

Living Apart Together

*Rotterdam, Antwerp and Hamburg: relationships between port and city
under pressure*

by

Jos M.P. Vroomans

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Rotterdam, Antwerp and Hamburg: relationships between port and city under pressure

Living Apart Together

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“Reason is a slave of the passions”

David Hume

PREFACE

What is a driver for starting a project like a doctorate thesis? Is it ambition? Love for science? An overload of spare time and nothing at hand that satisfies one's needs? Let us say, in my case it is a mix, although the matter of time is a choice of how to spend it and I had lots of other satisfying activities. But somewhere there always was the longing for the academic world. After graduating at university, a time I loved so well, I spent 25 years in the world of marketing and sales, and a brief period in corporate sustainability. Certainly satisfying but it lacked something. The business world was not reflective enough. An opportunity came by when I was appointed as a lecturer at The Hague University of Applied Sciences. A position that supplied me with an interest in academic reading and it supplied me with time.

The idea of starting this thesis was triggered by the back cover of the book called: 'Handboek buitenpromoveren', by Floor Basten en Kerstin van Tiggelen: 'If there is a little voice that whispers something about obtaining a doctorate degree: just do it.' This whispering was going on for years. Time was available, ambition to show others that I am smart enough was present, and so this book was the spark that set fire to a journey that led to interesting meetings with scholars in Hamburg, Antwerp and Kyoto, where parts of the research were presented to an audience of maritime specialists. My interest in the maritime developments was based on an article in the newspaper NRC, years ago, where the Chinese ownership of many maritime companies in The Netherlands was discussed. Having studied political geography in the late 70s, early 80s, I knew this was a phenomenon that could have repercussions on the relationships within the region. And so, the maritime subject and the intrinsic motivation came together and after 6.5 years this book is the result of it.

Although a doctorate thesis must be the result of independent scientific research, I owe so much to a lot of people. First of all my two very patient supervisors, Harry Geerlings and Bart Kuipers. How much I loved our meetings where we discussed developments taking place in various ports cities that were relevant for my subject. The continuously supporting and creative ideas of Harry that inspired me to look one step beyond and the critical remarks of Bart ('So what?') with his close reading of my texts, without you two this would not have given birth.

Thanks to Fadi Hirzalla, methodologist of the Erasmus Graduate School of Social Sciences and the Humanities, who was able to put me on the right track again and motivated me when it seemed that the method applied was not in line with

how I described it. It surely helped me a lot when I was in the swamp that is called “writing a PhD-thesis”.

A lot of gratitude goes to the Port Authority of Rotterdam (PoR) which was interested by the subject and provided a most appreciated financial contribution to be able to create a book like this. Thanks to Victor Schoenmakers for that. Employed by the PoR was Lia van Oel, who was so kind to pave the way to get into contact with people I needed to interview and that she knew so well. Without her help I doubt if I was able to speak to such prominent port and city representatives.

Copies of articles, folders, books, a thesis cannot be created without them. The Hague University provided them or made it possible to create them. Thank you, Gerard van Rijn, manager of the department of Commerciële Economie, to allow me to make thousands of copies, buying books on the HHS-account, and for your support in this. Colleagues were very much interested in what I was doing in my spare time and that stimulated me very much. So, Gerald, Frans, Stefan, Hans, Dennis, Jan, Tim, Antoine, Peter, Atie, Diego, Luc, and Henk, thank you for your curiosity that obliged me not to give up.

Anneke and Steven Stanmeyre, my nextdoor neighbours guarded my external hard disk vigilantly, afraid as I was that all my work would have been for nothing in case of fire (of course there is the cloud, but I trusted a real hard disk more to than the virtual world).

Thanks to all the people, friends and family, during those years that regularly asked me how I was doing. Thank you Patricia, Jan, Bep, Ellie, Job, Hennie, Ton, Anita, Theo, Els, Elja, Irene, Henk, Emiel, Jaap, Bruno, Wim van V, Sofie, Wim de V., Janneke, Wim V, Martina, Kees, Lucas, Marlies, Jan, Lenie, Theo, Carla, Ton, John K., Els, John, Marlies, Karina and Sandro. Your interest in my efforts to make something out of it encouraged me to keep on going.

My dear sister Anneke and my best friend Jan are my paronyms and with reason. Anneke for being the one who was my first teacher since I was 4 years old when we played ‘School’ at home. She truly is a sister that played an important role in my life. Jan is a friend I know for 42 years now. Sorry for neglecting the Irish music for years, but we’ll catch up now, that’s for sure Jan.

En dan mijn lieve Renske en Lex. Jullie inbreng betekende veel. Renske, als voorbeeld met haar proefschrift en die in 2017 promoveerde. Dank voor je enthousiasme

voor het feit dat ik wilde zien “of ik deze test ook kon doen”. Lex die alles weer in het juiste perspectief plaatste en mij voorhield dat er meer belangrijke dingen in het leven zijn dan dat proefschrift.

Maar de echte zuurstof voor dit project was mijn echtgenote Marion. Zij was het die mij voorhield dat ik toch maar eens die droom moest waarmaken waar ik al jaren over mijmerde. Al die jaren accepteerde zij dat ik ’s avonds en in het weekeinde naar de zolder verkaste om te lezen en te schrijven, of dagen van huis was voor een conferentie. Mijn lief, jij was het die dit mogelijk maakte. Dank je wel dat jij je leven met mij deelt.

Jos Vroomans

Leidschendam, oktober 2010

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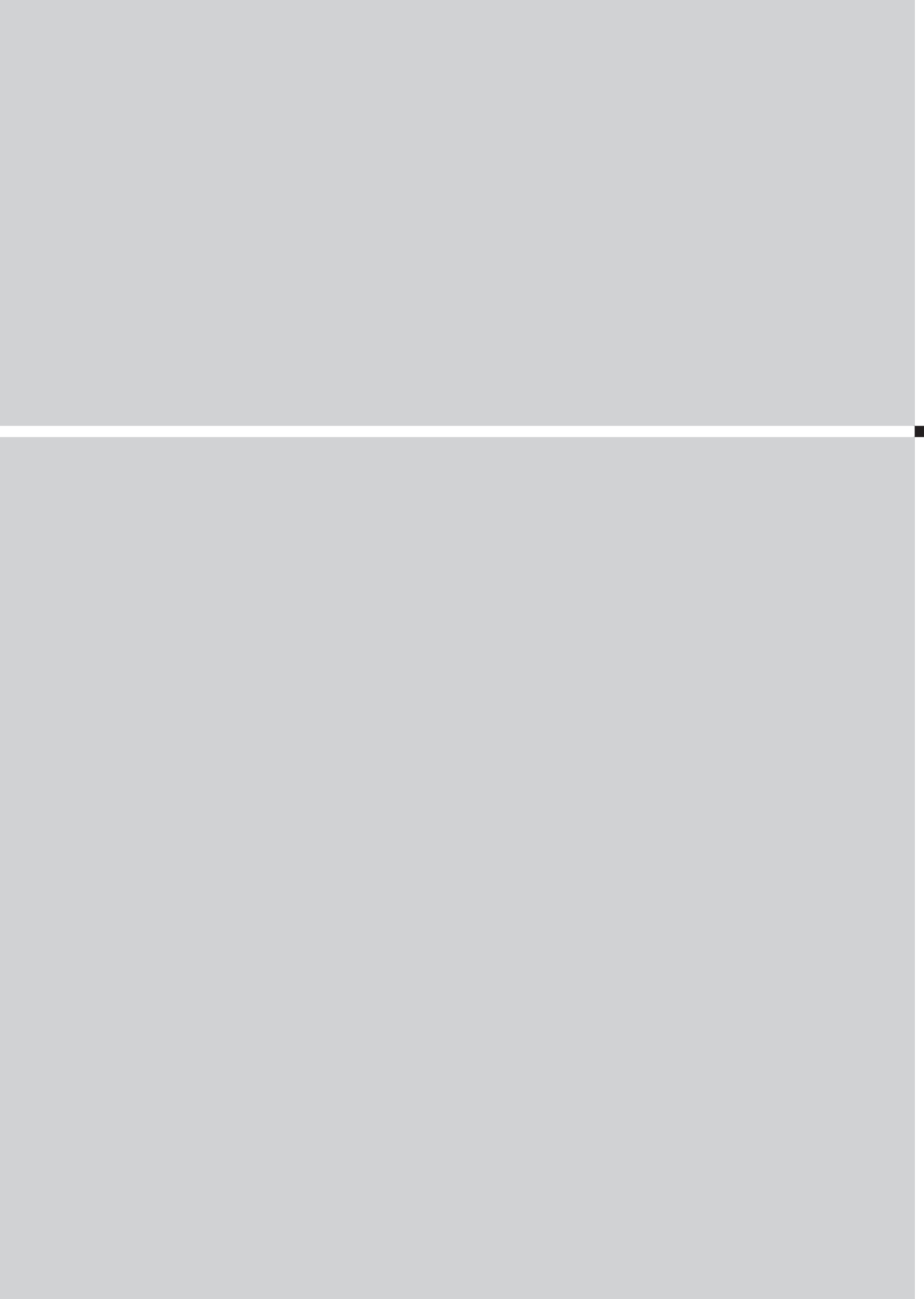
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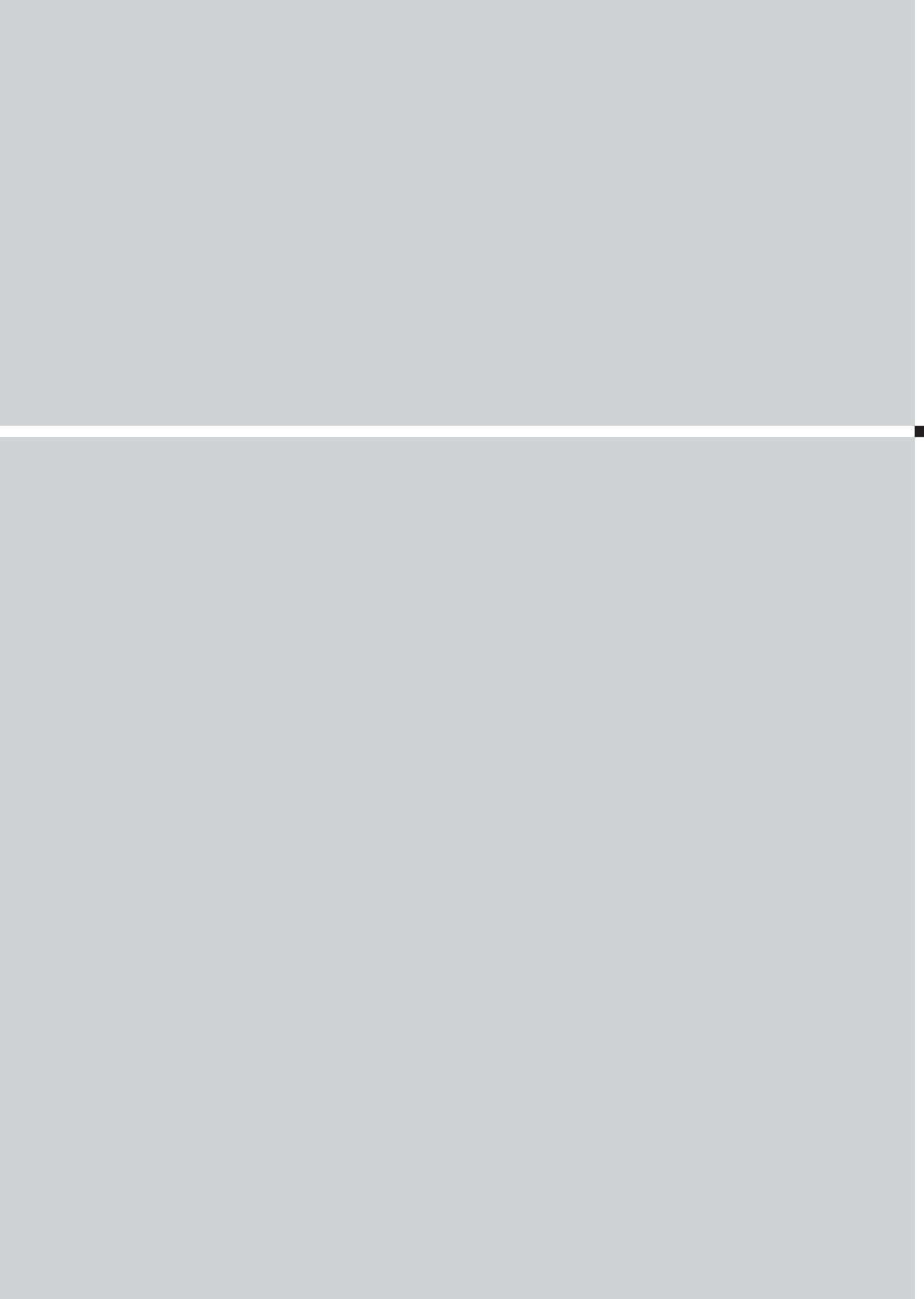
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Part A

Introduction

This introduction consisting of one chapter is dealing with two topics. First, the problem that forms the basis of the research is defined. It introduces the forces that helped shape ports as they are now and how that influenced their relationship with the city from which they originate. It states the research questions and the reason why research as this is important for future port-port city relationships. Second, a research framework based on bodies of knowledge for describing, analyzing, and explaining these relationships is developed. Besides these bodies of knowledge, special attention is paid to political economic structures that create the embeddedness for these relationships.



Chapter 1

**Problem analysis and
research framework**

1.1 INTRODUCTION

This thesis is about the untold. The presence of the invisible but clearly present. It is about knowledge that is not clearly expressed but omnipresent. It is about relational structures that are articulated formally and informally. It is about embeddedness in an environment that sets constraints or opportunities. It is about an infrastructure and a deeply ingrained supra-structure,¹ the ‘fluid’ that flows within a port’s society, that influences one of the most massive, heavyweight artificial structures ever made by man: it is about ports and their port cities.

Traditionally, port cities were places where bulk was broken and stored, processed, and transported (Piraeus was already the port of Athens when Homer wrote his *Iliad*) and ships were built. The dominant modalities changed from seagoing and coastal shipping to inland shipping, railways, and roads. Tugs and vessels were needed for other nautical services, for example pilots and shipbrokers. Cranes, terminals, and quays shaped the face of these cities, sometimes located directly on the sea, sometimes upstream on a river that often ended in an estuary. For Suykens and Van de Voorde (2006, p.252), a port is: “a chain of interlinking functions while the port as a whole is in turn a link in the overall logistics chain.” This definition defines a port mainly as a logistical phenomenon; but a port is more than that.

Industries based on these activities flourished, such as shipyards and oil refineries. Wholesalers were the first to handle goods for import or export and therefore were quite dominant in the further expansion of port-based activities (Vance, 1970). Port cities thrived from the ports; all their activities were intertwined, and the port was the accelerator for its city. Both benefitted from each other’s presence (Hayuth, 1982). The direct environment of the port was closely tied to the city with its manufacturing and other port-related activities. Direct and indirect employment such as insurance brokers, lawyers, but also red-light districts created a mixed and vibrant society that often acquired worldwide reputations (Reeperbahn is as much associated with Hamburg as the Champs Elysée is with Paris). Rotterdam, London, Hamburg, Amsterdam, Liverpool, Marseille, Naples, Lisbon, Shanghai, Honk Kong, Singapore, New York are names that immediately evoke the idea of a port city.

Nowadays however, things have changed dramatically. Ports often have hardly any connection with city-based activities. Walking in London does not exactly give one

¹ In port literature, the supra-structure concept has a very different meaning: port hardware (cranes, etc.) (Bird, 1971) In this thesis, it refers to the broader societal construct about how things are done.

the feeling that one is in a port, and many citizens of Rotterdam hardly have a clue what is happening in Europe's largest logistical and industrial hub, which was once (1962–2004) the largest in the world. This development is not a phenomenon of the last decades, but already started decades ago, as Hayuth remarked when paraphrasing Bird (Hayuth, 1982, p. 219). He identified three developments that fostered the weakening relationship between the spatial and functional relationship of cities and their ports, which, in his study, had a profound and visible effect on the urban waterfront. These three influential developments are the technological changes in the shipping industry, the modernization of port operations, and the increasing public concern over coastal areas. They had an effect not only on the port–urban interface, but also far beyond: the recognition that a fruitful port–port city relationship can bring prosperity to, and enhance the performance of, both. The extent to which this has happened in three ports – Rotterdam, Antwerp, and Hamburg – and the way in which both ports and port cities cope with this nowadays is the subject of this thesis.

Ports used to be, or are, related to port cities. This made port cities attractive places as “centers of knowledge, talent, innovation and specialization of production and services” (Jacobsen et al., 2019, p. 4). The increased speed of developments in the maritime world has had an impact on seaports and their port cities. The traditional ties between ports and their port cities have become weaker and weaker (Kuipers & Manshanden, 2010; Merk & Notteboom, 2013; Hayuth, 1982). This has had a significant effect on the wellbeing of the port city in terms of employment, prosperity, urban development, and, consequently, “the license to operate” (Blomme, 1998, p. 61). Thus, the historical source of cities' attractiveness has been under strain because of the developments in the maritime industry that have affected the spatial connection between port and city. However, not only the visible, spatial effects of these developments have been influential; the mental connection between port and city was also under strain. Therefore, one cannot fully understand the spatial outcome without researching this supra-structure.

1.2 MOTIVATION

In Europe, seaports and port cities, besides being industrial regions in their own right, are vital for some of the most important industrial regions. Vast areas of industry, trade, and population concentrations are located inland and need raw materials, energy, and goods to be transported to and from their destinations or places of origin. Ports were seen as national economic engines. This view has changed

nowadays. The diversity of economic development in countries and regions has changed a lot over the last three decades in such a way that the situation is almost reversed: regions themselves can be the motors of national development, with the seaports facilitating these developments, often interlinked with other logistical nodes of activity like airports and inland ports (Kuipers & Manshanden, 2010).

Port competition in Western Europe, especially in the Le Havre–Gdansk Range, has increased significantly during the last two decades, because of developments such as globalization, the rise of the container as a unit for shipment, the increasing sizes of container vessels, and new economic developments in hinterlands. Seaports respond to this increasing competition by diversifying (Thorez & Joly, 2006): Le Havre and Rotterdam focus on operational excellence in handling: fast transit; Antwerp concentrates on logistics and storage; and Hamburg, taking advantage of the economic developments since the collapse of the communist system, promotes itself as a hub for Central and Eastern Europe. This does not mean that they engage only in activities that fit this specialization, but policymakers focus their attention on strengthening their position in these target areas.

This thesis assumes that the abovementioned past and current developments affect the relation of seaports with their related port city. These effects can be positive or negative and have distinct spatial and socioeconomic impacts related to the port city. The way in which companies, local city councils, and non-governmental municipal organizations interact can increase or mitigate these effects. The distancing of port activities from the port cities has put these interactions under pressure. This distancing is not beneficial for the port city, because this process affects the extent to which firms within the port feel responsible for the city and care about urban development, and, conversely, the way in which citizens have positive feelings about activities engaged in by port firms – activities that often have negative externalities such as congestion and sound, air, and water pollution that people within the region, often citizens of the port city, will accept to a certain extent, or withstand. So, firms' license to operate can be at stake.

1.3 THE APPROACH

The assumption in this thesis is that this distancing will be more present in some ports than in others. The character of port-related high value services in Rotterdam is different from that in Antwerp or Hamburg. These interactions are governed differently because of the ports' different approaches to dealing with industry–society

relationships. Although Suykens (1998) states that the ports of Antwerp, Hamburg, and Rotterdam are all seen as representative of the Hanseatic tradition (as distinct from the Latin tradition and the Anglo-Saxon tradition), this thesis posits that they have different cultures in terms of management and even of meta-governance: the management of management (Klijn & Koppenjan, 2012). Verhoeven en Vanoutrive also remark that related to port governance the subdivision in Latin, Hanseatic and Anglo-Saxon, “is a valuable one” (Verhoeven & Vanoutrive, 2012, p. 200). The assertion that The Netherlands, Germany, and Belgium belong to one and the same tradition is a widespread idea that does not take into account the recent developments in economic cultural behavior and basic attitudes towards communities (Amable, 2003).

These differences in governance in ports can have an effect on performance as well as shown by Kuipers who mentioned the Anglo-Saxon character of the port of Rotterdam, illustrated by the observation that Anglo-Saxon oriented companies performed better (Kuipers, 1999). But apart from the company level, these differences in governance have an effect on port–port city relations and consequently on the presence and visibility of the port within the port city. These relations and this presence are the central theme of this study.

1.3.1 Locus

Within the Le Havre–Gdansk Range, three ports stand out in terms of competing with one another: Antwerp, Rotterdam, and Hamburg (Deloitte, 2009; Kuipers, Nijdam, & Jacobs, 2011). The relationships between these ports and their respective port city have developed in different ways and consequently the bonds between these cities and their ports vary (Merk & Notteboom, 2013). Governance can be viewed from various perspectives. It can be seen as the exponent of an attitude towards relationships between firms and their stakeholders. It can also be viewed as policymakers’ attitude towards economic development in general and how policymakers behave towards firms in particular. Governance is a perspective that can be used to explain different developments in the port–port city relationship. The observation that differences in culture are reflected in governance makes these three cases very interesting. As touched upon above, it is often assumed that the three ports belong to the same economic system (Suykens, 1998), but categorizing these three together is an example of underestimating subtle differences that may influence approaches to governing/managing port–port city relationships.

These three ports belong to different economic systems that have an impact on their performance. Studying these three ports – at first glance culturally and from a governance perspective completely the same – might produce relevant findings.

1.3.2 Focus

The loci of this study – Antwerp, Rotterdam, and Hamburg – having been established, the scope of this thesis must be defined to narrow the themes to be investigated. The object of this research is to look at the way in which port policy was made and accepted by the different actors in the port–port city arena: firms, citizens, organized stakeholder groups. The way in which ports “fund various ‘economic development’ initiatives, the ongoing and supported program by policymakers and communities to promote help and make better a general level of health, economy, security and business in a community or region – usually requiring public funding, subsidies and collaboration between government and private sector entities” (Pigna, 2014, p. 86) is an especially interesting item that indicates willingness to acknowledge the bonds that exist between the port and its port city. In terms of physical presence (visibility), it is interesting to add a fourth aspect: the extent to which attempts are made to re-introduce new port functions in the city, especially in the old declining docklands (Charlier, 1992).

