

## IX

### INTRAREGIONAL TRADE AND THE PORT SYSTEM IN HOLLAND, 1400-1700\*

by

*Clé Lesger*

#### 1. Introduction

In his description of Holland, the seventeenth-century textile manufacturer Pieter de la Court pointed out the importance of domestic trade for Amsterdam's position in the international exchange of goods. In his opinion, excellent inland connections had made Amsterdam a port pre-eminently suited for goods shipped abroad from everywhere in the Dutch Republic. At the same time it formed an ideally situated distribution centre for goods imported from overseas. De la Court goes on to say that it is well known by all that the excellent connections of Amsterdam with its hinterland 'is a very great conveniency for readily equipping and full lading of ships, and selling their goods speedily, and at the highest price'.<sup>1</sup> He even states that these good inland connections were 'ten times more considerable' than the fact that Amsterdam was difficult to reach for large seagoing vessels.

In De la Court's opinion, Amsterdam's central position in domestic trade led to an increase in supply and demand on its commodity market. Consequently, the Amsterdam staple market became more attractive. After all, merchants ran little risk of not being able to sell their products, or of not being able to buy products for further trade. For shipmasters and shipowners the staple market meant they were more likely to leave with a return cargo. Hence, trading risks in Amsterdam were smaller than elsewhere. The importance of these reduced trading risks at a time when the exchange of goods was expensive and means of communications were poor should not be underestimated.

In spite of its importance for the central position of the Amsterdam staple market in the international exchange of goods, domestic trade and transport have received little attention in the Dutch economic historiography of the early modern period.<sup>2</sup> Of course the importance of domestic trade and transport was not limited to Amsterdam. Because of an extensive network of domestic connections, all regions of the Dutch Republic were, according to the standards of that period, easily accessible, which made it possible for regional and local specialization to reach dimensions hardly conceivable elsewhere in Europe. The relevance of this geographical specialization in the Dutch Republic has, in historiography, never quite been done justice to. As there are so few preliminary studies in this field, this article is of an exploratory nature. An attempt will be made to depict the development of the domestic trading network during the fifteenth century up to and including the seventeenth century. Special attention will be paid to the spatial and organizational structure of this domestic trading network and to the question which factors caused certain towns to become prominent in domestic trade.

With such an approach, it is important to decide which functions gave a town its importance in domestic trade. An analytical distinction can be made between a town's function as a service centre for the surrounding area on the one hand and its intermediary function between its hinterland and the outside world (the so-called foreland) on the other.<sup>3</sup> Although the importance of the market function should not be underestimated, it was primarily the intermediary function which decided the role of a town in the network of domestic trade and shipping.<sup>4</sup> It is obvious that this intermediary function was most highly developed in those towns which were centres in the interregional and international exchange of goods.<sup>5</sup> It is therefore not by chance, as will be shown later, that the great ports of Holland were also important centres for domestic trade and shipping. Hence, for this study a framework has been chosen in which the development of domestic trade and shipping is linked to the intermediary function of towns. As this study concentrates on developments in the province of Holland, the intermediary function of the towns largely coincides with their port activities. After all, the condition of the roads in Holland was poor, and practically all towns were situated on navigable waterways and had at least rudimentary port facilities.

The decision to limit this study to the province of Holland has been dictated not only by practical considerations, but also by reasons of principle. When studying a development over a relatively long period of time, an inevitable question is: what is meant by inland? Do the borders of the Dutch Republic or the Dutch Kingdom form a realistic framework when an earlier period is being discussed? For example, how realistic is it to call the exchange of goods

between Holland and the IJssel region during the later Middle Ages 'domestic' trade, and the exchange of goods between Walcheren (in Zeeland) and Flanders and Brabant 'foreign' trade? Everything is in favour of considering 'inland' as the result of a protracted process rather than as an established fact and starting point for an analysis. For this article, therefore, a regional approach has been used. The province of Holland is best suited because this region, during the period under study, grew to be the economic centre of the Northern Netherlands and because the towns in Holland became the most important centres for domestic trade and shipping. In practice this means that *intraregional* trade and traffic and the structure of the port system in Holland will be emphasized, and that less attention will be paid to the other regions that, together with Holland, finally made up the Dutch Republic. When the Dutch Republic as a whole is discussed, the term 'inland' will be used; in all other cases the terms 'region' and 'intraregional' trade and shipping will be used.

The approach used in this study necessitates a model in which the development of domestic trade is linked to the port activities of the towns. In the following section such a model will be presented. In sections 3 and 4 respectively the changing structure of the port system in Holland and the organizational and spatial developments of the domestic trading network will be considered. In section 5 an attempt will be made to interpret and to explain the observed developments by using the model presented below. To conclude, a summary is given and a few tentative remarks are made concerning the importance of domestic trade for the economic development of Holland and the Dutch Republic.

## 2. A model for the spatial development of a port system in relation to domestic trade<sup>6</sup>

Because the economy in the Northern Netherlands was closely linked to international trade and shipping, the domestic trading network should not be seen as a closed system. On the contrary, the most important feature of this network was its close connection with the ports and, via these ports, with the international exchange of goods. A model describing such a connection has been developed by Taaffe, Morill and Gould on the basis of a study on the east coast of Africa. Rimmer later expanded and refined this model in a study on the development of the port system in Australia.<sup>7</sup> In this article Rimmer's version will be used.

Basically what this model means is that because not all towns had equal means of access to the hinterland, an increase in port activities took place in a limited number of ports. The various phases of the model of selective growth, as this process can best be called, can be seen in figure 1. The first stage is characterized by the presence of many small ports along the coast, each with their own limited hinterland. As soon as main transport routes from some of these ports to the hinterland have been built, a different situation arises. Because of these so-called penetration lines, transport costs from the ports situated on the new routes to the hinterland and vice versa are considerably reduced. This enables some towns to expand their hinterland at the expense of others. Rimmer calls this kind of situation 'port piracy', although the term 'hinterland piracy' is a better description of the situation as described in phase 2 of figure 1. This process of concentration is carried on in phase 3, and ports P1 and P3 are absorbed into the network around P2. As the hinterland of P1 and P3 is now accessible from P2, these ports lose an important part of their intermediary function between hinterland and the outside world. Port P4 on the other hand does remain in touch with P2 via coastal trade, but can, as far as its intermediary function is concerned, remain independent. In phase 4 the network of P4 which up to that time was independent is linked to that of P2. Although P2 has succeeded in acquiring most port activities, P4 can still maintain its function as intermediary between a relatively small hinterland and the outside world. As long as activities in the hinterland allow a sizeable exchange of goods to take place, it can remain an intermediary. Finally, in phase 5, the port activities of P2 have reached such dimensions that capacity problems occur, with the result that in the immediate vicinity of P2 highly specialized points of transshipment will develop.

As this model contains useful ideas for an analysis of the domestic trading network and its relation to the port system, it will serve as a guideline and framework for interpretation in the following sections.

[hier] Figure 1. A model for selective growth in a port system.

From: P.J. Rimmer, 'The search for spatial regularities in the development of Australian seaports, 1861-1961/62', in B.S. Hoyle (ed.), *Transport and development* (Londen 1973) 64.

## 3. The port system in Holland

The economic development of Holland during the Late Middle Ages was accompanied by a gradual differentiation among Dutch ports, a differentiation which became increasingly discernible during the fifteenth century. Within the

region the ports in the the Rhine-Meuse delta can be distinguished from those on the Dutch Zuyder Zee coast and the IJ. The former were linked to what had traditionally been the economic centre of the province. Here Dordrecht was the main port. As it was extremely favourably situated along the trade routes between the German Rhineland and the valley of the Meuse River on the one hand, and the provinces of Flanders, Brabant, Holland and the North Sea coastal countries on the other, Dordrecht merchants succeeded in obtaining their share in the exchange of goods. Dordrecht's position was strengthened by the fact that the counts of Holland had made the city the centre of their toll system. Compared to Dordrecht, places like Schiedam, Delfshaven and Rotterdam – outports of the industrial towns Delft, Leiden and Gouda – were of relatively little importance in the fifteenth century.<sup>8</sup>

While the ports in the Rhine-Meuse delta acted as intermediaries in the east-west exchange of goods, the Dutch Zuyder Zee ports played a role in the north-south exchange. Here Amsterdam in particular became an important centre. Not only was this town equipped with a suitably deep harbour in the IJ, it also had excellent connections with a relatively large hinterland. From Amsterdam the area north of the IJ was easily accessible via inland waterways, just as were the industrial centres in the southern part of Holland, the Zeeland delta and the densely populated and highly developed provinces of Flanders and Brabant. During the course of the fifteenth century Amsterdam became the main intermediary for the exchange of goods between these areas and northern and northeastern Europe. This intermediary function was partly of a passive nature as long as the town acted only as a port of transshipment for goods shipped by freighters not based in Amsterdam.<sup>9</sup> It became active in nature due to the commercial activities of Amsterdam merchants who developed a trade interest in the Baltic area. It is therefore not surprising that Amsterdam played a leading role in the trade conflicts with the Hanseatic towns.<sup>10</sup> In 1452 Duke Philip the Good called Amsterdam, not unjustly, 'la ville la plus marchande de tout nostre dit pays de Hollande'.<sup>11</sup> Indeed, Amsterdam had surpassed the other ports on the Holland Zuyder Zee coast which also kept in touch with northern and northeastern Europe. Gateway cities like Hoorn, Enkhuizen, Medemblik and Edam were, because of their geographical location, not the most suitable gateways to the southern part of Holland, nor to the large centres in Flanders and Brabant. Furthermore, their immediate hinterland – the area north of the IJ – was not densely populated, and industry there was not as important as in the area south of the IJ.

