters noticed on the exchange that Isaac Abenacar was selling shares. Velters himself held the opinion that the share price was about to increase, but he now sensed that something was up, because Abenacar was the broker of Adolf Visscher, an active and very wealthy share trader who was generally thought to dispose of high-quality information.⁹³ But Velters had heard no news or rumors that he could link to Visscher's willingness to sell. He returned home and shortly afterwards came upon the postman who held an express delivery from Holla. The postman was agitated that the letter carried the wrong address: Holla had mistakenly written Herengracht instead of Keizersgracht. Velters tore the letter open and learned immediately why Visscher expected a drop in the share price. He hurried back to the exchange and still managed to sell shares for a total nominal value of *f*18,000 at 558 and 558.5%. This was a significantly lower price than the price for which Visscher had managed to sell (565%); Visscher had reaped all the profits.⁹⁴

Clearly, chances of quick profits went by in a matter of an hour, so reliable private information channels were indispensable for traders whose aim it was to make profits by quickly buying and selling shares. Holla's inaccuracy had thus taken away a chance for a good profit and Velters became angry with him. Velters' temper got worse when it turned out that Visscher had also obtained his information from Holla. Velters could not tolerate such a situation and demanded that Holla immediately discontinue his correspondence with Visscher.⁹⁵ When Holla did not react to Velters' request right away, Velters terminated their correspondence.⁹⁶ Velters was unable to

⁹¹ Holla was a former burgomaster of the city of Schoonhoven. Velters to Holla, 12 September 1687, SAA, Velters, inv. nr. 4, fo. 63.

⁹² This frequently led to quarrelling: e.g. Velters to Holla, 19 August 1686, SAA, Velters, inv. nr. 4, fo. 32. Velters to Holla, August 1687 (no exact date), SAA, Velters, inv. nr. 4, fo. 61. Velters to Holla, 12 September 1687, SAA, Velters, inv. nr. 4, fo. 63. Velters to Holla, 24 July 1690, SAA, Velters, inv. nr. 4, fo. 138.

⁹³ Adolf Visscher, who lived right by the exchange building, was an insurer and merchant, who traded with the West Indies, the Baltic region and the Mediterranean. He was assessed for a capital of *f*140,000 in 1674: Elias, *Vroedschap* I, 473.

⁹⁴ Velters to Holla, 24 February 1688, SAA, Velters, inv. nr. 4, fo. 74.

⁹⁵ Velters to Holla, 29 February and 14 March 1688, SAA, Velters, inv. nr. 4, fo. 76, 78.

⁹⁶ Velters to Holla, 18 March 1688, SAA, Velters, inv. nr. 4, fo. 79.

find a replacement informant, however, and resumed corresponding with Holla during the 1688 crash when fresh political news was very valuable. But only a few months later, Holla violated Velters' confidence again. Velters suspected Holla of having passed on his investment sentiment (which he shared with Holla: he regularly gave Holla investment advice) to the leading share traders Visscher and Les Paul. Velters again became angry with Holla.⁹⁷ And no wonder, for if this was true, Velters' chances of getting high returns on his trades would diminish noticeably. Visscher and Les Paul were among Velters' main competitors; Velters definitely did not want them to be informed about his investment sentiment.⁹⁸

Velters was lucky to be not fully dependent on Holla's information. He also ensured that he had always access to the information available on the Middelburg exchange. What he tried to do with this information was quite sophisticated. The shares traded on the Amsterdam and Middelburg exchanges were technically identical and although they did not trade at the same price the price pattern was similar: the prices in both cities incorporated the same information and expectations about the profitability of the company.⁹⁹ So, Velters constantly tried to assess whether VOC shares were relatively cheaper in one of the two cities – he performed a form of arbitrage. On 26 July 1675, for example, he wrote to Mark Fletcher – his first Middelburg correspondent of whom very little is known, except that he went bankrupt in 1709¹⁰⁰ – that the Amsterdam and Middelburg share prices diverged widely: they could make a profit out of this!¹⁰¹

The strategy of Velters and his Middelburg trading partners was fairly simple: they exchanged information to try to get an information advantage in either of the two trading cities. So, when Velters received, for instance, detailed information about the return fleet cargo and the diplomatic relations with China and Japan in Septem-

⁹⁷ Velters to Holla, 11 August 1689, SAA, Velters, inv. nr. 4, fo. 120.

⁹⁸ To reduce the impact of their trades, prominent share traders tried to hide their trading sentiment from the market. In November 1692, for example, Velters ordered broker Henry Momber to perform a transaction without mentioning his name. He asked him if he could use his own name or perhaps – with his consent – his father-in-law's: Velters to Henry Momber, 6 June 1692, SAA, Velters, inv. nr. 4, fo. 197.

⁹⁹ See, for an analysis of the price differences between the various VOC chambers, chapter 2 section Divergent developments: Amsterdam and peripheral markets on page 68 ff. and, particularly, Figure 2.12 on page 87.

¹⁰⁰ Announcement of the Middelburg chamber of insolvent estates, *Amsterdamsche donderdaegse courant*, nr. 1709-128, SAA, PIG, inv. nr. 685a. Fletcher's name obviously suggests that he came originally from England.

¹⁰¹ Velters to Fletcher, 26 July 1675, SAA, Velters, inv. nr. 2, fo. 57. See also Velters to Fletcher, 25 August 1671, SAA, Velters, inv. nr. 1, fo. 220.

ber 1676, he instantly shared it with Pierre Macaré¹⁰², the second merchant in Middelburg with whom he frequently corresponded, hoping that this information would not yet have become publicly available there, allowing Macaré to make a profit.¹⁰³ Naturally, the two merchants always informed the other about the share price in their city of origin.

This strategy could work, but involved high risks. The Amsterdam and Middelburg shares were not exchangeable, so they had to guess whether the share prices diverged or whether they were actually equal. The tensions this provoked were palpable in the correspondence, all the more so since Velters and his Middelburg correspondents really traded on each other's accounts. They gave each other limit orders, e.g. 'try to sell a *f*3,000 for at least 450%', but also occasionally *carte blanche*.¹⁰⁴ Velters had replaced Fletcher with the seemingly more reputable merchant Macaré in September 1675, but the high risks (and at times possibly also major losses) involved in their trading relationship soon led to insurmountable frictions: Velters accused Macaré of making bad transactions and providing poor quality information.¹⁰⁵

Velters was definitely not the only share trader who pursued this strategy of performing trades on more than one market.¹⁰⁶ The sources show that Isaac Semach Ferro performed the Middelburg transactions for a large number of (very prominent)

¹⁰² Macaré came from an Antwerp family of merchants. He traded principally in wine. In 1672, his wealth was assessed at *f*21,000: A.C. Macaré, 'Macaré', *Kronieken* 2 (1993) 57-92.

¹⁰³ Velters wrote that the proceeds of the last three ships of the return fleet would amount to 13-14 'tonnen gouds', or *f*1,300,000 – 1,400,000. This would no doubt give the company directors cause to announce a high dividend. Additionally, the monarchs of Canton and Japan were well-disposed toward trading with the VOC. Velters to Macaré, 25 September 1676, SAA, Velters, inv. nr. 2, fo. 514.

¹⁰⁴ Velters wrote to Macaré on 15 December 1676, for example, that he deemed it too hazardous to sell shares on the forward market at that time. The forward share trade, he added, was a high-risk trade and he was hesitant to take a large position on someone else's account: Velters to Macaré, 15 December 1676, SAA, Velters, inv. nr. 3, fo. 48.

¹⁰⁵ Velters complained to Macaré's father about his son's provision of low-quality information and service: Velters to Pieter Macaré senior, 31 August 1677, SAA, Velters, inv. nr. 3, fo. 262. Quarrelsome correspondence between Velters and Macaré junior from around the same date: 20 August 1677, SAA, Velters, inv. nr. 3, fo. 257; 31 August 1677, SAA, Velters, inv. nr. 3, fo. 263; 15 October 1677, SAA, Velters, inv. nr. 3, fo. 297. The conflict proved the end of their correspondence. Some ten years later, Macaré tried to restore their good relation, but Velters replied that they should first settle their unpaid letters of exchange: Velters to Macaré, 16 April 1688, SAA, Velters, inv. nr. 4, fo. 83.

¹⁰⁶ All traders whose financial records I have used owned shares in different chambers: Anthony Thijs owned shares in Middelburg and Enkhuizen: BT, inv. nr. 113. Louis Trip transferred shares in the Middelburg chamber in 1660 and 1661, in the Enkhuizen chamber in 1667 and in the Hoorn chamber in 1681: SAA, Merchants' accounts, inv. nr. 39, fo. 53, 82; inv. nr. 57, fo. 82. Elisabeth Coymans and – to a lesser extent – her son Joseph Deutz owned (and occasionally transferred) shares in the Enkhuizen chamber from 1649 until 1685: SAA, Deutz, inv. nr. 276, fo. 11; inv. nr. 294, fo. 94; inv. nr. 295, fo. 14. The correspondence of Jeronimus Velters gives evidence that he traded shares in Middelburg, particularly in the period 1671-2: SAA, Velters, inv. nr. 1. Manuel Levy Duarte and Jacob Athias performed six share transactions in Middelburg on account of Olympe Mancini, the Countess of Soissons, in 1680 and 1681: SAA, PiG, inv. nr. 858, fo. 170, 174.

Portuguese Jews from Amsterdam, who apparently all traded on the Middelburg exchange – possibly also to profit from information lags.¹⁰⁷ Semach Ferro, who became the Spanish consul in the same city in the 1690s, was obviously the main Middelburg contact for the Portuguese Jewish community, but he did not restrict his services to his co-religionists; when Velters needed a new authorized agent in Middelburg, after he had lost his confidence in his share-trading partners there, he sought the advice of Samuel Gomes Cotinho and was referred to Semach Ferro.¹⁰⁸ Velters and Semach Ferro did not belong to the same religious community; they did not even know each other before Velters gave him power of attorney. Semach Ferro thus provided professional services for anyone who wanted to perform share transactions in Middelburg.