1.4 RELATIONSHIPS AND INFLUENCES: CREATING A RESEARCH FRAMEWORK

Port–port city relationships are often researched on the basis of the benefits or the negative effects for the city attributable to the presence of the port. It is done by reflecting on these relationships by researching stakeholder relations in terms of the economic sectors (transport, energy, industry) that interact with public territories (Debie & Raimbault, 2016). Demographic size and port traffic developments are measured as well as the interrelationship with the hinterland to come to distinctive port functions (Ducruet, 2006, 2007). The benefits for the city in terms of the nature of direct and indirect employment and value added are also a field of interest for maritime scholars (Kuipers, 2018c; Kuipers & Vanelander, 2015; Jacobs et al., 2011). Various scholars from different disciplines have studied the effect of the retreat of port functions on the visible structure of the city and the need for redevelopment, or the need for the port cluster to establish new relationships with the hinterland (Hein, 2016; Hayuth & Hilling, 1992; Hoyle & Pinder, 1992; De Langen, 2004; Charlier, 1992). Attractiveness in the competitive maritime world was another beloved subject for scholars who looked at the port and city together as a cluster (Merk, 2014;

Merk & Notteboom, 2013). So the port-port city relationship is studied extensively and new topics are of interest that have an impact on port and city, like CCS (Carbon Capture and Storage), energy transition with hydrogen, LNG and digitalization (Acciaro, Ghiara & Cusano, 2014). But these topics are not the subject of this thesis.

These approaches all look at the measurable and visible aspects of the port as an object for research. Only a few have addressed the forces that influence and sometimes determine the phenomena for ports and their respective cities and how they interact. Of course, governance is a well-studied subject, including in port studies (Baltazar & Brooks, 2007; Brooks, 2004; Brooks & Cullinane, 2007b) but, to get beyond this, a field studied by scholars that dare to take another approach is not that well represented in port city studies. They can, for example, be found in organization studies, sociology, and geography. Scholars in these fields pay attention to interpersonal relationships that characterize formal structures between institutions (Granovetter, 1973, 2005), the mechanisms that can shape these relationships (Lam, 2000), or the spatial impact of these relationships (Gertler, 2003). Some take these tacit, untouchable phenomena as their explanatory base to describe and explain large spatial phenomena like whole cities (Glaeser, 2011). In port studies, Williamson's (1981) model, which describes several layers that influence organizational structures, is taken as the basis for a conceptual model to understand maritime performances (Geerlings, van der Horst, Kort, & Kuipers, 2012), although the supra-structure described in that model as informal institution, norms, and religions is hardly dealt with (Geerlings et al., 2012, p. 17).

The objective of this thesis is to investigate what is going on in the development of these port-port city relationships that is not immediately revealed in statistics or day-to-day actions of the actors within their clusters. The empirical part of this thesis starts with the history of the ports and shows that phenomena in physical appearance, but also in non-physical appearance like organizational structure, originate in history. In this thesis, the theoretical part is researched by elaborating on the concepts created in the theoretical framework of Chapters 2,3 and 4. In terms of Williamson's (2000) four-level model of social analysis (Figure 1.1), this is level 1.1.

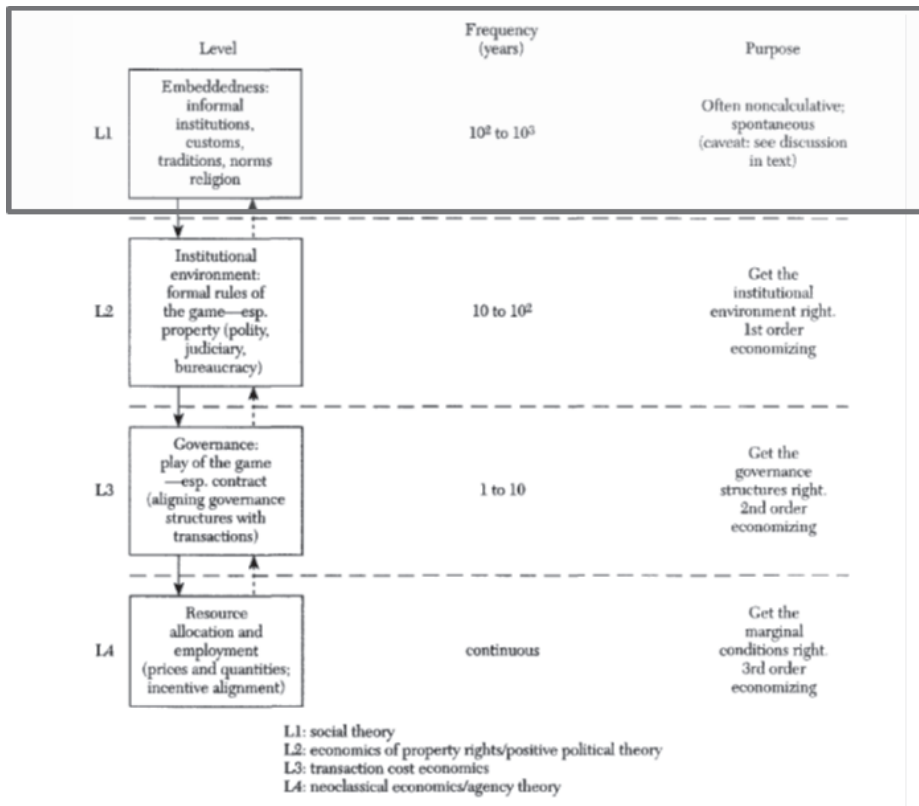


Figure 1.1 Levels of social analysis (Source: Williamson, 2000)

Changes take place over many years (100–1000), and their purposes are created spontaneously. Williamson (2000, p. 596) acknowledges that this level is not the focus of most economic scholars as they take it for given. He mentions the types of embeddedness, Granovetter’s work on researching strong and weak ties, and the scholars researching culture. In this thesis, this level is the focal point of research as demonstrated in the conceptual model. Levels 1.2, 1.3, and 1.4 of Williamson’s social analysis levels represent the structured, codified world, whereas level 1.1 is the supra-structure in which the later levels are immersed. It is this level that the empirical part aims to describe and explain. The actions taken on levels 1.2, 1.3, and 1.4 are determined, whether consciously or subconsciously, whether acknowledged or denied, by the structures in level 1.1.

The relationship between the port and the port city is the subject of many studies. Numerous scholars have researched these topics from different points of view. Therefore, a distinction can be made in terms of subjects studied (as categorized

by Pallis, Vitsounis, De Langen, & Notteboom, 2011) and of how these ports can be categorized according to the methodological approach adopted (as done by Woo, Pettit, Kwak, & Beresford, 2011). In these studies, different models are presented to describe and understand the relation between the port and the city.

In this literature a variety of dynamics are presented that influence these relationships, showing a physical, functional, and mental separation between the port and the city. This separation has had negative influences in all port cities. Many of them are suffering from the outcome of this process in terms of underdeveloped city districts, unemployment, and low incomes. A wide range of activities are initiated to stimulate dynamics in the city center in order to mitigate these negative outcomes. Some port cities are more successful than others in this. In this thesis, an alternative approach to studying the outcome of the situation in Rotterdam, Antwerp, and Hamburg is suggested. For that, in this thesis three bodies of knowledge are used to derive concepts that can be used to conduct the empirical research. The first body of knowledge is covering cluster theory, as the subject researched is the port-port city relationship that expresses itself spatially. The review of theory from the body of knowledge on cluster development includes concepts that can be defined as cluster characteristics. In the empirical part of this thesis they will be used to describe the development of the three port clusters under study, from a historical perspective to the present situation. The second body of knowledge is governance. Governance is a factor that manifests itself in the cluster in a way that it influences the relationships between the actors within the cluster. Governance itself is influenced by an institutional structure. Therefore, a third body of knowledge was needed that is defined as institutional arrangements. The review of governance and institutional arrangements will lead to sensitizing concepts that will be used in the empirical part to guide the analysis of annual reports of port authorities and the interviews with port-port city experts. Special attention is given to a theory about the political economic structure of societies. This is not seen as a body of knowledge but will have to be reviewed because it creates the embeddedness in which the concepts manifest themselves.

1.5 SETTING THE SCENE: RELATIONSHIPS BETWEEN PORTS AND CITIES

For ages, ports and port cities have been intertwined. Cities like Rotterdam and Hamburg in Europe, but also New York in the United States of America and Shanghai in China, were initially better known for their ports than for city development.

Port were essential for city development because ports functioned as a nodal point within a network of flows (Verhetsel & Sel, 2009). Looking at port cities worldwide or, as this thesis restricts itself to, in Europe, reveals a great diversity in development.

This diversity is due to:

1. Geographical position: the location at the seaside that made it an obvious place to land goods from overseas, or the inland port city with a river connecting it to the sea and to a hinterland (Suykens, 1998);
2. Historical developments: the port city itself that developed as a place mainly for transferring goods, or the port city as a mercantile place where (wholesale) trade was the principal activity and everything was traded as long as it was profitable (Vance, 1970; Ducruet, 2006). In fact, this has influenced the development of port cities from a space of places (determined by geographical position) to a place of flows: nodes where economic sectors meet (Verhetsel & Sel, 2009);
3. The governance structure, and related to that, the culture in which this was embedded, that partly determined the implementation of the effects of economic dynamics (see for instance the development of factor conditions in Germany as described by Porter (1990a, p. 368).

This diversity, however, did not prevent a rather common phenomenon: the spatial separation of port functions (Merk, 2014) and the city as the place where these functions had their spatial expression (Bird, 1963). This spatial separation resulted, on the one hand, in a continuous search for new port extension areas to facilitate new activities and, on the other hand, in cities that were abandoned. How these cities were able to cope with this loss has been the subject of a wide range of studies (Charlier, 1992; Merk & Dang, 2013; Hoyle & Pinder, 1992; Hayuth, 1982). Merk (2014), in particular, pays a lot of attention to the spill-over effects, both negative and positive, and concludes that the negative externalities were long felt in the port region and the city, whereas the positive effects were felt in the hinterland. The results of these policies for handling the dynamic of the separation of the port's function from the city are profoundly diverse, but the dynamics that led to the diverse outcomes can be seen as universal.

This thesis aims to contribute to a better understanding of these outcome differences. The enormous growth in cargo handling and logistics services in ports like Rotterdam made a substantial contribution to national GNP, but the parent port city "leads the wrong lists",² so such cities can be regarded as rather poor. Other ports

² Alderman Dominic Schrijer of Rotterdam in *Nederlands Dagblad*, 23 March 2007.

whose growth was of a more modest magnitude are located close to (or in) a city that has profited from these maritime activities and are characterized by substantial wealth, like for instance Hamburg (Läpple, 1998). The effects of these negative and positive externalities of port activities have been studied thoroughly (Merk 2014; Nijdam, 2010). So, the way in which the dynamics were absorbed by the various port cities is of continuous interest to scholars (Pallis et al., 2011). However, a study trying to describe and understand the diversity in outcomes regarding port–port city relationships from the perspective of differences in relationships between port actors – and especially a difference rooted in other structures and manifestations of governance – has not been performed before. In this thesis, these manifestations of governance are called determinants, are responsible for the port–port city relationships, and have led to different outcomes from the dynamics affecting these relationships.

The objective of this thesis is to explore the dynamics that led to this phenomenon and the functional and spatial outcomes. It aims to find an explanation not only in these distinguished dynamics, but also in the way in which these dynamics were governed. To focus on the relationships between port and city actors, regarding the port, special attention is focused on a particular port actor: container terminal operators. These operators were chosen partly because of their representation of an important dynamic – influencing port–port city relationships –, partly because of their strategic value for the port, and partly because of their spatial behavior consequent to the need for new large port areas. However, port companies are also included in the research. So, the object of research is the port–port city relationships as expressed in Figure 1.2. As stated in the first part of this introduction, the cases of Rotterdam, Antwerp, and Hamburg are the locus for this study, on the premise that differences in governance are apparent in these three different geographical locations.

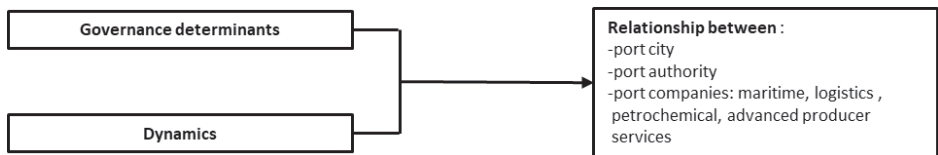


Figure 1.2 The basis of the research model

1.6 PROBLEM ANALYSIS

The current relationships between the actors in the port and its (former location) port city are a result of dynamics and determinants that gave rise to various outcomes. These various outcomes are expressed in the city's welfare, (un)employment, abandoned former port areas, the relationship between port actors and between the port community and representatives of the city's government, and the extent to which the port as an activity is still making a contribution to the port city's economic activity. To describe and understand these differences, the dynamics and determinants need to be explored. The dynamics are related to developments in the maritime world, the determinants are related to the culture and its interaction with governance within and between the private and public actors in the port–port city relationship.

1.7 DYNAMICS INFLUENCING PORT–PORT CITY RELATIONSHIPS

The development of the relation between ports and cities and in particular their loosening relationship is, according to a variety of scholars, influenced by four main dynamics that affect port–port city relationships:

1. Increase in scale of maritime and logistics operations;
2. Containerization;
3. Globalization as the driver of global trade;
4. Agglomeration economies (urbanization externalities) as an important characteristic of the urban economy.

1.7.1 Increase in scale

The scale increase in port handling and port-related industrial operations forced ports to look for sites better equipped for handling more cargo. Especially after the Second World War, the increase in volume was unprecedented because of the rebuilding of Europe. In addition, the rise in car ownership, the rise of the petrochemical industry, and the derived demand for natural resources and fuels impeded the growth of the ports. The docks needed more and more space, and the creation of specialized infrastructures to handle these larger volumes of more various cargo required new sites – sites that could not be found within the port city's environment (Hoyle & Pinder, 1992).

1.7.2 Containerization

The rise of the container as a transportation unit had a profound effect on how ships could be handled and was also a factor that contributed to a loosening of the ties between ports and port cities (Notteboom, 2007). Vast new areas were needed to accommodate the more and more advanced and automated container terminal operators, and thus the container was an accelerator for the dynamic described above – the scale increase in port basins.

1.7.3 Globalization

Globalization has made the world smaller. Production and consumption locations have shifted (Baltazar & Brooks, 2007), and more and more trade has become intercontinental in addition to international (intracontinental). This international/intercontinental trade was further eased by the application of the container as a transport mode. In fact, this relationship became two sided: globalization enhanced the volumes of shipped cargo, and the cost reduction achieved by using containers enhanced world trade (Merk, 2014).

1.7.4 Agglomeration economies

As an effect of globalization, companies with a worldwide customer base established their offices near their customers, and consequently they wanted to locate themselves in an urban environment that provided the legal, financial, and employment services that they needed. These agglomeration economies gave rise to advanced producer services (APS). It made cities, especially world cities, service centers in specialized assistance in finance, market research, accountancy, legal counsel, insurance, advertising, and so on (Verhetsel & Sel, 2009). Merk (2014) and Jacobs et al. (2011) have studied this dynamic extensively for port cities. The maritime sector, known as maritime advanced producer services (MAPS), had to fill the gap left in port cities in terms of viability, employment, and urban dynamics (Merk, 2014; Jacobs, Koster, & Hall, 2011). It became a place for the execution of support services (Kuipers & Vanelander, 2015).

In summary, we see that the dynamics are interactive and enhance one another. Globalization influenced the increase in cargo shipped by containers that was responsible for an increase in scale and a spatial rearrangement of port activities in port cities. Therefore, globalization can be seen as a driving force behind these dynamics. This created a port city that was left behind and in search of new opportunities for urban development, which was partly realized by the location of MAPS. The extent to which these port cities succeeded in doing that has contributed to the welfare of the port city, but the success had different outcomes in different cities.

1.8 DYNAMICS AND THEIR SPATIAL IMPACT

These dynamics that affect the spatial development of port cities have been described with the help of different concepts: a. Bird's (1963) Anyport model; b. Notteboom and Rodrigue's (2005) regionalization model, and c. the port city dynamics/maritime center development model (Jacobs et al., 2011).

1.8.1 Increase in scale and Bird's Anyport model

Bird (1963) starts his analysis by describing the port's origin as a natural site on a river or seafront; but then he sees an abandonment of the original site. The traditional quays could not handle the growth in cargo volume. Furthermore, port-related industrial activities needed large areas of land to accommodate their sites, and these sites, because of their negative spillovers (traffic, air pollution, noise), needed to be located further away from the old port city. Bird's Anyport model describes the first-mentioned dynamic: the change in scale. It describes pure maritime activities, bound to a port's location, and indirect industrial activities. The port industrial complex is the striking example of this phase.

1.8.2 Containerization and the regionalization model

Notteboom and Rodrigue's (2005) regionalization model illustrates how, because of the breakup of cargo, specialized inland ports and logistics regions with port-related distribution centers emerged, close to customers' locations. So, activities formerly performed within the port area were redistributed to several smaller dispersed locations. This dispersal was facilitated by the emergence of the container as a transportation unit; so, this model describes the second dynamic of containerization and thus elaborates on Bird's Anyport model, still describing maritime port activities, but no longer tied to the original port.

1.8.3 Globalization, agglomeration, and port city dynamics

The globalization and agglomeration dynamics have had a tremendous impact on the development and the choice of location for APS, and the rise of MAPS has attracted the attention of authors (Jacobs et al., 2011; Merk, 2014). These authors found that a MAPS firm's decision to locate in a city is influenced by urbanization externalities and proximity to other (also non-maritime) firms in general. So, if a port city wants to attract port-related activities, it must also provide service activities that are not port-related to be an attractive site in which to locate. Spatially, four phases that result from these dynamics can be identified:

1. The historical site;

2. The extension outside the original city boundaries but still connected to the city, often via the municipal boundaries and often towards coastal areas (Rotterdam, Antwerp);
3. The inland extension towards the customers who need to import or export and need facilities to handle the cargo: breakup, storage, value-adding activities;
4. The rise of service centers as clusters of maritime assistance activities in search of attractive sites that create a situation that favors their activities in terms of true Porterian clusters. This includes enhancing differential knowledge, enlarging value chains, tapping into skilled labor, the presence of the right infrastructure: transportation, communication, housing stock, cultural institutions (hence: quality of life) (Porter, 1990a, p. 75).

The effect of these dynamics is visualized in Figure 1.3 and might be seen as an elaboration of Bird's Anyport model and Notteboom and Rodrigue's regionalization model:

1. The historical site;
2. The extension consequent to scale resulting in extensive port activities and the port industrial complex: moving downstream;
3. The regionalization phase: moving upstream (hinterland);
4. APS, commodity traders, and companies' headquarters.

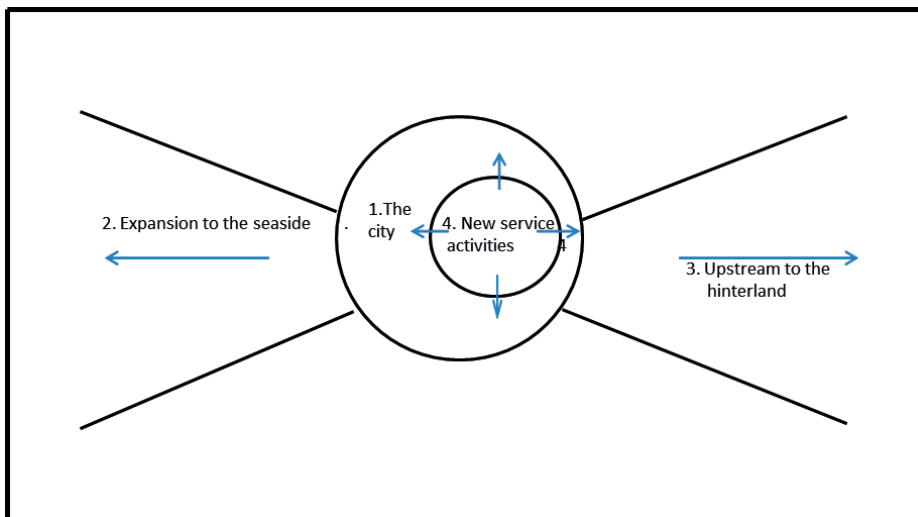


Figure 1.3 Opposite dynamics leading to new functions for the port city's center (Source: author)

As an example, for a port like Rotterdam, this can be spatially translated into:

1. The city;
2. Botlek, Europoort, the Maasvlakte I and II;
3. Moerdijk, the city row in the province Noord-Brabant, Venlo;
4. Weena, Westblaak, Scheepvaartkwartier, Rhoon, Rotterdam Alexander, and other scattered locations in the urban environment.

For Antwerp, extension 2 was directed downstream to the north in the early years of the 20th century along the Scheldt. In recent times, this meant a 'jump' over the river Scheldt towards the west. Upstream, the inland ports of Ghent, Brussels, and La Louvière illustrate extension 3, the expression of regionalization. For phenomenon 4, the old city quays now accommodate all kinds of small-scale activities and leisure. For a port like Hamburg, extension 2 has a completely different position towards 1, and so does the incorporated port industrial cluster. This is particularly because the Free and Hanseatic City of Hamburg sets political limits on the extent to which port activities may be expanded. It simply cannot go outside its municipal borders and for Hamburg – this is an interesting phenomenon – state boundaries. Regionalization 3 is probably more related to activities in 1, illustrated by Hamburg's high loco quote (Merk, 2014), so the bonding between port and customer might have another character. Regarding MAPS in 4, Hamburg has the highest concentration of leading maritime services in Europe (number two in the world, Verhetsel & Sel, 2009), partly thanks to German shipping concerns (based on an analysis of interrelations in these cities between shipping companies and container terminals) that made the city their home base, so paving the path for other services. Because of that, it is also the location center for a number of headquarters and regional headquarters of financial and legal service providers.

Hoyle and Pinder (1992) focused especially on the impact of the separation of port functions and port city. They identified five phases in the evolution of the European port city that had a significant effect on its visible presentation (Figure 1.4) (Hoyle, 1989; Hoyle & Pinder, 1992):

1. The primitive ancient and medieval city port;
2. The expanding port city of the 19th century;
3. The modern industrial port city that started the spatial separation between port and city;
4. The emergence of the maritime industrial development areas (reinforcing the retreat of port functions from the city);
5. The waterfront redevelopment (to overcome the problems that resulted from phases 3 and 4) (Hoyle & Pinder, 1992, p. 8).

STAGE	SYMBOL ○ city ● port	PERIOD	CHARACTERISTICS
I Primitive port/city		Ancient/medieval to 19th century	Close spatial and functional association between city and port
II Expanding port/city		19th-early 20th century	Rapid commercial/industrial growth forces port to develop beyond city confines, with linear quays and break-bulk industries
III Modern industrial port/city		mid-20th century	Industrial growth (especially oil refining) and introduction of containers/ro-ro require separation/space.
IV Retreat from the waterfront		1960 s-1980 s	Changes in maritime technology induce growth of separate maritime industrial development areas
V Redevelopment of the waterfront		1970 s-1990 s	Large-scale modern port consumes large areas of land/water space, urban renewal of original core

Figure 1.4 Evolution of the port city interface (Source: Hoyle, 1989)

The retreat of the waterfront results from four factors: technological (maritime technology), spatial (the scale of the maritime activities requiring vast areas of land and water), socioeconomic (the decline in port-related employment), and environmental (noise, air, and surface pollution) (Hoyle, 1989, p. 430). How did this work out in the present situation of the ports under study? As visualized in Figure 1.3, the ‘butterfly’ expresses the moving away of functions from the port in both ways: to the sea and inland as an outcome of regionalization. Hoyle’s model especially concentrates on the left wing of the butterfly, the typical seaward-directed functions that needed other types of land use as the finger-shaped old piers were no longer capable of handling large vessels.