It should, however, be emphasized that all the towns as well as some villages in Holland maintained trade relations with overseas and neighbouring territories. This can be seen most clearly from the products exported to the great annual fairs in the IJssel region about 1440. Merchants from all the German regions came both to stock up and to sell their merchandise at these fairs which, like the annual fairs in Brabant, played an important role in the international exchange of goods.<sup>12</sup> It is striking that export from Holland via the Zuyder Zee to the IJssel region did not take place from a few favourably located gateway towns. On the contrary, sixteen towns north of the IJ and twelve to the south were involved.<sup>13</sup> What should also be taken into account is the fact that, with regard to the southern part of Holland, part of the trade with the IJssel fairs was transported over land.<sup>14</sup> Trade contacts were, however, not limited to neighbouring regions like the IJssel valley. Information dating from about 1477 indicates that there was also a lot of trade with other regions. The presence of large, seaworthy vessels and trade *Westwaerts* or *Oostwaerts*, that is to say with France and England or with northern and northeastern Europe, was mentioned in nearly all the towns.<sup>15</sup> Information about export to the annual fairs in the IJssel region confirms the differentiation among the towns in the northern part of the province mentioned above. Not only the largest number of consignments, but also the greatest diversity of goods were shipped from Amsterdam. Goods from southern and southwestern Europe, such as raisins, figs, almonds, liquorice and wines, purchased in Flemish and Brabant towns and exported from Amsterdam to the IJssel region and its hinterland, clearly demonstrate the intermediary function of Amsterdam. More than any other gateway, Amsterdam was the northern outport for the great trading centres in the Southern Netherlands.<sup>16</sup>

From the final quarter of the fifteenth century onwards, great changes took place. Inquiries into the demographic, economic and financial situation of the towns and villages in Holland, which were held in 1494 and 1514, show that the number of seaworthy vessels declined. In Hoorn, one of the larger ports on the Zuyder Zee coast, the number of large trading vessels fell from 40 in 1477 to 7 in 1494 and only 4 or 5 in 1514. In the eight towns and villages for which figures are available, the total number of seaworthy vessels fell from 202 to 61 and 45 or 50 in the same years.<sup>17</sup> It is obvious that such a decline affected immediate trade relations with points overseas, as can indeed be demonstrated in the case of Hoorn. There it was noted in 1494 that trade in tar and pitch, products typical of the Baltic trade, had virtually disappeared. Existing trade contacts between Hoorn and Newcastle had also been broken off: from the end of the fifteenth century Newcastle records do not mention any more ships or freighters from Hoorn. After this time, wool, the raw material for the Hoorn textile industry, was no longer supplied directly to Hoorn.<sup>18</sup> In Leiden, the same development can be seen regarding the export of textiles. From the beginning of the sixteenth

century Leiden cloth was not sent directly to either overseas outlets nor to the great annual fairs in the IJssel region, Flanders or Brabant.<sup>19</sup>

There was only one town in Holland where direct trade relations with abroad had remained unaffected: Amsterdam. It is true that in 1514 representatives of the town complained that in the preceding years a lot of trading vessels had been lost, but the leasing figures of the *kraan* (crane) do not indicate a decline in trade. Between 1498 and 1514 proceeds of the *kraan* had increased fourfold, and, as Noordegraaf has rightly pointed out, such an increase is not conceivable if trade and shipping were under pressure.<sup>20</sup> This is consistent with the fact that Amsterdam was the only town in the region in which population increased during the last quarter of the fifteenth century.<sup>21</sup> In contrast the second large mercantile city in the region – Dordrecht – had to contend with a decline. In 1514 it was noted that whereas previously 18 to 20 hulks (large seaworthy vessels) had been called in for trade both with the east and the west, now, in 1514, only two hulks and three smaller vessels were being operated. The city's commercial ties with overseas were then largely limited to England and Norway.<sup>22</sup>

A similar process of contraction took place in the contacts between the Holland gateway cities and the neighbouring regions. Not only did the number of seaworthy vessels in the ports of Holland decline, the number of smaller vessels like barges also showed a sharp drop from the final quarter of the fifteenth century onwards. In about a dozen towns in Holland, the total number of inland waterway vessels dropped from 388 in 1477 to 114 in 1494.<sup>23</sup> These vessels were of course partly involved in intraregional trade, but it is clear from comments made by the representatives of Medemblik, Schagen, Weesp and Schoonhoven that contact with neighbouring regions like the IJssel region, Zeeland, Flanders and Brabant had also decreased. In 1514 Amsterdam and Dordrecht were the only towns with a large fleet of inland waterway vessels (respectively 83 or 84 and 140). With these vessels the towns could keep in close touch with neighbouring areas.<sup>24</sup>

As far as I know there is only one source which allows for a more detailed examination of the size and composition of the flow of goods in the gateway cities in Holland: a tax of 1% of the value of the exported goods levied during the period 1543-1545. Table 1 shows the information obtained from this source for the period 10 February to 10 August 1545. To interpret this table correctly, it is important to know that the tax on exported goods was raised during a period of war and international tension, so that trade and shipping were probably less extensive than at other times. Due to the nature of this source, trade with the Southern Netherlands was not registered, and finally English merchants were exempt from this tax.<sup>25</sup> In spite of these limitations it will be clear that the information in the table is in keeping with what has been argued above. Considering the total value of exported goods, Amsterdam was by far the most important port for exported goods. The value was three times as high as that of all the other ports taken together. The table also shows that Amsterdam maintained trade relations with more places than the other ports. Table 2 shows what goods were exported. Most gateway towns exported an extremely limited range of goods: in most cases not more than about 20 products. Moreover, export was restricted to only one or a few of the groups of products listed in the table. In Gorinchem, for example, with total exports of 32,000 guilders, 59% of the total value fell under the category of crude inorganic materials, but in fact only one product was exported: salt. Again, Amsterdam is the exception, exporting about 190 products covering all the product groups. Dordrecht, with 41 products, came second. This is in keeping with the important contacts Dordrecht had with the German Rhineland, Zeeland, Flanders and Brabant, as mentioned before.

From the preceding it may be concluded that to a great extent Amsterdam had acquired a monopoly on the exchange of goods between Holland and overseas from the latter part of the fifteenth century. With the exception of Dordrecht, export from other ports did not amount to much, just as the range of goods amounted to very little. Amsterdam had indeed become the gateway to Holland. From 90 products at the end of the fifteenth century, the supply on the Amsterdam market had increased to about 190 products by the middle of the sixteenth century.<sup>26</sup> It should therefore not be surprising that the preponderance of Amsterdam over the other gateways in the region was felt in many respects, and gave rise to conflict.<sup>27</sup>

Although Amsterdam maintained its preponderance, the port activities of the other gateways in Holland did not remain as insignificant as they had been during the middle of the sixteenth century. In Hoorn and Enkhuizen, the most important ports on the Holland Zuyder Zee coast after Amsterdam, overseas trading activities greatly increased during the second half of the century. And these activities were no longer limited to the area between the Baltic and Gibraltar. Shipowners, shipmasters and merchants took part in the spectacular expansion of the Holland trading network across the White Sea, the Mediterranean, the west coast of Africa, the East Indies and America.

