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In his rich oeuvre Theo Engelen has studied many aspects of the demographic developments that characterized the Netherlands. To better understand how local historical circumstances influenced the demographics of large groups of people, he did what has become increasingly common among historians, namely, making comparisons with Asia. Surprisingly, however, Theo has not – or perhaps not yet? – studied the many people responsible for connecting these two parts of the globe during the seventeenth and eighteenth centuries. Perhaps this could be explained by the fact that his work focused predominantly on the nineteenth and twentieth centuries and that he has therefore overlooked – or saved for his retirement? – the rich sources that would make such an analysis possible. The sources in question are the ship's pay ledgers (scheepssoldijboeken) of the Dutch East India Company (hereafter, Company or vōc), which contain information on each ship that sailed to Asia and the employees who were on board. This chapter follows in the footsteps of those who left Nijmegen – the town where Theo spent his entire academic career – and joined the vōc in the eighteenth century. How many of them actually sailed to Asia? What happened to them there? And why did they leave Nijmegen in the first place?

This contribution adds to the literature on vōc employees who went to Asia. This literature is diverse and has addressed changes in the origins of employees (Bruijn, 1976; Bruijn & Lucassen, 1980; Bruijn, Gaastra & Schöffler, 1987; Gaastra, 2010; Lucassen, 2004; Van Lottum, 2007), recruitment in and from vōc towns (Beers & Bakker, 1990; Delahaye, 2006; Dillo, 1987; Enthoven, 1989; Fernandez Voortman, 1994; Van der Heijden,
2002; Van Schouwenburg, 1988; 1989), and recruitment of foreign employees (Delahaye, 2006; Van Gelder, 1997; 2003). There is also a small amount of literature focusing on employees in particular occupations (Bruijn, 2011; Moree, 2002a; 2002b; Opper, 1975) and offices in Asia (Lequin, 1982). Recruitment of employees from Dutch, non-voc towns has received virtually no attention, however (De Wijn, 2010). Consequently, information is only available for the number of employees from the Republic’s inland provinces for five benchmark years. These data show that their absolute numbers increased between 1700/1 and 1720/1, but that they then almost halved between that time and 1790/1. Interestingly, the share of those who joined as soldiers ranged between 50% and 60% until 1750/1, but then declined to one-third by 1770/1 and one-fourth by 1790/1 (Bruijn & Lucassen, 1980, pp. 21-23 & 139-140).

With so little information about employees from the inland provinces, it is no surprise that next to nothing has so far been written on the relationship between Nijmegen and the voc (Bouwer, 2002; Van Hoften, 2002; Rietbergen, 1983; Van Rijn, 1989; Wolf, 2002; Swart, 2007). However, following the completion of the database voc Opvarenden, which digitized key information about employees from the ship’s pay ledgers, it has become considerably easier to locate and analyze employees from a particular place of origin.5 This Chapter exploits the database voc Opvarenden to calculate how many people from Nijmegen joined the voc, to speculate about what motivated them to do so, and to determine what their careers looked like. Some metrics that provide information on this have already been used in the pioneering studies of Van Schouwenburg (1988; 1989) and De Wijn (2010). Their studies did not, however, analyze the data on an annual basis, did not determine the exact lengths of careers, and did not try to systematically measure how push and pull variables determined recruitment patterns. Hence, this chapter not only improves our understanding of the lives of a substantial group of people from Nijmegen, but it also provides some new insights into the recruitment of labor by one of the most influential companies of the early modern period.

**Employees from Nijmegen**

Isolating the Nijmegen employees in the database is easier said than done, since the spelling of (place) names was not standardized during the early modern period and voc clerks therefore recorded what they heard or
thought was correct. The database consequently contains over 150,000 uniquely spelled place names, the overwhelming majority of which only appear once. Places are often referred to in dozens of different spellings and Nijmegen is no exception to this. Employees from Nijmegen were identified using a four-step procedure. Firstly, all unique place names starting with an ‘n’ and containing an ‘m’ were selected. This yielded 1,019 place names and 4,798 employees. Secondly, the relevant place names were identified manually from this sample. This reduced the number of observations to 62 place names and 2,611 employees. Thirdly, employees who joined at the Cape of Good Hope (n=179) were removed because they were also included in the database when they left the Republic. Finally, employees who signed on before the year 1700 (n=244) were excluded (see footnote 3). After these steps had been carried out, a total of 53 place names and 2,188 employees remained (see Table 1).