To summarize, dynamics as described have been influencing the port–port city relationship. The relationship is loosened in such a way that the traditional bond between a port and its port city is affected by these dynamics. This has led to an abandoned port city in terms of traditional port functions. This situation is coped with in various ways, with more or less success. For port cities, this has long been a challenging situation. In Western Europe, port cities have followed different paths with different results. These aspects constitute the first part of the central research model as shown in Figure 1.5.

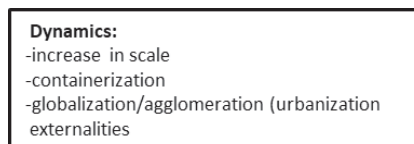


Figure 1.5 Dynamics influencing port–port city relationships

1.9 THE RESEARCH QUESTIONS

Given the problem analysis as described in section 1.6, this thesis describes and explains how various port cities have coped with the forces that took form in the dynamics as described above and the effect that this had on the development and the welfare of the ports and their respective port cities and stakeholders. This description and explanation are performed by using three case studies: Rotterdam, Antwerp, and Hamburg. These three ports are the largest ports in the Le Havre–Gdansk Range in terms of cargo and container handling capacity and are also representative of Western Europe’s industrialization and economic development. However, these ports had different outcomes in their development, and the explanation can be found in disciplines that are not always used in the mainstream research concerning port studies. To find an explanation that goes beyond the previous research undertaken, this thesis uses concepts borrowed from different disciplines.

For this, the following research question has been devised and is answered in this thesis:

How can we understand the relationship between port and port city in response to international, port business-related, developments?

To operationalize this question, five subsidiary questions have been formulated. In this research, it is assumed that the factors that need to be addressed in studying port–port city relationships derive partly from different cultural embeddedness, especially articulated in political-economic structures. This embeddedness is the result of the supra-structure that forms the social fabric of the port city community. This leads to the first question:

1. What are the dynamics that play a role in the shaping of spatial and port-port city relationships?

The problem analysis is dealing with this sub question. As the developments in the three port cities under study might take another direction spatially and social economically, the way these outcomes manifested, is described. This leads to question 2.

2. What are the differences between various port cities in response to these dynamics influencing port-port city relationships and how can this be explained?

Differences are spatially rooted but also social political economic processes play a role. To operationalize this, concepts are needed that act as an anchor for the empirical research.

3. Which concepts can be of any support to explain the responses to the dynamics influencing port port-city relationships?

For this, three different Bodies of Knowledge are used that lay the foundation for these new concepts. In the concepts is explicitly acknowledged that a phenomenon named suprastructure plays an important role; it refers to the political economic structure in which a port and its port city has developed in past and present. This leads to question 4.

4. What different political economic structures can be distinguished that influence the port city communities in Rotterdam, Antwerp and Hamburg?

The recognition of different structures form cultures that can be seen as relevant for port-port city relationships as they may help to explain and understand different outcomes. This leads to question 5.

5. How do these political economic structures manifest themselves in port-port city relationships?

The political economic structures are studied from the perspectives of these concepts and explain the different responses.

1.10 VARIETIES IN PORT-PORT CITY RELATIONSHIPS

The dynamics – increase in scale, containerization, and globalization – have an impact on port cities regarding issues with which the cities have to cope. To do so, diverse actors interact to match the possibilities of the port region with the demands that evolve from the dynamics. These diverse actors are port firms (e.g. container terminal operators), customers of port firms, port authorities, city councils, and public organizations. These actors have different demands such as a quest for space and the need for skilled employment, subsidies, available technology, and existing and promising port or port-related clusters. These demands are sometimes complementary and sometimes conflicting. In a liberalized environment, Adam Smith's invisible hand was supposed to result in perfect competition for these elements and as a result a perfect situation for the actors involved (Smith, 2012), but Adam Smith's invisible hand does not exist, as he himself acknowledged.³ As history shows, port cities have, more or less, been suffering from the negative externalities of these dynamics, and, although many abandoned sites have been rejuvenated with other activities, this has been a socioeconomic and political issue for port city councils. They had the task of binding the positive outcomes of these dynamics to

3 Smith remarks that the invisible hand is sometimes helped by deliberate but unnoticed influence: "Masters are always and everywhere in a sort of tacit, but constant and uniform, combination not to raise the wages of labour above their actual rate" (Smith, 1776, p. 71).

the port city and mitigating or withstanding their negative effects. Cities handled this more or less successfully, and so the port–port city relationship developed in different ways. For this thesis, the situation in Hamburg, Rotterdam, and Antwerp is researched, on the assumption that the way in which these forces are handled differs between these cities. This thesis considers these differences as outcomes of different balances between public and private forces in combination with given geographical circumstances. The balancing act of public and private governance has its roots in cultural environments that might have led to different types of governance. This is the case for public as well as private (firm) governance. Its roots lie in differences in culture, and the political economic environment. They define customs, norms, and behavior, and this situation leads to another interplay among actors.

1.10.1 Cluster development

The development of a port region can be studied from the cluster perspective. The structure of “...groups of interconnected firms, suppliers, related industries and specialized institutions” (Porter, 1990b, p. xii). Porter states that clusters can enhance the performance of individual players and consequently be beneficial for the whole region (Porter, 1990b). Therefore, the cluster concept is useful in that actors within the cluster feel that they play a role in the wellbeing of the cluster and that they can be of influence. Studying clusters from the perspective of their life cycle and their different outcomes is especially fruitful for looking for path dependencies and events that enhance or threaten clusters’ continuity (Chapman, 2005; Menzel & Fornahl, 2009). So, the cluster as a concept needs to be included for understanding possible varieties in relationships between the port and its port city. This will be the first body of knowledge to be explored.

1.10.2 Governance

Governance is an important topic in port–port city relationships. The devolution of responsibilities articulated in a more or less independent port authority that operates on a distance of the public (read: municipal) sector, is a process that has been of interest for many studies (Brooks, 2004; Brooks & Cullinane 2007; Van der Lugt 2015). Corporate governance can be seen as a system that provides rules and control mechanisms to enable monitoring and motivation of partners in a system. This system should initiate and support R&D activities and build human and cultural capital (Ungureanu, 2012). Studying the governance within the three ports with their own cultural and political embeddedness might shed light on the development of the port–port city relationships.

1.10.3 Institutional arrangements

So studying the effect of variations in governance on port-port city relationships, one must also take into account the results of institutional arrangements⁴ that make up governance. The definition of the UNDP (see footnote 4) defines these arrangements on the organizational level. Logically, as they are institutional based. They define the way governance is employed. But these institutional arrangements are manifested on different aggregated levels. Not only on the organizational level, but also based in the behavior of individuals. The review of this body of knowledge will take this into account.

So there are three bodies of knowledge that are needed to conduct the research which is visualized as in Figure 1.6. They will be the basis for the coming chapters to review literature.

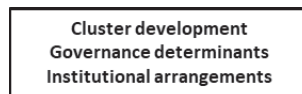


Figure 1.6 Bodies of knowledge used to study port-port city relationships

1.11 POLITICAL ECONOMIC STRUCTURES AS THE EMBEDDEDNESS

As stated in section 1.9, governance and institutional arrangements take place within a political economic embeddedness. They are influenced by the presence of a political economic system. These systems differ throughout the world as well as throughout Europe. Studying the three port cities of Rotterdam, Antwerp and Hamburg will show the differences in this embeddedness. It can be used as a factor that shape the outcomes of variations in the manifestation of cluster development, governance and the institutional arrangements. As such it must be reviewed as the context in which the sensitizing concepts, generated by the three bodies of knowledge, manifest themselves.

⁴ Policies, systems, and processes that organizations use to legislate, plan, and manage their activities efficiently and to effectively coordinate with others to fulfill their mandate (website UNDP, consulted 13 June 2016).

1.12 A VISUALIZATION OF THE RESEARCH MODEL

The relationship under study and the dynamics as presented in Chapter 1 are visualized in figure 1.7. The bodies of knowledge present the sensitizing concepts that will conduct the research of how the relationship between port and city has developed. These sensitizing concepts must be studied with the acknowledgement that they are manifested within a political economic context. The empirical research will consist of the three case studies Rotterdam, Antwerp and Hamburg of which the data will inductively be analyzed by using these sensitizing concepts. This will generate a description and an explanation of different outcomes of the port-port city relationships between the three port regions under study.

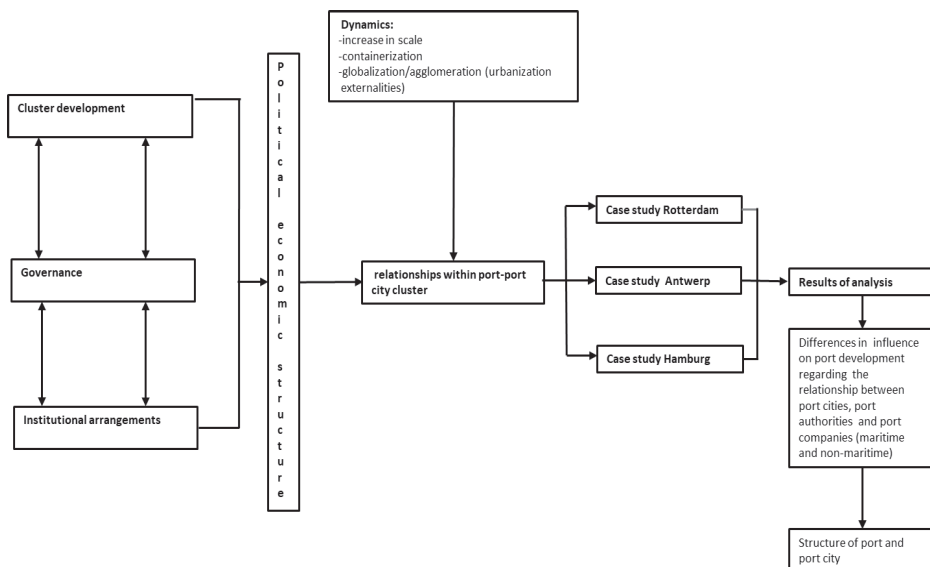


Figure 1.7 The research model

1.13 SCIENTIFIC RELEVANCE

The influencing forces that occur rather universally in the maritime industry and how they relate to possibly influencing factors based on cultural differences have not been studied before from a governance perspective. Ports are very often seen as places of activity that are more or less the same but whose geographical circumstances have defined their development. This study provides insight into the fact that culture as manifested in governance plays an important role in how these port cities have developed. It can provide tools to improve the relationship between two

entities that have grown apart and that still have bonds that can be exploited to enhance a beneficial relationship between them.

1.14 SOCIETAL RELEVANCE (VALORIZATION)

Over the past two decades, Western European politics has been heavily influenced by a neo-liberal style of governance. Globalization has embraced this thanks to the opportunities that this created for multinational companies. The outcome has created winners and losers in terms of economic possibilities (employment) and the welfare of port cities' citizens. Understanding the way in which different policies, based on nuances in handling the same dynamics, have led to possible different outcomes for a city's population, might facilitate re-evaluation of the way in which port policy, made by the municipality, addresses the city's port function. Chapter 10 reflects on that.

1.15 OVERVIEW

This thesis is constructed in three parts. Part A, the introduction, states the problem analysis and introduced the bodies of knowledge needed to establish a research framework along which the way the research is conducted. It introduces three perspectives, the bodies of knowledge, along which research has been conducted to get a hold on the subject. It ends with a visualization of these bodies of knowledge as a base to conduct research.

Part B, the theoretical part, elaborates on the three perspectives chosen: cluster development (Chapter 2), governance (Chapter 3), and institutional arrangements (Chapter 4), as articulated by the bodies of knowledge. Each perspective deals with insights from various bodies of knowledge. The review of the bodies of knowledge ends with the concepts seen as important and derived from literature. The chapter covering cluster development will generate concepts characteristic for clusters to describe and explain differences in the composition and the spatial outcome of the three port clusters under study (the empirical part will use secondary literature and data on economic development and give brief histories of these developments within the clusters and the current situation as an outcome. The chapters covering governance and institutional arrangements will generate sensitizing concepts. These sensitizing concepts are used inductively to analyze the data used in Part C to research the three port communities. Chapter 5 describes perspectives of the

context in which the clusters have been developed and the related governance and in which institutional arrangements are embedded. This is the variety in political economic structures. The sensitizing concepts and the perspectives within which they were created are wrapped up in Chapter 6 in a research model.

Much of the literature dates from before 2010. The reason for this is that the development of this theoretical part dates back to between 2014 to 2017. So, from that perspective, 2010 is not that long ago, and the literature applied is appropriate to describe or help to explain current phenomena, as will be shown. Furthermore, this literature, thanks to its quality, can withstand the passage of time. The review of the literature is quite extended. It was a kind of journey in bodies of knowledge that were not always well known to the researcher. The journey was needed to get a hold on the various disciplines. Part B ends with the methodology in Chapter 7. This is quite extensive because the method used is often interpreted in various ways and it is necessary to clarify how the interpretation of the method chosen for this thesis was established.

Part C, the empirical part, is divided into three segments. The first one (Chapter 8) consists of brief histories of the three port cities to establish an understanding of how they developed before the maritime world became even more globalized, and how they responded to that at the end of the 20th century. The second one (Chapter 9) presents the findings of the researched conducted for the three ports along the chosen sensitizing concepts. The third one (Chapter 10) brings the theory and the empirical findings together to create new insights that provide the input for conclusions and reflections.

The structure of the thesis is visualized in Figure 1.8.

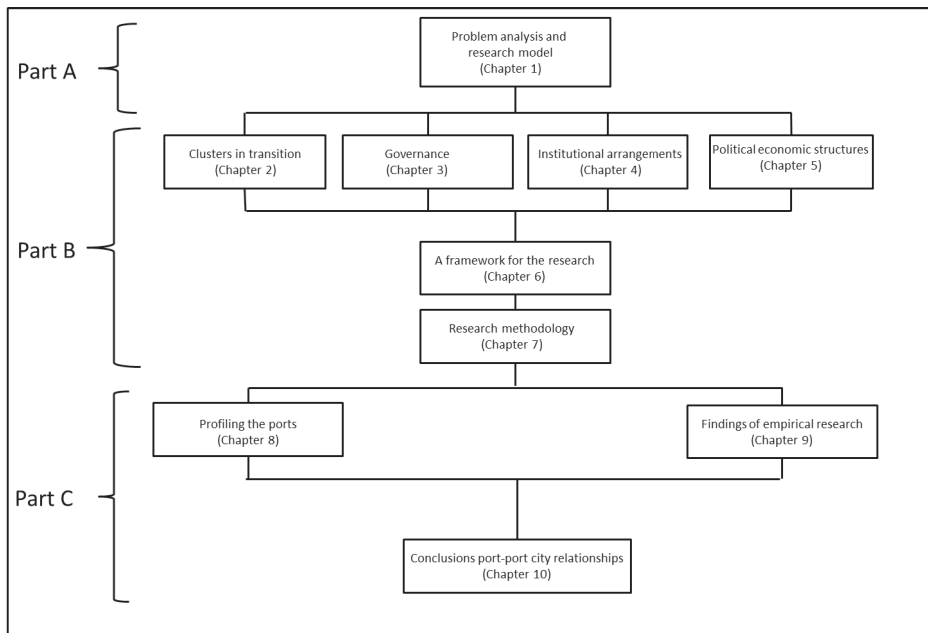
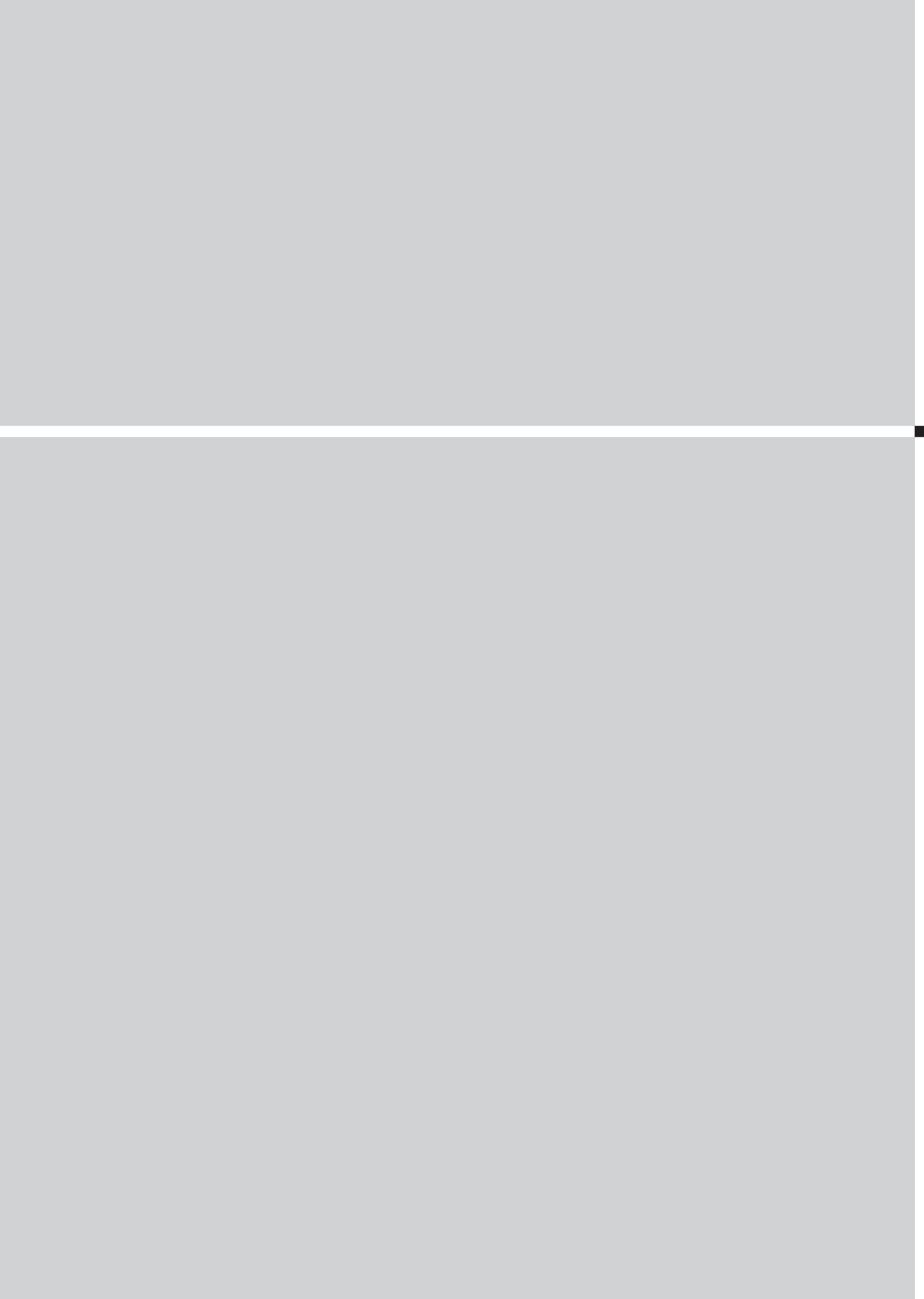


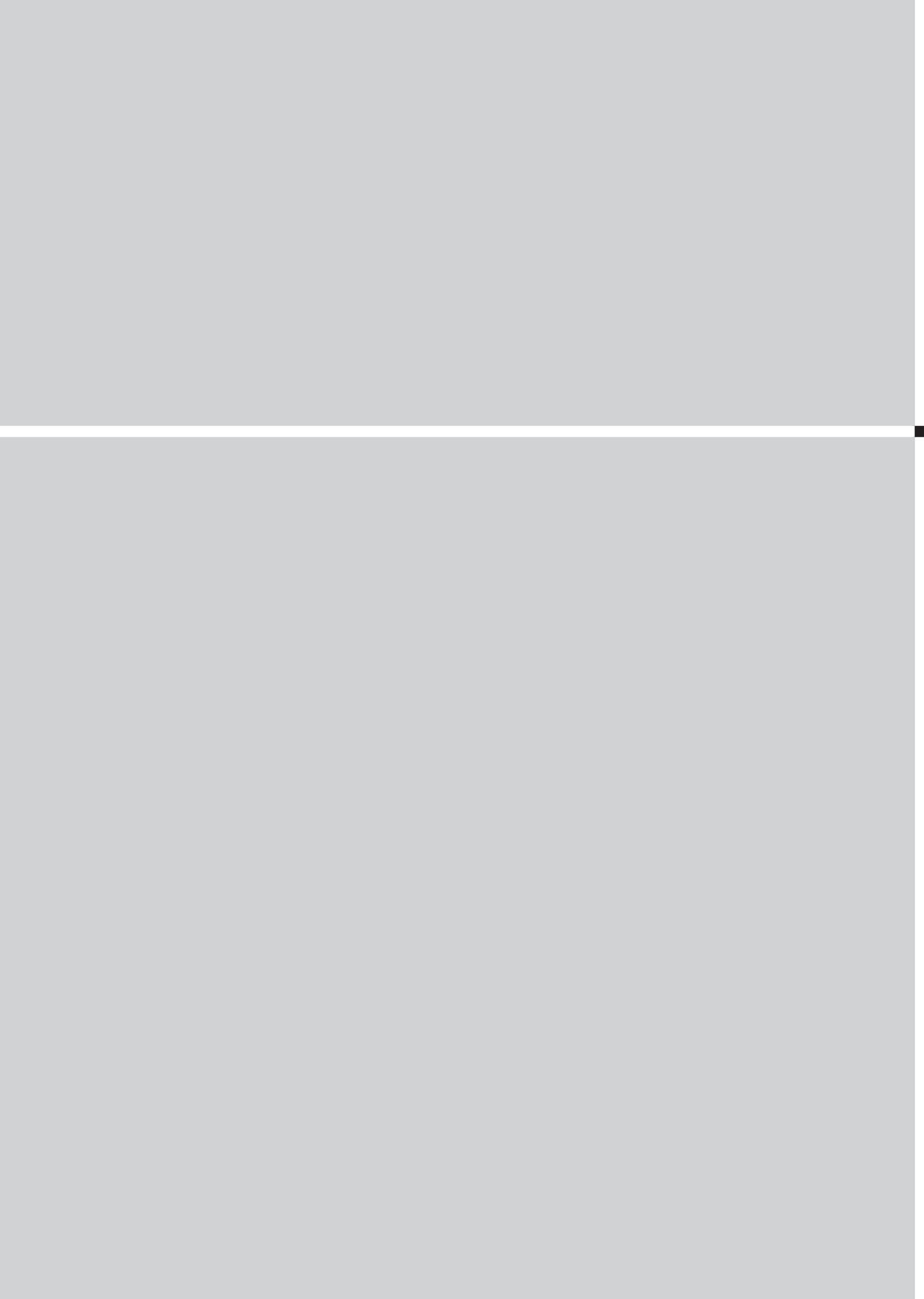
Figure 1.8 Structure of the study



Part B

Theoretical Part

This theoretical part consists of three chapters required to lay the foundation for describing and explaining the various outcome in port-port city relationships. The three bodies of knowledge will provide the concepts needed for this research. Chapter 2 will provide the concepts to describe, characterize and understand cluster development, a basis for the historical descriptions and explanation of the outcome of the three port developments in the empirical part. Chapters 3, 4 and 5 overview scholars' different insights on the topics of governance, institutional arrangements and political economic structures. Chapter 3 and 4 will generate the sensitizing concepts that conduct the empirical part concerning the analysis of the data. Chapter 5 will be dealing with the context in which these concepts must be viewed. Chapter 6 will summarize this. Chapter 7 will explain the methodology used that conducted the inductive analysis.