It must, however, be emphasized that, apart from Amsterdam, the gateway activities of the Zuyder Zee ports were limited as far as the value and the composition of goods were concerned. Table 3 records the proceeds of the *convoien en licenten* (a tax levied on imported and exported goods) in the major tax-collecting offices situated along the Holland part of the Zuyder Zee coast. It is clear that Amsterdam outweighed the other ports. The entire proceeds

of this tax for Enkhuizen, Hoorn, Medemblik, Edam and Monnickendam amounted to 19% of that of Amsterdam during the period 1589-1595. In the course of the seventeenth century this figure dropped to 14% during 1624-1629, 9% during 1665-1670, and finally to 7% in 1681-1684.<sup>28</sup> Also striking was that trade was largely limited to northern and northeastern Europe (see table 4). Only towns such as Hoorn and Enkhuizen maintained contacts with a more extensive area, but even in these gateways there was little variation in the imported and exported goods.<sup>29</sup> It is true that both towns did import and export spices and West Indies products (mainly tobacco), but on the whole Hoorn traded in wood, salt and cheese, and Enkhuizen in herring and cheese. Also telling is the fact that salt was the only bulk good imported from southern Europe. Luxury products such as silk, wine, olive oil, currants and figs were not imported directly to Hoorn and Enkhuizen.<sup>30</sup> The limited sphere of influence trade had in these gateway cities is apparent from the fact that export was largely aimed at the neighbouring country of France, in particular Rouen, the gateway to the densely populated Seine basin with Paris as its most important centre. During the period November 1643 to December 1645, 90% of the total value of exported goods from Enkhuizen was shipped to France; for Hoorn this figure was 50% for the period 1652-1653.<sup>31</sup>

The limited activities in ports like Enkhuizen, Hoorn, Medemblik, Edam and Monnickendam were of course reflected in the way the port system functioned in the northern part of Holland. Elsewhere I have shown that Amsterdam was the last port of call in the Zuyder Zee area.<sup>32</sup> After part of the cargo had been unloaded in the small and medium-sized ports, and perhaps a return cargo had been loaded, the ship would sail to Amsterdam to unload the remainder, and take on more return cargo. It was obviously not possible to unload all the cargo and take on return cargo in the other ports; this had to be done in Amsterdam. The fact that so many ships left the Dutch Republic by way of Amsterdam supports the notion that Amsterdam played a key role in the port system. Indeed, not only were there many more imported and exported goods in Amsterdam than in the other towns, there was also a much greater variety. Records for the period 1667-1668 show that products from all over the world were found on the Amsterdam market.<sup>33</sup> Clearly present were luxury goods from southern Europe and dozens of different types of industrial products: imported products which were hard to find in the other ports of the Holland Zuyder Zee coast. Consequently, Amsterdam was the central importing and exporting centre both for the ports in northern Holland and for the whole Zuyder Zee area.

Amsterdam's sphere of influence was not limited to the Zuyder Zee area, but also extended to the southern part of Holland. Still, the ports in the Rhine and Meuse estuary did not find themselves in such a position of dependency as the small and medium-sized ports on the Holland Zuyder Zee coast. Concentration similar to that which had taken place earlier in the Zuyder Zee region did take place in the southern part of Holland, albeit on a smaller scale. During the second half of the sixteenth century, import and export were mainly concentrated in Rotterdam, while the other ports in the region – Schiedam, Delfshaven, Den Briel, Maassluis and Vlaardingen – did have some trade, although herring fishing remained the main activity.<sup>34</sup> The importance of Rotterdam towards the end of the sixteenth century can be seen from the books of the Delft merchant Claes Adriaensz. van Adrichem. He organized fifteen sailings between 1589 and 1598, ten of which ended in Rotterdam. Delfshaven – the outport of Delft – and the other ports in the estuaries were not called at, neither on departure nor on arrival.<sup>35</sup>

The growth of imported and exported goods in Rotterdam soon caused the town to outstrip Dordrecht at the beginning of the seventeenth century. Table 3, which shows the yield of the *convooien en licenten*, reflects this process: proceeds in Dordrecht remained behind those of Rotterdam and even diminished in the course of the seventeenth century. This does not mean that Rotterdam had taken over from Dordrecht in all respects. Although its position was affected by the rise of Rotterdam, Dordrecht did keep its central position as far as river trade was concerned.<sup>36</sup>

This rapid expansion of Rotterdam as gateway and the relatively independent development in the delta area did not in any way alter the primacy of Amsterdam. During the period 1589-1595, the yield of the *convooien en licenten* in Dordrecht and Rotterdam together was half that of Amsterdam, but in the course of the seventeenth century this declined. During the period 1624-1629 the Dordrecht-Rotterdam yield amounted to only 28% of that of Amsterdam, and during 1665-1670 and 1681-1684 it was only 22 and 19% respectively (see table 3). Statistics of the imported and exported goods in Dordrecht and Rotterdam for 1680 show that trade was mainly aimed at England, and that the variety of traded goods was only a fraction of what Amsterdam could offer.<sup>37</sup>

#### 4. Intra-regional trade

The fact that until well into the fifteenth century the towns and larger villages in Holland traded independently overseas and with the surrounding regions clearly shows that a full-grown port system had not yet developed. It is

true that the ports in the estuaries and those on the Holland Zuyder Zee coast were differently orientated, but a functional specialization was still lacking, and there was no clear hierarchical system. Of course, this situation was reflected both in the size and the organization of intraregional trade. Although the main ports in Holland – Dordrecht in the south and Amsterdam in the north – were explicitly mentioned as destinations for inland navigation, they did not play a central role in intraregional trade and shipping. Such centres were still lacking in Holland.

The dominant position which Amsterdam had acquired during the last decades of the fifteenth century, both in overseas trade and in trade with the surrounding regions, had of course consequences for its place and function in intraregional trade. As the exchange of goods concentrated in Amsterdam, the other gateway towns in the region became increasingly dependent on the intraregional exchange of goods with Amsterdam. Cloth, for instance, was primarily exported via Amsterdam, just as some raw materials were imported via this gateway.<sup>38</sup> This is clearly illustrated by the fact that, when direct trade links between Hoorn and Newcastle were severed, the Amsterdam market supplied the wool which formed the raw material for the Hoorn textile industry.<sup>39</sup> The dominant role of Amsterdam as a port where grain from the Baltic was imported also turned it into the central distribution centre for this product. When trade links between the other gateway towns and grain-exporting regions declined, a large part of Holland came to depend on intraregional grain supplies from Amsterdam.<sup>40</sup> It is not surprising, then, that people in Edam claimed in 1540 that Amsterdam was their 'capital city' (*hooftstede*).<sup>41</sup>

As Amsterdam grew more important as a centre in the intraregional exchange of goods, the limitations of the traditional transport system came to light. Traditionally, the guilds had supervised transport along the inland waterways and municipal authorities had tried to reserve trade and shipping for their own burghers.<sup>42</sup> Transport itself was much like tramp shipping. This meant in practice that there were almost always several shipmasters at the same time waiting for a cargo. Consequently, the cargo was dispersed over several ships, and it could take weeks before a ship would sail. Obviously the master of a ship was inclined to wait until his ship was fully loaded before setting sail, especially for longer passages. The irregular nature of tramp shipping also resulted in the shipmasters exchanging cargo among themselves, so as to keep the passage as short as possible and to avoid detours. However, this caused the charterers to lose all control over the cargo, and it increased their uncertainty as to whether the goods arrived at the port of destination.

It will be clear that this system had its disadvantages both for merchants and other charterers, and that the disadvantages would first come to light in those places where intraregional trade was of great importance. It is not surprising that the route between Amsterdam and Hoorn was one of the first to undergo organizational changes. After all, Amsterdam had become the gateway for a large part of Holland, and in Hoorn the importance of overseas trade and trade with surrounding regions had declined most from the end of the fifteenth century.<sup>43</sup> In a decree drawn up in 1529 concerning trade between these two towns, it was explicitly stated that under the existing system merchandise was often damaged or lost.<sup>44</sup> Regarding the new system the decree makes clear that, apart from Sundays and a (limited) number of holidays, a ship had to leave each port at least once a day. Of great importance is the fact that the shipmaster would have to leave at an assigned time and was therefore not allowed to wait until the ship was fully loaded. To prevent the masters from arguing with each other, and to ensure that ships would also sail on days when the demand for shipping services was low, it was decreed that they had to sail in a fixed order – by taking turns – and at set prices. Finally, it was decreed that charterers were allowed to rent a complete ship outside the set sailing times.