Clearly, the provision of information was vital for the active share traders. Velters, for example, organized his day around the postal services: he did not go to the exchange until the post had been delivered and quickly finished his letters when he knew that the post chaise was about to leave.¹⁰⁹ Moreover, he made sure – just as De la Vega advised his readers – that his information network spanned the globe: Velters asked his relative Balthasar Cosett, who went to the East Indies as supercargo in 1687, to send him information on a very regular basis. Velters told him that reliable information was of the utmost importance to him and requested him to describe the state of the company's trade in great detail, because he had considerable personal interest in it. He emphasized that there were no excuses for big intervals between two letters: there were plenty of ships destined for the United Provinces and Cosett could also send his letters via England. It is unclear whether Velters profited from this private information channel – the letters he received have not survived – but Cosett probably did his best to satisfy Velters, for he was indebted to him (he had borrowed f4,800 before he left).¹¹⁰

¹⁰⁷ In the 1688 protocol of Amsterdam notary Dirk van der Groe alone, he received power of attorney from David de Pinto, Jacob Nunes Henriques, Moses Nunes Henriques, Manuel de Belmonte, David Gabajj Henriques, Jacob Gabajj Henriques, Abraham Penso, Moses Henriques, Manuel Mendes Flores and Salomon Aberbanel Sousa: SAA, Notaries, inv. nrs. 4131-5.

¹⁰⁸ Jonathan I. Israel, 'The Dutch Republic and its Jews, 1699-1715', in: idem (ed.), *Conflicts of Empires. Spain, the Low Countries and the struggle for world supremacy, 1585-1713* (London 1997), 391-410, there 399. Velters to Semach Ferro, 14 December 1691, SAA, Velters, inv. nr. 4, fo. 155.

¹⁰⁹ In his letter dated 28 November 1676, he apologized to Macaré for the short letter of the day before: he had had to hurry to hand it in for that day's service: Velters to Macaré, 28 November 1676. SAA, Velters, inv. nr. 3, fo. 34. Postal services from The Hague to Amsterdam and vice versa ran twice daily and took 5.5 hours: advertisement in *Courante vyl Italien ende Duytschlandt, &c.*, 23 June 1663 (nr. 25), PA. The Amsterdam-Middelburg service ran daily.

¹¹⁰ Velters to Balthasar Cosett, 20 December 1687, SAA, Velters, inv. nr. 4, fo. 69; 30 December 1687, SAA, Velters, inv. nr. 4, fo. 70. Interestingly, their correspondence was not cut short instantly once Vel-

Velters did not have a private informant in England, which placed him at a disadvantage to other traders. He did receive the English news, but not at first-hand; he heard it on the exchange.¹¹¹ Hence he received it too late to realize a profit with it on the exchange. Velters knew this all too well; on 28 August 1688, in the midst of the 1688 crash, he wrote to Holla that all traders on the exchange had the exact same information as he had, so he could not make profitable transactions.¹¹²

Dias Henriques, on the contrary, received the main part of his information from Sephardic correspondents in various European countries. In July 1697, for example, he reported in a single letter about news he had received from correspondents in Paris, Porto and London. His London informants had spoken to Dutch seamen in Bristol and London who had just arrived from Asia. Dias Henriques had also received information from a man who had sailed as a passenger on a Portuguese ship. He had reported that French and English ships had attacked several Dutch ships in the Bay of Bengal, but the ships were undamaged. Dias Henriques immediately decided to buy shares on the basis of this information.¹¹³ Levy Duarte's information network was not confined to places with large Sephardic communities, however. He also had a private informant in the East Indies.¹¹⁴

Which information network was better? A comparison of the returns realized by Velters and Dias Henriques would be the best way to find out, but my data on their transactions are very incomplete. Velters' information exchange with Middelburg and the arbitrage possibilities ensuing from it look sophisticated, but his ongoing quarrels with Fletcher and Macaré suggest that it did not yield the returns he had hoped for. His access to governmental bodies, on the other hand, must have given him private information that he could use on the exchange. Velters certainly had an information advantage on days when he had private information and when there was no English news. Dias Henriques, on the other hand, could probably have made quick profits on days when he received news from his informants in England and other parts

ters became a company director: Velters to Cosett, 12 December 1693, SAA, Velters, inv. nr. 4, fo. 251. Velters also had a correspondent, named Willem Juijst, in the West Indies: Velters to Willem Juijst, 6 October 1683, SAA, Velters, inv. nr. 3, fo. 498-500.

¹¹¹ Velters to Holla, 25 July 1687, SAA, Velters, inv. nr. 4, fo. 59.

¹¹² E.g. Velters to Holla, 28 August 1688, SAA, Velters, inv. nr. 4, fo. 89.

¹¹³ Dias Henriques to Levy Duarte, 31 July 1697, SAA, PIG, inv. nr. 681a, pp. 643-5. Another example of first-hand information from Portugal about the cargo of the VOC return fleet: Dias Henriques to Levy Duarte, 22 November 1691, SAA, PIG, inv. nr. 677, pp. 883-5. More news from England regarding the Dutch return fleet: Dias Henriques to Levy Duarte, 31 October 1697, SAA, PIG, inv. nr. 681, pp. 405-7 and 12 February 1698, SAA, PIG, inv. nr. 681b, p. 121.

¹¹⁴ Levy Duarte to unknown, shortly after 11 May 1685, SAA, PIG, inv. nr. 679, pp. 489-90.

of Europe. He moreover benefited from news shared by his co-religionists. So, in the end, the better information network was the network that provided information with the largest impact on the share price.

It is undoubtedly true, however, that the information networks of Velters and Levy Duarte put them in an advantageous position over counterparts without access to similar networks. The latter traders had to make do with the information that was publicly available on the exchange or in newspapers. This would have been insufficient for active speculators – even though Amsterdam had developed into the newspaper centre of Europe during the seventeenth century, with several titles regularly giving information about arrivals and departures of ships, sometimes also stating details about their cargo.¹¹⁵ But for speculators, the newspaper content had negligible informational value; the news had become outdated before it reached them.

An example from the *Ordinaris Dingsdaeghsche Courant*, an Amsterdam-based newspaper published by Johannes van Ravesteyn, illustrates my point. The 27 September 1667 issue contained news from The Hague, dated 25 September. It stated that a number of sailors, who had arrived in the Maas estuary shortly before, had come into town on the 24th, bringing the news that they had parted from nine VOC ships off the English coast on September 9. They reported that the return fleet was in good condition, but it had originally consisted of twelve ships; three of them had strayed off in dense fog somewhere east of the Cape.¹¹⁶ This was irrefutably interesting information for the share traders, but they did not need a newspaper to obtain it; they could have obtained it earlier. Private letters travelled from The Hague to Amsterdam in a day's time. Hence, this news had probably reached the market already by the 25th or the 26th at the latest – at least a day before the newspaper came out. It did not take long for news to become public once it had reached the Exchange; an Exchange employee wrote the news of general interest on a slate¹¹⁷ and the merchants of course talked to each other about it.

The Amsterdam-based publishers seem to have been aware that share traders did not use their newspapers to obtain information regarding the share trade: they hardly ever mentioned share price data. The only newspapers that occasionally quoted the most recent share price came from The Hague – newspapers with a read-

¹¹⁵ Dahl, 'Amsterdam: earliest newspaper centre of Western Europe', 163.

¹¹⁶ *Ordinaris Dingsdaeghsche Courant*, 27 September 1667 (nr. 39), PA, microfilm SP119/86.

¹¹⁷ Velters to Holla, 25 March 1689, SAA, Velters, inv. nr. 4, fo. 110.

ership that did not frequent the exchange in Amsterdam. But they did so at irregular intervals; apparently not aiming to provide financial information, but rather to contextualize for example the news about the Second Anglo-Dutch War by showing its effects on the share trade.¹¹⁸

Share traders had to respond quickly to news that could influence the share price. The examples from the Velters correspondence have shown that it was only a matter of hours before new information got incorporated into the share price. Active share traders therefore had to build an information network that would occasionally give them an informational advantage over other share traders. As a result, newspapers frequently received their news from merchants, rather than the other way around.¹¹⁹

What is more, the pace at which the share price moved provides an explanation for the fact that share prices were not included in Amsterdam's commercial and financial newspapers until the mid-eighteenth century.¹²⁰ The foremost price current, *Cours der Koopmanschappen tot Amsterdam* appeared only on a weekly basis in the period 1585-1775.¹²¹ This price current thus always published outdated price data. The prices of the commodities listed in the *Cours*, as well as the exchange rates for international currency, fluctuated less dramatically and, more importantly, these prices were also of interest to merchants outside Amsterdam; the *Cours* was also published in Italian, English and French.¹²² The Amsterdam commodity market was an international market and the *Cours* provided foreign merchants with necessary price information, whereas the market for VOC shares was to a large extent a local market. To be sure, the odd foreign share trader hired an Amsterdam exchange agent to perform his trades.¹²³ So, in order to participate in the market for VOC shares, a trader either needed a sophisticated information network, preferably with correspondents spread

¹¹⁸ E.g. *Haegsche Dijnstdaeghse/Donderdaegsche/Vrydaegsche Post-Tydingen*, 1666 (nrs. 24, 54, 66, 83), 1667 (nrs. 17, 20, 24), PA, microfilms SP119/36, SP119/38).

¹¹⁹ E.g. *Oprechte Donderdagse Rotterdamse Zee- en Post-tijdingen*, 28 July 1667 (nr. 60), PA, microfilm SP119/81. This issue mentioned the preparations for the peace treaty that ended the Second Anglo-Dutch War. The newspaper had derived its information from the business letters several merchants had received from London.

¹²⁰ There are examples of pre-printed forms, probably used by brokers, listing all the securities that were traded on the Amsterdam exchange dating from the 1720s. The spaces for price quotes were left open. The first printed list of stock prices dates from 1747. Neal, 'The rise of a financial press', 172-4.

¹²¹ McCusker and Gravesteyn, *The beginnings of commercial and financial journalism*, chapter 1.

¹²² *Ibidem*, 49.