Two entries that referred to Nijmegen in combination with another place were not included in this sample. Also excluded were two entries – ‘Nimwegen in beijeren’ and ‘Nimwegen in swaben’ – that likely referred to the town of Memmingen in Swabia, a region in Bavaria. Memmingen did not belong to the major recruitment areas of the VOC and hence was an insignificant place of origin for VOC employees. A broadly-framed query in the database VOC Opvarenden yielded only about seventy em-

Table 1: Different ways of spelling Nijmegen in the ship’s pay ledgers, 1700-1793.

<table>
<thead>
<tr>
<th>RANK</th>
<th>PLACE NAME</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nimwegen</td>
<td>1,098</td>
<td>50.2%</td>
</tr>
<tr>
<td>2</td>
<td>Nimweegen</td>
<td>521</td>
<td>23.8%</td>
</tr>
<tr>
<td>3</td>
<td>Nijmegen</td>
<td>99</td>
<td>4.5%</td>
</tr>
<tr>
<td>4</td>
<td>Nijmweegen</td>
<td>91</td>
<td>4.2%</td>
</tr>
<tr>
<td>5</td>
<td>Nijmegen</td>
<td>75</td>
<td>3.4%</td>
</tr>
<tr>
<td>6</td>
<td>Nimmegen</td>
<td>64</td>
<td>2.9%</td>
</tr>
<tr>
<td>7</td>
<td>Nimwege</td>
<td>52</td>
<td>2.4%</td>
</tr>
<tr>
<td>8</td>
<td>Nimegen</td>
<td>33</td>
<td>1.5%</td>
</tr>
<tr>
<td>9</td>
<td>Nijmeegen</td>
<td>32</td>
<td>1.5%</td>
</tr>
<tr>
<td>10</td>
<td>Other (n=44)</td>
<td>123</td>
<td>5.6%</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>2,188</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Based on the database VOC Opvarenden.
ployees who might have come from the town. While it cannot be ruled out that employees from Memmingen have been wrongly included in Table 1, the number of such employees must have been very small. The fact that a quite substantial degree of spelling standardization existed, and that ‘in gelderland’ was added only once to the place name, further suggests that VOC clerks were confident about the place name they recorded in the ship’s pay ledgers. This provides additional reassurance that Nijmegen in the Netherlands was indeed the ‘default’ referent for the place-name ‘Nijmegen’.