The importance of the *beurtvaart*, as this system of regular services came to be known, should not be underestimated. Sombart correctly calls it a revolutionary change, 'deren Geist allmählich das gesamte Verkehrswesen der Erde umgestürzt hat'.<sup>45</sup> It can indeed be seen as a first step towards one of the most radical institutional modernizations in the world of transport: maintaining a fixed and regular connection between various points. Over the centuries this system has become standard for passenger transport. As an institutional innovation the *beurtvaart* system did what North views as the most important contribution of institutions to society, 'to reduce uncertainty by establishing a stable [...] structure to human interaction'.<sup>46</sup> The *beurtvaart* gave the charterers a certainty which up till then either had been totally lacking or had only been available for those able to rent a complete vessel. There was now certainty as to the times of departure and arrival, transport costs and the safety of the goods transported. As far as the latter was concerned, the shipmasters had to comply with strict requirements set up by municipal authorities concerning their professional skill and the quality of the ferries.<sup>47</sup> At the same time the flexibility of the transport system was improved tremendously by the introduction of regular ferries. It was now possible to send small consignments of goods at relatively little cost to a great number of destinations.<sup>48</sup>

It goes without saying that those who profited most from these changes were the merchants in the towns which were centres of intraregional trade. Besides Amsterdam, Dordrecht was the main centre, as is seen by the number of vessels (140 in 1514). The position of Dordrecht in the intraregional exchange of goods was, however, founded on a

different basis from that of Amsterdam. Favoured by the counts of Holland, Dordrecht had traditionally been the main market town for river trade, and, through the so-called *Maasrecht*, was the compulsory port of call for ships entering the Meuse estuary from the open sea. Because of exemptions and other exceptions, this right, starting in the fourteenth century, slowly eroded, and in the long term lost its importance. In sea trade, therefore, Dordrecht could not maintain its position as an important centre.<sup>49</sup> As far as river trade was concerned, things were quite different. In 1355 the count of Holland had decreed that goods which were transported either upstream or downstream had to be unloaded in Dordrecht, and offered for sale there. This staple right, however, was too comprehensive to maintain and in 1541 King Charles V ordered some important changes. From then on, trade along the north-south axis (Baltic Sea area – Amsterdam – Flanders/Brabant) was no longer compelled to call at Dordrecht, while only a small charge was levied on trade from the north (Amsterdam) or the south (Flanders/Brabant) with upstream destinations.<sup>50</sup> The staple right was maintained for the most important goods coming downstream. To summarize, although from 1541 onwards the staple right was significantly limited, nevertheless, as far as products from the German Rhineland and the valley of the Meuse River were concerned, Dordrecht remained an important market and hence a centre for the intraregional exchange of goods.<sup>51</sup>

In the northern part of Holland the restoration and expansion of direct links with overseas markets during the second half of the sixteenth century did not prevent intraregional trade from gaining in importance. The ports on the Holland Zuyder Zee coast acted as intermediaries between their hinterland and the other towns in Holland, notably Amsterdam. These towns supplied goods which were not produced or imported from overseas in sufficient amounts. Among these products we find not only the luxury consumer goods from southern Europe mentioned earlier, but also industrial products, raw materials, wines and of course grain, so necessary for the food supply and the brewing of beer.<sup>52</sup> Intraregional trade not only supplied gateway cities like Medemblik, Enkhuizen, Hoorn, Edam and Monnickendam, but also sent on goods to other towns and villages in Holland. Again Amsterdam was very important. From Enkhuizen, for example, which was dominated by herring fisheries, large amounts of herring were exported overseas by way of Amsterdam.<sup>53</sup> Many of the East Indies products imported in Hoorn and Enkhuizen were also shipped to the Amsterdam market for sale and transshipment.

In the Rhine-Meuse estuary, the gateway function of Rotterdam increased rapidly, but here, too, intraregional trade and transport remained important. After all, many products exported from Rotterdam reached this gateway via inland waterways and, conversely, intraregional trade and transport was used to distribute products imported in Rotterdam. Consequently, because of an increase in its imports and exports, Rotterdam, like Amsterdam and Dordrecht, grew to be an important centre for the intraregional exchange of goods. At the same time it should be taken into account that direct links between the delta area and the surrounding regions as well as overseas were not as extensive and varied in the case of Rotterdam as those of Amsterdam. Rotterdam and the southern part of Holland in general were partly dependent on grain supplies from the Amsterdam grain market. Bijlsma has pointed out that not only grain, but also silk fabrics, raw materials for the soap works and yarn from the German Rhineland for the linen weaving mills of southern Holland were bought in Amsterdam.<sup>54</sup> An additional factor stimulating the use of intraregional transport between the northern and the southern part of Holland was unfavourable wind directions. For the square-rigged merchant vessels it was practically impossible to leave the port of Amsterdam and the Zuyder Zee area when the wind blew from the east, whereas an easterly wind was excellent for setting sail from the Rhine-Meuse delta. So, merchants wishing to send goods to England, France or southern Europe when there was an easterly wind would first send their merchandise along inland waterways to the delta area. After being loaded onto seagoing vessels there, the products were sent to their destination. Conversely, when a westerly wind blew, the port of Amsterdam was better suited, and goods destined for northern and northeastern Europe were then transported along inland waterways from the southern part of Holland to Amsterdam or one of the ports on the Zuyder Zee coast.<sup>55</sup>

It will be clear by now that the specific structure of the Dutch port system and the expanding economy needed a properly functioning intraregional transport system. The regular *beurtvaart* service, which was both reliable and flexible, could meet the demands made and, from the last few decades of the sixteenth century onwards, dozens of regular lines were established by municipal authorities.<sup>56</sup> The system, however, was not quick enough to transport products to the port with the most suitable wind direction, because the large seagoing vessels could not postpone their departure for more than two or three days without running the risk of the wind direction changing. For that reason there was a rowboat link between Amsterdam and Rotterdam, which could bridge the distance between these two towns in a very short time. This speedy connection was used not only for goods but also for messages, such as the daily price quotations on the Amsterdam Bourse.<sup>57</sup>

The regular services of the *beurtvaart* system were not limited to Holland, but were also established to facilitate trade with surrounding regions and with cities like Hamburg, London and Rouen. After the Northern Netherlands had dissociated themselves from the Hapsburg monarchy at the end of the sixteenth century, and after import and export

taxes were imposed, trade in the Northern Netherlands became more like domestic trade as we know it nowadays. Since the province of Holland played an important role in the Dutch Republic, the main centres for intraregional trade and transport in Holland – Amsterdam, Dordrecht and Rotterdam – were at the same time main centres for inland trade and traffic in the Dutch Republic. As is shown in figure 2, Amsterdam was the most important centre in the inland trading network. From here, direct regular services were maintained to practically all parts of the country.<sup>58</sup> Besides Amsterdam, there were a few centres which were less important, but which did, at a regional or subregional level, function as centres for domestic trade. The most important of these centres (together with their sphere of influence) are mentioned in figure 3: Dordrecht, Utrecht, Middelburg, Nijmegen, Groningen and Sneek.<sup>59</sup> Of these centres Dordrecht, because of its important role in river trade, had the most extensive sphere of influence. The other centres kept in touch with towns and villages in their region, and, as is made clear in figure 3, they linked the *beurtvaart* system in their region to the big cities in the western part of the country, particularly Amsterdam. Amsterdam therefore came to function as the main intermediary in the exchange of goods between the various parts of the Dutch Republic.

However, the *beurtvaart* system as portrayed in figures 2 and 3 does not give a complete account of domestic trade and transport. Practically all the towns and villages which were included in the *beurtvaart* system were, in turn, centres in a network of domestic trade. This network could be extremely small, in which case it would coincide with the market area of the centre. In a few cases, though, it was very extensive. One large network of inland and foreign links was that around Zwolle. This city, situated on the east coast of the Zuyder Zee, was linked to Amsterdam by a daily *beurtvaart* service, but was itself an important centre for a trade network reaching across the eastern part of the Netherlands and Münsterland in Germany. Though there were no proper waterways in the area, there was extensive inland shipping on the smaller rivers, streams and ditches whenever the water level allowed. Even if there was not enough water, sailing could take place. The shipmasters would, in this case, build an earthen dam and patiently wait until the water level had risen sufficiently. Then they would cut across the dam and punt downstream as quickly as possible and after some time build a new dam.<sup>60</sup> By means of this primitive transport system, they were nevertheless able to transport large amounts of goods from an extremely vast hinterland to Zwolle. Deep down in this hinterland, towns like Almelo played an important role as traffic and trade centres. A trade register of an Almelo merchant, dating from the first half of the seventeenth century, shows that a large part of Twente was supplied with goods from Almelo. Insofar as these goods came from the west, they were supplied via Zwolle. From Zwolle, too, regional products, such as linen, rye and beef cattle, were shipped to Holland.<sup>61</sup> Confirming Amsterdam's central role in the domestic trade of the Dutch Republic, it was Amsterdam where many of the goods were purchased and sold. The Almelo merchant had a brother and a cousin living in Amsterdam who saw to his affairs there.

Details such as these give some insight into how domestic trade was organized. At the same time they make clear that the regulated *beurtvaart* was only part of an extensive domestic traffic system, a system which functioned extremely well for those days, and which must be taken into account when studying the above-mentioned concentration of import and export activities in a handful of gateway cities. In the following section an attempt will be made to explain the development of the port system and intraregional trade, and how the two are related.

[hier] Figure 2. The 'beurtvaart' system of Amsterdam, ca 1700.

Source: Jan ten Hoorn, *Naeuw-keurig Reys-boek bysonderlijk dienstig voor kooplieden, en reysende personen etc.* (Amsterdam 1700).

[hier] Figure 3. The 'beurtvaart' system of some regional centres for inland trade and shipping, ca 1700.

Source: Jan ten Hoorn, *Naeuw-keurig Reys-boek bysonderlijk dienstig voor kooplieden, en reysende personen etc.* (Amsterdam 1700).