¹²³ E.g. Olympe Mancine, the Countess of Soissons, from Brussels and Luis Alvares from Paris/London who gave their trading orders to Manuel Levy Duarte and Jacob Athias: Samuel, 'Manuel Levy Duarte', 19-20.

over the Dutch Republic, Europe and the East Indies, or he could perform his trades through a broker or exchange agent. Manuel Levy Duarte and Jacob Athias, who acted as exchange agents during the 1680s, charged a *f*30 commission on every pair of transaction and counter-transaction in VOC shares, which shows that traders without access to an information network were willing to pay a high fee (five times the regular brokers' commission) to be able to share in the information advantage.¹²⁴ This also suggests that regular brokers merely brought traders together, probably giving information about a possible counterparty's reputation; they did not provide the information that could lead to profitable transactions.

Conclusions

It was definitely inconvenient that the VOC did not make its accounts public. However, as this chapter has shown, this did not pose an insurmountable problem for the share traders. They made do with the dividend announcements and information they received from other sources. The active traders of the late seventeenth century built private information networks that kept them up to date of the latest information. They could make the short-term profits they were aiming at if they received new information slightly earlier than their main competitors. Consequently, speculative trade became the domain of (semi-)professional traders who made great efforts to gather the latest information. Less active traders could not keep up with these (semi-)professionals, but they were lucky that due to the high trading activity of the speculators, the share price always reflected the most recent news; they could trust the share price to be 'correct'. Newspapers did publish relevant information for the share trade, but the news from this source always reached the share traders too late – traders with private information networks would already have reaped the profits. The printed news media contributed in no way to the increased enthusiasm for the share trade after 1640.

Things were different in the first decade of the seventeenth century. Many of the early investors still awaited the liquidation of the company in 1612 or 1623 at the latest. For them, it was not necessary to get information with the same level of detail that Jeronimus Velters or Manuel Levy Duarte needed. They simply hoped that the spice trade would eventually prove profitable. Secondly, many traders of the early years invested in the VOC to support the conquests of the Dutch Republic in the East

¹²⁴ SAA, FIG, inv. nrs. 687-8.

Indies. They of course hoped to gain a profit on their investment, but it was equally important for them that the young Dutch Republic was able to compete with its European counterparts. They were interested in news on the fortunes of the Dutch in the East Indies, but did not need to get it first-hand to be able to trade on it. The market of the first decade was not yet the market for professional traders it would later become.

Presumably, the groups with the best inside information were the company directors and chief participants of the VOC; they had access to the company accounts and to the internal correspondence with the company's East India branch. However, as the following example will show, it is impossible to analyze to what extent they profited from their position. Jeronimus Velters became a company director for the Amsterdam chamber in June 1694. He had discontinued his share-trade-specific correspondence some five years earlier (maybe the quarrelsome nature of the letters annoyed him too much), but started anew as soon as he had taken up the directorship – although at a lower frequency.¹²⁵ On 29 July, after a month in office, he bought shares with a nominal value of *f*15,000 on the forward market.¹²⁶ It was not forbidden for company directors to trade shares, as long as they held on to a share capital of *f*6,000 – really the only requirement to become or remain eligible for a company directorship. But Velters' activity on the forward market is definitely a bit suspicious. Unsurprisingly, then, he did not perform these transactions himself – he asked Jan de Wilhelm and Jacob Gabay Henriques to do them for him. Trying to reconstruct the directors' trades is therefore pointless: they were smart enough to ask someone else to perform their trades. And it is clear why: they did not want to be accused of enriching themselves at the expense of other shareholders and thus tried to prevent other share traders from observing their trades. Otherwise, no one would ever have bought, for example, a forward from a company director – the informational value of company directors' transactions was simply too high.

The share market benefited from Amsterdam being an important centre of information in so far as this helped traders to build and maintain their information networks. Amsterdam's position as a major trading port in international commerce made information from abroad quickly available on the exchange. Regular shipping traffic between England and the Dutch Republic, for example, made it possible for

¹²⁵ Please note that he had remained active on the share market in the intermediate years.

¹²⁶ Note in Velters' letter book, 24 July 1694: SAA, Velters, inv. nr. 4, fo. 331.

traders to receive news from the Dutch East Indies before the VOC return fleet arrived: they asked their informants to send their letters on English fleets to Europe, hoping that they would thus receive the news before it became public information on the exchange. The Portuguese Jews, lastly, did not build their information network to use it specifically for the share trade. The network of the Diaspora already existed before the Portuguese Jews started to participate in the share trade and the traders subsequently gladly used it. Hence, to paraphrase Smith, Amsterdam being an information exchange contributed to the modernization of finance.

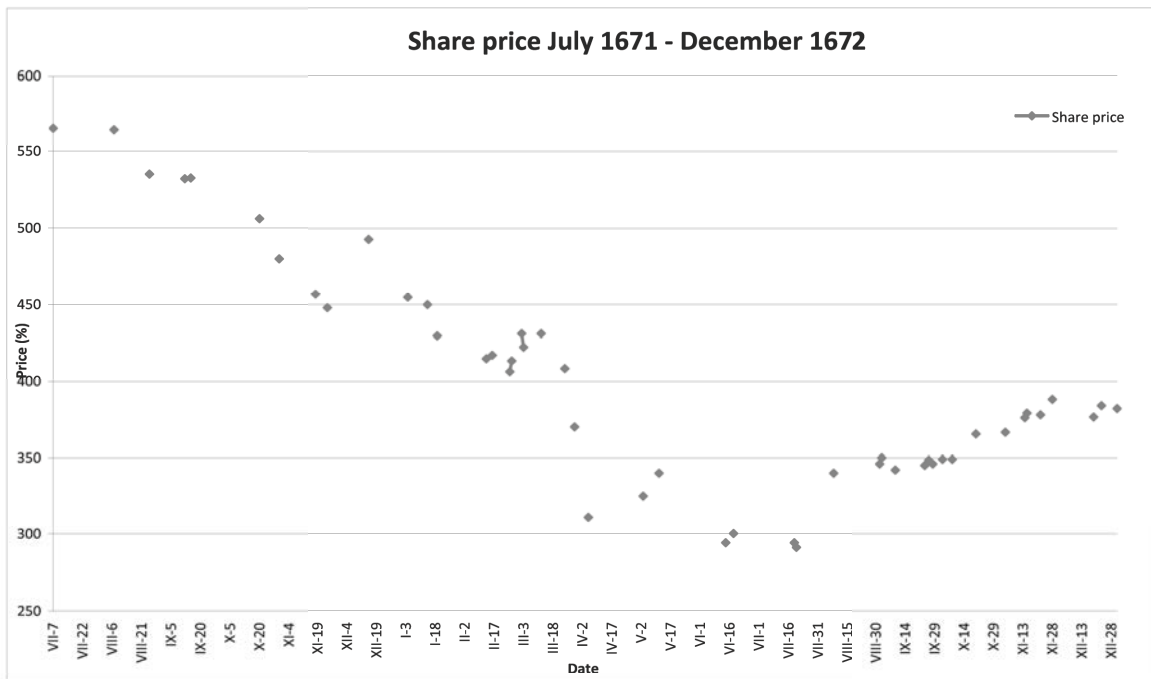


Figure 5.1 VOC share price, 7 July 1671 – 31 December 1672
Number of observations: 55. Sources: SAA, Velters, inv. nr. 1; SAA, Deutz, inv. nr. 293; SAA, Merchants' accounts, inv. nr. 40; SAA, Notaries, inv. nrs. 2238-40.



Figure 5.2 VOC share price, 6 January 1688 – 22 November 1688
 Number of observations: 35. Sources: SAA, Velters, inv. nr. 4; SAA, Notaries, inv. nrs. 4131-6; Israel, 'The Amsterdam financial crash of 1688'. Please note that the data from Israel's article have been corrected for the dividend distribution of April 15 (33 1/3% in cash) to fit in with the other data.

CONCLUSIONS

The history of the secondary market for VOC shares forms an important chapter in financial history. In the period 1630-50, this market became the first modern securities market. The increase in trading activity on the spot and especially on the derivatives market was the key event. The market became liquid and price discovery occurred because of the interaction between traders. As a result, investors could now, for the first time in history, invest their money at low cost and for short periods of time, without the need for endless negotiations about terms and conditions of a contract and without fear that it would be difficult to sell off the investment if need arose. Furthermore, the market enabled traders to manage and control their financial risks and the structure of the derivatives market allowed market participants to monitor their counterparties. The market as a whole thus became better at providing the core functions of financial systems.¹

Part of the Amsterdam securities market can even be seen as what I tentatively called in the title and introduction of this book ‘the world’s first stock exchange’. The illegal character of much of the derivatives trade required the traders to organize themselves in trading clubs. Within the confines of these clubs, traders could monitor each other’s behavior. Furthermore, the clubs created an environment in which the participants cared highly about their reputations. This system could function efficiently only if access to the clubs was restricted to frequent and approved traders, who participated in the clubs for the sole purpose of trading shares. The clubs thus became predecessors of modern stock exchanges where only official stockbrokers are allowed to trade.

The downside of organizing the derivatives market in trading clubs was that this part of the market became a market in which only (semi-)professional traders could participate. It was inaccessible for people who did not belong to their clique and hence it would have been particularly difficult, if not impossible, for people from, say, outside Amsterdam, to participate in the derivatives market. In the second half of the seventeenth century, the market thus consisted of a publicly accessible part, where investors could invest their money in VOC shares and where brokers and market makers were present to help them make a deal, and a separate market where (semi-)

¹ Levine, ‘Finance and growth’, 869-70.

professional traders could play their private ‘game’. Not everybody could thus benefit from the functions provided by the derivatives market, but if outsiders really wanted to participate in the derivatives market, they could hire an exchange agent to perform transactions on their account. Naturally, the costs of trading via an agent were higher than the costs of performing transactions personally or asking a broker to intermeditate, but agents gave access to the trading clubs. This advantage could offset the extra transaction costs.

Although the first modern securities market emerged in the field of private finance, the public authorities of the Dutch Republic did play a considerable role in the first decades of its development. Most importantly, the States General decided on the company charter and its prolongations; the capital stock of the VOC became fixed only because the authorities repeatedly renewed the VOC charter. The legal institutions, moreover, aided the development of the market by making clear – at an early stage in the seventeenth century – how the courts interpreted the rules, thus taking away any uncertainty the market participants could have. The public authorities thus created a framework within which the market could develop.