Chapter 2

Clusters in transition

2.1 INTRODUCTION

Ports and their port cities have a mutual relationship. As described in Chapter 1 in the problem analysis, this relationship has been under strain. Because of external and internal forces, the port function in its role as a mercantile place (Vance, 1970; Ducruet, 2006), transshipping goods, and the attached functions like stevedoring, customs, and so on is often no longer found in the city. This process, although quite universal as described by Bird (1963) and many others (Suykens, 1998; Merk, 2014; Merk & Dang, 2013; Charlier, 1992; Hayuth, 1982; Hoyle & Pinder, 1992), has had different outcomes in terms of spatial and functional configurations. In this chapter, the aim is to use the cluster concept to build a research framework to describe and analyze these differences that affect the relationship between ports and their respective port cities. Focusing on the concept of localized growth, the chapter provides a short overview in section 2.3 of the different approaches to concepts of concentration of activities, which form the basis of the cluster concept. They are: a. the industrial complex model; b. the pure agglomeration model; and c. the social network. In this section, the concept of the concentration of economic activities that are more or less mutually dependent is introduced with reference to scholars who have examined this spatial phenomenon. This section also briefly introduces the criticism of these approaches (the subject of section 2.9). Sections 2.4 and 2.5 deal with the industrial complex and the model of pure agglomeration approaches. Section 2.6 pays attention to a special approach that links the industrial complex model with the social network model: the cluster as identified by Porter (1990a). The concept of clusters provides the bridge with the third model, the social network model (discussed in section 2.7). Section 2.8 relates the models of localized activities to space and the relations between activities and location. Section 2.9 is important for understanding the latest developments in cluster thinking by dealing with the criticism of its applicability. Section 2.10 elaborates on that by showing that, despite the criticism, the cluster theory still provides a useful tool when these new insights are incorporated. Section 2.11 offers two new concepts based on the new approaches to clusters, illustrated by examples from port city situations. Section 2.12 wraps up the concepts from this body of knowledge as part of the research model for characterizing the port clusters of Rotterdam, Antwerp and Hamburg.

2.2 PORTS AS CLUSTERS

Ports are often seen as clusters (De Langen, 2004; Nijdam, 2010; Pigna, 2014). The concept of a cluster, with all its features like linkages, the different cluster actors, the private and public role of these actors, and the way these roles and their interacting change, is a useful tool to describe and understand the composition of different ports. Nijdam (2010) states that the cluster is on a different scale than the industrial district because it consists of firms and organizations that do not have to be located in the same region. He is quite strict regarding the bordering of the cluster. He defines the boundaries by using the variables:

- The number of port firms;
- The amount of port-related employment;
- The specialization in port firms;
- The specialization in port employment.

Doing so however, Nijdam does not include the port city in the cluster. For De Langen (2004), the city can be include in the port cluster when the municipality meets two conditions: it is located in the proximity of the port, and there is a high concentration of port-related activities (De Langen, 2004, p. 96). This creates a port cluster region that includes:

- The primary port area;
- The business district of the port city;
- Secondary nodes in the proximity of the primary seaport;
- Municipalities in the vicinity of the port with a concentration of port service activities.

De Langen includes the city's activities when he summarizes the firms in the Rotterdam business district of the port city. Pigna (2014) puts even more emphasis on the presence of the city. He acknowledges the importance of competition between firms within clusters, as Porter does. It concerns interfirm competition; but he makes an interesting remark about port clusters: ports are competing whereby "competition is not between countries or regions, but between global cities and supply chains" (Pigna, 2014, p. 88). So, the port needs a strong city partner. Attention needs to be paid to the position of the port in relation to its city partner. For a long time, this relationship was an interdependent one, spatially strongly connected, characterized by its land-sea interface, being a bridge point for trade and a hub for commerce. In the early days, the port city started as a center for defense (or collecting tax), then as a center for trade, and then as a warehouse and a location for port-related manufacturing. Next, the development of the port industrial complex started with

its petrochemical industry and, as an accelerator, the emergence of the container with the bigger vessels that needed larger-scale quaysides. From that moment, the separation between port and port city started. The relation rapidly changed because of:

- Increasing size of ships: pushing terminal development downstream to deeper water;
- Consolidation of shipping and logistics companies globally;
- Growing cities, so a struggle for land;
- Decreasing direct port employment, new types of employment do not have a huge effect on the city's community in terms of labor opportunities (Pigna, 2014).

Pigna (2014) pays attention to the consequences for the port city of these developments and concludes that, by relocating the port's areas in the city, large areas of land, used for former heavy industrial activities, became desolate and unattractive underdeveloped sites. His research convinces him that ports suffer from the demanding cities and that the port should be protected from the city. He therefore does not address the formal and informal relationships that exist or could be established to mutual benefit. Pigna places the port in the underdog position; this is rather curious given that the relocation of port activities is not the result of a powerful, more demanding city, but rather the result of the dynamics as discussed in the problem analysis – developments that Pigna acknowledges (first and second bullet points above). However, he apparently considers the struggle for land a stronger issue in the port–port city relationship, and he has a point given the developments in the last two decades in Hamburg, as illustrated in Chapter 9. But this emphasizes the interconnectivity between port and city, so this thesis considers the port and the port city as parts of the same cluster. In doing so, it follows De Langen (2004).

2.3 LOCALIZED GROWTH

The concept of localized growth in the spatial economy (Gordon & McCann, 2000) is a subject that interested scholars from different disciplines throughout the 20th century. Starting with Weber (1929), with his multidisciplinary background – but approaching this phenomenon mainly from a least cost model to explain location – economics, geography, and sociology have contributed to the understanding of the location of economic activity in space (Krugman, 1991). Although for Krugman it has all to do with concentration, different approaches can be recognized in this concentration of activities. In the end, many of them affirm that this concentration generates imperfect competition that leads to increasing returns for the concen-

trated activities and thus forms the basis for their existence. These concentrations are based on differences – differences in economic performance and labor market performance but also differences such as differentiation of government policy, scale economies, and agglomeration economies (Clark, Feldman, & Gertler, 2002). The approaches can be summarized as models of pure agglomeration (Marshall), the industrial complex (Weber), and the social network (with, for example, Granovetter as representative of this approach) (Gordon & McCann, 2000). As these models are mostly static in their approach – they describe a certain situation – recent literature has also paid attention to the forces inside the cluster that influence growth and decline or shape these concentrations of activities (Chapman, 2005; Neffke & Henning, 2013; Menzel & Fornahl, 2009). These models are discussed in the next section. This section is needed to understand how concentrations of activities in ports can be studied and what kind of concepts they provide to analyze the phenomena that arise when these port activity concentrations occur. In particular, ports, and their relationships to the cities in which they more or less are located, are perfect examples of how these relationships change, as shown in Chapter 1 where the problem of the relationship between ports and their respective port cities was defined.

The models and approaches mentioned in this section have also developed, as will be shown. This development provides the researcher with tools that can give insight into the assumed differences between the three ports under study – differences that, as stated in the first chapter, are to be explained not only by mere location or results of supply and demand, but also by the dominant political-economic system in which these ports function. These influences clearly are not very obvious if studied from the perspective of the most basic models like Marshall's industrial district, but they become more visible when researched from the perspectives of more recent approaches: skill relatedness, locked-in regions, comparison over time by applying the perspective of cluster life cycles. Finally, this thesis establishes a connection of the observed differences in clusters with the two other elements of the theoretical concept of this thesis: governance and institutional arrangements. The theories on spatial concentration contain elements that help to elucidate the history of port city clusters. Therefore, a brief review on these theories and the different emphases they lay on certain concepts are discussed in the next sections.

2.4 THE INDUSTRIAL COMPLEX: THE FORMATION OF A GROUP OF INTERLINKED FIRMS

An overview of theories on spatial concentrations reveals Weber as one of the founding fathers of the study of location. In fact, his forerunners in economic studies already paid attention to spatial concentration of human activities, and, because of their historical context, this focused mainly on agricultural production (Krzyzanowsky, 1927). A well-known representative of this was Von Thünen with his positioning of concentric rings with various types of agriculture where the spatial distance of each of these activities is determined by only one factor: the cost of transportation to the centrally located market (Broek & Webb, 1973). Weber paid attention not only to transport costs in terms of location of an industry near or further away from the place of consumption: *Transportorientierung* (although he is mostly associated with that), but also to the differences in costs to produce one ton of a commodity: *Arbeitsorientierung*. The third factor is the difference in costs consequent to the concentration or the dispersion of industries. This is what Weber calls “agglomeration” (Krzyzanowsky, 1927, p. 282). However, Weber and his predecessors, when researching firms and their individual location, did not deal with a concentration of firms related to the same industry.

2.5 THE MODEL OF PURE AGGLOMERATION: LABOR SPECIALIZATION AS A SPATIAL DETERMINANT.

It was Alfred Marshall with his *Principles of Economics* who first characterized clusters as a “concentration of particular branches of production in certain localities” (Marshall, 1920, p. 222). Marshall himself (1920) was of the opinion that this description (localized industry) might not perhaps be accurate. For this phenomenon, he coined the term *industrial districts*: “...groups of skilled workers who are gathered within the narrow boundaries of a manufacturing town or a thickly peopled industrial district” (Marshall, 1920, p. 225).

2.5.1 The quest for the physical determinant, space

In the early years of the 20th century, production was characterized mainly by manual and labor-intensive production systems. The examples given by Marshall (limited to the UK) are, for example, Staffordshire (pottery), Bedfordshire (straw plaiting), and Sheffield (steel). This was explained by the fact that the chief imperatives for these locations were physical conditions: the availability of resources in combination with (cheap) labor. He also paid attention to another spatial phenomenon, that of

increasing land rent: the fact that trade in the produced goods, which was located in the town centers, increased the ground rents. These rents became too high for the factories, which relocated to the outskirts of the manufacturing towns. The same happened regarding competition for dwelling spaces that became affordable only for the employees of the trading houses who competed with the factory workers. So, Marshall was already paying attention to the forces of spatial competition between the various sectors of the economy, which even today is a dynamic force, as can be seen by the gentrification processes in port cities with their possible negative effects on the original citizens. So, for Marshall, there certainly is a situation of imperfect competition. This spatial competition can create barriers to entry for some industries that want to settle there (or would like to stay). Krugman (1998) elaborates on these side effects when discussing aspects of the new economic geography.

The spark that triggered these concentrations was physical conditions: climate and soil, the existence of mines and quarries, and accessibility by land or water (Marshall, 1920, p. 223). So, the development of ports can be ascribed to the physical condition, accessibility, in terms of their position towards the sea, and later by the presence of a work force that was skilled in handling imported and exported goods, and competition for the space available. Three phenomena can be identified for these concentrations of specialized industries. First, a pool of laborers with specialized skills is needed (Krugman, 1991). Second, scale plays an important role. In these localities, firms were closely integrated with one another but had fewer linkages besides marketing their products. Each of them taking care of one small branch of production had to make full use of the expensive machines in which they had invested, so they were exploited to the maximum to make them pay their expenses (specialization within the concentration). The third source of these districts is found in the fact that in these centers information flows more easily, or as Krugman (1991) expresses it: there are technological spillovers.

2.5.2 Information flows

Krugman's elaboration of the information flows by calling them technological spillovers is an interesting one. This is the starting point of more recent contributions to the theory of concentrations of activity. It is this element within the cluster approach that needs to be studied to answer the central question of this thesis, in how we can understand the relationship between port and port city. Therefore, it is interesting to address the nature of these information flows.

2.5.3 Socio-cultural context

Marshall describes the roles of different firms in their contribution to the production of a specialized product or series of products. Alberti (2001) remarks that Marshall not only paid attention to the business relationships in that locality, but also stressed the socio-cultural aspects of this spatial concentration. He characterizes industrial specialization as follows:

- It is a concentration of specialized industries in particular localities;
- It is comprised of small locally owned firms;
- Linkages and cooperation with firms outside the district appear to be minimal;
- There is a high-quality local labor market;
- Workers appear to be committed to the district rather than to the firm;
- There is a relatively stable community with a local cultural identity and shared industrial expertise.

Because industrial districts have their roots in common culture and are generally industry specific, Alberti (2001, p. 8) considers them to be acting as a whole, like a corporation. This approach aims to discover differences between spatial concentrations not only from the perspective of physical conditions, labor pools, division and specialization of activities, and information flows, but also from the perspective that these spatial concentrations are located in an economic, socio-cultural (political) context. Alberti is first and foremost interested in Italian industrial districts, as also recognized by Porter (1990b), when discussing Italian clusters, and, with reference to these districts, he adds some other features:

- It is a homogeneous system of values and views;
- It has strong local government;
- The local bank is born and bred in the district and very closely linked to local entrepreneurs.

These features characterize the way in which governance within the industrial district takes shape (Figure 2.1).

Alberti is deeply interested in the individual actors that together give shape to the different aggregated roles like collective and individual actors. This allows Alberti, who is trying to understand the governance of a region, to operationalize these different actors by recognizing who can be taken into consideration when describing and understanding the development of policies that direct the region under study. He considers this as an Italian variant and additional to the characteristics of the original Marshallian industrial district. These features should not, however, be

considered as characteristic of Italian regions only. Rather, they can probably be better seen as characteristic of continental-type capitalism as discussed in Chapter 5.

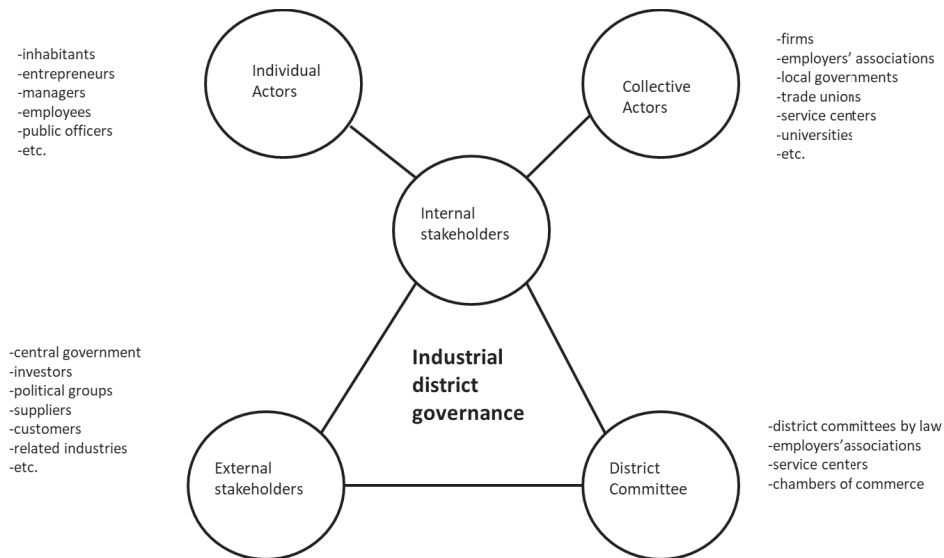


Figure 2.1 The governance model proposed for industrial districts (Source: Alberti, 2001)

2.6 THE CLUSTER AS AN INTERLINKED SOCIETY

When researching the concept of clusters, one cannot underestimate the contribution of Porter (1990a). This scholar, well known for his contributions to the study of competition and competitive advantage (Porter, 1980), situates the cluster as an organization to achieve (national) advantage in a competition between regions. The cluster is “a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities” (Porter, 2002, p. 254). Porter considers the cluster to be the most important unit of economic activity, one that is often ignored (he mentions the federal level in the US) (Porter, 2009). An economy consists of “a series of regional economies that trade with each other and the rest of the world with its own particular pattern of cluster specialization” (Porter, 2009, p. 2). To demonstrate this point, he created his “diamond” (Figure 2.2), which consists of: 1. factor conditions (human resources, physical resources, knowledge resources, capital resources, and infrastructure); 2. demand conditions (home-buyer needs⁵); 3. related and supporting industries (internationally competitive by themselves, these suppliers communicate information

⁵ “...the home demand gives local firms a clearer or earlier picture of buyer needs than foreign rivals can have” (Porter, 1990a p. 86).

and innovation from firm to firm, so creating a self-reinforcing information network); 4. firm strategy, structure, and rivalry: the context in which firms are created, organized, and managed as well as the nature of domestic rivalry (Porter, 1990a).

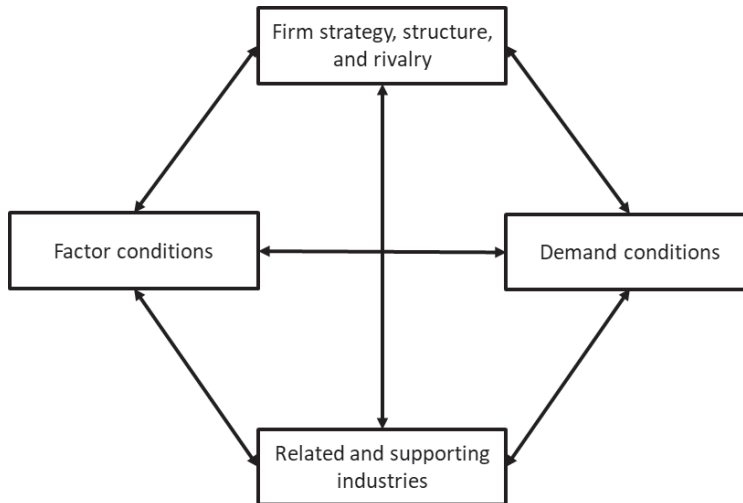


Figure 2.2 The determinants of national advantage (Source: Porter, 1990a, p. 72)

The interplay between these factors determines the strength of the cluster in its competition with other clusters in the industries abroad, because in the end “the fundamental goal of economic policy is to enhance competitiveness” (Porter, 2009, p. 1). The driving forces for the cluster are not only geographic industry concentration, but also, and this is typically Porter, domestic rivalry. “Two elements... have especially great power to transform the ‘diamond’ into a system, domestic rivalry because it promotes upgrading of the entire national ‘diamond’, and geographic concentration because it elevates and magnifies the interactions within the ‘diamond’” (Porter, 1990a, p. 131). So, the element of a geographic concentration of activities was already the focus of the industrial district approach; Porter’s contribution is that he links it to a driver in terms of competition with other clusters.

2.6.1. Intangible forces directing interactions

For Chapman, the most important difference between the cluster concept and the industrial complex model of agglomeration is “its acknowledgement of the significance of intangible information-based networks...” (Chapman, 2005, p. 606). This element is important for this thesis, as attention is focused on it in the discussion on the concept of tacit knowledge, seen as an important aspect of differences between port-port city relationships within their respective clusters. Paying attention to this

last factor, Porter observes that, in Germany, senior executives, having a technical background, have a strong managerial focus on product and process improvement, thereby leading to success in technical and engineering content. However, he also acknowledges less-tangible aspects that influence the way in which firms are organized and managed: attitudes towards authority, norms of interpersonal interaction, workers' attitudes towards management, and social norms of individual or group behavior (Porter, 1990a, p. 109). For Porter, as a scholar in business and management studies, location and the role of clusters have been too neglected in the management studies discipline. He sees the firm as located in space, and this locational factor influences firms' strategy, management, R&D, and so on – in brief: business policy. Porter (2002) considers this approach as a way to reveal companies' public role. Giving more shape to the context wherein the cluster functions, Porter adds the elements of chance and government (see Figure 2.3). Government in particular is the important element for this cluster approach in view of this thesis's research. Government influences the four determinants positively or negatively (Porter, 1990a, p. 127).

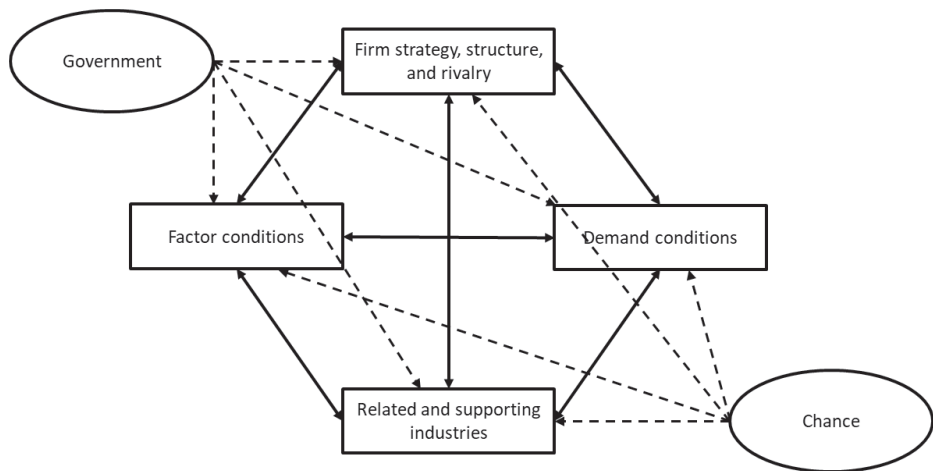


Figure 2.3 The determinants of national advantage: the complete system (Source: Porter, 1990a)

Motoyama (2008, p. 354) includes governments in the box of related and supported industries by adding “governments and universities to trade associations and experienced capital”. This is an interesting perspective. It shows that scholars ascribe different weights to the role of governmental institutions in relation to the cluster. In the empirical part of this thesis, attention is paid to the different roles that governments and (formal) governmental organizations (e.g. port authorities) might fulfill (or have fulfilled) in the various political-economic contexts. The assumption

is that this might have led to different outcomes in the way in which the port city relationships have developed. The interesting question then arises: is there such a thing as a Continental port cluster, an Anglo-Saxon port cluster, and a Latin port cluster, based on features of the three corresponding dominant political-economic systems? That is why aspects of governance are addressed in Chapter 3 of this thesis. Porter describes government's role as "... a catalyst and challenger; it is to encourage – and even push – companies to raise their aspirations and move to higher levels of competitive performance, even though this process may be inherently unpleasant and difficult" (Porter, 1990b, p. 87). However, for Porter, government as an institution in itself is an external force and should not be incorporated within the cluster. So it is placed more or less outside the diamond as a force to be taken into account, but not as one of the factors. The other factors have interdependent relationships (the lines between the factors); this interdependence is not for government itself. Motoyama attributes a greater role to the government, as do other scholars such as Chapman when describing the decline of the Teesside cluster (Chapman, 2005).