##### 5. The port system and intraregional trade: an explanation

The developments described in the preceding sections show some striking similarities with the model of selective growth as described in section 2. Various gateway cities in Holland were assimilated into the expanding network of intraregional contacts around Amsterdam (P2 in the model). Besides this, connections with the outside world were increasingly concentrated in one port. From the end of the fifteenth century onwards, a port system started to develop which was both clearly structured and strikingly hierarchical. Not all ports, however, were assimilated into the Amsterdam sphere of influence, something which is also in keeping with Rimmer's model. The way in which Dordrecht developed is similar to that shown in port P4. As Dordrecht had a specific function – a staple function in river trade – it could remain fairly independent of Amsterdam. The extensive fleet of river craft is evidence of the

existence of a network of intraregional contacts around Dordrecht.

From the second half of the sixteenth century the import and export activities of a number of ports were restored, but the structure of the port system was not changed. As ports like Hoorn and Enkhuizen had specialized in the import and export of only a few products, intraregional trade in the area north of the IJ remained of vital importance. This specialization bears some resemblance to the process of decentralization as shown in phase 5 of the model. In the Rhine-Meuse estuary, Dordrecht was surpassed by Rotterdam, but here too we can see a form of specialization: Dordrecht concentrated on river trade whereas Rotterdam had sea trade. Although the gateway towns in the delta area could remain reasonably independent of Amsterdam, it should be emphasized that trade relations of a city like Rotterdam were on the whole limited to western Europe and especially to England and France. In this sense, too, there was specialization.

Now that it has been established that Holland went through a process of selective growth which resembles that described by Rimmer, the question remains whether his statements are of any help in interpreting the developments which took place in Holland from the last quarter of the fifteenth century. It has already been mentioned that Rimmer considered unequal means of access to the hinterland as being the cause of selective growth among the ports. The ports which grew most were those which were accessible by means of railway lines and roads, the so-called penetration lines. An external boost, the establishment of settlements along the coast and the creation of an infrastructure, caused the interior of a country to develop, thus starting a process of selective growth among the ports. For developments in Holland, this does not seem to explain much. The interior of the country was not one-sidedly vitalized by the presence of ports along the coast, nor were there any penetration lines built in an otherwise inaccessible area. Unlike Africa and Australia, Holland had, during the Middle Ages and the early modern period, a great number of waterways. Consequently, according to the standards of the period, the area was remarkably accessible. The process of interconnection and concentration can therefore not be linked to the creation of an infrastructure.

The *Enquete* (1494) and the *Informacie* (1514) show that the crisis in which Holland found itself at the end of the fifteenth century played a crucial role in the developments described above. Like other regions in the Netherlands, Holland suffered a crisis which disrupted the whole of society.<sup>62</sup> The seriousness of the crisis was caused by a number of unfavourable developments at the same time. A structural problem was the high level of the groundwater and frequent floods as a result of dikes bursting. This excess of water had a negative influence on the quality of the soil and therefore on the productivity of agriculture. A further problem for cattle-breeders was that prices of grain (which they had to buy) rose, while prices for cattle-breeding products lagged behind. At the same time political tension increased and, especially after the death of Charles the Bold in 1477, the whole country was in a permanent state of turmoil, due to raids, looting and devastation caused by invading armies and to domestic unrest which found expression in the rebellion of the 'kaas en broodvolk'. The many wars caused taxes to be raised, while trade, shipping and fishing were hampered by pirates. Finally, the people, who had had to suffer so much from turmoil and poverty, were also hit by several outbreaks of the bubonic plague. It is not surprising that the population in Holland decreased drastically during the last quarter of the fifteenth century.

The combination of all these misfortunes was of great influence on the gateway activities of the cities. After all, the economic and demographic decline diminished the exchange of goods with other regions and affected both imports and exports in the gateways. In addition, the merchants in most cities were financially incapable of surviving the consequences of a long-lasting crisis. Their capital was diminished by the taxes that had been raised to pay for the wars following the death of Charles the Bold. They also suffered immediate financial loss through the wars: in a great many towns loss of ships and goods is mentioned.<sup>63</sup> As a consequence of their capital losses, merchants and shipowners could not replace the ships they had lost. Considering the size of these losses, this is hardly surprising: Edam for instance, after the death of Charles the Bold, lost 31 seaworthy vessels, Enkhuizen 135 with all their crew and merchandise.<sup>64</sup> Obviously these towns lost much of their gateway activity because of this.

The limited financial resources of the merchants also affected the gateway function in a more fundamental way. In 1494 Alkmaar representatives emphasized that the merchants in their city were no longer able to buy the farmers' production of butter and cheese. The latter were therefore forced to go and sell their products on the Amsterdam market.<sup>65</sup> This statement is evidence that the economic ties between the towns and the surrounding countryside had loosened. This undermined the activities of the towns as exporting centres for agricultural products from the surrounding countryside and their function as port of call for products which had to be supplied from elsewhere. Problems were increased because most of the wealthy tended to leave the small and medium-sized towns and settle elsewhere. There were complaints about this both in 1494 and in 1514. In Hoorn in 1494 it was stated that the rich had left the city and had moved to Amsterdam and other places where trade and industry were less affected by the hardships of the time.<sup>66</sup> Representatives of Alkmaar pointed out that while trade and industry in their city were severely hit by the crisis, Amsterdam suffered much less. Not only did Amsterdam suffer less; as will be shown

below, the crisis paved the way for Amsterdam to acquire its dominant position during the sixteenth and seventeenth centuries.

There are several explanations for this atypical development. In the first place, Amsterdam had been the main trading centre in the region for some time and its financial strength was undoubtedly greater than that of any other town.<sup>67</sup> Therefore, it was more capable of absorbing financial loss and might even profit from the economic upheaval of the other gateway cities.

In the second place, Amsterdam's gateway function was strengthened by the growing supply of grain from the Baltic area to the Netherlands. Around 1460, grain export from the Baltic to the west was not more than 3,000 lasts (about 6 million kilograms). In 1500 this had increased to 10,000 lasts (about 20 million kilograms) and export figures for Danzig clearly show that this increase in grain exports to the Netherlands mainly took place after 1475.<sup>68</sup> Van Uytven links this increase to a decrease in imports from the traditional grain-supplying areas in France (the Somme and the Loire regions) and lowered production within the Netherlands. Poor harvests because of flooding, devastation caused by war, bans on exports and privateering by the French caused the traditional supply routes to run dry.<sup>69</sup> Because Amsterdam had maintained close links with the Baltic area, and had long been the main port for the import of Baltic products in the Netherlands, it profited from an increase in supplies. Conversely, gateway towns like Dordrecht, Gouda, Delft and Schoonhoven, to which imported grain from France had mainly come, were undermined by this same process.<sup>70</sup>

In the third place it should be mentioned that during this period of crisis and economic upheaval Amsterdam pursued a successful economic policy aimed at concentrating trade and shipping in the city. One example of this is the decisions taken regarding interest still due. When at the end of the fifteenth century many towns and villages could no longer pay the interest on loans in Amsterdam, it was possible to hold the traders from these towns and villages liable for the debts of their home towns and to confiscate their goods. Naturally people then tended to avoid Amsterdam. In order to prevent this situation, which was clearly unfavourable for Amsterdam, residents of all towns and villages in 1494 received letters of safe-conduct to trade in Amsterdam. In following years, this measure was continually renewed.<sup>71</sup>

Finally, the concentration of import and export in Amsterdam was of a self-enhancing nature. It has already been mentioned that the wealthy burghers from other towns settled in Amsterdam from the final decades of the fifteenth century onwards, thus strengthening the economic basis of Amsterdam, and weakening it in other places. The difference between the financial strength of Amsterdam and that of the rest of Holland is confirmed by the yield of a tax on trading capital raised in 1543. Only merchants with a working capital of at least 1,000 guilders were taxed. Amsterdam merchants headed the list with an estimated total of 194,125 guilders. For Delft, Haarlem and Leiden the total was 34,900, 17,500 and 10,900 guilders respectively. Unfortunately there are no figures available for Dordrecht and Gouda, but it is certain that no merchant living north of the IJ had a working capital worth more than 1,000 guilders.<sup>72</sup>

In the previous sections we saw that both the import and export activities of many gateway cities in Holland recovered after the middle of the sixteenth century. It also became clear that this recovery did not, in most cases, lead to a large diversity in the exchange of goods nor to contacts with a large number of areas. On the contrary, the ports in Holland tended to specialize in certain products and in contacts with a limited number of forelands, or foreign destinations. Only the exchange of goods in the port of Amsterdam showed a great diversity. In the Rimmer model, which is based on research in Africa and Australia, capacity problems in the main port (P2) are seen as the driving force for the process of specialization. Such capacity problems are caused by the fact that changes in infrastructure and transport technology more or less force the flow of goods along one or a few places. The construction of a railway link was of crucial importance in the case of Africa and Australia, as it allowed large amounts of goods to be transported along great distances at relatively little cost. This caused an end to the situation whereby primitive means of transport limited the size of the hinterland, and whereby it was necessary to unload or reship in many different ports. The port which was most accessible to the hinterland could thus monopolize trade with the outside world and so acquire a dominant position in domestic trade and shipping. If the total volume of imports and exports grew too much, a gateway city could end up with capacity problems.