The company directors made one important contribution to the emergence of the market: they made trading feasible by formulating clear rules for share ownership and transfer of ownership. The traders themselves initiated all remaining developments that took place during the seventeenth century; they were constantly searching for ways to minimize transaction costs. Christoffel and Jan Raphoen, for example, contributed enormously to the development of the market with their efforts to provide liquidity for non-standard share denominations. The standardization that was the result of their market-maker services brought transaction costs down, because it increased the market’s liquidity; traders could more easily find counterparties for their transactions.

The development of the derivatives market provides even more examples of trader-initiated institutional developments that contributed to the transition into a modern securities market. The traders themselves formulated the contracts of the various derivatives transactions that were in use on the market. Moreover, they themselves took care of the enforcement of those derivatives transactions that were unenforceable by law by creating sub-markets within the secondary market for VOC shares. These markets were relatively small, especially when compared to commodities markets, and the transactions that were dealt on them could be characterized as high-risk

and complex. This combination of characteristics spurred the developments on the sub-markets: traders wanted to make use of the derivatives market because of the financial functions it provided at low cost, but due to the high risk and complexity, institutional developments were required. It was these sub-markets of the *rescontre* and the trading clubs that historians have marveled at; this was the part of the securities market that looked most ‘modern’. Most interestingly, and this is what De la Vega’s observation that the share trade ‘became a game out of necessity’, quoted in the Introduction, referred to: the traders established it out of necessity.

The self-regulation of the parts of the trade that were illegal by law worked pretty well, but this book must not be regarded as a plea for self-regulation as a means to create better functioning financial markets in the present-day world. The derivative transactions used by the seventeenth-century traders – short-selling, straddles and repos, to name but a few examples – might give the impression that they were highly advanced financial techniques and the seventeenth-century world probably thought so too, but these transactions are only child’s play in comparison with, for example, today’s hybrid securities and collateralized debt obligations, whose complexity often disguises the underlying assets. What is more, the number of parties involved in today’s derivatives markets, originating from all parts of the world, could never be regulated by a simple trading system of the kind the Amsterdam share traders of the seventeenth century devised. The history of the seventeenth-century share market does offer an interesting parallel for today’s attempts to regulate financial markets, however. It shows how traders of financial assets, in their search for ways to minimize transaction costs, have always tried to find loopholes in the law and searched for ways to by-pass official regulations.

Finally, after an extensive analysis of the development of the secondary market for VOC shares, it is important to review the wider significance of this market for the economy of the Dutch Republic in the seventeenth century and for economic development in later ages. A critique on the market, occasionally voiced in the seventeenth century, was that the participants of the securities market wasted time buying and selling shares – a mere ‘game’ instead of a respectable trade – whereas they could have better used their time for commercial trade that would benefit not only their personal financial situation, but also the economy as a whole.² The critics were mostly right; the secondary market for VOC shares did not directly contribute to the economy of the

² Most notably, Muys van Holy, *Middelen en motiven*, 8.

Dutch Republic. After the subscription of 1602, and – to a lesser extent – the subscription to the WIC in 1621 and, again, in 1675, the securities market did not mobilize capital.

What is more, as the examples in this book – particularly the case of Jeronimus Velters – have shown, active participation in the trade in VOC shares did indeed take up a lot of time. While Velters was a wealthy man who had already made his contribution to the growth of the Dutch economy, it is no doubt true that there were many other traders who could have contributed more to the economy had the share trade not taken up such a great deal of their time. Individual investors certainly benefited from the market, however. It enabled them to invest their money in a (most of the time) profitable way. They could do so at low cost and it was always possible to liquidate their investment. Moreover, they could benefit from the risk-management possibilities provided by the market. The market thus increased the wealth of individual investors and hence also contributed, indirectly, to the economy of the Dutch Republic.

However, the economy as a whole could certainly have benefitted more from the presence of a highly developed securities market. The market framework and the large pool of ready investors could relatively easily have been used by new companies to issue capital stock or by the government to issue debt. The market could then have performed the function of bridging the gap between long-term capital needs of companies and governments and short-term investment horizons of investors on a larger scale – i.e. not only for the VOC. It could then, moreover, have contributed to allocating the available capital in the Dutch Republic in an efficient way. Such did not happen in the seventeenth-century Dutch Republic, however. Neither the government, nor private companies recognized the possible advantages of using the market for their capital requirements.

The main reason for this, in the case of companies, seems to be that the capital requirements were generally too low to consider issuing public stock. It is also possible that the government refused to grant charters to new companies, which was necessary to obtain joint-stock status, but very little is known about this for the seventeenth century. Gelderblom, De Jong and Jonker have moreover argued that the example of the VOC, where the government forced the company to also pursue ambitious military goals instead of only commercial goals, was a rather uninviting prospect for other companies; new companies decided not to request official joint-stock status, because

they feared that the government would also demand a large say in their objectives, which might deter investors from subscribing money.³ I am not sure whether this reasoning is correct. The investors of the VOC were not naive, as chapter 5 has shown. The investors of the earliest decades knew perfectly well that the VOC would also pursue military goals and this did not discourage them from investing in the company. To be sure, they even actively supported the military efforts to oust European enemies from the East Indies. It is true, however, that investments in the company stock of the WIC were disappointing, to say the least, which might have been a signal that investors were unhappy with the prospect that their money would be used for the pursuance of government goals. So perhaps the VOC was a fortunate coincidence; investors were willing to support the grand goals of the Dutch Republic in the start-up phase, and at about the time investors started being unhappy with the government say in the company, the VOC started to make considerable profits.

The government itself, on the other hand, could have used the structure of the securities market to consolidate its debt, but here the decentralized government of the Dutch Republic obstructed wider use of the market. The market was, for example, not easily accessible for the States of Groningen to issue their provincial debt. Moreover, it would have been hard to replace the system of provincial receivers-general, the officials responsible for issuing government debt, who were generally very influential persons.

The power of the securities market was thus not fully explored in the Dutch Republic. However, economies of later ages undoubtedly benefited from the experience of the Amsterdam market. New markets for corporate equity could be established relatively easily – they could be shaped after the example of the Amsterdam market. These markets could optimize the organization of the Amsterdam market, without the need to develop from scratch. The experience of the market for VOC shares thus enabled these economies of later ages to grow faster than what would have been possible if this market had not existed.

Eighteenth-century London was the first to reap the benefits of the experience the Dutch. What is more, the London securities market quickly outperformed its Amsterdam counterpart: more companies were traded and the government also used the market structure to finance its debt. In my view, the English financial markets could reach their high stage of development so quickly, because they could build on Amster-

³ Oscar Gelderblom, Abe de Jong and Joost Jonker, 'An admiralty for Asia'.

dam's achievements. London simply continued developing the market from the point that had been reached in Amsterdam. The foundations of London's market, like those of today's financial markets, were laid in seventeenth-century Amsterdam.

EPILOGUE –
REASSESSING *CONFUSIÓN DE CONFUSIONES*

Jossep de la Vega's *Confusión de confusiones* is a special book. It consists of four fictitious dialogues between a merchant, a philosopher and a shareholder. The merchant and the philosopher are interested in the share trade and the shareholder explains to them how the trade works. Written in Amsterdam in 1688, it is the world's first treatise on the stock-exchange business. As such, it has continually attracted attention from scholars. New editions, often marketed towards investors who are active on today's financial markets, appear regularly. Moreover, *Confusión* was selected for the 'basic library' of texts that shaped Dutch cultural history – a remarkable achievement for a work that had originally been written in Spanish.¹

Confusión is also a mysterious work: very little is known about its author, it is written in a form of Spanish that must have looked archaic even to seventeenth-century readers and its composition is conspicuous, to say the least – about two-thirds of the book is devoted to biblical and mythological excursions. It is my aim to give a new interpretation of the original purpose of *Confusión* in this epilogue.

Several scholars have advanced theories on the purpose with which De la Vega wrote his remarkable book. Smith, in his introduction to the Dutch translation of *Confusión*, argued that it might have been used as a manual for people who were thinking about starting to participate in the stock-exchange business. The manual would then have principally been aimed at fellow Sephardic Jews, as *Confusión* was written in Spanish. Dissemination of the contents of *Confusión* among the Sephardic community in London might even have sped up the transfer of financial knowledge from Amsterdam to London. Smith noted, moreover, that there are indications that De la Vega was planning to have the book translated into French as well, which – if true – would be a strong argument for the manual-interpretation.² No contemporary copies in languages other than Spanish have remained, however. To be sure, only five

¹ As such, its full text has been made available on the Internet:
http://www.dbnl.org/tekst/vega002conf01_01/

² M.F.J. Smith, 'Inleiding', in: Jossep Penso de la Vega, *Confusión de confusiones* (1688), M.F.J. Smith (ed.) (The Hague 1939) 1-47.

copies of the original Spanish edition of 1688 survive in libraries around the world.³ The fact that so few copies survive makes it hardly credible that *Confusión* was used as a manual. Also, the book's long-windedness would have made it an impractical manual.

Cardoso and Israel suggested other interpretations of *Confusión*. According to Cardoso, De la Vega originally planned to write a manual, but slightly changed the aim of the book during the writing, because his own lack of success as a share trader reduced the persuasiveness of his account. He therefore used the book to demonstrate that 'despite the inner or potential risks and dangers of financial operations, the dealings at the stock exchange were worth pursuing'.⁴ Israel is the only scholar who has repudiated the manual explanation altogether. He argued that the Jewish community of Amsterdam had to deal with a stream of (mildly) anti-Semitic propaganda in 1688. The activities of the Jews on the share market were a recurring theme in these texts. The purpose of *Confusión*, according to Israel, was to assist the Sephardic community in dealing with the negative attention. *Confusión* provided a survey of the positive and negative aspects of the Jewish activities on the stock exchange and thus helped its Sephardic readers to reappraise their own behavior.⁵

My analysis of the workings of the seventeenth-century securities market allows for a reassessment of the contents of *Confusión*. I contend that De la Vega's aim was to write a vivid account about a subject that attracted a great deal of attention at the time. The main purpose was to entertain its readership. De la Vega's treatment of the stock-exchange business reveals that he was well-informed about it, but I doubt that he was a frequent share trader himself. First of all, I have not come across his name in primary sources. The trading-club ledgers of Jacob Athias and Manuel Levy Duarte would be the logical place to find a reference to De la Vega: they list the names of a large number of Sephardic traders and date from the mid-1680s, shortly before De la Vega wrote his book.⁶ De la Vega's name does not appear, however.