The mere fact that people from Nijmegen signed on did not, however, mean that they actually sailed to Asia. Upon departure (especially during the period 1750-1790) 70 of them were recorded as being absent upon embarkation (absent bij afvaart). This could mean that they were in fact present at embarkation, but that they were no longer qualified for working. It could also imply that they had fled after pocketing an advance of two months’ wages and selling an IOU, a so-called transport-letter, drawn against their future wages.\footnote{Excluding these absentees (who may not even have originated from Nijmegen, but may have mentioned it as their place of origin in order to reduce the chances of being caught) it can be established how many people from Nijmegen joined the VOC each year and how many were employed by the VOC at any given time during the eighteenth century. The latter can be established by exploiting information on the starting dates as well as the ending dates of labor contracts. Fortunately, the starting dates of all Nijmegen labor contracts are available in the database and are clean.\footnote{The same was true of most ending dates (2,048 out of 2,118 entries), but in 70 cases this date was absent, incomplete, or entered incorrectly. In some of these cases, typically involving shipwrecks, the database did contain the date of departure from Batavia, the date of arrival at the Cape of Good Hope, and/or the date of departure from the Cape of Good Hope. In such instances the latest of these dates was used as the ending date of the labor contract.\footnote{In the remaining cases, the original ship’s pay ledgers were consulted and an ending date was added. This was facilitated by the fact that the Dutch National Archive has scanned the ship’s pay ledgers, made them available online, and included a hyperlink to the relevant scan for each employee in the database VOC Opvarenden.\footnote{During this process, it also became clear that two employees – Johannes van Velo and Johannes Kloeters – had mistakenly been included in the database twice. This consequently reduced the numbers discussed above to 2,186 employees from Nijmegen in the database and 2,116 employees from Nijmegen who actually departed (see Figure 1).\footnote{From Nijmegen to Asia in the eighteenth century}}}}
Employees from Nijmegen predominantly joined the Company in Amsterdam (n=923) and Zeeland (n=630), which were also the largest Chambers of the VOC. In most years, however, people from Nijmegen joined the Company in two or more of the other Chambers as well: Rotterdam (n=204), Delft (n=151), Hoorn (n=121), and Enkhuizen (n=87). On average, 22.5 men from Nijmegen were hired this way each year: about 4% of the VOC’s hiring of employees from the inland provinces (Bruijn & Lucassen, 1980, p. 139-140).

As it was not uncommon for people to join the VOC more than once, the employees in Figure 1 do not represent 2,116 unique individuals. Identifying those who appeared more than once is a complex task, however, because there is no unique identifier such as a social security number that can be used, names can be spelled differently, and people with similar names joined the Company. Those who would nevertheless like to make the effort could use the Levenshtein distance\(^{16}\) between names to limit the set of potential cases and could use the ending and starting dates of contracts to restrict the names for which that distance should be determined. Still, it may be possible that conclusive evidence can only be obtained by resorting to additional internal (e.g. occupations; the names of

\[\text{Figure 1: Number of employees from Nijmegen who joined the VOC (per annum) and were in the service of the VOC (on 30 June), 1700-1799.}\]

\[\text{Source: Based on the database VOC Opvarenden.}\]
people to whom transport-letters and month-letters were made out) and external (e.g. marriage banns; burial registers) information. Due to its labor intensity, such an exercise falls beyond the scope of this chapter, but the cases of Dirk Beekman and Frans de Graaf may serve as examples.

The database *voc Opvarenden* contains seven employees named Dirk Beekman: Dirk Beekman (*n*=6) and Dirk Pieter Beekman (*n*=1). The latter joined as a sergeant and the others as senior sail-maker (*n*=2) and gunner (*n*=4). Dirk Pieter Beekman is clearly the first unique individual who can be identified: he joined the Company in 1717 and died in Asia in 1740. Dirk Beekman, the senior sail-maker, might be the second unique individual. His first contact with the *voc* started in 1746 and in 1748 he safely returned home. In 1757 he then joined again and died onboard during the same year. That this was indeed the same individual is not only supported by the identical occupation, but also by the almost identical names recorded on his transport-letters: E. van den Toorn and Van den Toren.17 Dirk Beekman, the gunner, might then be the third unique individual. This is at least strongly supported by the fact that the dates of his subsequent contracts match neatly: 12-04-1751 to 24-04-1753 (repatriated), 12-06-1753 to 31-05-1755 (repatriated), 18-10-1755 to 01-08-1761 (repatriated), and 28-09-1761 to 14-08-1765 (deceased). The fact that this gunner did not die in 1757 distinguishes him from the identically-named senior sail-maker. Information relating to his transport-letters (i.e. the fact that three of the four were made out to J. Jansz and that H. van den Hurck cashed Dirk’s wages during his first and fourth contracts) provide further support for treating this Dirk Beekman as the third unique individual.18