During the early modern period in Holland there was no need to concentrate the flow of goods along one or a few places. Here the process of concentration was brought about by the economic crisis at the end of the fifteenth century, which caused the exchange of goods and the financial strength of the merchants in most gateway towns to become insufficient to keep up independent contact with the forelands. With economic recovery in Holland, renewed contacts between gateway towns and other regions became possible again. Besides, decentralization of port activities was boosted by the fact that intraregional transport in Holland was well developed for those days, but a distribution of all goods from one central port was beyond the system. It is also important to note that technical and

financial factors did not prevent a decentralization of port activities. After all, seaworthy vessels were relatively small and had a shallow draught, making it possible to keep the ports reasonably accessible using simple techniques at relatively little expense.<sup>73</sup>

When the economy recovered during the second half of the sixteenth century and the exchange of goods increased, the intermediary function of the ports was indeed reinforced. As to the independent links with surrounding regions and overseas markets, it has already been stated that in the ports to the north of the IJ this was mainly limited to a small number of goods. There was too little demand from the immediate hinterland to justify an increase in supplies. In addition, the financial resources of the merchants in these towns and villages were small compared to those of the merchants in Amsterdam, so they could not turn their towns into important staple towns. Thus, the activities of these towns and villages in the interregional and international exchange of goods were mainly limited to the supply of bulk goods and the export of voluminous products from their immediate hinterlands. With bulk goods and other voluminous products, the limits of the intraregional transport system became most apparent. The import and export of goods from one central point necessitates temporary storage and several transfers of the goods. At a time when there were few mechanical appliances in the ports, these activities were expensive and consequently unattractive. With products which were less bulky (industrial products, luxury goods) these problems were not so great, and for these types of goods the towns north of the IJ remained dependent on intraregional transport.

A similar situation is found in the Rhine-Meuse delta. However, an exception has to be made for the main ports in the area, Rotterdam and Dordrecht. Because of their location and for reasons of tradition, these ports had a natural advantage in some trades. For Dordrecht this advantage lay in its location and its traditional staple function for river trade; for Rotterdam it lay in its favourable location in relation to England and France. As a consequence, import and export were not limited to goods unsuitable for intraregional trade. Because of these factors, Rotterdam and Dordrecht succeeded in becoming centres for intraregional trade themselves.

The hierarchical structure of the port system described above changed little in the course of time. When entrepreneurs had to decide on a location, the best-developed gateway cities were the most attractive, as was the case during the crisis at the end of the fifteenth century. This was made abundantly clear by the arrival of immigrant merchants from the Southern Netherlands during the last decades of the sixteenth and the first decades of the seventeenth century. Only incidentally did a merchant from the Southern Netherlands settle in any of the gateway cities to the north of the IJ. They did settle in the Rhine-Meuse delta; Rotterdam's trade in particular seems to have been given a great boost by their arrival.<sup>74</sup> The largest number of merchants from the Southern Netherlands, however, went to the most important gateway city in Holland: Amsterdam. Through their capital, know-how and trade contacts, they gave an even bigger boost to the predominance Amsterdam had over the other ports.<sup>75</sup> When deciding where to settle, the geographical location of a port was of relatively little importance. Towards the end of the seventeenth century, after observing Dutch ports, William Temple correctly stated that, 'it easily appears, that 'tis not a Haven that draws Trade, but Trade that fills a Haven, and brings it in vogue'.<sup>76</sup> As a consequence, there was no change in the position of the gateway cities in the network of intraregional and domestic links.

## 6. Conclusion

In the preceding sections, the spatial and organizational development of the network of intraregional trade and shipping has been described. During the period under discussion, the fifteenth up to and including the seventeenth centuries, some fundamental changes took place. Most striking is the fact that three cities, Amsterdam, Dordrecht and Rotterdam, acquired a dominant position in the network of intraregional contacts. Of these, Amsterdam was by far the most important centre. Frequent connections were maintained with all parts of Holland and at the same time with a large number of places in the surrounding regions. When at the end of the sixteenth century Holland and a number of these surrounding regions were united in the Dutch Republic, Amsterdam became the main centre of what from then on may rightly be called 'domestic' trade and transport. The extensive intraregional and domestic trade demanded organizational changes in inland shipping which for a long time had been more in the nature of tramp shipping. The *beurtvaart* ? characterized by regularity, set times of departure, fixed rates and guarantees as to the professional skill of the shipmasters and the quality of the ships ? met the wishes of merchants and other charterers. It gave the transport system a flexibility which until then was unheard of. The towns that had been admitted into this system of regular services were, in turn, centres for their own networks of regional or subregional links.

In order to interpret these spatial and organizational changes, a model has been used in which a link is made between the development of intraregional connections and the changing structure of the port system. It is argued that it was its intermediary function between a hinterland and the rest of the world which determined the position of a city in the network of intraregional trade and shipping. The similarity between the model and concrete developments in

Holland indicate that the port system and intraregional trade and shipping are linked in a way which depended little on time and place. In Holland, too, selective growth among gateway cities was directly linked to intraregional and domestic trade and shipping. Regarding the causality, there is much less similarity between the model and developments in Holland. While the model shows how development in a port system depends on the creation of an infrastructure in the interior, in Holland selective growth within the port system influenced the development of an intraregional network. To explain this difference it is noted that the starting point for Holland was quite different from that described in the model. In Africa and Australia, the areas studied in making the model, an interior which had been hitherto inaccessible was opened up by the creation of an infrastructure. Holland, with its abundance of waterways, had, according to the standards of the period, already been opened up, so that it is not the creation of an infrastructure, but political and economic changes which have to be held responsible for the selective growth among ports.

The analysis of intraregional trade and shipping presented here allows for some tentative remarks on its importance for economic development in Holland. The most important contribution a well-functioning intraregional transport system can make to a regional economy is that it allows specialization on a local and subregional level. Indeed, in Holland the economy was characterized by a large degree of geographical specialization. In the seventeenth century Leiden was the textile town, Delft and Gouda specialized in the production of earthenware, in the vicinity of Haarlem linen was bleached, in Weesp brandy was distilled, and the Zaan area had developed into an industrial area where windmills supplied energy for a large number of industrial activities. Ports specialized as well. Because of an intraregional transport system the inhabitants of these cities could fall back on other centres for the goods they themselves did not produce, and for the sale of their own produce.

This kind of specialization in Holland was tremendously important, for, given the small size of production and exchange of goods during the early modern period, it was only possible to profit from economies of scale by geographically concentrating economic activities. It may also be expected that the concentration of specific economic activities facilitated innovations in the production of goods and services. Towards the end of the seventeenth century, William Temple mentions these links. In his *Observations upon the United Provinces* he stated that the economic power of the Dutch Republic was partly caused by 'the custom of every Town affecting some particular Commerce or Staple, valuing it self thereupon, and so improving it to the greatest height'.<sup>77</sup> The existence of a properly functioning intraregional transport system was a precondition for specialization and its positive effects on the economy.

## NOTES

\*. Translation: ###

1.. P. de la Court, *The true interest and political maxims of the Republic of Holland, London, 1746* (### 1662 (in Dutch); enlarged and revised in 1668; reprinted New York (Arno Press) 1972).

2.. Practically all existing literature is mentioned in L. Noordegraaf, 'Domestic trade and domestic trade conflicts in the Low Countries; Autonomy, Centralism and State-formation in the Pre-industrial Era', S. Groenvelde & M. Wintle (eds), *State and Trade; Government and the economy in Britain and the Netherlands since the middle ages* (Zutphen 1990) 12-27; J.C. Boyer, *L'évolution de l'organisation urbaine des Pays-Bas* (Paris 1978) contains a few brief but interesting passages on domestic trade and transport in the Northern Netherlands during the early modern period.

3.. For the use of the terms 'hinterland' and 'foreland', see G.G. Weigend, 'Ports: their hinterlands and forelands', *Geographical Review* 42 (1952) 660-662.

4.. The market function of towns for the surrounding countryside is dealt with extensively in C.M. Lesger, *Hooft als stedelijk knooppunt; Stedensystemen tijdens de late middeleeuwen en vroegmoderne tijd* (Hilversum 1990; Hollandse Studiën 26) en C.M. Lesger, 'Hiërarchie en spreiding van regionale verzorgingscentra; Het centrale plaatsensysteem in Holland benoorden het IJ omstreeks 1800', *Tijdschrift voor Sociale Geschiedenis* 16 (1990) 128-153.