Moreover, the price data in *Confusión* are questionable; De la Vega's price of 365% for late August, 1688, stands in stark contrast to the lowest price for that month quoted by Jeronimus Velters: 463%.⁷ Finally, De la Vega's treatment of some specific

³ José Luís Cardoso, 'Confusion de confusiones: ethics and options on seventeenth-century stock exchange markets', *Financial History Review* 9 (2002) 109-123, there 100 (in footnote).

⁴ *Ibidem* 123.

⁵ Jonathan I. Israel, 'Een merkwaardig literair werk en de Amsterdamse effectenmarkt in 1688. Joseph Penso de la Vega's *Confusión de confusiones*', *De zeventiende eeuw* 6 (1990) 159-165.

⁶ SAA, PIG, inv. nrs. 687-8.

⁷ See chapter 5, section Market reactions to information, on page 156 ff.

aspects of the market is hardly convincing. This is most apparent in his analysis of the ban on short-selling and, following from it, the possibility to legally renege on forward transactions. He noted correctly that it was possible to renege on a forward deal if the seller did not actually own the underlying asset of the contract, but failed in his attempt to elaborate on the implications of the ban. He was right to say that sellers could also use the ban to let the court declare their sales null and void, but passed over the fact that the seller would then incur a considerable fine. Contrary to De la Vega's belief, sellers would thus generally be less inclined to renege. In the following paragraph, De la Vega tried to assess the implications of the ban on the options trade, but his account gives the impression that he did not understand the principle of the regulation. In my view, traders could ask the court to nullify an option contract if the seller did not own the underlying asset at the time the deal was made and/or during the contract's term. De la Vega, however, remarked only that the rules were ambiguous. Lastly, when he wrote about repos, he made mention of very speculative traders who did not use time accounts. However, as I have shown on page 131, time accounts were hardly ever used at all. De la Vega's account thus gives the impression that his personal experience with stock-market dealings was limited.⁸

However, De la Vega's general overview of the types of transactions used on the market and the risks involved in the various transactions is very good – although his style of writing makes parts of it rather difficult to grasp. He also proved his expertise on the subject by explaining that derivatives were not speculative instruments, but could also be used to mitigate risks. These sections could definitely have been used to teach readers about the basic workings of the securities market, but they form only a minor part of the book. De la Vega paid far more attention to all the various schemes used by collaborating traders who tried to make a profit by playing tricks on other traders. These schemes were no doubt employed by less honorable traders – and it is of course laudable that De la Vega warned potential investors about the tricks that were played on the market – but the amount of attention he paid to tricks and schemes is out of proportion. After having read *Confusión* as a layman in the field of stock-exchange dealings, one would have expected the securities market to be a place of unfair trades rather than a place where financial risks could be managed and controlled. Put another way, *Confusión* is not a very encouraging read.

⁸ De la Vega, *Confusión de confusiones*, 195-8 (p. 227-30 in the 1688 edition, p. 24-5 in Kellenbenz' English edition).

In my view, therefore, De la Vega wrote *Confusión* for the entertainment of educated members of the Sephardic community. He took a popular subject – which he (rightly) expected would remain popular for some time –, did ample research to make his story plausible, used fictitious dialogues to make it a lively read, and put in a large amount of drama by emphasizing the dark sides of the share dealings, exaggerating the share price movements, and adding lengthy elaborations on religious and mythological texts. The result was a book that has too much drama and technical shortcomings to qualify it as a manual and too much emphasis on tricks, schemes and comparisons with mythological figures to make Israel's argument convincing that the book was aimed at providing a context for anti-Semitic texts that spoke badly of the financial dealings of the Jews. Those members of the Sephardic community who were experienced in the stock-exchange business and well versed in mythology and the books of the Old Testament probably simply found it a good read. They were personally acquainted with people who made or lost large amounts of money on the stock exchange and this book therefore appealed to them.

SUMMARY (IN DUTCH)

In zeventiende-eeuws Amsterdam werd voor het eerste in de wereldgeschiedenis op grote schaal in aandelen gehandeld. Het ging hierbij om aandelen in de Verenigde Oost-Indische Compagnie (VOC). De aandelenmarkt is uitvoerig beschreven in Joseph de la Vega's veelvuldig aangehaalde *Confusión de confusiones* (1688). Uit dit boek komt een beeld naar voren dat de hele stad bevangen was door de handel in aandelen en dat er ook door velen driftig in allerlei van aandelen afgeleide financiële instrumenten (derivaten, waarvan termijncontracten en opties de belangrijkste waren) gehandeld werd. Er heeft sinds het verschijnen van dit boek altijd een zweem van mysterie rond de zeventiende-eeuwse Amsterdamse aandelenmarkt gehangen; De la Vega's ondoordringelijke taalgebruik maakt het lastig om precies te snappen hoe de markt functioneerde en noch De la Vega noch latere historici hebben zich over de vraag gebogen hoe de door De la Vega beschreven markt in minder dan een eeuw tijd een dergelijk niveau van ontwikkeling kon bereiken.

Mijn boek ontrafelt het mysterie van de zeventiende-eeuwse Amsterdamse aandelenmarkt door de ontwikkeling van die markt vanaf de oprichting van de VOC in 1602 tot ruwweg het einde van de zeventiende eeuw te analyseren. Het voornaamste punt dat uit mijn onderzoek naar voren komt is dat de markt zich in de periode 1630-50 ontwikkelde tot een moderne effectenmarkt. De markt kan vanaf die periode modern genoemd worden omdat zij de functies begon te vervullen die effectenmarkten vandaag de dag vervullen. De markt werd in de genoemde periode zeer liquide en er vond constant een proces van *price discovery* plaats. Door de liquiditeit van de markt hoefden handelaars weinig moeite te doen als zij een aandeel wilden kopen of verkopen en zij konden dit ook altijd voor een prijs zeer dicht bij de marktprijs doen. Daarnaast zorgden de vele transacties die op de markt plaatsvonden ervoor dat de marktprijs veel van de onder de handelaars aanwezige informatie bevatte. De transacties zorgden, met andere woorden, voor *price discovery*. Doordat de markt deze belangrijke functies vervulde, was het voor handelaars mogelijk om tegen zeer lage kosten te handelen. Handelaren konden snel en goedkoop hun portofolio aanpassen, wat hen in staat stelde om de mate waarin zij blootgesteld waren aan financiële risico's aan te passen. Het gaat wat ver om te stellen dat de markt hiermee een bijdrage heeft gele-

verd aan het economisch succes de Republiek, maar de gebruikers van de markt hebben zonder meer nut ondervonden van de aanwezigheid van de markt.

Deel I beschrijft de ontwikkeling van de Amsterdamse aandelenmarkt gedurende de zeventiende eeuw. Hoofdstuk 1 geeft een eerste schets met een chronologische bespreking van de voornaamste ontwikkelingen. Vanzelfsprekend wordt begonnen met de kapitaalinschrijving van 1602. Vervolgens komen onderwerpen aan bod als de locaties waar de handel plaatsvond, het ontstaan van de derivatenhandel, de eerste dividendbetalingen, de *corporate governance*-discussie van de jaren 1620, de rol van tussenpersonen en de opkomst van geregelde bijeenkomsten van aandelenhandelaren in *trading clubs*. Hoofdstuk 2 beschrijft enkele langetermijnontwikkelingen zoals de omvang van de handel, het dividendbeleid van de VOC en de koersontwikkeling van het VOC-aandeel gedurende de zeventiende eeuw.

Twee punten uit deze hoofdstukken verdienen het om hier ook kort besproken te worden. Het eerste punt is het ontstaan van een levendige secundaire handel; waarom gebeurde dit wel bij de VOC en niet bij eerdere ondernemingen die aandelen uitgegeven hadden? Het antwoord hierop is betrekkelijk eenvoudig: die eerdere ondernemingen werden zonder uitzondering binnen een aantal jaar weer geliquideerd, waarop de aandeelhouders hun inleg terugkregen. Bij de VOC ging het anders: het octrooi van 1602 was voor een periode van 21 jaar verleend, waarbij bepaald was dat tussentijds (in 1612) de boeken opgemaakt moesten worden. In 1623 werd de VOC niet opgeheven, maar werd een nieuw octrooi verleend. Dit gebeurde nog enkele keren en uiteindelijk heeft de compagnie zonder onderbreking tot 1798 bestaan. Er zijn slechts weinig investeerders die hun geld voor bijna twee eeuwen vast willen hebben staan, dus het is niet meer dan logisch dat de aandeelhouders van de VOC hun aandelen op de secundaire markt gingen verhandelen. Daarbij was door de bewindhebbers al een voorschot op het ontstaan van secundaire handel gegeven door op de eerste pagina van het intekenboek duidelijk te stellen dat aandelen overgedragen konden worden en hoe dit in zijn werk zou gaan.

Het tweede punt is de grote ontwikkeling die de markt doormaakte in de periode 1630-50: het aantal transacties groeide sterk, evenals het aantal transacties per handelaar. De koers steeg aanzienlijk en het Amsterdamse VOC-aandeel werd rond deze tijd structureel duurder dan de aandelen in de vijf andere kamers van de VOC. Aandelen in de kleinere kamers gaven recht op dezelfde uitdelingen als Amsterdamse aandelen en zouden dus logischerwijs tegen dezelfde prijs verhandeld moeten worden.

Ten slotte werd de populatie van handelaren in Amsterdam meer divers, waarbij vooral de participatie van Portugese joden opvalt. Hoe zijn deze ontwikkelingen te verklaren? Ik betoog dat dit komt doordat de markt in deze periode uitgroeide tot de eerste moderne effectenmarkt. Hoe dat in zijn werk ging, is het onderwerp van deel II.