Frans de Graaf signed six contracts with the *voc* as Frans de Graaf (*n*=1), Frans de Graaff (*n*=1), Frans de Graef (*n*=1), and Frans de Graeff (*n*=3). The dates of these contracts match well: 1-1-1713 to 31-7-1717 (repatriated), 23-1-1718 to 25-9-1722 (repatriated), 12-7-1723 to 24-7-1725 (repatriated), 15-1-1726 to 24-6-1727 (repatriated), 2-1-1728 to 26-6-1729 (repatriated), and 11-11-1729 to 13-7-1731 (repatriated). While De Graaf’s occupations followed a somewhat random pattern (i.e. gunner, sailor, quartermaster, gunner, master-at-arms, and master-at-arms), the signatures that he made when collecting his outstanding wages look quite similar. It is therefore safe to assume that Frans de Graaf represented one unique person.19
Figure 2: Real wages in Nijmegen (in liters of wheat per day) and number of employees from Nijmegen who joined the VOC (per annum), 1700-1793.


Figure 3: Proportion of employees from Nijmegen who joined the VOC in military occupations, 1700-1793.

Source: Based on the database VOC Opvarenden and a list of standardized occupations provided by Ton van Velzen.
JOINING THE VOC

Why exactly did people like Dirk Beekman and Frans de Graaf join the VOC? Their reasons were probably manifold, as is testified in the diaries and autobiographies written by some of the VOC’s employees (Van Gelder, 1997; 2003). Using the trends and annual fluctuations in Figure 1, this section will try to identify some correlations that may help to improve our understanding of the recruitment patterns of (Nijmegen) employees.

As joining the VOC has often been considered a last resort, a logical first step is to consider living standards in Nijmegen as a push factor. Using nominal wages of skilled building laborers and the December prices of wheat, a rudimentary real wage can be computed (Klep, 2005, p. 385; Söderberg, 1987; Tijms, 1983; Van Bochove, 2008; Van Zanden, 1999). Although the ‘last resort hypothesis’ would lead one to expect to find a negative relationship between real wages and recruitment by the VOC (especially since the VOC was an attractive employer in times of high food prices, as it provided board and lodging on top of monetary wages), Figure 2 in fact reveals the opposite pattern: real wages and recruitment by the VOC moved modestly in tandem. Figure 2 corresponds with a correlation coefficient ($r^2$) of 0.14, which increases to 0.20 when a lag of two years is allowed for joining the VOC. As there does not seem to have been an economic reason for such a relationship, the correlation is probably spurious. This is not unlikely, since the eighteenth-century decrease in real wages (which was not unique to Nijmegen, but was common to most parts of Europe; see Van Bochove 2008, p. 66-69) coincided with the growth of Nijmegen’s civilian population size. The relationship between the size of Nijmegen’s civilian population, which is available per five-year periods, and VOC recruitment is negative and has a correlation coefficient of 0.34. This relationship does have an intuitive economic explanation, as population growth went hand in hand with economic development, increasing employment opportunities, and better chances of earning a wage locally. Nijmegen’s growth thus reduced the necessity of joining the VOC.

The jobs offered by Nijmegen’s growing urban economy may also help explain the long-term change in the types of occupations in which people from Nijmegen joined the Company. The availability of nearby jobs likely raised the threshold for joining the VOC, which should have shifted the balance from those who joined in the unattractive military jobs in favor of those who joined in the more attractive maritime, manufacturing, and administrative jobs. This is indeed borne out by the data after standard-
izing all occupations into job types. As is demonstrated by Figure 3, Nijmegen employees joined relatively less frequently in military ranks as the eighteenth century progressed. During the first decade of the eighteenth century, for instance, as many as around 63% of them were still sailing out in a military rank and in two years this figure even exceeded 80%. Subsequently, however, the proportion of military jobs gradually decreased to around one-third during the last decades of the century.