5.. Ports are the best examples of such centres, but the intermediary function is of course not limited to them.

6.. By a port system in this article a group of ports is meant which influence each other in such a way that a change affecting one port will make itself felt in the others.

7.. See E.J. Taaffe, R.L. Morrill & P.R. Gould, 'Transport expansion in underdeveloped countries; A comparative analysis', B.S. Hoyle (ed.), *Transport and development* (London 1973; first published 1963) 19-31 and P.J. Rimmer, 'The search for spatial regularities in the development of Australian seaports, 1861-1961/62', B.S. Hoyle (ed.), *Transport and development* (London 1973; first published 1967) 63-86.

8.. For port developments in the Rhine-Meuse estuary, see Z.W. Sneller, 'Handel en verkeer in het Beneden-Maasgebied tot het eind der zestiende eeuw', *Nederlandsche Historiebladen* 2 (1939) 341-373 and J. de Vries, *Amsterdam-Rotterdam; Rivaliteit in economisch-historisch perspectief* (Bussum 1965).

9.. See for instance H.A. Poelman (ed.), *Bronnen tot de geschiedenis van den Oostzeehandel* ('s-Gravenhage 1917; R.G.P. 35, 36) numbers 1837, 1849, 1850.

10.. For the rise of the Amsterdam graintrade and links with the Baltic, see W.S. Unger, 'De Hollandsche graanhandel en graanhandelspolitiek in de middeleeuwen', *De Economist* (1916) 243-269, 347-386, 461-507; F. Ketner, *Handel en scheepvaart van Amsterdam in de vijftiende eeuw* (Leiden 1946) and N.W. Posthumus (ed.), *De Oosterse handel te Amsterdam; Het oudst bewaarde koopmansboek van een Amsterdamse vennootschap betreffende de handel op de Oostzee, 1485-1490* (Leiden 1953).

11.. Cited in Ketner, *Handel en scheepvaart*, 126.

12.. See illustrative map in Z.W. Sneller, 'Deventer, die Stadt der Jahrmärkte', *Pfingstblätter des Hansischen Geschichtsvereins* 25 (1936).

13.. Calculation based on Kamper Pondtolregistern as published by H.J. Smit (ed.), 'Het Kamper pondtolregister van 1439-1441', *Economisch-Historisch Jaarboek* 5 (1919) 209-296.

- 14.. Rotterdam, although not mentioned in the Kamper Pondtol, did maintain contact with the IJssel area. Leyden, for the sale of cloth in Deventer, had its own 'staple house' at its disposal (see Z.W. Sneller, 'Rotterdamse poorters te Deventer en Wilsnack, anno 1430', Z.W. Sneller (ed.), *Rotterdams bedrijfsleven in het Verleden* (Amsterdam 1940) 3-4).
- 15.. R. Fruin (ed.), *Enqueste ende Informatie upt stuck van der reductie ende reformatie van den schiltaelen, voertijts getaxeert ende gestelt geweest over de landen van Hollant ende Vrieslant, gedaen in den jaere MCCCCXCIII* (Leiden 1876). Even a small town like Vlaardingen appears to have been involved in the import of grain from the Baltic. Participation in overseas trade on a large scale is evidenced by the large index of source material by Poelman (ed.), *Bronnen Oostzeehandel*; H.J. Smit (ed.), *Bronnen tot de geschiedenis van den handel met Engeland, Schotland en Ierland* ('s-Gravenhage 1928-1950; R.G.P. 65, 66, 86 en 91) and Z.W. Sneller & W.S. Unger (eds), *Bronnen tot de geschiedenis van den handel met Frankrijk* ('s-Gravenhage 1930-1942; R.G.P. 70 and supplement).
- 16.. Compare the summarizing tables by Ketner, *Handel en scheepvaart*, 27-59, and also 140. As the towns in the southern part of Holland were less involved in export to the IJssel area, it may not, by virtue of these data, be concluded that the supply of goods in Amsterdam was larger than that in Dordrecht.
- 17.. R. Fruin (ed.), *Informacie up den staet faculteyt ende gelegentheyt van de steden ende dorpen van Hollant ende Vrieslant om daerna te regulieren de nyeuwe schiltaele, gedaen in den jaere MDXIV* (Leiden 1866) and Fruin (ed.), *Enqueste*. This concerns the number of vessels in Hoorn, Enkhuizen, Medemblik, Monnickendam, Edam, Schiedam, Gouda and Schoonhoven.
- 18.. See Lesger, *Hoorn*, 50-56.
- 19.. N.W. Posthumus, *De geschiedenis van de Leidsche lakenindustrie* (Den Haag 1908) I: 257-258.
- 20.. L. Noordeggraaf, *Hollands Welvaren? Levensstandaard in Holland 1450-1650* (Bergen 1985), 81.
- 21.. For the lists of numbers of hearths, Fruin (ed.), *Informacie*, 629-638.
- 22.. Fruin (ed.), *Informacie*, 520. For the types of vessels during this period, see Posthumus, *De Oosterse handel*, 96-108.
- 23.. Fruin (ed.), *Enqueste*. The towns are Hoorn, Enkhuizen, Medemblik, Schagen, Alkmaar, Monnickendam, Edam, Weesp, Schoonhoven and Heusden. Similar data for 1514 are not available.
- 24.. Fruin (ed.), *Informacie*, 182 and 520.
- 25.. For an extensive introduction on the levy see N.W. Posthumus, *De uitvoer van Amsterdam, 1543-1545* (Leiden 1971) ch. I.
- 26.. See Posthumus, *De uitvoer*, 232 for supply towards the end of the fifteenth century. The number of 250 products quoted by Posthumus for around 1545 is inflated because of the very exact indications of products in the Amsterdam registers.
- 27.. A clear example of this is the conflict with the towns in North Holland and Friesland on the levying of *paalgeld* (a tax on imports). On this conflict see P. Henderikx, 'Het geschil tussen Amsterdam en Friesland over de heffing van het paalgeld (1551-1561)', *Holland 2* (1970) 129-139.
- 28.. These percentages are even inflated by the fact that yields in Enkhuizen and Hoorn are inclusive of the VOC (Dutch East India Company) dues, and those in Amsterdam exclusive. VOC dues for the period 1665-1670 were 39% in Hoorn and 25% in Enkhuizen, of the total yield. Unfortunately, for other periods this kind of information is not available.
- 29.. Information as in table 4 is not available for Enkhuizen, but for an impression of the area of trade, see R.T.H. Willemsen, *Enkhuizen tijdens de Republiek; Een economisch-historisch onderzoek naar stad en samenleving van de 16e tot de 19e eeuw* (Hilversum 1988) table III.6.
- 30.. See Willemsen, *Enkhuizen*, 77ff for Enkhuizen and Lesger, *Hoorn*, 27-38 for Hoorn.
- 31.. Willemsen, *Enkhuizen*, 79 and table III.6 and Lesger, *Hoorn*, 36 and table 3.6.
- 32.. C.M. Lesger, 'Amsterdam, Harlingen and Hoorn; Port functions in the Zuiderzee region during the middle of the seventeenth century', W.G. Heeres *et al.* (eds), *From Dunkirk to Danzig; Shipping and trade in the North Sea and the Baltic 1350-1850* (Hilversum 1988) 331-360.
- 33.. H. Brugmans (ed.), 'Statistiek van den in- en uitvoer van Amsterdam, 1 oktober 1667- 30 september 1668', *Bijdragen en Mededelingen van het Historisch Genootschap* 19 (1898) 125-183. The list mentions about 290 different imported products and about 390 different exported products.
- 34.. Sneller, 'Handel en verkeer'; T.S. Jansma, 'De betekenis van Dordrecht en Rotterdam omstreeks het midden der zestiende eeuw', *Tekst en Uitleg* (Den Haag 1974) 146-177 and J.P. Sigmond, *Nederlandse zeehavens tussen 1500 en 1800* (Amsterdam 1989) 73-92. In Rotterdam, too, herring fisheries, until the second half of the sixteenth century, were the basis of the local economy.
- 35.. Besides Rotterdam (10 arrivals), ships were unloaded in Amsterdam (3 arrivals) and Zeeland (2 arrivals). See P.H. Winkelman (ed.), *Bronnen voor de geschiedenis van de Nederlandse Oostzeehandel in de zeventiende eeuw* ('s-Gravenhage 1981; R.G.P. 178) III: 534-537.
- 36.. P.W. Klein, *De Trippen in de 17e eeuw; Een studie over het ondernemersgedrag op de Hollandse stapelmarkt* (Assen 1965) 79.
- 37.. Compare the list in N.W. Posthumus (ed.), 'Statistiek van den in- en uitvoer van Rotterdam en Dordrecht in het jaar 1680', *Bijdragen en Mededelingen van het Historisch Genootschap* 34 (1913) 529-537 with that in Brugmans (ed.), 'Statistiek Amsterdam'.
- 38.. On Leiden cloth see Posthumus, *Lakenindustrie*, I: 257-258. From the account book of Symon Reyersz. and Reyer Dirksz. it appears that during the period 1485-1490 large quantities of Hoorn cloth were shipped from Amsterdam to the Baltic (Posthumus, *De Oosterse handel*, 228). Also see the large quantities of Holland cloth in Amsterdam exports in 1544 and 1545 (Posthumus, *De uitvoer*, appendix D).
- 39.. Lesger, *Hoorn*, 58.
- 40.. An impression of the size of the Amsterdam grain market compared with that of other towns in North Holland can be had from an inventory of grain supplies in 1556. In Amsterdam in November of that year, 7,000 lasts of grain had been stored; in Haarlem, Enkhuizen, Hoorn, Edam, Monnickendam, the villages in North Holland and the Gooi, a total of not more than 1,268 lasts (### Graswinkel, ### (###) 41-48).
- 41.. Cited in Sneller, *Deventer*, 68.
- 42.. For the development of inland navigation, see J.M. Fuchs, *Beurt en wagenveren* (Den Haag 1946) ch. 1 in particular.
- 43.. Compare figures in Fruin (ed.), *Enqueste* on the number of seaworthy vessels and vessels suitable for inland navigation in the towns in Holland in 1477 and 1494.
- 44.. J.G. van Dillen (ed.), *Bronnen tot de geschiedenis van het bedrijfsleven en het gildewezen van Amsterdam 1512-1672* ('s-Gravenhage 1929) I: number 149.
- 45.. W. Sombart, *Der moderne Kapitalismus* (München/Leipzig 1924) II: 353.
- 46.. D.C. North, *Institutions, institutional change and economic performance* (Cambridge 1990) 6. North (page 4) defines institutions as 'any form of constraint that human beings devise to