Deel II gaat na hoe de markt zich heeft ontwikkeld tot een moderne effectenmarkt door dieper in te gaan op het functioneren van de markt. Zoals eerder gesteld kan de Amsterdamse markt voor VOC-aandelen een moderne effectenmarkt genoemd worden omdat zij voor liquiditeit en *price discovery* zorgde. De markt kon deze functies uitsluitend vervullen doordat er een groot aantal transacties op de markt plaatsvond. De drie hoofdstukken die samen deel II vormen, analyseren welke ontwikkelingen ervoor gezorgd hebben dat handelaren in de tweede helft van de zeventiende eeuw zo veel transacties gingen uitvoeren.

Hoofdstuk 3 bespreekt de mechanismen die ervoor zorgden dat contracten nagekomen werden. Eerst komen de formele instituties aan bod. Ik betoog op basis van gerechtelijke dossiers dat in de Republiek rond 1630 een stevig juridisch kader voor de aandelenhandel tot stand was gekomen. Dit was van groot belang voor de ontwikkeling van de markt, omdat het juridische zekerheid verschafte voor de handelaren; zij wisten vanaf 1630 precies hoe de rechtbanken oordeelden over verschillende kwesties die zich voor konden doen bij aandelentransacties.

Daarna ga ik in op informele instituties – regels die niet door de wet bekrachtigd worden – die de nakoming van contracten regelden. De markt had informele instituties nodig, omdat een groot deel van de transacties die op de markt plaatsvonden bij de wet verboden was. Meer bepaald ging het hierbij om *short sales*, of ‘verkopen in blanco’ zoals de zeventiende-eeuwers de transacties noemden waarbij aandelen die niet in bezit zijn van de verkoper verhandeld worden. De beperkte beschikbaarheid en hoge kosten van VOC-aandelen maakten dat termijnhandelaren bij voorkeur in dergelijke fictieve aandelen handelden. Maar door het verbod op *short sales* bracht deze handel een aanmerkelijk extra risico met zich mee: de kopende partij kon de rechtbank verzoeken de transacties ongeldig te verklaren. Er waren dus informele instituties nodig die ervoor zorgden dat termijnkopers hun verplichtingen nakwamen – ook als de koers gedurende de looptijd van hun contracten sterk daalde waardoor zij verlies leden op hun transacties.

Het informele systeem werkte als volgt: de termijnhandel vond grotendeels plaats tijdens speciale bijeenkomsten van handelaars in een van de koffiehuizen of

herbergen in de Kalverstraat en in de maandelijkse *rescontre* – een bijeenkomst waar termijncontracten afgewikkeld werden. Uitsluitend handelaren met een goede staat van dienst werden tot deze bijeenkomsten toegelaten. Handelaren die zich niet aan de regels hielden, werd de toegang ontzegd. Groepsdruk en (dreiging tot) uitsluiting zorgden ervoor dat de handelaren hun contracten nakwamen. Ik stel ten slotte dat het informele mechanisme zo goed kon functioneren doordat er eerst een duidelijk juridisch kader tot stand was gekomen. Door dit juridische kader waren de handelaren zich zeer bewust van de grenzen van de wet. Zij waren zich daardoor ook bewust van de risico's van *short sales* en gebruikten dit risicovolle type transactie alleen als zij wisten dat hun tegenpartij groot belang hechtte aan toegang tot de handelsbijeenkomsten.

In het geval een handelaar twijfelde aan de reputatie van zijn tegenpartij, zocht hij zijn toevlucht in een ander type transactie. Dit is een van de onderwerpen die aan bod komen in hoofdstuk 4. In dit hoofdstuk laat ik zien hoe de evolutie van de derivatenmarkt handelaars in staat stelde om hun risico's te beheersen. Zij konden *counterparty risk*, of het risico dat de tegenpartij in een transactie zijn verplichtingen niet nakomt, verminderen door gebruik te maken van beleningen in plaats van termijncontracten. Een belening, of *repo* (voluit: *repurchase agreement*) in moderne terminologie, bewerkstelligde een identieke verdeling van het economische en juridische eigendom van een aandeel tussen verkoper en koper als een termijncontract. Het grote verschil tussen beide transacties was dat er bij beleningen altijd een echt aandeel gebruikt werd dat in onderpand werd gegeven voor de duur van de transactie; *short selling* was hierdoor onmogelijk. Beleningen kregen dus de voorkeur boven termijncontracten als er een verhoogd risico was dat de koper niet aan zijn verplichtingen zou voldoen, maar zij waren niettemin minder populair dan termijncontracten. De redenen hiervoor waren dat transactiekosten bij beleningen aanmerkelijk hoger lagen en dat handelaren met beleningen uitsluitend een positieve positie konden innemen; beleningen konden niet worden gebruikt door handelaren die verwachtten dat de koers zou dalen.

Het tweede deel van dit hoofdstuk gaat in op een ander type risico: het risico van grote schommelingen in de waarde van een portfolio. Ik maak gebruik van de boeken van enkele aandelenhandelaren uit de tweede helft van de zeventiende eeuw om te laten zien hoe zij de beschikbare handelstechnieken gebruikten om dit type risico te beheersen. Opties waren hiervoor bij uitstek geschikt. De optiehandel, die pas vanaf 1660 echt tot ontwikkeling lijkt te zijn gekomen, maakte het voor handelaren mogelijk zich door betaling van een premie te verzekeren tegen bepaalde koers-

schommelingen. De partij die de premie inde, werd juist extra blootgesteld aan koersrisico. Het is belangrijk om hierbij te vermelden dat de ontwikkeling van de optiehandel de aantrekkingskracht van de aandelenmarkt als geheel verhoogde (immers: de optiehandel stelde handelaren in staat beter hun financiële risico's te beheersen), maar dat zij alleen mogelijk was door de aanwezigheid van een grote en diverse populatie van handelaren. Om een optietransactie af te sluiten zijn immers twee handelaren met verschillende risicoprofielen benodigd. De conclusie moet daarom zijn dat de optiehandel geen rol speelde bij het begin van het transitieproces naar een moderne effectenmarkt, maar hij heeft dat proces in een later stadium versterkt.

Hoofdstuk 5 laat zien hoe de handelaars in hun informatiebehoefte voorzagen. De VOC gaf – anders dan tegenwoordig verplicht is voor op aandelen gefinancierde ondernemingen – weinig openheid over haar bedrijfsvoering, maar dit weerhield handelaren er niet van zeer actief in VOC-aandelen te handelen en grote sommen geld in de VOC te investeren. Aan de hand van briefwisselingen van aandelenhandelaren uit verschillende perioden in de zeventiende eeuw toon ik hoe de informatiebehoefte van aandelenhandelaren gedurende de eeuw veranderde. De handelaren van de vroege zeventiende eeuw investeerden overwegend voor de lange termijn. Voor hen volstond het om naar de beurs te gaan en daar het laatste nieuws en de laatste geruchten over de VOC te horen. Op basis van die publiek beschikbare informatie maakten zij hun investeringsbeslissingen.

Het overgrote deel van de transacties uit de tweede helft van de zeventiende eeuw, daarentegen, was gericht op het behalen van koerswinst op de (zeer) korte termijn. Voor de handelaren die deze speculatieve transacties uitvoerden, was het noodzakelijk dat zij net iets eerder dan andere handelaren over informatie beschikten die van invloed kon zijn op de koers. De actieve handelaren van de late zeventiende eeuw bouwden persoonlijke informatienetwerken die hun een informatievoordeel moesten opleveren. De informatievoorziening door de VOC was onvoldoende, maar de persoonlijke informatienetwerken van de handelaren maakten de handelsactiviteit die de moderne markt kenmerkte mogelijk.

Een belangrijk gevolg van de hier beschreven ontwikkeling was dat het voor handelaren zonder uitgebreid informatienetwerk steeds lastiger werd om winstgevende transacties uit te voeren. De handel raakte meer en meer geconcentreerd in handen van een kleine groep 'professionele' handelaren. Niet verwonderlijk waren dit ook de handelaren die toegang hadden tot de selecte bijeenkomsten van aandelenhandelaren.

Zo kreeg de Amsterdamse aandelenmarkt steeds meer kenmerken van moderne aandelenbeurzen, waar uitsluitend professionele handelaren toegang hebben en waar particulieren alleen via een tussenpersoon kunnen handelen. Moderne aandelenbeurzen vinden daarmee hun oorsprong in zeventiende-eeuws Amsterdam.

De ontwikkelingen die leidden tot het ontstaan van een moderne aandelenmarkt werden voor een groot deel geïnitieerd door de handelaren zelf. Toegegeven, de Staten-Generaal speelden een belangrijke rol door het octrooi van de VOC herhaaldelijk te verlengen, de bewindhebbers legden de regels voor overdracht van aandelen vast en de gerechtelijke instellingen van de Republiek droegen bij aan de ontwikkeling van de markt door een juridisch kader te scheppen. Maar de inrichting van de markt, de *market microstructure*, werd bepaald door de handelaren. Zij waren het die met de formulering van de contracten die gebruikt werden in de derivatenhandel, met de inrichting van een marktstructuur die handelaren aanzette hun contracten na te komen en met het opbouwen van informatienetwerken die voorzagen in de leemte van bedrijfsinformatie over de VOC, de markt zodanig tot ontwikkeling lieten komen dat zij de functies van moderne effectenmarkten ging vervullen.

Maar de Republiek heeft nauwelijks de vruchten geplukt van de aanwezigheid van deze markt. Afgezien van de West-Indische Compagnie (WIC) – een onderneming die op financieel gebied een mislukking was – waren er geen bedrijven die gebruik maakten van de markt om vermogen aan te trekken. De overheid maakte evenmin gebruik van de mogelijkheden van de markt. In het geval van de ondernemingen moet de verklaring hiervoor gezocht worden in de relatief kleine kapitaalbehoefte van het leeuwendeel van bedrijven in de Republiek en de angst voor (te) grote overheidsbemoeienis. Voor het uitzetten van overheidsschuld op de effectenmarkt werkte de decentrale staatsstructuur van de Republiek belemmerend. Pas in achttiende-eeuws Londen werden de mogelijkheden die effectenmarkten bieden verder uitgebuit. De Londense markt van de achttiende eeuw overtrof de Amsterdamse, maar zij kon alleen zo snel tot ontwikkeling komen doordat de Amsterdamse markt tot voorbeeld stond.