Porter (1998) elaborated on his thought on cluster development and became even more concrete in his focus on these intangibles when he describes the possible strategic agenda of clusters. As the second issue, he formulates the activity of engaging locally: "to maximize the benefits of cluster involvement, companies must participate actively and establish a significant local presence" (Porter, 1998, p. 88). This is about personal relationships, face-to-face contact, a sense of common interest, and insider status. This is less intangible compared to his first consideration of the aspects of the way in which firms are organized and managed in his *Competitive Advantage of Nations* (Porter, 1990a). This is an attempt to open up the black box of intra-cluster behavior that is integral in trying to get an idea of how political culture expresses itself with effects on cluster development. It is an element needed to operationalize the nature of the linkages as described by him in 1990. This thesis elaborates on that. It researches these linkages between the different actors that together are responsible for this cluster development – actors that are not restricted to firms, just as Porter has a broader view on this. For Porter, compared with the notion of industrial districts, clusters are more than concentrations of industrial firms. They include academic institutes and trade associations and have a direct relationship with public services because they "draw on the broader public assets such as schools and universities, clean water, fair competition laws, quality standards and market transparency" (Porter & Kramer, 2011, p. 12). As other scholars remark however, Porter's diamond describes a rather static situation. Although in his examples he addresses prosperous and declining clusters, he describes the forces

behind these developments in terms of the outcome, without a theoretical base. But he certainly has an interest in the multiplying effects of the firms in the cluster.

2.6.2 A common base for intangible forces: shared values

Porter elaborates on Marshall's attention on the socio-cultural aspects of these economic concentrations. The cluster often works two-sidedly: "it not only increases the demand for specialized inputs but also increases their supply" (Porter, 2002, p. 260). Specialized personnel and services are available. The cluster itself then must be attractive enough to accommodate these services, otherwise this reinforcing mechanism will stop.

Until then, according to Porter, firms paid hardly any attention to relations and spin-off effects that affected society. These were seen as peripheral matters instead of (often negative) externalities. In the relationship with the environment, a trade-off between the benefits and costs for society needs to be made. This creates a responsibility for the firm in the cluster where it engages other firms and public space. This does not have to be a burden for the firm; on the contrary, this engagement will create "shared values" (Porter & Kramer, 2011, p. 7). This is an interesting element to be taken into consideration. In the analysis in this thesis of port-port city relationships in the port cluster, a comparison is made between the three ports in terms of how their political systems influenced different public spaces. Phenomena to be studied are how the public authorities engage with the cluster firms and the effectiveness of their influence or their exercised authority. That requires a historical approach that describes the different interactions in time and their spin-offs in terms of shared values, i.e. spin-offs that were beneficial for the port's as well as the port city's development. This historical approach is the subject of Chapters 8 and 9, where the development of the ports of Rotterdam, Antwerp, and Hamburg is discussed. Of the three factors mentioned by Porter and Kramer (2011) as creating shared values – reconceiving products and markets, enabling local cluster development, and redefining productivity in the value chain – it is the last one that puts this local cluster development in its center. It is first and foremost about redefining productivity. For Porter, the success of the cluster contributes to the success of the community, and for that regulation is necessary:

- To set clear and measurable social goals;
- To set performance standards;
- To define phase-in periods for meeting standards (give time to firms to adapt);
- To put in place universal measurement and performance reporting systems;
- To report results in a timely and efficient way.

Clusters are set amidst society and help it flourish, as can be seen in the impact of cluster as described by Figure 2.4.

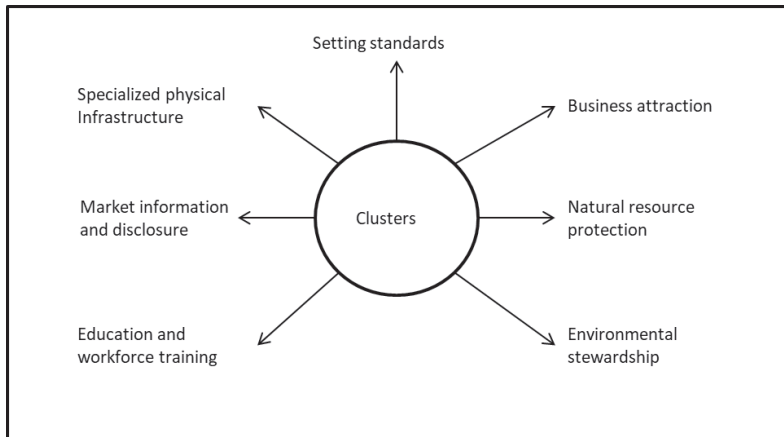


Figure 2.4 Clusters and the implementation of economic policy (Source: Porter, 2000)

For Porter and Kramer (2011, p. 17), the shared values concept helps firms and society to focus on the “right kind of profits” that create societal benefits. For them, it has nothing to do with philanthropy but rather creating economic value by creating societal value. Here, it is interesting to see whether this concept is more congruent with the Continental political-economic system than with the Anglo-Saxon one, where probably more emphasis is placed on share(holder) value than shared values. Value sharing can be seen on different levels:

- The sharing of the outcome of economic activities that can be described as shareholder or stakeholder revenues;
- The sharing of common values that lead to economic outcomes in terms of how the relationship between employers and employees must be structured;
- The way in which private and public interests are more or less congruent in their desired outcomes in which both of their interests are satisfied.

There is not just one shared value in terms of the “right kind of profit” cluster; several manifestations lead to this. It is in observing these kinds of existent or non-existent shared values that diversity in various socio-political contexts can be described. Although Porter does pay attention to a shared values outcome, for him it is the outcome in economic terms that helps to enhance the competitive strength of the region (and so its firms). Other than Chapman (2005), hardly any literature pays attention to the relationship between cluster behavior and economic socio-political contexts, let alone perceived from the perspective of an Anglo-Saxon approach versus

the (less well-known) Continental and Latin approaches. The strength of the cluster is defined in the relationships between firms, related industries, institutions, and government. These relationships are enhanced by the quality of the complementarities and commonalities that these actors within the cluster possess in relation to one another, as depicted in Figure 2.5.

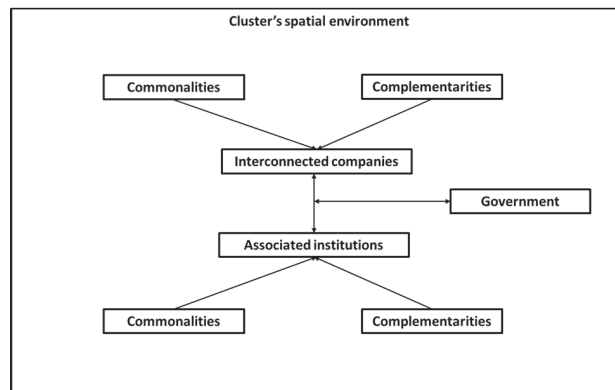


Figure 2.5 A model of relationships in the cluster (Source: author)

So, companies and associated institutions both have their commonalities and their complementarities with a common ground in shared values, and the interaction between the two is influenced by the degree to which government tries to impose its policies to the benefit of the cluster as a whole.

2.6.3 The organization of intangible forces: actors shaping the cluster

De Langen (2004) approaches the cluster concept from the micro level to the macro level. For him, the cluster is primarily characterized by the presence of a population. As that is not static, this element of a cluster is under constant change. The next level is that of the spatial entity: the geographical concentration of the population. As a next level, he adds the institutions where this population is organized: business unit, associations, and public or private organizations. So, the link is made to population and these business units, associations, and organizations. Finally, he defines the specific identity of a cluster by stating that it is all organized around a specific economic specialization. This is needed to be able to define cluster borders (De Langen, 2004, pp. 10–11). The contribution of De Langen's scope to this thesis is that he more or less defines the relationship between the people in the region with the firms and institutions that define the port cluster.

2.7 THE SOCIAL NETWORK

Relationships are important, but more than shared values can be observed in the linkages between the cluster components (firms, institutions, associations). The relationships within the cluster are central to the concept of the social network model. Related to clusters, this model does not take the firm's behavior as the object of study, but rather the personal relations within the network, where the forces that contribute to cluster behavior are trust and routine practice (Gordon & McCann, 2000). Trust-based behavior is a basic element of the social network model and is characterized by three key features:

- Firms are willing to undertake risky and co-operative and joint ventures without fear of opportunism;
- Firms are willing to re-organize their relationships without fear of reprisals;
- Firms are willing to act as a group in support of mutually beneficial goals (Gordon & McCann, 2000, p. 520).

These relationships go beyond market contracting. There is more at stake than the outcome for the individual firm. The study of these relationships in terms of a network model stems from the work of Granovetter (1973, 1983). It is rooted in the concept of social embeddedness that deals with the notion that business firms are rooted within specific social, cultural, political, and institutional contexts that influence how they develop (Dicken, 2009). One might argue that Porter has more or less the same notion, although he does not take this perspective as the core of his approach, given that firms' relationships with suppliers and customers and internal rivalry with competitors come more within the scope of his concepts (Dicken, 2009). Dicken, investigating the way in which transnational corporations use space and place, distinguishes four types of interconnected sets of relationships:

- Intra-firm relationships (between different parts of a transnational business network);
- Inter-firm relationships (between firms belonging to separate, but overlapping, business networks);
- Firm–place relationship (the firm tries to extract the maximum benefits from the communities in which they are embedded, and vice versa, as communities try to derive the maximum benefits from the firm's local operations);
- Place–place relationships (between places, as each community tries to reap the most from investments (jobs) by transnational corporations) (Dicken, 2009, p. 285).

These relationships are themselves embedded within national political and regulatory systems. Dicken concludes that, because of this embeddedness, it is interesting to see the effect of the nature and varied and divergent forms of capitalism (Dicken, 2009, p. 288). This was also acknowledged by Gordon and McCann (2000, p. 520) who state that "In fact all economic relations are ...socially embedded in the sense that these depend upon norms, institutions and sets of assumptions shared among a group of actors and are not, in themselves, simply the outcome of economic decisions." Gordon and McCann, however, are of the opinion that, from an empirical point of view, the applicability of the social network model is disputable: where the social network is "...associated with the development of a place-specific cluster, it is possible to view this model as exhibiting some of the characteristics of the two previous models of spatial industrial clustering" (p. 521) (i.e. the model of pure agglomeration and the industrial complex model).

Granovetter takes a closer look at the nature of the linkages between actors, be they individuals or firms. He distinguishes weak ties and strong ties (Granovetter, 1973). Weak ties are ties that are rather infrequent and over a distance, whereas strong ties are embedded in a social structure. He stresses the need for weak ties to 'import' new knowledge. In contrast to Porter (who in fact does not pay attention to the variety of power exerted by the linkages), he emphasizes the importance of weak ties, which are able to bridge "structural holes" that divide the various networks. These weak ties "constitute the only route through which information or other resources may flow from one network sector to another..." (Granovetter, 2005, p. 35). New knowledge is essential for the development of the social network, hence his interest in the effect of strong and weak ties. Granovetter observes that embedded (strong) ties are needed to establish a functioning social network with the desired economic outcomes (it is one of his core principles), but he also sees the danger of these strong, established relationships. They have a positive influence in stable situations, but in times of change they may prevent adaption to these new circumstances: "lock firms into relationships" (Granovetter, 2005, p. 43). Chapman uses the concept of being locked in as a result of the emphasis on regional specialization (Chapman, 2005). He remarks that a cluster can get locked in if it is too inward looking and if it is too specialized in its economic structure. For Chapman, cluster development is not only about the exploitation of linkages with other industries, but also about competencies/skills acquired through experience in the industry that may be applied in related sectors, described as the two mechanisms of cluster development.

So the study of relations within a spatial environment has had different perspectives throughout time. Appendix 2 summarizes the various approaches. As can be seen in Appendix 2, the development of cluster models or the establishment of firms and services in a certain area made a journey from supposed tangible factors (costs) to more intangible, tacit ones (personal interactions). From the time of Weber, who was first and foremost interested in finding the optimum location and constructed a rather unrealistic theoretical model of the economic environment, it quickly developed via Marshall, who, beside costs and labor quality, was already interested in socio-cultural phenomena. In more recent times, Porter's main contribution is that he approaches this mostly from the competitive, managerial perspective. For Krugman, it is again a story of costs, but combined with increasing returns. He stresses that history and accidents should also be taken into account. These scholars were interested in socio-cultural phenomena that have an influencing role in the way in which these linkages between the actors within the cluster are established and developed; but they mostly stated that it has to be taken into account. It was Granovetter (1973) who took an interest in the relationships between actors that are not operationalized in terms of costs and revenues. Sociology's contribution (although Weber was a sociologist as well as an economist and a geographer) was to develop methods to make tangible what was seen as intangible by researching these interactions between actors in a concentration of firms. In Chapter 4, where institutional arrangements are discussed, the question of how this can be done is addressed. Pigna (2014) does consider relationships, especially in the port city region. Given that the port cluster is in competition, *the port needs* the city to be stronger. So, the city must have attributes that benefit the port.

In the last two decades, the mechanisms that determine cluster development are receiving more attention. The static approach made way for a dynamic one in which a cluster emerges, grows, and finally declines unless measures are taken to extend its life cycle or to build a whole new activity from the remains of a former dominant industry. The level of heterogeneity of the existing activities determines the elasticity of the cluster. A feature that can be influenced by forces outside and inside the cluster is the cooperation of private and public entities. This cooperation can make an important contribution by creating a level of skills in the cluster population that adds to the potential for the emergence or sustaining of the variety of activities, hence increasing the cluster's flexibility to cope with external forces that entail threats or opportunities.

2.8 CLUSTERS AND SCALE: DEFINING THE CLUSTER, RELATIONS, AND PROXIMITY

Krugman considers agglomerations as a result of centripetal and centrifugal forces (Krugman, 1998), where the centripetal forces are those described by Marshall (backward and forward linkages, local labor market, and information spillovers (Marshall, 1920, p. 225)). The centrifugal forces are the immobile forces (land and natural resources), land rents, and external diseconomies such as congestion (Krugman, 1998, p. 8). Although Krugman rather exclusively links the centripetal forces to Marshall, the centrifugal force, land rents, is definitely based on Marshall's description of displacement of low-value activities in the cities by more value-adding service activities that lead to gentrification of urban areas (Marshall, 1920, p. 373). These forces are opposed to each other: centripetal forces fostering concentration and centrifugal forces fostering dispersion (Krugman, 1998, p. 9). Krugman (p. 10) wonders why the idea of location decisions based on access to markets and supply and why the fact that a producer's individual decision in itself enhances access to market and supply did not attract economists' attention until the 1990s. For him, the increasing returns based on economies of scale are crucial to cluster development.

The centripetal force is a circular causation: in a region, many firms create many different products, this attracts new workers (higher wages), so new consumers. The centripetal force is generated through a circular causation of forward linkages (the incentive for workers to be close to the producers of consumer goods) and backward linkages (the incentive for producers to concentrate where the market is larger). The motor of this process is self-reinforcing: increasing returns enhance economies of scale, which in turn enhance increasing returns, speeded up or slowed down by centripetal and centrifugal forces (Krugman, 1998). This was later illustrated by the circular process that leads to a differentiation in industrial core areas and lower-wage agricultural peripheries (Krugman & Venables, 1995). Studies in this field have been on different geographic levels: agglomeration on the level of neighborhoods, in the formation of cities, the disparities within a country or on a global scale, such as the North-South dichotomy (Fujita & Krugman, 2004). The main two implications of this thinking (known as the new economic geography) are: a. the importance of increasing returns, which helps describe and explain agglomeration; b. the emergence of discontinuous change, path dependency, and bounded instability (a concept used by Edelenbos, Gerrits, and Van Gils, 2008, in a port study on Rotterdam).

Nijdam (2010) relates the various manifestations of concentrations of economic activities to scale. Industrial districts are local and organized around the production

of the same product. Port clusters are on a larger scale and can go beyond the region, given that clusters consist of companies, organizations, and institutes that do not have to be located in the same region. The region itself is defined by its governmental jurisdiction. That is the difference between clusters and networks. Networks, seen as looser forms of organizations between companies, can span the globe. Visser too makes a distinction in terms of scale between clusters as spatial concentrations with firms that are related to one another but not necessarily need to cooperate, and networks that are a system of cooperation but that do not necessarily need to be in one another's proximity (Visser, 2000). These approaches pay too little attention to the different networks that can be distinguished. Certainly, there are networks that span the globe. The academic world consists of networks whereby specialists know one another while employed in universities that can be found all over the world; but individual organizations possess different networks with different goals, so to suggest that the network is by definition on a different scale than the region or a cluster is not correct. Attention must be paid to the local social network, which can go beyond the region because of some functional relationships (e.g. relationship with the government), but which is primarily strictly bound to local (regional or municipal) activities. There is a lack of studies that focus on the relationship between port actors and the municipal governance actors

One who does so is De Langen, who defines a seaport cluster as comprising all economic activities related to the arrival of goods and ships (De Langen, 2004, p. 85) and focuses on the cluster actors and their interactions in terms of governance (De Langen, 2004). His thesis is interested not only in the structural variables of the cluster, but also in the governance variables: "... that it is a shift away from the 'mechanic' explanation of the performance of a cluster towards an explanation that incorporates behavioral aspects. Our study demonstrates the importance of governance in (port) clusters" (De Langen, 2004, p. 192). He pays attention to variables such as trust and education to assess cluster performance in terms of competitive strength. The behavior of these actors must be studied in a wider perspective than the cluster alone. The cluster interacts with the spatial entity to which it more or less belongs. Fujita and Krugman (2004, p. 160) state that "We need to unify the new geography models and traditional urban models, and study both the development of cities (having spatial extent) and industrial agglomeration in the same continuous space." So, the cluster must study its relationship to its spatial environment. Pigna's (2014) contribution is noteworthy in considering the relationship between port activities and their spatial locality. As stated in section 2.2, he pays attention to the relationship between cluster activities as performed by ports and their struggle for land in competition with the port cities (Pigna, 2014).

2.9 CRITICISM OF CLUSTER THEORY

Of course, there has been skepticism about the cluster theory as well. Motoyama (2008) argues that the theory is too descriptive and does not explain how a cluster emerges. In his opinion, a historical analysis should be incorporated when studying clusters. Porter pays lip service to the historical aspect by stating that historical developments and accidents are endogenous, and Motoyama considers this curious because, if this cannot be studied, clusters are not replicable and the theory as such cannot be used for regional policies (Motoyama, 2008, p. 360). Furthermore, the interconnections within the cluster are hard to measure, and for that he thinks that application (he speaks of a dialogue) with networking theories could improve the application (Motoyama, 2008, p. 353). The applied method for measuring these linkages with input/output tables puts too much emphasis on monetary values, whereas clusters are about interconnectedness, firm rivalry, and collaboration. The theory is too descriptive and static. "It is more important for policy makers to ask how and why cluster C in region D grew more in comparison with other regions. The statements of competition and collaboration do not grasp the dynamics of the regions. You need to know how the interaction was developed and organized in each region. The structure of the labor market, the horizontal interfirm relationships and the structure of information flows need to be investigated" (Motoyama, 2008, p. 359). Inherently, he thinks that the concept of applying competitive ability to a region is a wrong concept. Apparently, in his opinion, Porter sins against the need to analyze and extrapolate on the same level of aggregation. For Motoyama, a firm's ability to compete cannot be transferred to the regional level: "...regions are aggregated units and do not have their own will; therefore, they do not choose or pursue a differentiation strategy as firms. Or is it possible for a region, as a collective unit, including firms, governments, and universities, to form a differentiation strategy? Is there such a thing as regionally differentiated products? A niche market for 20 companies?" (Motoyama, 2008, p. 357).

In contrast, for Harrison and Glasmeier (1997), Porter's greatest contribution is especially the fact that he pays attention to the interdependence of clusters or sectors instead of individual companies in a region. They argue that he sees a role for firms to bridge inner-city economies to "...other firms located outside their neighbourhoods by becoming suppliers or co-venturers"; And "... upgrading the skills of inner-city youth and other workers" (Harrison & Glasmeier, 1997, p. 31). They (in their case regarding the inner city) particularly criticize Porter for his neglect of the role of local governments and community-based organizations (Harrison & Glasmeier, 1997). This, however, depends on the scholar's perspective in observing the cluster. Porter,

interested in the competitive edge that a cluster can achieve, contends that discussing government is about external influences that more or less (in his opinion often the latter) affect how firms are created, organized, and managed (Porter, 1990a, p. 657). Indeed, Porter pays attention to government as an external factor and not one that really plays its part as an integral actor within the system.

Chapman criticizes the promotion of regional specialization because it has often resulted in a situation where “former territorially based advantages mutate into liabilities” (Chapman, 2005, p. 597), although Porter realizes this as well when he speaks of rigidity (Porter, 1998). Chapman, however, by stating that, is probably too eager to forget that specialization is also the basis for knowledge and innovation as long as there is an open mindedness to other developments created thanks to the existence of weak ties (Granovetter, 2005). This becomes even clearer if the strength of the regional concentration is not primarily in the existing concrete activities, but in the core competences from which these activities stem (Hamel & Prahalad, 1994, p. 227). For example, in Rotterdam, transshipment is the core competence that made it quite logical to aspire to a leading role in liquefied natural gas (LNG) and biomass.

2.10 UNDERSTANDING CLUSTER DEVELOPMENT: A BALANCING ACT IN FOCUS AND DIVERSITY

To respond on this cluster criticism, the cluster concept must be further developed. As Porter’s model is a static description, a more dynamic approach must be taken to be able to use the cluster approach for policy decisions aimed at influencing regional development. That requires a better understanding of how clusters emerge and how they grow, and how they decline or can be revived. The different stages of cluster development can be described in the way in which firms and products are described with a life cycle involving the phases of emergence, growth, maturation, and decline (Menzel & Fornahl, 2009). The life cycle concept is a useful tool to elaborate on the rather static approach of Porter’s diamond and might provide an insight and an analytical structure for comparing the three port city clusters of Rotterdam, Antwerp, and Hamburg. So, for this thesis, researching specific port clusters, this might be a proper research perspective to explore. The cluster life cycle approach describes what Porter neglects: how do clusters emerge, what makes them grow, and how does this development proceed?

Like products, businesses and even industries can be described by life cycles (Menzel & Fornahl, 2009).⁶ Life cycles experience different phases. The standard life cycle can be described as the introduction phase, the growth phase, the mature phase, and the decline phase (Figure 2.6). As shown in marketing literature, the cycle can be extended by adjusting costs and market position (in a commodity situation, this can be done by adjusting prices, which leads to loss of margin and in the end decline and extinction) (Kotler, 2013).