It should be emphasized that neither changes in Nijmegen’s position as garrison town nor changes in the VOC’s recruitment of soldiers can explain this development. Research on the size of the garrison stationed in Nijmegen demonstrated that the size of this garrison decreased during the eighteenth century (Engelen, 2005; Nusteling, 2015). This process thus coincided with the falling importance of military occupations among Nijmegen VOC employees. If the size of Nijmegen’s garrison played any role in recruitment practices by the VOC, however, one would have expected to find an inverse relationship. Discharged soldiers would then have joined VOC ships as an alternative to their Nijmegen garrison. Soldiers were surely welcome at the VOC: its hiring of soldiers almost doubled between the first and seventh decades of the eighteenth century. It then declined, but remained substantial during the final decades of the eighteenth century. What must have been instrumental, though, in reducing the interest in joining the VOC in a military capacity was the increase in the mortality rates of soldiers caused by a malaria outbreak that plagued Batavia from the 1730s onwards. Of the soldiers who arrived from Europe in Batavia prior to 1733, about 10% died in the first year after their arrival. Due to the malaria outbreak, this figure increased to an astonishing 50%-70% (Bruijn, 2009; Bruijn, Gaastra, & Schöffer, 1987; Leuftink, 2008; Van der Brug, 1994; 1997).

While the decreasing proportion of military occupations among Nijmegen employees can thus be explained by the growth of Nijmegen and the increasing unattractiveness of military jobs, this does not mean that the VOC’s demand for labor was unimportant. The changes in the numbers of Nijmegen employees hired by the VOC were clearly associated ($r^2 = 0.37$) with the Company’s fluctuating demand for labor (see Figure 4). This shows that not only the supply side, but also the demand side determined how many people left Nijmegen to join the VOC.
Figure 4: Number of employees (from Nijmegen and overall) who joined the VOC (per annum), 1700-1793.

Source: Based on the database voc Opvarenden.

Figure 5: Average career length of Nijmegen VOC employees (centered five year moving average), 1700-1793.

Source: Based on the database voc Opvarenden.
In the Service of the VOC

Besides the number of people from Nijmegen who joined the VOC each year, Figure 1 above also shows how many of them were in the Company's service on 30 June of each year. Ignoring the first handful of years (since employees who had joined prior to 1700 were not included in the 30 June counts) the numbers in Figure 1 clearly peaked during the early 1720s and then went into an almost continuous decline. A good part of this can of course be explained by the decreasing numbers of people from Nijmegen who joined the VOC ($R^2=0.29$). However, the availability of the database VOC Opvarenden allows for an even more in-depth analysis of the process. This reveals that the length of the average career also decreased considerably. While a career of five to six years was common at the beginning of the eighteenth century, this had decreased to three to four years at the end of the century (see Figure 5). The literature has so far not been able to observe these trends as it has calculated career lengths in a crude way, by determining for periods of several years how many employees fell within particular ranges of career lengths (De Wijn, 2010; Fernandez Voortman, 1994; Van Schouwenburg, 1988; 1989).

These shorter careers were the result of several processes. The odds of returning decreased and the odds of staying in Asia increased, for instance (see Figure 6). A likely explanation for this is the VOC's policy of keeping as many employees in Asia as possible and of relying on experienced skeleton crews for sailing laborers and relatively empty ships to Asia and richly laden ships to Europe. As skeleton crew members only sailed back and forth to Asia, the lengths of their careers were short. An increasing reliance on skeleton crews should thus have decreased the average career length of those who repatriated; something that is clearly supported by Figure 7.

Figure 7 also shows a decrease, albeit less pronounced, in the career lengths of those who did not return to Europe. As only 12 Nijmegen employees settled in Asia with the status of free burgher (vrijburger), the end of a career for this group typically meant death: the database VOC Opvarenden explicitly records this reason for 84% of them, but if missing employees were included the figure would be higher still. The reasons for dying in or en route to Asia are well-known. On-board epidemics were a recurring phenomenon and could cause substantial casualties on specific ships. The malaria outbreak in and around Batavia (see above) also had severe effects (Bruijn, 2009; Bruijn, Gaastra, & Schöffer, 1987; Leuftink, 2008; Van der Brug, 1994; 1997). It is easy to see how disease hence reduced the career length of those who did not repatriate to the Republic.