APPENDICES

Appendix A – Monthly share price Amsterdam chamber VOC, 1602-1698

Sources: SAA, Velters, inv. nrs. 1-4; SAA, Deutz, inv. nrs. 275-6, 291-5, 301; SAA, Merchants' accounts, inv. nrs. 39-40; SAA, PIG, inv. nr. 858; SAA, Notarial card index; SAA, Notaries, inv. nrs. 2238-40, 4131-6; BT, inv. nrs. 112-3, 119K, 119N, 215; PA, microfilms SP 119/36, SP 119/38.

Year	Month	Price
1602	IX	114
	X	
	XI	
	XII	103
1603	I	
	II	
	III	
	IV	106.5
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1604	I	
	II	
	III	106
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	127.5
	XI	
	XII	
1605	I	140
	II	
	III	105.5
	IV	106
	V	106
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	

1606	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1607	I	140
	II	
	III	
	IV	167
	V	
	VI	
	VII	115
	VIII	
	IX	
	X	
	XI	
	XII	
1608	I	120
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	130
1609	I	130
	II	132
	III	124
	IV	132
	V	139.5

	VI	130
	VII	124
	VIII	141
	IX	138
	X	127
	XI	125
	XII	
1610	I	125
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1611	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	167.5
	X	
	XI	
	XII	
1612	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	

	XI	
	XII	
1613	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1614	I	
	II	
	III	
	IV	
	V	
	VI	200
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1615	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1616	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1617	I	
	II	

	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	110
1618	I	
	II	
	III	131.5
	IV	
	V	132
	VI	139
	VII	148
	VIII	
	IX	
	X	
	XI	
	XII	152
1619	I	152
	II	
	III	
	IV	158
	V	
	VI	
	VII	185
	VIII	
	IX	
	X	
	XI	
	XII	178
1620	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1621	I	
	II	
	III	
	IV	
	V	
	VI	

	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1622	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	185
	XII	
1623	I	
	II	
	III	
	IV	178
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1624	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1625	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	

	XI	
	XII	
1626	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1627	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1628	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1629	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1630	I	
	II	

	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1631	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1632	I	177
	II	177
	III	
	IV	
	V	
	VI	
	VII	
	VIII	186
	IX	
	X	
	XI	
	XII	
1633	I	
	II	186
	III	
	IV	186
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1634	I	240
	II	
	III	
	IV	229
	V	
	VI	

	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1635	I	
	II	
	III	
	IV	240
	V	247
	VI	
	VII	252.5
	VIII	
	IX	
	X	
	XI	235
	XII	
1636	I	
	II	
	III	229
	IV	229.5
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1637	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	297
	XI	
	XII	
1638	I	
	II	
	III	
	IV	351
	V	
	VI	
	VII	
	VIII	
	IX	387
	X	

	XI	
	XII	
1639	I	
	II	385
	III	
	IV	
	V	
	VI	385
	VII	397
	VIII	412
	IX	
	X	
	XI	
	XII	
1640	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	405
1641	I	
	II	
	III	481
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	386.7
	XII	
1642	I	
	II	
	III	
	IV	
	V	
	VI	412
	VII	
	VIII	
	IX	453
	X	
	XI	473
	XII	
1643	I	445
	II	

	III	
	IV	
	V	
	VI	468
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1644	I	
	II	
	III	453
	IV	405
	V	416
	VI	424
	VII	416
	VIII	496
	IX	462
	X	456
	XI	
	XII	
1645	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1646	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1647	I	
	II	
	III	
	IV	468
	V	
	VI	

	VII	466.25
	VIII	
	IX	
	X	
	XI	
	XII	513
1648	I	495
	II	
	III	
	IV	538
	V	
	VI	
	VII	
	VIII	
	IX	539
	X	
	XI	
	XII	
1649	I	
	II	530
	III	525.5
	IV	516
	V	528
	VI	524
	VII	
	VIII	565
	IX	539
	X	
	XI	543
	XII	
1650	I	
	II	537
	III	538
	IV	
	V	
	VI	535
	VII	520
	VIII	525
	IX	
	X	
	XI	
	XII	525
1651	I	529.5
	II	
	III	530
	IV	
	V	
	VI	529.5
	VII	
	VIII	530
	IX	
	X	

	XI	
	XII	532
1652	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	438
	X	
	XI	
	XII	
1653	I	
	II	
	III	434
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1654	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1655	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1656	I	
	II	

	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1657	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	340
	X	
	XI	
	XII	365
1658	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	391.5
	IX	
	X	
	XI	
	XII	
1659	I	
	II	
	III	
	IV	
	V	348.5
	VI	
	VII	
	VIII	340
	IX	355
	X	371.83
	XI	
	XII	406
1660	I	426.5
	II	
	III	437.25
	IV	412
	V	
	VI	465.75

	VII	
	VIII	479
	IX	
	X	
	XI	
	XII	
1661	I	
	II	
	III	420
	IV	
	V	433
	VI	449.5
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1662	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1663	I	445
	II	
	III	
	IV	482.25
	V	
	VI	
	VII	406
	VIII	385
	IX	415
	X	380
	XI	
	XII	
1664	I	447.5
	II	424
	III	436
	IV	450
	V	443
	VI	
	VII	
	VIII	443.25
	IX	
	X	

	XI	
	XII	454
1665	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	318
	VIII	390
	IX	315
	X	315
	XI	
	XII	
1666	I	354
	II	
	III	
	IV	366
	V	363
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1667	I	
	II	
	III	421.25
	IV	
	V	
	VI	
	VII	422.05
	VIII	
	IX	443
	X	454
	XI	
	XII	
1668	I	
	II	
	III	
	IV	
	V	
	VI	454
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1669	I	
	II	

	III	
	IV	456
	V	463
	VI	
	VII	
	VIII	
	IX	
	X	452
	XI	455
	XII	457
1670	I	
	II	468
	III	
	IV	
	V	
	VI	
	VII	475
	VIII	506
	IX	470
	X	483.25
	XI	
	XII	487.81
1671	I	491.5
	II	492
	III	
	IV	499.75
	V	510.5
	VI	540.75
	VII	545
	VIII	550
	IX	532
	X	499.4
	XI	452.5
	XII	493
1672	I	429
	II	406
	III	370
	IV	311
	V	325
	VI	280
	VII	290
	VIII	340
	IX	342
	X	349
	XI	366.5
	XII	376.5
1673	I	356
	II	347.5
	III	351
	IV	
	V	312.5
	VI	314

	VII	327
	VIII	317
	IX	318
	X	321
	XI	344
	XII	366
1674	I	373.75
	II	375.76
	III	400.39
	IV	420
	V	400
	VI	430
	VII	430
	VIII	442.5
	IX	450
	X	449.75
	XI	450
	XII	450
1675	I	455
	II	454.25
	III	451.64
	IV	
	V	455
	VI	422.8
	VII	447
	VIII	453.5
	IX	459
	X	461
	XI	457
	XII	425
1676	I	448
	II	426
	III	
	IV	430
	V	
	VI	458.5
	VII	
	VIII	
	IX	448
	X	456
	XI	440
	XII	415
1677	I	433.25
	II	429
	III	432.5
	IV	437
	V	440
	VI	440
	VII	
	VIII	431.5
	IX	405
	X	395

	XI	393
	XII	336.17
1678	I	333.33
	II	326.56
	III	310.5
	IV	309
	V	306.5
	VI	347
	VII	340
	VIII	368
	IX	372.5
	X	396.25
	XI	
	XII	
1679	I	390
	II	
	III	400
	IV	
	V	
	VI	
	VII	
	VIII	423.5
	IX	433.5
	X	
	XI	446.63
	XII	439.28
1680	I	434
	II	414.83
	III	
	IV	423
	V	425
	VI	425.5
	VII	424.74
	VIII	
	IX	
	X	443.13
	XI	446
	XII	
1681	I	438
	II	438.5
	III	404.5
	IV	407
	V	409.5
	VI	
	VII	438.75
	VIII	430
	IX	444.5
	X	
	XI	439
	XII	
1682	I	433.5
	II	414.93

	III	417.56
	IV	443.40
	V	457
	VI	448.02
	VII	
	VIII	448.64
	IX	461.37
	X	
	XI	
	XII	412
1683	I	
	II	424.5
	III	412.75
	IV	430.25
	V	
	VI	409.5
	VII	394.75
	VIII	
	IX	445.5
	X	
	XI	
	XII	401
1684	I	
	II	410
	III	412
	IV	413
	V	415
	VI	
	VII	
	VIII	
	IX	467.25
	X	
	XI	486.54
	XII	
1685	I	
	II	
	III	452.25
	IV	
	V	
	VI	
	VII	444.5
	VIII	445.5
	IX	
	X	
	XI	
	XII	464.5
1686	I	
	II	
	III	
	IV	
	V	
	VI	

	VII	
	VIII	471
	IX	472
	X	
	XI	
	XII	
1687	I	476.5
	II	
	III	477.5
	IV	
	V	500.5
	VI	
	VII	485.5
	VIII	499.88
	IX	535.5
	X	
	XI	539.5
	XII	545
1688	I	547
	II	563.5
	III	558.5
	IV	
	V	
	VI	
	VII	546.66
	VIII	460
	IX	473
	X	416
	XI	451
	XII	
1689	I	
	II	442.5
	III	
	IV	
	V	
	VI	
	VII	465
	VIII	441
	IX	442
	X	476.5
	XI	
	XII	
1690	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	

	XI	
	XII	
1691	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	499
1692	I	510
	II	
	III	516.5
	IV	517.25
	V	502.94
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1693	I	
	II	
	III	
	IV	

	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1694	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	486.5
	VIII	
	IX	
	X	
	XI	
	XII	
1695	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	

	XI	
	XII	
1696	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	
	IX	
	X	
	XI	
	XII	
1697	I	
	II	
	III	
	IV	
	V	
	VI	
	VII	
	VIII	488.5
	IX	
	X	
	XI	485
	XII	
1698	I	
	II	511

Appendix B – Dividend distributions VOC, 1602-1700

Sources: Klerk de Reus, *Geschiedlicher Überblick*, Appendix VI. Van Dam, *Beschryvinge* 1A, 433-436. De Korte, *De jaarlijkse financiële*. The dividends are quoted as a percentage of the nominal share capital. The dates mentioned in the second column are the dates on which shareholders could collect their dividend. For the dates of dividend announcements, see Klerk de Reus, *Geschiedlicher Überblick*, Appendix VI.