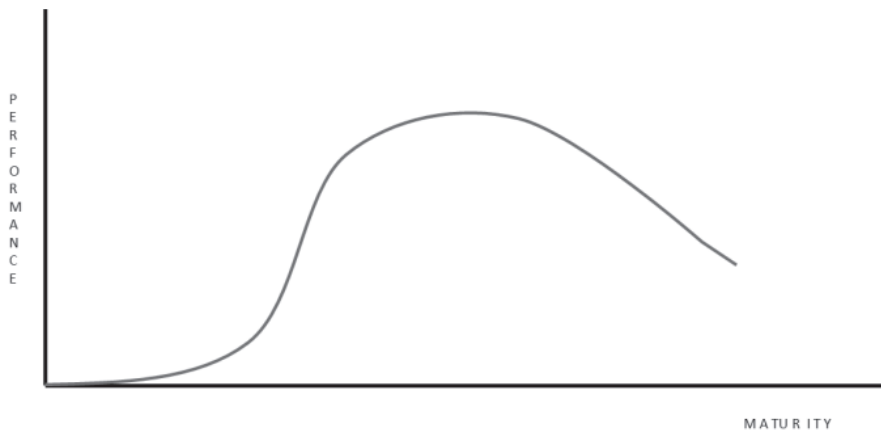


Figure 2.6 An industry life cycle (Based on: Kotler, 2000)

A more sustainable approach is innovation, whereby the current cycle is given a new growth possibility, so envelop curves occur (Figure 2.7).

For port regions, this reflects the situation whereby new activities based on current industries are initialized. In Rotterdam, for example, this is the situation with the initiatives on LNG or bio-based fuels. One might argue that this is a matter of perspective; LNG is something other than oil, but basically it is still in the business of energy. A chemist will say that oil as a resource cannot be compared to gas but, from the perspective of importing and handling crude resources, one might say that it is an extension of existing, labor-extensive port activities. And in this case, the same, low-value-adding one. An even more sustainable situation for the whole region is one where completely new activities are realized that are in line with changed supply and demand factors. These activities are often related to existing (and slowly fading) industries. The degree of relatedness defines whether there is a

⁶ Menzel and Fornahl (2009) have compared the different life cycles of companies that are clustered or that are non-clustered with the abstract or normal life cycle. This comparison shows interesting features of clusters that are of importance when assessing port regions.

situation as shown in Figure 2.7, or whether there really is a new industry with new competitors, new demand and supply, other substitutes, other entry barriers, and other switching costs (Figure 2.8) – in fact, the forces of competition as described by Porter (1980) when visualizing market attractiveness.

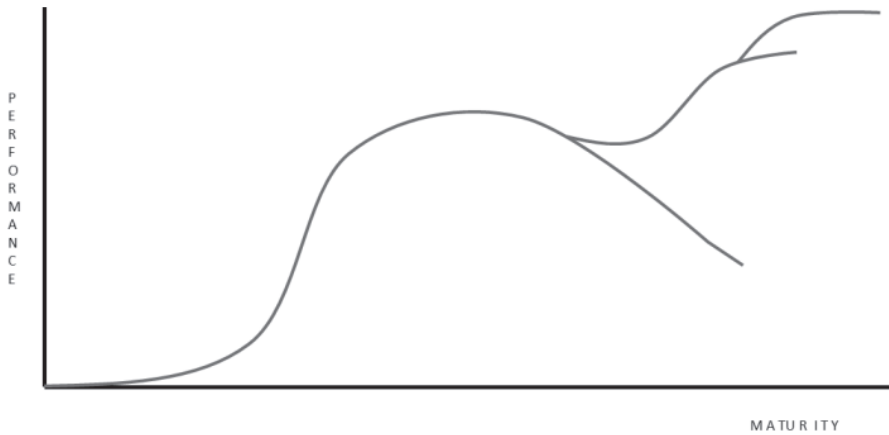


Figure 2.7 Innovations within the existing industry (Based on: Kotler, 2000)

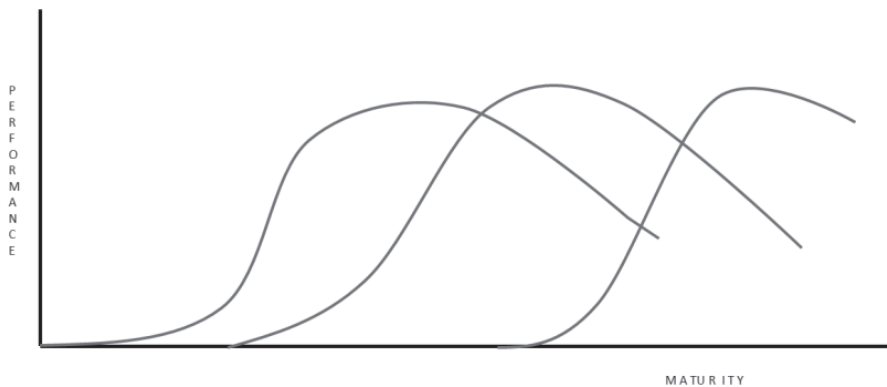


Figure 2.8 Initiating and developing new (related) industries (Based on: Kotler, 2000)

For port city regions in 2020, one can hardly speak of concentrated ports, given their spatial discontinuity as described in Figure 1.3. The changing global geo-political situation and trade balances will have an impact on the current activities in Western Europe. Port city regions such as Rotterdam, Antwerp, and Hamburg cannot afford to be self-satisfied with existing activities. Ports have long been measured in terms of tonnages and large, often labor-extensive plants. As life cycles experience their decline phase, it is important to initiate new activities, even before the current ones show signs of decreasing performances. In port cities, the separation of port and

city functions has often come at a price: an abandoned city and increased unemployment. It is interesting to see how these ports were able to create these new curves. One example can be seen in the expansion of MAPS as visualized in Figure 1.3. This has had various outcomes. Some port cities were apparently better equipped to attract and/or develop these activities that are vital for the city to prosper again.

As stated, these curves can visualize the development of products (for which they probably are best known), companies, industries, but also complete regions. The health of the cluster in terms of this ability to change its composition is called a phylogenetic view of evolution, in contrast to seeing the cluster's evolution from the ontogenetic view, whereby the development of a particular entity is researched (Martin & Sunley, 2011). This becomes particularly interesting when a region has the typical characteristics of a cluster, because clusters can have features that can possibly constrain their ability to reinvent themselves to avoid decline in the long run. Ports' success still determines the activities in their cities as facilitators of trade, bringing added value, providing employment (although, as Merk remarks, this is "... relatively marginal in comparison with the wider regional economy in which ports operate...") and acting as clusters for innovation, research, and development (Merk, 2014, p. 17).

Martin and Sunley contend that the life cycle model is not capable of providing a general theory of cluster evolution. They argue that a model is needed that does not have episodic discrete systems at temporal scales but has more flexibility to allow more different possible sequential trajectories. Therefore, they are in favor of the adaptive life cycle model, which responds more to its environment and allows for more developments within the "grand" life cycle structure. And even more: the adaptive model allows for other developments like decline after take-off without completing the other developmental phases. In fact, they wonder whether a universal model exists at all (Martin & Sunley, 2011, p. 1316). Their contribution is an enrichment and facilitates the identification of different paths, but it is still based on the life cycle concept. Consequently, a radical choice between these two approaches should not be made. The life cycle approach is appropriate to research the forces behind cluster development (Boschma & Fornahl, 2011), and the adaptive life cycle approach prevents us from viewing the complex reality as a process that is too linear.

2.11 HETEROGENEITY AND LOCKED-IN SITUATIONS

Comparing the three ports under study, one might wonder whether the position of Rotterdam, the largest port in Europe in terms of tonnage or TEUs and depending largely on the oil industry and container transshipment, will be able to cope with future changes. There are developments that affect the ports and their related port cities: the coming transition from fossil fuels to other sources of energy, the decreasing growth in container transport thanks to changes in world trade relationships, and the emerging new trade routes avoiding passage through the English Channel but using the Mediterranean ports of Piraeus, Marseille, Gioia Tauro, and so on. Using the life cycle concept, Menzel and Fornahl (2009, p. 205) attribute great qualities to the effect of being part of a cluster: “Companies in clusters grow stronger and innovate faster than those outside clusters”. At the same time however, being part of cluster has its disadvantages, as shown in Figure 2.9.

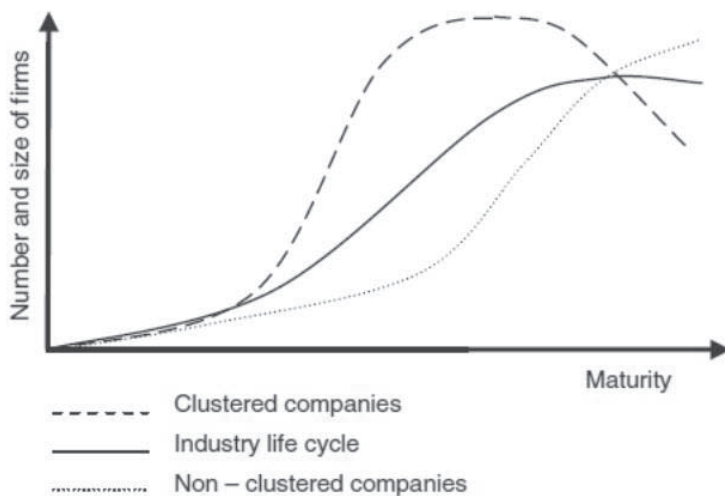


Figure 2.9 Clustered and non-clustered companies during the industry life cycle (Source: Menzel & Fornahl, 2009)

The advantage of being part of a cluster is experienced in the earlier phases when firms in a cluster grow more rapidly than non-clustered firms. However, Figure 2.9 also shows that, in the longer term, non-clustered companies survive better in terms of number and size (as Chapman, 2005, argues, as a result of the locked-in situation). This is also the position taken by Van Oort Weterings, Nedelkoska, and Neffke (2015) when explaining the interplay of specialization and variety. They consider a specialized economy vulnerable and that the cluster phenomenon would decrease economic innovations. The way to influence this standard life cycle and to prolong

the survival of the firms depends on the ability of the cluster to “adjust to a changing environment and that ability depends on the diversity of knowledge in the cluster” (Menzel & Fornahl, 2009, p. 210). This diversity, or heterogeneity, should not be too strong at the beginning of a cluster (as critical mass is then not reached for a take-off), but later, to avoid the locked-in situation, heterogeneity is needed. Menzel and Fornahl (2009, p. 216) call this the cluster paradox, which can better be seen as a balancing act between specialization/concentration – which is by definition a feature of the cluster – and heterogeneity, to prevent decline. Frenken, Van Oort, and Verburg (2007) describe this as related variety. When heterogeneity is absent, there is the risk of getting locked in, as evidenced by the Teesside chemical industry case (Chapman, 2005). Here, Chapman concludes that the region would have been better prepared if the Teesside economy had been more diversified. On the other hand, he remarks that there was a commercial fragmentation within the industry that prohibited an optimization of transaction costs. Within the industry, it would have been better if the individual enterprises had been part of a greater enterprise or if there was greater intra-corporate integration. It is interesting to remark in this regard that, in Germany, co-sharing – at least financially, but also in terms of information – is a typical phenomenon of the local economy.

So, clustering is needed for rapid growth and creating a base, but heterogeneity is needed to be able to adjust to changing environments. If the cluster is (at its best?) able to create new business curves like those depicted in Figure 2.7, the degree of heterogeneity can foster a situation as depicted in Figure 2.8 where new businesses (industries) are constantly created. This ability to generate new activities can benefit port cities as they can be the location that suits these activities: close to existing industrial and commercial activities, likely inclined towards, and capable of, improving infrastructure (spatial, social).

How does that apply in the most important port cities in the Le Havre–Gdansk Range? Merk (2014, p. 81) and also Lam and Zhang (2011) showed those activities in the maritime cluster in which a port has a competitive advantage in (Table 2.1).

Table 2.1 Maritime cluster composition in main-port cities

Maritime advantages	Hamburg	Hong Kong	London	New York/ New Jersey	Oslo	Piraeus	Rotterdam	Shanghai	Singapore	Tokyo
Port	O	O					O	O	O	
Marine insurance			O		O				O	O
Financial service	O	O	O	O	O	O		O	O	
Ship registry	O	O	O		O	O			O	
Shipowners, Operators & Managers		O	O		O	O	O		O	O
Ship classification society			O		O					
Ship agency and forwarding			O				O	O	O	
Ship brokers			O		O	O				
Legal services		O	O			O			O	
Ship building & repair	O	O					O		O	
Marine personnel				O			O	O		
Research , education & training	O	O	O		O		O	O	O	O
Information and communication technology (ICT) Services		O	O	O		O	O		O	
Regulators: Maritime Organisations / Associations/exchange market, etc.			O		O		O			O
Governmental support	O							O	O	
Maritime culture and heritage	O		O	O	O	O	O			

Note: "O" denotes maritime clusters have the competitive advantages in the particular aspects.

Source: Lam and Zhang, 2011 operators, & managers; education, & Maritime organizations/as-sociations;

Regarding the ability to attract MAPS, the position of the city of Rotterdam in 2011 compared to Hamburg is less apposite. Besides paying attention to new life cycles that are reinventions of the old ones (such as biomass instead of oil) and so creating those enveloped curves, Rotterdam will also have to pay attention to the creation of new life cycles, for example by stimulating the location of highly skilled MAPS. Various reports from consultancy agencies confirmed this situation. In comparisons of cities on their maritime services, in 2012 Rotterdam was not included in the top ranking, as Table 2.2 shows. In Tables 2.2 and 2.3, it is remarkable that Antwerp is not mentioned at all when it comes to the top 5.

Table 2.2 Ranking port cities on maritime services and operations 2012

Rank	Shipowners and shipping operations	Maritime finance	Maritime law and insurance	Maritime technology and competence	Overall rank
1	Oslo	Oslo	London	Singapore	Singapore
2	Singapore	New York	New York	Hamburg	Oslo
3	Piraeus/Athens	London	Singapore	Shanghai	London
4	Tokyo	Singapore	Hong Kong	Oslo	Hamburg
5	Hong Kong	Hong Kong	Oslo	Tokyo	Hong Kong

Source: Menon Business Economics, 2012

Only seven years later, this situation had changed significantly for Rotterdam, as Table 2.3 shows:

Table 2.3 Ranking port cities on maritime services and operations 2019

Rank	Shipping	Maritime finance and law	Maritime technology	Ports and logistics	Attractiveness and competitiveness	Overall rank
1	Singapore	London	Oslo	Singapore	Singapore	Singapore
2	Athens	New York	London	Rotterdam	Copenhagen	Hamburg
3	Hamburg	Oslo	Hamburg	Hong Kong	London	Rotterdam
4	Hong Kong	Hong Kong	Busan	Shanghai	Rotterdam	Hong Kong
5	Shanghai	Singapore	Tokyo	Hamburg	Hamburg	London

Source: Menon, 2019, cited in Jacobsen et al., 2019

As the newest Menon report of 2019 shows, the overall ranking has been influenced by the presence of two new categories (port and logistics, and attractiveness and competitiveness) and combining two former separate categories (maritime finance, and maritime law and insurance). Nevertheless, it is striking how Rotterdam has improved its position. This is partly because the Menon database includes not only the number of firms, but also the value of loans, which increased in 2017 by 50% consequent to the activities of ING and ABN AMRO (Jacobsen et al., 2019, p. 24). The expertise on this subject is still very much more prominent in Hamburg (p. 27). Rotterdam's high ranking on attractiveness is a consequence of its ranking on the Global Entrepreneurship Index (p. 38). The assessment of this aspect also showed that Hamburg especially scored less on being an entrepreneurial center (p. 40). In this 2019 overall ranking, Antwerp's position is a modest number 15. Table 2.4 provides a more detailed variety of MAPS in the three ports under study.

Table 2.4 Maritime advanced producer services in Rotterdam, Hamburg, and Antwerp

Activity	Hamburg	Rotterdam	Antwerp
Marine equipment	252	120	39
Shipowners	3221	528	56
Maritime organizations	30	39	23
Consultants	42	47	14
Maritime lawyers	30	26	9
Insurance	21	14	5
Port agents	15	16	52
Maritime education	8	5	5

Source: World-ships.com 2016 (accessed 23 January 2016)

So, Rotterdam, which has a long history as the largest port in the world, and still as the largest port in Europe, was apparently not as capable as Hamburg of attracting MAPS, as one would have expected of the largest port in Europe. In financial services

and ship registry, it does not match Hamburg, according to these figures. This is in line with the results of studies ranking maritime world cities (Verhetsel & Sel, 2009; Verhetsel & Balliauw, 2015). In both studies, Hamburg by far outranks Rotterdam regarding connections with other cities – connections measured in terms of service level and the Globalization and World Cities method (GaWC classification method). Verhetsel and Balliauw (2015, p. 57) conclude that “For policy makers the important suggestion of this study is that, to become an important maritime world city, attracting at least some headquarters and a range of regional offices [like Antwerp does] is necessary. ...In the end this should result in a transition from a main port to a world city.” Rotterdam is excellent at transporting and overhauling cargo, crude oil, and natural resources (iron and coal). Furthermore, the petrochemical industry is strongly represented in Rotterdam, as is dredging and shipbuilding (if the region is also included). However, these activities might be characterized by a decline in growth and future opportunities. In addition, these activities are sensitive to the developments anticipated to be ahead. Nonetheless, one can say that the Rotterdam economy, from a world city point of view, has recovered remarkably on the city index but is still outperformed by Hamburg. From a city point of view, Hamburg, ranking high on the abovementioned classification methods, could be in a better position to cope with these transitions. The development of the port cities can be compared by reference to their life cycles, but also by comparing the variety in industries and the way in which they were, and can be, influenced by the city itself in subsequent years.

2.12 Conclusion

For this thesis, the city is part of a cluster and not a separate entity. Like in Pigna (2014), the city is considered as an inextricable part of the port. Or, from the city’s perspective: the port is an inextricable part of the city. It was and is heavily influenced by the activities of port firms, and, vice versa, the city influenced and still influences the development of the port. Various actors (organizations and firms, but also individuals) have played their part in this. Krugman shows that one has to examine centripetal and centrifugal forces to understand the developments in the cluster and their spatial outcomes. As described in the problem analysis, the spatial outcome for ports is indeed a result of these two opposite forces, and different outcomes have been achieved in different regions.

How this developed and what that meant for the port–port city relationships are illustrated when the three port regions Rotterdam, Antwerp, and Hamburg are historically described in Chapter 8. For now, this review of cluster studies was necessary to show the development of ideas concerning the way one can look at

concentrations of industries. This study defines a cluster as a region that comprises the zone of port-related industrial activities and the associated city that can only be completely understood in its development (and the result of that) when the interactions between firms, intermediaries, and public representatives have been researched.

Commonalities and complementarities that are present in a particular spatial environment are core features of Porter's definition of a cluster (Porter, 1990a, 1998, 2000, 2002). In this environment, the result is interconnected companies and the presence of associated institutions. As scholars have emphasized, the relationships between actors, institutions, firms, and government organizations should be studied in relation to not only the concrete economic outcomes (input/output models), but also the more intangible factors (Marshall, 1920; Alberti, 2001; Porter, 2009; Dicken, 2009; Nijdam, 2010; De Langen, 2004; Chapman, 2005; Neffke & Henning, 2013; Menzel & Fornahl, 2009; Granovetter, 2005).

The cluster approach provides a tool for distinguishing relationships within a spatial environment concentrating on activities that are related to one another in terms of features they have in common or in which they complement one another. In this way, an environment is created in which companies and institutions associated/related with them can enhance the performance of the region. In port regions, the interconnected port companies have migrated from former locations within the city to more peripheral locations within the port city region. Their place is taken over especially by more or less associated institutions within the port city. This thesis is interested in how this process has developed and the economic effects for the city. So, the emergence of the cluster, particularly the interrelationships between the various actors, is relevant. Therefore, this model provides us with the next objectives:

- To study the way in which these commonalities and complementarities between selected port actors are established and strengthened by private and public governance;
- To study the outcome of the nature of these relationships in terms of benefits for the whole cluster, i.e. the port region.

Concentrations of economic activities can enhance prosperity (Porter, 2000; Frenken et al., 2007; Menzel & Fornahl, 2009). Cluster theory can assist in the design of public policy to enhance this prosperity by stimulating clusters. However, it is necessary to have a thorough insight into how clusters function and into the current phase of these concentrated activities, as Menzel and Fornahl (2009) show. What is the

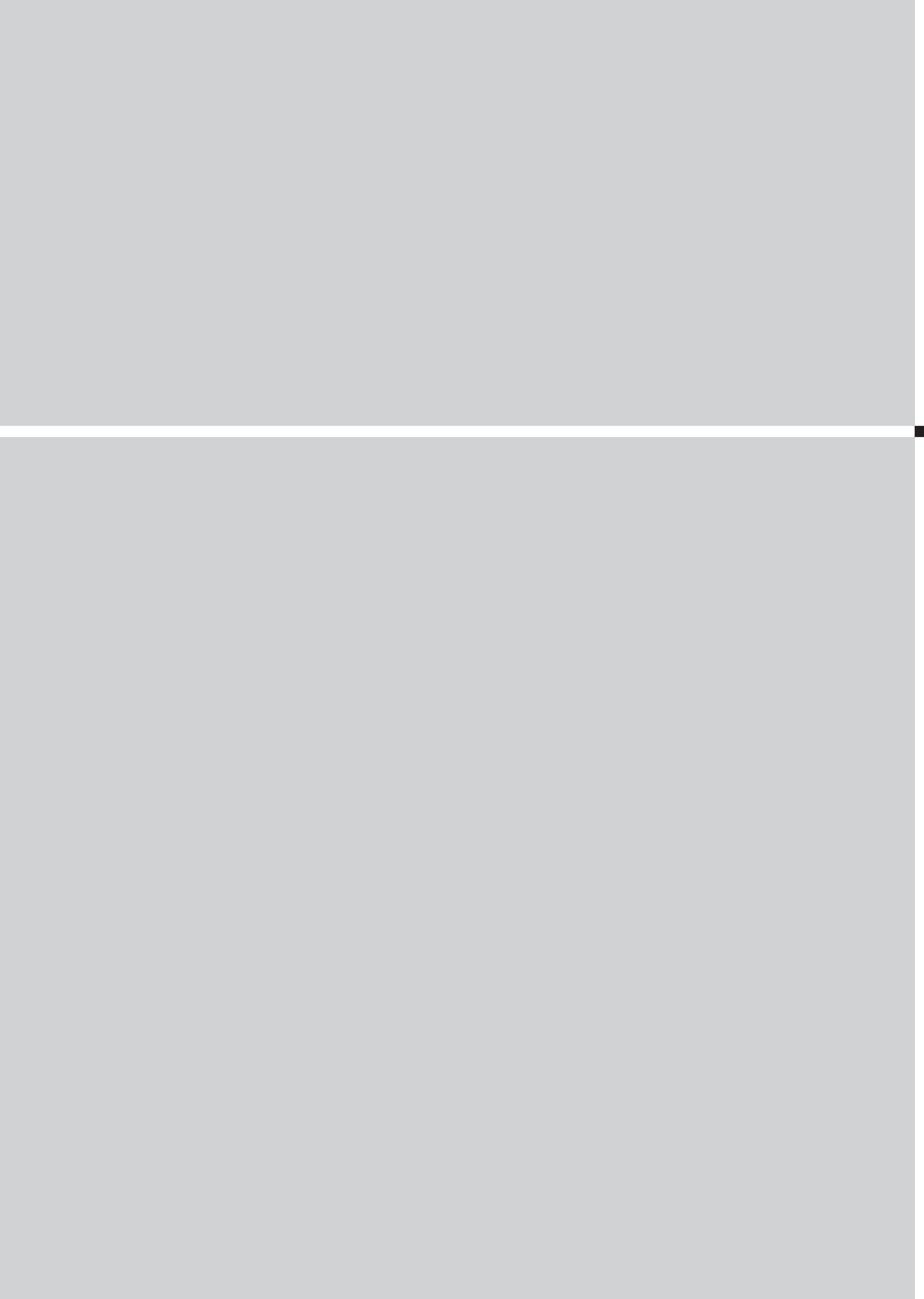
heterogeneity of more mature clusters, and how well do we stimulate convergence at the beginning of clustering activities to enhance cluster growth? The ports in the Le Havre–Gdansk Range are at first glance clusters of port-related activities. A closer look shows differences in the way in which these clusters have developed their convergence and heterogeneity. It is interesting to ascertain in what way public authorities have played a role in the different phases of cluster life cycles that have led to different levels of lock-in in certain industries or have been able to regain a certain level of heterogeneity to enter new growth stages, because “it is the utilization of heterogeneity between clustered and non-clustered companies that results in different life cycles” (Menzel & Fornahl, 2009, p. 219). Understanding these differences in heterogeneity helps to evaluate the conditions in terms of welfare for the cluster environment of ports, i.e. the port cities. The presence of a common view in both industry and governmental organizations could influence the way in which the benefits of the cluster’s economic outcome is achieved and invested in the cluster on behalf of all the actors. The concept of shared values is an instrument to determine whether such a common view exists. It is even still to be seen whether the three regions under study – Rotterdam, Antwerp, and Hamburg – really had a proactive cluster policy and whether this policy reacted to developments from outside (demographic, economic, social, technological, environmental, and political).