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Figure 6: Proportion of Nijmegen VOC employees who returned to the Republic (centered five year moving average), 1700-1793.

Source: Based on the database VOC Opvarenden.

Figure 7: Average career length of two groups of Nijmegen VOC employees (centered five year moving average), 1700-1793.

Source: Based on the database VOC Opvarenden.
By looking at the people from Nijmegen who connected Europe and Asia, this chapter has contributed to the literature in two ways. First, it analyzed an understudied group of VOC employees, those from the Republic’s inland provinces. It became clear that Nijmegen provided a modest but not unimportant contribution to the recruitment of laborers by the Dutch East India Company. Based on the database VOC Opvarenden, this chapter identified 2,116 men from Nijmegen who joined the Company during the eighteenth century. However, when it is taken into account that some ship’s pay ledgers are missing, their actual number may have been closer to about 2,200. It was found that, as the eighteenth century progressed, men from Nijmegen became less interested in joining the VOC. This applied in particular to joining in a military capacity. This corresponds with overall patterns found for the inland provinces by Bruijn & Lucassen (1980). When compared to the work of Van Schouwenburg (1988, 1989) & Fernandez Voortman (1994) it also became clear that men from Nijmegen joined in less important jobs and returned less frequently than men from VOC towns. Using annual data, this Chapter also succeeded in calculating more accurate career lengths. This demonstrated a decrease for those who returned as well as for those who did not.

Second, this chapter determined, using simple statistical techniques, what factors pushed men from Nijmegen and pulled them to the VOC. The demand for labor, as measured by the VOC’s annual hiring of employees, clearly played an important role. The supply of labor, however, was a more complex variable. Real wages and the size of Nijmegen’s garrison did not explain much of the observed annual fluctuations of the number of men who joined the VOC. The size of Nijmegen’s civilian population, however, was an important explanatory variable. By providing more and better alternatives close to home, urban development reduced the interest in last-resort jobs during the eighteenth century.

While this chapter has thus improved our understanding of the history of Nijmegen as well as the VOC, it does have its limitations. It could unfortunately not pursue internal and external record linking. The former could provide a better insight into the careers of those who joined the company more than once, while the latter could provide a better understanding of how marital and occupational status influenced people from Nijmegen to (not) join the Company. Whether Theo Engelen takes up these topics after his retirement remains to be seen, but there surely remain opportunities for future research.


Dutch National Archive, Database voc Opvarenden (http://www.gahetna.nl/collectie/index/nt00444).


Fernandez Voortman, R. (1994). De voc en de stad Rotterdam. In P. Grimm (Ed.),


Huygens ING, Database Dutch Asiatic Shipping (http://resources.huygens.knaw.nl/das).


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1. The author thanks Ton van Velzen for commenting on an earlier version of this chapter and for sharing his list of standardized occupations.
2. Dutch National Archive (=DNA), Archief van de Verenigde Oost-Indische Compagnie (voc), 1602-1795 (1811) (entry number 1.04.02) (=voc); Van Velzen (2006).
3. The analysis focuses on the eighteenth century because the ship’s pay ledgers have survived more completely (c.95%) and uniformly across the Chambers for the period after 1700 than before. Van Velzen (2006).
4. This historiographical overview is limited to published research and does not address unpublished works.
5. DNA, Database voc Opvarenden.
6. The category ‘Other’ includes Nimweege (22), Nieuwegein (19), Nieuwewegen (8), Nijmeege (8), Nimeegen (8), Nimeegen (7), Nimeeg: (5), Nimeege (4), Nijm weegen (3), Nimeeg (3), Nijmijmegen (2), and Nimegwen (2). Mentioned only once are Neijmijwagen, Neijnijweegen, Neijnweegen, Nimeugen, Nimeugen, Nimeuwen, Nieuwen, Nieuwemgen, Nijemegen, Nijmegen, Nijmehg, Nijimeem, Nijumeegene, Nijmeegaen, Nijmeigen, Nijmigen, Nimeege, Nimeege, Nimeeegen, Nimeegen, Nimeeghen, Nimeg., Nimeweegen, Nimeugen in gelderland, Nimewegens, Nimewehe, Nimweigen, Nimmenegen, Numweegen, and Numugen.
7. The version of the database voc Opvarenden that was used for this Chapter was downloaded from the website of the Dutch National Archive on 7 September 2017.
8. For one employee the database did not contain a year of signing on, but a manual check of the ship’s pay ledger revealed that this person had joined the Company before 1700. He was thus not included in the final sample.