Year	Date	%	Form
1602			
1603			
1604			
1605			
1606			
1607			
1608			
1609			
1610	April	75	mace
	November	50	pepper
	November 15	7.5	cash
1611			
1612	March	30	nutmeg
	December	57.5	cash (for those shareholders who had not accepted the distributions in kind)
1613	August	42.5	cash (<i>id.</i>)
1614			

1615			
1616			
1617			
1618	February	62.5	cash (<i>id.</i>)
1619			
1620	April 1	37.5	cash
1621			
1622			
1623	April		
	November 15	25	cloves
1624			
1625	August	20	cash
1626			
1627	March 1	12.5	cash
1628			
1629	January 1	25	cash
1630			
1631	January 1	17.5	cash
1632			
1633	January 1	12.5	cash
	December 1	20	cash

1634			
1635	March 1	20	cash
	May 15	12.5	cloves
	August 20	12.5	cloves
1636	March 1	25	cloves
	November 1	12.5	cloves
1637	March 1	15	cloves
	November 1	25	cloves
1638	October 1	10	cloves
	December 1	25	cash
1639			
1640	January 1	15	cloves
	November 1	25	cash
1641	February 1	15	cloves
	November 1	25	cloves
1642	December 15	50	cash
1643	February 1	15	cloves
1644	November 1	25	cloves
	December 1	20	cash
1645			
1646	January 1	22.5	cash

	December 1	25	cash
1647			
1648	January 1	25	cash
1649	January 1	30	cash
1650	January 1	20	cash
1651	January 1	15	cash
1652	January 1	25	cash
1653	January 1	12.5	cash
1654	June 15	15	cash
1655	January 1	12.5	cash
1656	December 1	27.5	cash
1657			
1658	December 1	40	cash
1659	December 1	12.5	cash
1660	November 1	40	cash
1661	November 15	25	cash
1662			
1663	November 15	30	cash
1664			
1665	January 15	27.5	cash
1666			
1667			
1668	June 1	12.5	cash
1669	July 1	12.5	cash
1670	June 2	40	cash
1671	June 1	45	cash
	July 20	15	cash
1672	June 2	15	cash
1673	June 1	33 1/3	government bond - States of Hol-

			land and Zee- land
1674			
1675			
1676	February 1	25	cash
1677			
1678			
1679	January 1	12.5	4% VOC bond (un- claimable)
1680	January 1	25	4% VOC bond (un- claimable)
1681	January 1	22.5	4% VOC bond (un- claimable)
1682	July 1	33 1/3	4% VOC bond (un- claimable)
1683			
1684			
1685	February 1	40	cash
1686	May 1	12.5	cash
1687	April 15	20	cash
1688	April 15	33 1/3	cash
1689	April 15	33 1/3	cash
1690	April 15	40	cash
1691	August 1	20	cash
1692	April 15	25	cash
1693	April 1	20	cash
1694	April 1	20	cash

1695	November 1	25	cash
1696	June 1	15	3.5% VOC bond
1697	June 1	15	3.5% VOC bond
1698	June 1	15	3.5% VOC bond
	September 15	15	cash
1699	December 1	15	cash

Appendix C – Glossary

arbitrage – The practice of taking advantage of a price difference between two markets.

bear market – A market characterized by downward share price movements.

bear trader – A trader speculating on downward share price movements.

bull market – A market characterized by upward share price movements.

call option – A *call* option is a right to buy a share at a prescribed price (the *strike price*) on or before a certain date in the future (the expiration). The buyer and seller of an option agree upon the price that has to be paid for this option – the option premium. At the expiration the option can either be *in the money* (spot price above the strike price), *at the money* (spot price equals the strike price) or *out of the money* (spot price below the strike price). The buyer typically chooses to exercise his right if the option is *in* or *at the money*. An option is worthless if it is *out of the money*. Selling an option is generally called *writing* an option.

collateral – Goods or financial assets used as security for a loan.

counterparty risk – The risk that the counterparty to a transaction will not live up to his agreements.

derivative – The word ‘derivative’ means: a form of something, made or developed from another form. Derivatives in the share trade are those financial dealings that take a share as basis, but that do not necessarily trade the share as such.

discount rate – The discount rate is the return shareholders expect to earn on securities in same risk class. This measure is used to calculate the present value* of future cash flows.

dividend – The distribution of a part of a company’s profit to its shareholders. The VOC paid dividends as a percentage of the *nominal* value of a share. When the company announced to pay a dividend of 10% in cash, for example, a shareholder who owned a share with a nominal value of *f*1,000 would receive *f*100, no matter at which price the shares traded at the exchange. Apart from distributing cash to its shareholders, the VOC also occasionally paid dividends in kind (i.e. products from East India) and in obligations. In the former case, the shareholders received products at the value of the announced percentage of the nominal value of the share. In the latter case, the shareholders received dividend in the form of an interest paying security.

economic ownership – The economic owner of a VOC share could claim the risk and return of the share, without being entitled to the share in law.

endorsement – The practice of transferring financial securities by putting a signature on the back (*en dos*) of the original contract. The difference between endorsement

and simple assignation was that the endorsee held recourse to previous endorsers. Hence, if the counterparty defaulted on the contract, the endorsee could turn to previous holders of the contract.

equity – The net value of a company after all liabilities have been paid off, i.e. the value of the company stock.

forward contract – A forward transaction is an obligation to buy a share at a prescribed price at a certain date in the future. A forward is a customized contract, which distinguishes it from a *future* contract. Commonly, a forward contract for the trade of a VOC share contained the names of the traders, the value of the underlying share, the contract date, the settlement date, the agreed upon price and a stipulation on possible intermediate dividends.

futures contract – A futures contract is a standardized *forward* contract. Hence, it can be traded more easily on the exchange than a forward.

insinuatie – In the legal system of the Dutch Republic, an *insinuatie* was usually the first step in litigation – a legal notification. In case a conflict arose over a contract (or one of the contracting parties feared that a conflict would arise shortly), a contractor could ask a notary to serve an *insinuatie* upon the counterparty. *Insinuaties* were often used as reminders of the contractual obligations. After having been served an *insinuatie*, a party to a contract could no longer pretend to, for instance, have forgotten about the contract or to not know the counterparty. An insinuated person was obliged to give the notary an answer, but frequently the answers were meaningless: ‘I hear and see’ or ‘I request a copy’ were the most common answers. An *insinuatie* did not imply a statutory obligation; it can be seen as an (official) oral warning.

legal ownership – The legal owner of a VOC share was entitled in law to claim the benefits associated with the share. He could, however, transfer the risks and accompanying returns to an *economic* owner.

liquidity – 1) Assets in the form of money, rather than investments.
2) A liquid asset is an asset that can be bought or sold without causing large price movements of the asset. A market for a certain asset is called liquid if trading the particular asset does not cause significant price movements.

long position – A positive holding of a certain stock (i.e. ownership of share with a value larger than zero).

market value – The value that is paid on the market for a specific asset.

nominal value – The value of a share when issued. The total nominal value of all VOC shares together was the company’s capital *stock*.

present value – The value *today* of a *future* income stream. This concept is used to estimate the value of future projects. To calculate the present value, the interest (and possibly other factors such as investment risk) are discounted from the in-

come streams of future years. For example, the present value of *f*100 one year from today, using a 6% discount rate, is *f*94.34.

price discovery – The process of determining the price of an asset in the marketplace.

put option - A *put* option is a right to sell a share at a prescribed price on or before expiration. Cf. *call option* for further details.

repo – Short for repurchase agreement. In a repo transaction, a moneylender granted a borrower a loan on the security of a VOC share. On the contract date, the borrower transferred the collateral to the lender's account – the latter 'purchased' the share. On expiry, the borrower redeemed the principal of the loan plus interest and he received the collateral back – he 'repurchased' the share. These transactions were not referred to as loans in the printed contracts used on the Amsterdam market. The contracts stipulated a purchase value (which equalled the principal of the loan) and a repurchase value (the principal plus interest).

rescontre – Monthly meetings, generally held on the last Thursday of each month, where derivatives traders came together to mutually settle their claim that were all due on the first day of the next month.

rollover – Reinvestment of a financial instrument at maturity.

secondary market – A market where traders buy assets from other traders, as opposed to buying assets from an original issuer. The 1602 subscription was the *primary* market for VOC shares.

share price – The price of VOC shares was indicated as a percentage of the price that had been paid for the share at the initial public offering in 1602 (1602 price = 100%). The reason for this method of pricing was that there were no fixed denominations of shares; traders could buy a share of certain *nominal value* instead of a certain *number* of shares. After the first distribution of dividends, in 1610, traders also stated the total amount of dividend received on the share.

short position – A negative holding of a certain stock.

short selling – Selling a share one does not possess (also called *writing* a share). Share traders that sell shares short speculate on a downward movement of share prices. Eventually, the trader has to buy the share to be able to transfer it to the buyer, unless he agrees on a money settlement with his counterparty. Nowadays, short selling is a widely used trading practice – although some institutional investors are not allowed to go short on shares. However, financial market regulations oblige short sellers to borrow the share they are selling from a third party (and, consequently, pay the lender interest) during the term of their negative investment. The short selling of VOC shares in the seventeenth century should therefore really be called *naked* short selling; the short sellers neither possessed nor borrowed the shares they sold short.

stock – The total capital owned by the company's shareholders. The VOC stock was formed in 1602, totalling *f*6,429,588. The stock never changed, as the VOC

never provided investors the opportunity to invest in new shares after that date.

stock exchange – A market where specialized intermediaries buy and sell securities under a common set of rules and regulations through a closed system dedicated to that purpose.¹

straddle – A combination of a call and a put option. The buyer of a straddle buys the right to purchase a share at or below a specified price at expiration and at the same time the right to sell a share at or above a specified price at expiration. The buyer of a straddle speculates on a price change, but he does not know whether the price will fall or rise. The seller, on the other hand, speculates that the share price will remain within the two strike prices.

¹ Michie, *The London stock exchange*, 3.

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