shape human interaction'.

- 47.. Fuchs, *Beurt en wagenveren*, ch. IV.
- 48.. For the sake of completeness it is necessary to point out that the *beurtvaart* was not without friction. As the system was based on voluntary bilateral agreements between towns, and each town strove to favour its own burghers, in practice there was an endless stream of protests and arguments, the results of which can be found in practically all town archives.
- 49.. For the development of Dordrecht, see in particular Sneller, 'Handel en verkeer', 345-349 and 357-364.
- 50.. Because of the recognition charge the Dordrecht staple right was acknowledged, but the products no longer had to be unloaded and offered for sale in the town.
- 51.. For the connection between Dordrecht and the Meuse valley, see T.L.M. Thurlings, *De Maashandel van Venlo en Roermond in de 16e eeuw, 1473-1572* (Amsterdam 1949).
- 52.. For examples see Lesger, *Hoorn*, 32-34, 38-40, and Lesger, 'Amsterdam, Harlingen and Hoorn' for intraregional supply of wine and grain in the Zuyder Zee coastal towns. It is striking that, as far as grain imports are concerned, Hoorn and Enkhuizen were intensively involved in trade with the Baltic, but relatively little grain was imported from the Baltic via these ports. These direct supplies were by no means sufficient to provide these ports and their hinterland with grain. Additional supplies from the Amsterdam grain market were required. Furthermore, fairly large supplies of grain (especially rye) were probably imported from the eastern part of the Netherlands.
- 53.. Willemsen, *Enkhuizen*, table III.3.
- 54.. R. Bijlsma, *Rotterdams Welvaren 1550-1650* ('s-Gravenhage 1918) 108-125 and also Z.W. Sneller, 'De stapel der Westfaalsche linnens te Rotterdam, 1669-1672', Z.W. Sneller (ed.), *Rotterdams bedrijfsleven in het Verleden* (Amsterdam 1940) 64-106.
- 55.. R. Bijlsma, 'De opkomst van Rotterdams koopvaardij', *Bijdragen tot de Vaderlandsche Geschiedenis en Oudheidkunde* 5e reeks (1) (1913) 80-82. [Wat betekent (1)?]
- 56.. Fuchs, *Beurt en wagenveren*, 72.
- 57.. Bijlsma, 'Rotterdams koopvaardij', 81.
- 58.. Figures 2 and 3 are based on the *Reys-boek* by Jan ten Hoorn, published in 1700, which gives a survey of all *beurtvaart* services in the Dutch Republic (J. ten Hoorn, *Nieuw-keurige Reys-boek byzonderlijk dienstig voor kooplieden, en reysende personen etc.* (Amsterdam 1700)). These also included towing barges. As these barges were almost exclusively used for the transport of passengers, these data have been left out. For towing barges and passenger transport, see J. de Vries, *Barges and capitalism; Passenger transportation in the Dutch economy, 1632-1839* (AAG *Bijdragen* 21 (1978)/Utrecht 1981).
- 59.. To prevent the map from becoming too confusing, the Rotterdam *beurtveer* has been left out. It was less extensive than the Dordrecht one, but covered roughly the same area.
- 60.. For a detailed description of this 'sailing without water' see ### Schutten, *Varen waar geen water is* (### 1981). For inland navigation in this area, see also F.C. Berkenvelder, 'Overnachtingen in Zwolle, oktober 1673-mei 1674', *Verslagen en Mededelingen van de Vereeniging tot beoefening van Overijsselsch Regt en Geschiedenis* 83 (1968) 48-114.
- 61.. See G.J.ter Kuile, 'Een coopman tot Almeloe in 1600', *Verslagen en Mededelingen van de Vereeniging tot beoefening van Overijsselsch Regt en Geschiedenis* 55 (1939) 74-86.
- 62.. For a detailed analysis of this crisis in the Netherlands, see R. van Uytven, 'Politiek en economie: de crisis van de late XVe eeuw in de Nederlanden', *Belgisch Tijdschrift voor Filologie en Geschiedenis* 53 (1975) 1097-1149; for the situation in North Holland, see A.M. van der Woude, *Het Noorderkwartier; Een regionaal historisch onderzoek in de demografische en economische geschiedenis van westelijk Nederland van de late middeleeuwen tot het begin van de negentiende eeuw* (AAG *Bijdragen* 16 (1972)/Utrecht 1972) 350-361.
- 63.. Fruin (ed.), *Enqueste*. Loss of vessels and merchandise through acts of war were mentioned in Hoorn, Naarden, Rotterdam and Vlaardingen, among others.
- 64.. Fruin (ed.), *Enqueste*, 24 and 100.
- 65.. Fruin (ed.), *Enqueste*, 44.
- 66.. Fruin (ed.), *Enqueste*, 16.
- 67.. In 1494 it was mentioned that Amsterdam merchants were selling their possessions, thus maintaining their trading capital (Fruin (ed.), *Enqueste*, 119).
- 68.. See J. de Vries, *The Dutch rural economy in the Golden Age, 1500-1700* (New Haven/Londen 1974) 71, and also Van Uytven, 'Politiek en economie', 1111.
- 69.. Van Uytven, 'Politiek en economie', 1111-1125.
- 70.. Gouda stated that around 1477 grain was imported from France in 30 boyers and that the number of vessels in 1494 had dropped to 5 or 6 (Fruin (ed.), *Enqueste*, 178).
- 71.. I. Prins, *Het faillissement der Hollandse steden; Amsterdam, Dordrecht, Leiden en Haarlem in het jaar 1494* (Amsterdam 1922) 27 and Posthumus, *De Oosterse handel*, 63.
- 72.. P.A. Meilink (ed.), 'Gegevens aangaande bedrijfskapitalen in den Hollandschen en Zeeuwschen handel in 1543', *Economisch-Historisch Jaarboek* 8 (1922) 263-264.
- 73.. Silting up of the port was the biggest problem faced by municipal authorities in Holland. By building dams, which were intended to promote the natural flow, and by dredging the ports, they usually succeeded in dealing with this problem. The many complaints in the eighteenth century about the ports silting up are, in my opinion, more a consequence of postponing maintenance at a time of economic decline and loss of activity in a number of ports, than a cause of decline and loss of activity.
- 74.. Bijlsma, 'Rotterdams koopvaardij', 82-86.
- 75.. See the classic article by J.C. Westermann, 'Beschouwingen over de opkomst en den bloei des handels in de Gouden Eeuw', A.E. d'Ailly (ed.), *Zeven eeuwen Amsterdam* (Amsterdam u.d.) II: 65-120 and also J.G.C.A. Briels, *De Zuidnederlandse immigratie in Amsterdam en Haarlem omstreeks 1572-1630* (n.p. 1976) for the arrival of immigrants from the Southern Netherlands in Amsterdam.
- 76.. W. Temple, *Observations upon the United Provinces of the Netherlands* (### 1673; reprinted ### 1972) 108.
- 77.. Temple, *Observations*, 116.