FROM NIJMEGEN TO ASIA IN THE EIGHTEENTH CENTURY
9. These were 'Nimwegen en drammen' (likely Drammen in Norway) and 'Nimweegen nie-
burgh' (likely Nyborg in Denmark). For place names and their historical spellings, see
Amsterdam City Archive, 'Geografische verwijzingen.'
10. Amsterdam City Archive, 'Geografische verwijzingen' also includes Memmingen as
'Memme', so the spelling resemblance is easily understood.
11. See voc Opvarenden for the definition and Van Bochove & Van Velzen (2014) for wage
advance and iou. It is unclear whether a change in recording practices was responsible
for the larger number of absentees during the second half of the century.
12. 'Clean' means that days are numbered between 1 and 31, months are numbered between 1
and 12, day 31 is used in the relevant months only, and days above 28 are correctly ap-
plied to the month of February.
13. voc Opvarenden did not always correctly import these dates from the database Dutch
Asiatic Shipping. In several instances the date was entered in the wrong column or copied
incorrectly. In such cases Huygensing, Dutch Asiatic Shipping was consulted and the
dates corrected.
14. The dating procedure involved six steps. First, when ship's pay ledgers listed the year and
month in which a contract ended, contracts were assumed to have ended in the middle
of the month. Second, when ship's pay ledgers listed the year in which a contract ended,
contracts were assumed to have ended on 30 June. Third, when employees went missing
at an unspecified moment, the date of their latest wage payment was used. Fourth, in the
case of 19 employees from Chamber Zeeland, for whom no information on dates was
available at all, the average career length of employees who departed in the same year
was used to establish when contracts ended. Fifth, in the case of a contract that ended on
31 June (even according to the ship's pay ledger), the ending date was assumed to have
been 30 June. Sixth, the difference between the ending and starting date of contracts was
calculated for all Nijmegen employees. In the handful of cases in which this turned out
to be zero or negative, the ship's pay ledgers were consulted and the database changed ac-
cordingly.
15. As around 5% of the ship's pay ledgers are missing, the actual number will have been
about 2,200.
16. The Levenshtein distance measures the similarity of two words by computing the
number of character changes necessary to change one word into the other.
17. DNA, VOC, inv.nrs. 6201 (scans 62-63) and 6356 (scans 86-87).
18. DNA, VOC, inv.nrs. 13068 (scans 154-155), 14215 (scans 162-163), 14225 (scans 128-129),
14237 (scans 168-169).
19. DNA, VOC, inv.nrs. 5644 (scan 83), 5711 (scan 114), 5808 (scan 32), 5855 (scan 76), 5893
(scan 45).
20. See especially the older literature cited above.
21. It should be noted that, as the December prices are used, the two-year lag is actually
smaller than two full calendar years.
22. Based on the database voc Opvarenden. In relative terms the share of military occupa-
tions fluctuated between 30% and 40% of all employees recruited by the Company.
23. The 'Recruitment voc' series includes 657,907 employees, so the 245 employees for
whom no date of joining the Company was available, and who could therefore not be in-
cluded in the figure, do not influence the main insight that this figure provides.
24. The authors cited above do not explicitly make this point, but it can be deduced from the
career patterns that they demonstrated: the dominance of locals in higher functions, the
lower death rates and higher return rates characteristic for such employees, and the fact
that multiple contracts with the voc were common among them.
25. Note that the rise of skeleton crews drove up the odds of not returning (as given impli-
citly in Figure 6) of non-skeleton crew members.