The approaches and models discussed above are useful for describing and understanding the development of port cities from the past to the present and their future opportunities or constraints. As described in Chapter 1, the current situation in ports can sometimes be seen as a schism between the port activities and the city from which these activities originated – a schism in terms of spatial location and functionality. Sometimes, because this schism is not always obvious, as in Hamburg, or functionally speaking, because there can still be a lot of port-related variety in these cities. The concept of clustering directs us to the interplay of actors, commonalities, and complementarities. The idea of concentration and heterogeneity, the degree of locked-in clusters, force us to pay attention to diversity in relation to the development of the port to present times. Related variety and skill relatedness are concepts that help us to evaluate the situation regarding the future. The concept of shared values is an important one to take into account as one of the concepts to evaluate the clusters port/port city under study as they enable, even enhance local cluster development. All be it a cluster characteristic, in fact is a sensitizing concept as well and will be dealt with as such. But for now it will be summarized as a result of the exploration of the body of knowledge cluster development.

This creates the next categories of cluster characteristics that will be used for the empirical research as shown in Figure 2.10.

Commonalities
Complementarities
Life cycle phase
Skill relatedness
Shared values

Figure 2.10 Characteristics of cluster composition



Chapter 3

Governance

3.1 INTRODUCTION

In this chapter, a review is presented of several approaches to the concept of (port) governance. This is needed to choose sensitizing concepts, that conduct the empirical research of which the outcomes are presented in Chapter 9.

In section 3.2, definitions and the changes in approaches (consequent to changes in governance itself) are discussed, ending with the concepts currently most used. Section 3.3 pays attention to the mechanisms that make the governance networks ‘tick’ – mechanisms that partly shape and sometimes determine the possibilities that governance can achieve. Section 3.4 deals with the topics of governance in port studies. Special attention is given to the most important change in port governance: the retreat of public responsibility. This chapter concludes with section 3.5, which shows how these observations and assessment proposals fit within the research model as presented in Chapter 1.

3.2 GOVERNANCE: DEFINITIONS, APPROACHES, AND MAIN THEMES

3.2.1 A short history of the study of governance

Society as a community of actors with different needs, interests, and occupations needs to be regulated to prevent disorder (a societal perspective), uneven distribution of resources and imperfect competition (an economic perspective), inequality and social unrest (a societal and moral perspective). Governance as a method of steering forces within this community of actors is the instrument that humankind has been practicing from ancient times (Plato’s *The State*) via the Middle Ages with monarchs and republics, up to modern times. The way in which governance is perceived and executed has transformed over time. The study of governance, as a theme for providing a framework to describe, analyze, and explain how transactions in society are performed, has changed as well, but the basic concept of governance as a “process by which we collectively solve our problems and meet our society’s needs” (Osborne & Gaebler, 1993, p. 24) has remained the same. However, the applicability of this theme has and has had different perspectives. Osborne and Gaebler (1993) use it to study how government as the instrument of public governance has changed in the US. The term governance is often restricted to governments’ actions (Brooks, 2007), but other scholars see it as more than a governing government; rather, it must be interpreted much more broadly. For Williamson (1979, pp. 234–235), it is about transactions, wherever is happening, as long as it is aimed at

the exchange of resources: “....for each abstract description of transaction, identify the most economical governance structure, where by governance structure I refer to the institutional framework within which the integrity of the transaction is decided. Markets and hierarchies are two of the main alternatives.” Other scholars also define governance as broader than just governments’ actions, stating that it is about business, civil society, and governmental actors. However, they do not focus only on the transactions based on markets and hierarchies as Williamson emphasizes, but choose another approach because for them modern society is much more complex. Klijn and Koppenjan (2016, p. 11) see networks as “more or less stable patterns of social relations between mutually dependent actors, which cluster around a policy problem, a policy programme, and/or a set of resources which emerge, are sustained, and are changed through a series of interactions.” The above remarks show in these brief statements precisely in what way the study of governance has changed in the 20th century. The three mechanisms mentioned above have been the focus of scholars’ attention in their discussions on steering instruments: hierarchies, markets, and networks. Before the relevant theme – governance in port regions – is addressed, a short review is now presented of the development and approaches of the governance concept.

Hierarchies: bureaucracies

In the early 20th century, public administration favored a separation between politics and administration in the belief that administration (bureaucracy), holding “impartial” knowledge (Bevir, 2012, p. 57), could act as a check on politics with its own politically driven interests. Governance was strongly associated with government. Bureaucracy was professional, an independent controller (Bevir, 2012). Bureaucracies were seen as superior and immune to day-to-day hypes of politics and a stable factor in the turbulent environments for companies as well as public entities like governments. A most famous example is the BBC hit series “Yes Minister” in the early 1980s, where the minister in fact was controlled by the representative of the bureaucracy: the permanent secretary. In the 1960s and 1970s, this view began to erode: bureaucrats were not impartial experts but self-interested actors with their careers and networks. It was also a reaction to the ever-growing public bureaucratic sector. The influence of the state worried politicians, business, and scholars, and change was at hand.

Markets: New Public Management

The idea that government is not impartial, and not cost-effective, in fact not even the most professional entity to deliver services because of its attitude, was the trigger to approach governance from another perspective. Another kind of orientation,

in terms of goalsetting, cost orientation, efficiency, and driven by tasks, derived from managerial practices, entered the governance theme and progressed to what became known as New Public Management (NPM). This approach was especially promoted by Osborne and Gaebler who wanted to change the way US government delivered its services and advocated that managerial principles should be applied to government's governance. Under the flag of an entrepreneurial spirit, they proposed 10 principles including competition, customers, earning instead of spending, and decentralization of authority. For them, it was all about less government (rowing), more governance (steering). This gave rise to an almost religious belief in markets and hierarchies as a panacea for the former unwanted development of bureaucracy and gave rise to this new approach to public governance, which would ultimately lead to, what some would call, a "hollowing out of the state" (Rhodes, 1997, p. 17). However, this almost rejecting attitude towards public entities is not completely what Osborne and Gaebler proclaimed: "many people who believe government should simply be 'run like a business', may assume that this is what we mean. It is not" (Osborne & Gaebler, 1993, p. 20), because: "Government and business are fundamentally different institutions" (p. 20). "Business is driven by profit, governments by delivering services" (p. 20). In fact, Osborne and Gaebler are more nuanced than many politicians apparently thought when they danced around the "golden calf of privatizations of former public institutions," especially when governments privatized, an activity that resulted in a private monopoly so that "cost and the inefficiency grow worse" (p. 47). What Osborne and Gaebler proclaimed was that the distinction is not "public versus private" but "monopoly versus competition" (p. 79). It is competition that creates organizations that flourish. This leads to the benefits as efficiency, flexibility and innovation.

Public management is about the way in which the available resources are used as effectively as possible to achieve state (public) policy goals. The adoption of market thinking (competition), management tools (give the officials the freedom to manage), and goalsetting (i.e. NPM) was especially prevalent in the Anglophone countries in the neo-liberal times of Reagan and Thatcher. In the 1980s and 1990s, in The Netherlands, this became the main driver of a retreating government under the prime ministers Ruud Lubbers and (surprisingly for a labor politician) Wim Kok (and his UK labor counterpart Tony Blair with his New Labour). This led to a situation whereby policymaking and service delivery, which was outsourced to third parties (private and voluntary), became separated. The state, however, is still accountable: the state is the principal; the contractor is the agent. Performance management systems for monitoring price, quality, and customer satisfaction became the norm in the public management arena. This performance management is needed to be

able to monitor and evaluate the performance of the contractors' activities. This has led to budget-driven programs that often lay too much emphasis on financial performances.

Networks: network governance

NPM did not completely replace existing bureaucratic structures (Bevir, 2012, p. 66). In fact, these are still the dominant form, partly because NPM implementation required new forms of bureaucracy and new sets of rules. These new market-related policy instruments often did not replace the bureaucratic ones, but supplemented them. Thanks to the increasing influence of other actors besides businesses and public entities, such as non-governmental organizations, public interest groups, and individual, sometimes influential actors, the world became more complex. State activities performed by public and private actors became entangled in networks consisting of public, private, and voluntary organizations.

This gave rise to a second reform: public-private partnership (from the late 1990s),⁷ where managing networks and governance meet to produce policies and services. This also meant a fundamental change in the basic principle of how governance is 'adjustable'. Hierarchies are based on authority, the leading principle in markets is price; for networks, trust is the 'oil that makes the machine run.' It is about relationships: "Because Public Private Partnerships involve closer relationships among actors than do contracts, PPPs typically rely on a high level of trust" (Bevir, 2012, p. 68). This creates a more challenging task for public managers to steer activities. Network management is required to influence the organizations in the network.

To summarize this brief overview of how the theme of governance evolved, Table 3.1 recapitulates the main characteristics of the three mechanisms: hierarchies, markets, and networks. Thorelli thinks that networks are more an in-between form as a result of defining networks mainly from the relationship aspect: a network is a structure consisting of "two or more organizations involved in long-term relationships" (Thorelli, 1986, p. 37). That would mean that a distinction could be made between hierarchies, networks, and markets, where networks take a stand in-between as a kind of mix, but, from the more historical perspective of how in time organization was studied, the typology remains as discussed above.

7 This is not to say that before the late 1990s there was no public-private partnership. As seen in Chapter 8 regarding the development of the port city of Rotterdam, in the 1950s there were omnipresent forms of public-private partnerships.

Table 3.1 A typology of organizational structure

	Hierarchies	Markets	Networks
Governance	Authority	Price	Trust
Basis of relations among members	Employment	Contracts and property rights	Exchange of resources
Degree of dependence among members	Dependent	Independent	Interdependent
Means of conflict resolution and coordination	Rules and commands	Haggling	Diplomacy
Culture	Subordination	Competition	Reciprocity
Accountability	Clear and strong: punishing	Self-inflicting: the market corrects	Diffuse: hard to pinpoint responsibilities

Source: adapted from Bevir (2012), last row added by author

The next section addresses how the academic world has studied governance as a theme to explore how communities organize themselves.

3.2.2 Interpretations of governance

The use of the term, governance, has for many years been a source of miscommunication, misunderstanding, and confusion, as it depends on how one looks at reality – the reality of how policymaking and implementation of these policies (or decisions) exist. Many disciplines such as political science, law, public administration, economics, but also geography, sociology, and other disciplines, have been paying attention to the subject, leading to various views of ‘their own’ and interpretations of the subject. This is also partly due to the fact that governance, as a phenomenon in itself, has been changing so much in the last decades as society was looking for new arrangements for organizing governing structures and redistributing power to new institutions (Van Kersbergen & Van Waarden, 2004; Rhodes, 2007). To illustrate this variety of approaches and different focuses on topics in the research on governance, Van Kersbergen and Van Waarden (2004) distinguish nine different approaches or focuses of attention in the study of governance. In their classification, two perspectives are relevant for this thesis: “Governance without governance as self-organization: based on negotiations, informal understanding and trust”; and “network governance” (p. 150). The latter addresses the role of public actors, but Van Kersbergen and Van Waarden underestimate the influence and presence of public organizations in the creation and existence of these networks, and therefore they should be considered as organizational bodies that play a role.

If we reflect on the brief overview of the history of studying governance as presented in section 3.2.1, which emphasized the fundamental other interpretations of how to organize societies by taking bureaucracies, markets, or networks as the leading principle, and if we observe how the academic world approaches this field of research, we see the central themes of hierarchies, markets, and networks as described in 3.2.1 reflected in Van Kersbergen and Van Waarden's (2004) nine approaches. This thesis takes the network concept as a basis for governance, because this approach reflects the interplay within the port cluster. Important elements of this network approach are trust, exchange and reciprocity, as they are representing the nature of the relations within the network. For this thesis, the port and port city is regarded as a cluster with its relationships within.

3.2.3 Actors, processes, and institutions: interaction in policy networks

A cluster might be considered as an articulation of a network of private organizations, although government exerts a substantial influence on this network (Porter, 1990a), or, as already stated, the private network governance organization. What governance approaches usually have in common is that the regulation of rules that govern conduct and property rights is a central theme (Brooks, 2007). For this thesis, the characteristics of network governance, but also aspects of the cluster, provide the analytical framework for studying the aspects of governance in port-port city relationships. These aspects are:

- Self-organization based on trust, negotiations, and informal understanding;
- Networks of public and private organizations;
- The linkages between actors (including government).

In summary, this means that the study of governance in terms of governance in and by a network is a study that pays attention to:

- Actors (who is involved in what kind of relations?);
- The interaction between the actors (what kinds of relations exist and what are their purposes?);
- The institutions (what shapes the way in which these relations are articulated?).

For this study, this means that the actors involved are the selected port firms with their interactions. The third aspect mentioned above, institutions, is of interest because the institutions are particularly influenced by the various political-economic contexts of the three port cities under study. However, as these themes are also distinguished by Klijn and Koppenjan (2016, p. 33) as the main themes of research on network governance, there is an important remark to be made on institutions.

Klijn and Koppenjan (2016, p. 37) consider “institutions” more as processes “than institutional features of networks”, whereas this study approaches institutions more from a perspective to which Klijn and Koppenjan pay less attention. This thesis emphasizes the need to look at institutions as “a set of rules or norms that guide behavior” (Klijn & Koppenjan, 2016, p. 37). This explains the inclusion here of the socio-political context, because that context is an influential factor in institutions’ behavior.

However, before governance and port cities are addressed, the meaning of governance is further elaborated. Klijn and Koppenjan (2016) identify four meanings of the term governance:

1. Good governance or corporate governance: a properly functioning public administration;
2. Governance as NPM: the role of the government is to steer; the implementation and the delivery of services should be left to other organizations or separate public agencies;
3. Governance as multi-level governance: the focus is on how public actors on various governmental levels interact (vertical relationships);
4. Governance as network governance: here “...the focus is on the complex interaction process in a network of public, private and societal actors, including individuals, organizations and groups of organizations” (Klijn & Koppenjan, 2016, p. 6) (horizontal relationships).

For Klijn and Koppenjan (p. 6), the element of the interrelationship between actors pursuing the fulfillment of their goals is crucial for the concept of governance. As their research on the literature on the topic of governance and governance networks shows, the terms governance and governance networks are highly interchangeable (p. 8).

Rhodes is strong representative of the policy networks paradigm. Although his observations are derived from the UK situation and he focuses on the role of national (central) government, his concepts are worth mentioning, as the concepts that he uses are valid for the Continental situation as well, as he himself also remarks (Rhodes, 2007). For Rhodes, a network is a system in which exchanges take place. It is characterized by interdependence between organizations for resources to achieve their goals. In this network, there used to be a dominant coalition that “employs strategies within known rules of the game to regulate the process of exchange” (Rhodes, 2007, p. 1245). The network leads to patterns of governance that “...arise as the contingent products of diverse actions and political struggles informed by

the beliefs of agents as they arise in the context of traditions” (p. 1252). For Rhodes, this context of traditions is rooted in shared values and norms “which holds the complex set of relationships together; trust is essential for cooperative behavior and, therefore, the existence of the network” (p. 1246). Rhodes questions the role of the state. For him, there is no unitary state in Britain with a strong executive. The state has a role that has declined as there are new forms and instruments of governance (Rhodes, 1997, 2007).

As governance is executed with and through networks, he also makes these terms interchangeable and further on speaks of network governance (Rhodes, 2007, p. 1246). The elements, interaction and flow of resources, are also key concepts for interfirm coordination, or network governance as Jones, Hesterly, and Borgatti (1997, p. 914) define it: “network governance involves a select, persistent, and structured set of autonomous firms (as well as non-profit agencies) engaged in creating products and services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges.” In this definition, the term, persistent, which refers to the repeated working together of the network members, is an interesting one. This would imply that a mechanism should be at hand to enhance that. Jones et al. contend that the network structure will take care of that, in what can be seen as a dynamic process. I think this is not only an autonomous and self-enforcing mechanism, but should be fostered by some kind of meta-governance as the interests of network partners might change consequent to environmental contingencies, which they also mention in their definition – for example, global companies taking over a network firm and therefore changing the firm’s goals and interests with the result that these no longer align with the interests of the network itself.

Within the framework of this thesis, Rhodes’ toolkit is valid for the Continental port city study as well. The devolution of port governance is an example of the hollowing out of the state. The significant changes that have taken place as a result of the dynamics in the port environment, and therefore in the port city cluster, have had an effect on the nature of the dilemmas with which the port city community is confronted. The fact that there is increasing autonomy from the state, but that one can also apply that to a public entity such as a municipality, means that the networks resist central guidance, as Rhodes perceived in the observations that he made regarding the UK (Rhodes, 1996, p. 667).

Van Kersbergen and Van Waarden (2004) note that these changes in governance in terms of power shifts to other levels and organizations had an effect on the respon-

sibilities and governance instruments, thereby leading to problems of governability, accountability, and legitimacy: "...traditional institutions of checks and balances on power and accountability could become obsolete, or at the very least less effective" (p. 155). Klijn and Koppenjan (2012) and Klijn (2008) present three types of governance networks that have been central in the research: policy networks, service delivery and implementation, and managing networks.

3.3 COORDINATION MECHANISMS OF NETWORKS

So, governance can be seen as dealing with networks. Networks are formal or informal groups of actors gathered around a common interest and for that reason establish relationships with one another. This interest may be an assignment, a problem, an opportunity, and so on – a common goal that can be handled better by the group to be able to succeed (the group is needed), to perform better than without the other members. Networks are also about resource exchange as they structure resource exchange (Rhodes, 1997, p. 24, note 2). They are an alternative to other structures to coordinate the handling of tasks, problems, and opportunities. Klijn and Koppenjan (2012) distinguish another coordinating mechanism besides markets and hierarchies. They remark that many authors see trust as a coordinating mechanism for networks, a view to which they do not adhere. Rather, they see trust as "an important asset to achieve" (p. 593). There are always more factors playing their role, and Klijn and Koppenjan indeed remark that different mechanisms interact. It is not only markets or hierarchies or trust. As Granovetter (1985, p. 495) states: "Business relations are mixed up with social ones." Firms are embedded in a social reality: networks of interpersonal relations. These relations often form interpersonal networks where communication, decision making, and negotiations take place. Therefore, they must be mapped to understand how the networks come to decisions, and trust is one of the factors to be taken into consideration as it reduces uncertainty and takes the actions of other interests into account (Klijn & Koppenjan, 2012, p. 594; Zhizhong, Shiu, Henneberg, & Naude, 2013; Buskens, 1999; Poppo, Zheng Zhou, & Sungmin, 2008).

3.3.1 Trust

The trust concept had many meanings (Mouzas, Henneberg, & Naudé, 2007). It has received attention from a variety of scholars from different disciplines. In the discipline of law (contract law), the concept plays an important role in the creation of exchanges, especially in their formalization by contract (Macaulay, 1963); but disciplines like marketing and management (Zhizhong et al., 2013; Ganesan, 1994;

Ganesan & Hess, 1997; Doney, Cannon, & Mullen, 1998) also emphasize the importance of trust as one of the determinants of buyer–supplier relationships. Scholars focusing on organizational learning (Nooteboom, 2002) and sociology and political sciences (Fukuyama, 1995) deal with the concept in different ways and from different perspectives. Williamson (1979) sees it as a spin-off from one of his basic concepts, uncertainty – a phenomenon involving trust, although, for Williamson, trust is an instrument to decrease uncertainty; but this is nothing more than calculative self-interest (Nooteboom & Six, 2003). This transaction cost logic as a formal institutional instrument was seen as insufficient, for reality is much more complex because interactions are performed within an embedded social context. As a result, behavior and institutions are constrained by social relations, because they are embedded in society (Granovetter, 1985). So, transaction cost logic is not that logical.

These different approaches have led to misunderstandings and misuse of the concept, whereby especially the domain and the limitations of the concept are not well discussed (Mouzas et al., 2007). The domain is rather intangible. Doney et al. (1998) recognize two streams that can be seen as defining trust as coming from two sources. The first considers trust as stemming from an internal attribution that defines one's behavior. This behavior is then based on a belief, an expectation that others will behave in a non-opportunistic way, not taking advantage of their position. The second one defines trust as a response to this belief: acting based on these beliefs. Thus, trust is an important element of the quality of relationships. It determines one's credibility, it expects benevolence and honesty in the other party's behavior (Doney et al., 1998). This means that there is a dependence, at least on one side, between partners constituting this relationship.

3.3.2 Reliance

Mouzas et al. (2007) want to distinguish between trust and reliance: the first one is highly personal, based on emotions, and they contend that using this to describe business relationships is highly debatable. The second one, reacting to the nature of the relationship, has not so much to do with trust in the personal, narrow definition, but it is a cognitive process. They relate it immediately to the inter-organizational level (p. 1019). For them, these two are different levels of analysis. Personal trust cannot be translated directly into inter-organizational trust: "individuals in an organization may share an orientation towards another organization, which is quite different from claiming that organizations trust each other" (p. 1019). However, in this statement they exclude the orientation of individuals from two organizations towards each other as individuals. That is still based on the first source; and, as organizations are nothing more than groups of people (with a common goal and act-

ing according to accepted norms and rules), the personal orientation is the basis of everything, including the way in which these two organizations (via their representatives) meet. The authors try to sidestep this ambiguity by differentiating between the personal aspect and the organizational aspect by using the concept of reliance to describe the institutionalized form of trust: the non-personal “rational standard within inter-organizational relationships” (p. 1020). For them, trust and reliance are independent characteristics of these relationships. As stated above, in my opinion these two cannot be separated, but, despite the fact that these cannot be separated, it is useful to distinguish between the two as long as the relationship is clear.

Reliance as a concept describes and analyzes the business-to-business relationship on an organizational level, and trust does so on the personal level. In contrast to Mouzas et al. (2007) however, this is not a distinction based on business-to-business, but rather on the abstract organization versus the human relationship that can also relate to the business-to-business relationship. Organizational trust thrives only thanks to the existence of individuals in organizations who trust each other on a personal base. Nooteboom agrees with this, stating that reliance is nothing more than “a broad term including all bases of expectations” (Nooteboom, 2002, p. 11). For him, trust is “based on social norms or values of behavior” (p. 11) and thus is the foundation of these expectations. Reliance is the wider form of trust, which he defines as follows: “Trust in things or people entails the willingness to submit to the risk that *they may fail us*, with the expectation that they will not, or the neglect or lack of awareness of the possibility that they might” (p. 45) (*italics added*), whereas real (personal) trust is: “‘Real’ trust, or trust in the strong sense, is an expectation that things or people *will not fail us*, or the neglect or lack of awareness of the possibility of failure, even if there are perceived opportunities and incentives for it” (p. 48) (*italics added*). This is clearly reflected in his comparison of these two forms of trust when he defines the sources of reliance. The relationship between these two can be better understood by elaborating on his classifications based on his reflections on cooperation, reliance, and trust production.

In Table 3.2, the relationship between these two different, but still interacting, concepts is shown – interacting, because trust as a form of mutual understanding is the basis for the emergence of reliance. Without trust, no reliance is possible. Klein Woolthuis (1999, cited in Nooteboom, 2002) concludes that trust as a prerequisite for a contract can act as a memory, a record for conclusions. So, they are complementary. They are substitutes insofar as contracts are designed to foreclose opportunism. Both have their expressions as shown in Table 3.2, called basis for sanctions. Trust then can help to make good contracts where everything is discussed

Table 3.2 Foundations of governance

Instruments for governance	Mutual understanding	Basis for benchmarking	Basis of behavior	Basis for sanctions	Level of analysis
Control	Reliance	Contracts, supervision	Partner's dependence on value, hostages, reputation	Some authority (the law, organization), contractual obligation	Institutions
Communication	Trust	Norms, values, habits	Habituation, empathy/identification, friendship	Ethics: values, social norms of proper conduct, moral obligation, sense of duty	Personal relations

Source: adapted from Nooteboom (2002)

openly, and so reliance is built. Acknowledging that trust in the narrow sense is such a basic concept in business relationships, the foundation, labeled as basis of relations among members in Table 3.1, must be considered when analyzing where this trust comes from. Therefore, another level must be included in discussing trust and reliance. This level is the basis of these norms and values: the socio-cultural context that defines socioeconomic and socio-political relations. Nooteboom realizes this when he discusses the locality of trust: "...to what extent and why are trust and governance spatially embedded, connected with location" (Nooteboom, 2002, p. 126). Mouzas et al. (2007) show the relation between inter-personal trust and business, or inter-organizational trust (or reliance as they rephrase it), which creates a variety of sustainable business relationships (Figure 3.1).

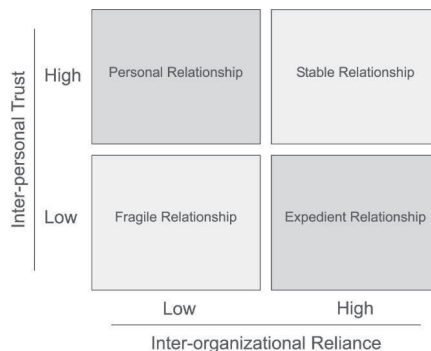


Figure 3.1 Trust and reliance in business relationships (Source: Mouzas et al., 2007)

In Figure 3.1, the necessity for a high level of interpersonal trust is articulated in its combination with a high level of reliance, resulting in a stable relationship. High inter-personal trust is achieved by relatively many anchor points: many personal relationships (Mouzas et al., 2007, p. 1024). This situation can help to save the business between firms when things go wrong on the business level, and it is the personal relationship between employees in both firms (mostly middle or top level) that guarantees that the companies are still on speaking terms. An expedient relationship – high-interorganizational reliance and low inter-personal trust – can exist when, for example, there are enough alternatives for firm X in its relation to firm Z. So, there is no need to put energy into building relationships.

For Fukuyama (1995), location is very decisive for the characteristics of trust, and he realizes that many scholars look at human associations (social groups) because of rational behavior. He acknowledges the existence of reliance as a rational relationship, but he rapidly adds: “Contracts and self-interest are important sources of associations, but the most effective organizations are based on communities of shared ethical values” (p. 26). These shared ethical values can be organized in such a way that they become social capital: the ability of people to associate with one another, a concept that he derives from James Coleman. Fukuyama sees differences between socioeconomic systems based on differences in shared ethical values leading to different levels of social capital (p. 10). He adheres to the conviction that real trust does not need contracts. On the contrary, they would destroy the relationship (Nooteboom, 2002, p. 122).

3.3.3 Acknowledgement of trust

So, this social capital results from levels of trust. If we define trust as a personal relationship between actors: a trustor who trusts another person, called a trustee. Then, the trustor gives trust to the trustee, because the trustee has created reasons for the trustor to do so. These reasons are acknowledged by the trustor as enough proof to give this trust to the trustee. The process is self-reinforcing but starts with the trustee who creates the basis for belief. This can be spontaneously generated, making the trust very powerful, or it can be hierarchically generated (Fukuyama, 2001). The first form is the basis for real trust and the second one is a basis for reliance, as defined in Table 3.2. This first form is a system of belief (in each other), the second one can follow as a result of the first. The process, as described in Figure 3.1, is applicable to both trust and reliance, and it takes place in a socio-cultural or socioeconomic environment. The element of acknowledgement can be compared to the two components as distinguished by Ganesan (1994) when he discusses a definition of trust:

- Credibility: the extent to which the trustor believes (expects) that the trustee can deliver (expertise and reliability);
- Benevolence: the extent to which the trustor believes that the trustee has intentions beneficial to the trustor when conditions arise that were not foreseen in advance (motives and intentions).

For Ganesan, expectations define credibility, and, regarding benevolence, intentions are central. They define credibility and benevolence. Credibility is based on former experiences, whereas benevolence is more related to future intentions. This two-sided element of trust is also recognized by Thorelli (1986, p. 38) when he observes that: “While solidly based in the past, trust is really a future-oriented concept.” So, a history full of experiences plays a role. In fact, experiences cast a shadow on the present, on how much trust the trustor will bestow on the trustee. The trustor needs to “observe and respond to each other’s (trustor and trustee) prior choices” (Axelrod, 1984, p. 182). On the other side are expectations, a calculation of cost and benefits that determines actions. To enhance the possibility of valuing these expectations, Axelrod (p. 180) emphasizes that the relationships between members of an organization “should be structured so that there are frequent and durable interactions among specific individuals.” These “shadows of the past and shadows of the future” (Poppo et al., 2008, p. 39) are important for the establishment of trust. They are not independent but intertwined. The shadow of the past is influenced by the expectations of the continuation of the relationship in the future. Poppo et al. even found that, if these expectations are weak, the trust in future exchanges is lower if there was a relatively longer prior history between the actors. So, they question the value of strong embeddedness of ties. It is like two people with a long history of friendship who feel that this long-valued relationship is betrayed by acts in the present. This feeling of betrayal is then so strong (because of a long-shared past) that they cannot believe it will be right again in future.

Opposing this view, this thesis establishes a relationship between actors based on ties influenced by different forms of embeddedness (in Figure 3.2, this is part of context).

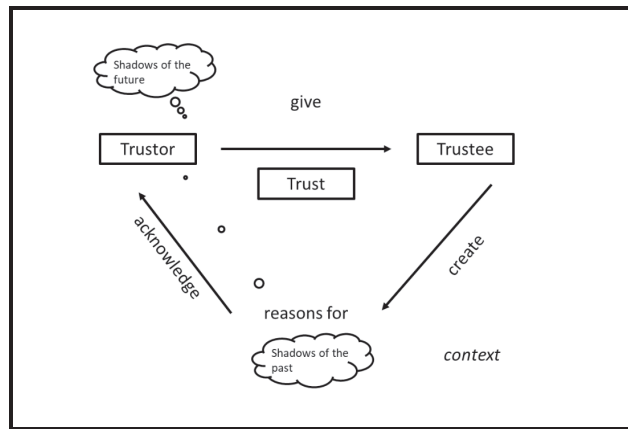


Figure 3.2 A model of trust-creating relationships (Source: author)

A feature of these forms of embeddedness is their variance in strength of ties and depth of embeddedness. This is a dynamic model, conveying the notion that trust enhances trust: the stronger the incentives created by the trustee, the greater the acknowledgement by the trustor and the more trust he will put in the trustee (*may not fail us*). This may be a reason for the trustee to even increase the reasons for the trustor to trust the trustee (*will not fail us*). This is a situation where the trustor lacks information that the trustee may have and this imbalance, creating uncertainties, is reduced by the trustee, so the relationship between the two may get stronger.

The context can change the character of the relationships, hence the differences between the Liberal Market Economy (LME) and the Coordinated Market Economy (CME) described by Hall and Soskice (2001) are variables influencing the abovementioned relationships. This will be dealt later in Chapter 5. In line with that, Doney et al. (1998) contend that national culture influences cognitive processes that via behavioral aspects influence trust. They argue that the concept of trust is important in interfirm relationships for lowering transaction costs. If trust exists between firms, a “source of competitive advantage is created” (Doney et al., 1998, p. 601). It is the context that determines the way in which acknowledgements are generated and how this process enhances the relationship. From the trustor’s perspective, it is a process of interpreting the reasons that created trust. It is a translation of intentions shown by the trustee. As a follow up, the trustee evaluates this in terms of what he expected. If there is a mismatch, then three questions arise:

- Is this mismatch solved?
- If it is solved, how is it solved?
- Who is happy with the results?

This is in line with the approach proposed by Eshuis (2006), when he states that trust is an active process: it shows itself in the actions of the other party involved and developed through actions. Trustworthy actions enhance trust (p. 43). This therefore means not taking advantage of an opportunity that might benefit party A but harm party B (a *will not fail us* situation). Eshuis distinguishes three types of trust that shape the basis of relationships (pp. 44–49):

- Trust in individuals;
- Trust in institutional arrangements;
- Trust in institutions.

This three-pronged approach to the trust concept reflects the basis of benchmarking and of behavior as mentioned in Table 3.2. Researching trust from the perspective of competitive advantage of relationships within a region or cluster is as important as harder quantitative variables. Studies that relate market orientation to firm performance also acknowledge the value of the socio-cultural orientation to perform in a better way (Ellis, 2006). This means that, to be competitive, creating trust is of the utmost importance for individual firms and for regions in which firms (and public entities) are competing but also cooperating to produce a system to be of service to mutual customers like a port region.

3.3.4 Trust and embeddedness

Trust is a process that can be performed between two actors (individuals or organizations): a dyadic embeddedness within a context where third parties are involved, a network embeddedness, and a situation where the process of building and sustaining trust is influenced (by providing information, giving incentives, or even sanctioning) by institutions: institutional embeddedness (Buskens & Raub, 2013). This is in line with the three types of trust described by Eshuis (2006). This embeddedness is shaped by experiences, a process of learning. Besides the instruments for governance as described by Nooteboom (2002) and summarized in Table 3.2, learning as a third instrument can be distinguished as influencing trust (Buskens & Raub, 2013, p. 16). Past experiences (shadows of the past) play a role. These past experiences can be rooted in the trustor's own experience with the trustee, or they can be handed over to him by a third party who has his own experiences of the trustee. The trustor has learned something. This can be on the level of inter-organizational reliance or interpersonal trust. If we elaborate on Table 3.2, the structure shown in Table 3.3 evolves.

Table 3.3 Instruments of governance: experience, formalizations, and contextuality

Instruments for governance	Mutual understanding	Basis for benchmarking	Basis for behavior	Basis for sanctions	Level of analysis
Control	Reliance	Contracts, supervision	Partner's dependence on value, hostages, reputation	Some authority (the law, organization), contractual obligation	Institutions
Learning	Reliance and trust	Shadows of the past	Shadows of the future	Information about the trustee from past experiences or from third parties	Institutions and personal relations
Communication	Trust	Norms, values, habits	Habituation, empathy/identification, friendship	Ethics: values, social norms of proper conduct, moral obligation, sense of duty	Personal relations

Source: adapted from Nooteboom (2002)

Giving an overview of the literature on the relationship between embeddedness and its effect on trust, Buskens and Raub (2013) show that there appears to be a strong relationship between these concepts. Their observations and results of empirical studies suggest that the degree of embeddedness influences trust. It should be noted that embeddedness is a two-side knife: because its structure can enhance control and/or learning, it can also enhance distrust (Buskens & Raub, 2013, p. 37).

3.4 GOVERNANCE IN PORT REGIONS

In the preceding sections, the different interpretations of governance and the notions of hierarchies, markets, and networks as subjects of the development of governance have been described. Thus, the network approach is considered a fruitful concept for researching port regions. The elements of the network – actors, processes, and institutions – have been described in terms of power, trust, and embeddedness. As networks operate within an environment, an understanding of a network's behavior can only be complete with an understanding of the most important developments in its environment from an economic, social, cultural, and political perspective. This

section aims to take a closer look at the development of port governance, whereby the interpretations of governance have changed over the years.

3.4.1 Diminishing public influence

Governance in port regions has undergone changes thanks to the shifting relationships between ports and their governing institutions. In many countries, governments have taken a more distant position in relation to port activities and have restricted themselves to securing a safe environment for the inhabitants of the region and ensuring a level playing field for commercial activities (Brooks, 2007, p. 3). A devolution process has taken place in which responsibilities were transferred from the public to the private sector (Baltazar & Brooks, 2007). This was an attempt by governments to apply the NPM principles to the transportation sector, first and foremost the ports (p. 380). This has led to a mixture of functions transferred between public and private entities in such a way that a continuum between fully public and fully private can be distinguished. The World Bank (cited in Brooks & Cullinan, 2007a; Brooks, 2004) developed a typology of four models in which the activities vary between the public and the private sector. Brooks and Cullinane (2007a, p. 407) refer to them not as models of governance, but as administrative models, because they do not show who is responsible for the risks and what the lines of accountability are. Brooks (2004) provides the following overview showing the transition of responsibilities in the use of infra- and supra-structure from public to private:

A. Service Port Model

- Used in many developing countries. The port authority owns the land and assets (fixed and mobile) and performs all the regulatory and operations functions;
- Advantages: a streamlined and cohesive approach to growth;
- Disadvantages: potential for inefficiency, non-economic motivations may dominate (Brooks, 2004).

B. Tool Port Model

- The public sector (port authority) owns, develops, and maintains the port infrastructure and supra-structure including cargo-handling equipment. Other operations are performed by (small) cargo handling firms;
- Advantages: no duplication in facilities because investments are made by the public sector;
- Disadvantages: risks of under-investment (Brooks, 2004, p. 170).

C. Landlord Port Model

- The most common model. The port authority is the owner of the port land, and the infrastructure is leased to private operators that provide and maintain their supra-structure and install their own equipment and employ labor;
- Advantages: appropriate supra-structure investments, efficiency, responsive to changes in market situations;
- Disadvantages: excess capacity in infrastructure (everyone wants to expand), duplications in marketing efforts (terminal operators and the port authorities both visit potential customers) (Brooks, 2004, p. 170).

D. Private Service Port

- A complete retreat of the public sector. All regulatory, capital, and operational activities are taken care of by the private sector. Striking (and only?) example: the UK;
- Advantages: flexible and market oriented;
- Disadvantages: public sector has no influence on economic development, no long-term economic policies and strategies employed (Brooks, 2004, p. 171).

The World Bank typology is too simplistic and does not really match the goal that it is supposed to serve (Brooks, 2004, p. 171). To understand the possibilities and the outcomes of port devolution, a more complex division is necessary: in terms not only of activities, but also of responsibilities; and it is especially this approach to responsibility that divides the governance of ports. Balancing between acting as a landlord and taking entrepreneurial responsibility, port authorities “face a serious challenge keeping the balance between private and public goals” (Van der Lugt, 2015, p. 145). Van der Lugt remarks that port authorities are more customer oriented than task oriented, so there might be an inclination for the exploration role to dominant over the exploitation role. Although not researched by her, she asks whether privatization “might go one step too far” (p. 146). That would be an extension of their role beyond that of landlord.

The view on who should be responsible for certain public tasks has determined the way in which functions have been transferred to the private sector. As discussed in section 3.2.1, the NPM that took off in the 1980s and 1990s stemmed from an organization theory that adhered the notion that there was ‘one best way’ of managing (Scott, 2014). Organization theorists strongly doubted this rigid approach, stating that more attention should be given to the environment, which cannot be seen as another variable to cope with. Environmental complexity and environmental dynamism are features to be included in the equation. The organization theorists

therefore formulated contingency theory. The contingency approach states that there is no ‘best way’, but there is an appropriate way to manage in accordance with a given context. The theory presumes that, given a certain situation, there are sets of contingency variables that should match if organizational performance is to be optimized (Baltazar & Brooks, 2007). The environment has an impact on the strategies to apply and the structure that the organization needs to make this strategy a success.

To research the effect of the devolution of port governance, Baltazar and Brooks (2007) use the matching framework (see Figure 3.3). The three elements of governance that they distinguish – environment, strategy, and structure – need to be in alignment to “fit” (p. 384) and deliver the optimal performance. Different environments require different strategies and structures leading to best performances in line with the possibilities created by the environment. The term, fit, views strategy “as the process of aligning organization and environment as patterns of interactions” (Venkatraman & Camillus, 1984, p. 514). The balancing out of environment, structure, and strategy to arrive at a “configuration” (p. 515) leads to the desired performance.

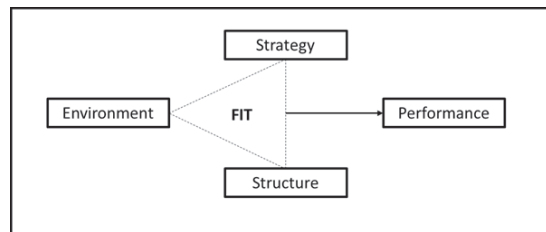


Figure 3.3 Matching framework for analyzing port performance (Source: Baltazar and Brooks, 2007)

Van der Lugt’s (2015) research among 94 port authorities showed that the more devolved port authorities were the most entrepreneurial ones, with activities far beyond the landlord role, whereas more politically grounded boards “give more weight to macro- and cluster-level goals” (p. 80). She attributes this to their differing institutional settings. This thesis puts these settings in their political-economic context. The interplay between environment, strategy, and structure that creates the fit is an ongoing, never-ending situation. Although the matching framework was designed to assess port performance, it delivers a framework that can also be of help as a tool to assess another performance: the quality of the relation between the port and the port city.

Baltazar and Brooks (2007) present another approach to strategy by using the dichotomy made by Miles and Snow (1978, cited in Baltazar & Brooks): defender strategies (efficiency focused, so for a stable environment) versus prospector strategies (innovation focused in a dynamic environment). This dichotomy is an interesting one as it reflects the distinction made by Hall and Soskice (2001) in what they call the Liberal market Economy (LME) and Coordinated Market Economy (CME) : defender, cautious strategies in a CME environment versus prospecting, more daring, strategies in an LME environment.

This is the background for distinguishing three cultures in port management (see also section 2.6.3) (Suykens & Van de Voorde, 2006; Lobo-Guerrero & Stobbe, 2016):

1. The Hanseatic tradition where the municipalities manage the ports;
2. The Latin tradition with a large role of central government;
3. The Anglo-Saxon tradition with almost (to complete) independence of any public entity.

These different cultures are discussed in Chapter 5, when the political-economic context is discussed.

3.5 CONCLUSION

This thesis, taking governance as network governance, stands in the tradition of policy networks. It considers the political-economic system as decisive for how mechanisms that guide and rule the complex interaction process within the network are shaped. The focus and the research questions as stated in Chapter 1 are in the tradition of the focus and main research questions distinguished by Klijn and Koppenjan: focusing on power relations, determining key actors, uncovering power relations, and searching for the characteristics of the networks within networks, revealing the effects on decision making (Klijn & Koppenjan, 2012, p. 590). That is a research field that focuses on horizontal cooperative relationships. In the case of the port regions, that means the relationships between public, semi-public, and private actors in the port city network to solve complex problems. These groups have common and individual interests. Where does this lead us in view of the relationship between port and port city and the developments as described in Chapter 1 that have occurred over the last three decades (increase in scale of maritime and logistics operations; containerization; globalization as the driver of global trade; and agglomeration economies as an important characteristic of the urban economy)?

From the observations in sections 3.1 and 3.2, we conclude that the governance literature provides us with the concepts that describe this situation. It is about actors, processes, and institutions. The relationship between the port actors – port firms, the intermediaries (port authorities), and city municipalities – is one of governance networks where there is interdependence, trust, and mistrust (see section 3.2). With the application of NPM in different degrees, if one compares the three ports under study, one could also say: different degrees in the hollowing out of the state, to use Rhodes' (2007) terminology. This could be the case in an international environment such as a port city where public governance and port authorities as semi-public governmental bodies are confronted with new actors: international players such as conglomerates of maritime organizations of cruise line operators and container terminal operators. The question is whether the existing checks and balances are sufficient to deal with governance that has a broader scope than the local rules of the game. Or as Van Kersbergen and Van Waarden (2004, pp. 157–158) say: "The traditional separation of powers may be less suited for organizing accountability for these new forms of network governance." This is the institutional part of governance. Here we will touch on concepts that will be dealt with in Chapter 4.

In this chapter, the choice is made to approach governance as networks but with the notion that the hierarchy approach should be applied as well, because, in this tradition, leader firms and their relations shape the network. Power plays a role in that relationship. The network invites us to study the relations in the environment under study, hence the port and the port city. By doing so the network approach provides us with the concepts of trust, interdependence and reciprocity. Trust arises spontaneously but is a result of the involved actors' interdependence and degree of power. Trust is an important notion, for when one speaks of shared values – an important notion in the approach of clusters – this sharing must be based on trust. Sharing opinions about how things are done and should be done requires an understanding based on norms, values, and habits. Interdependence is about business relations. This thesis sees these business relations not only between firms but all actors in the port-port city relationship. So firms, port authorities, the city government and non-governmental organizations are to be included. Reciprocity as an expression of culture within the network that produces the sense of responsibility for not just the firm itself but the wellbeing of the cluster.

Governance in port clusters features a special relationship based on the idea of deregulation, or port devolution as it is called, as described in section 3.4.1 This brings us to the subject of control. Control concerning the governance of the port by

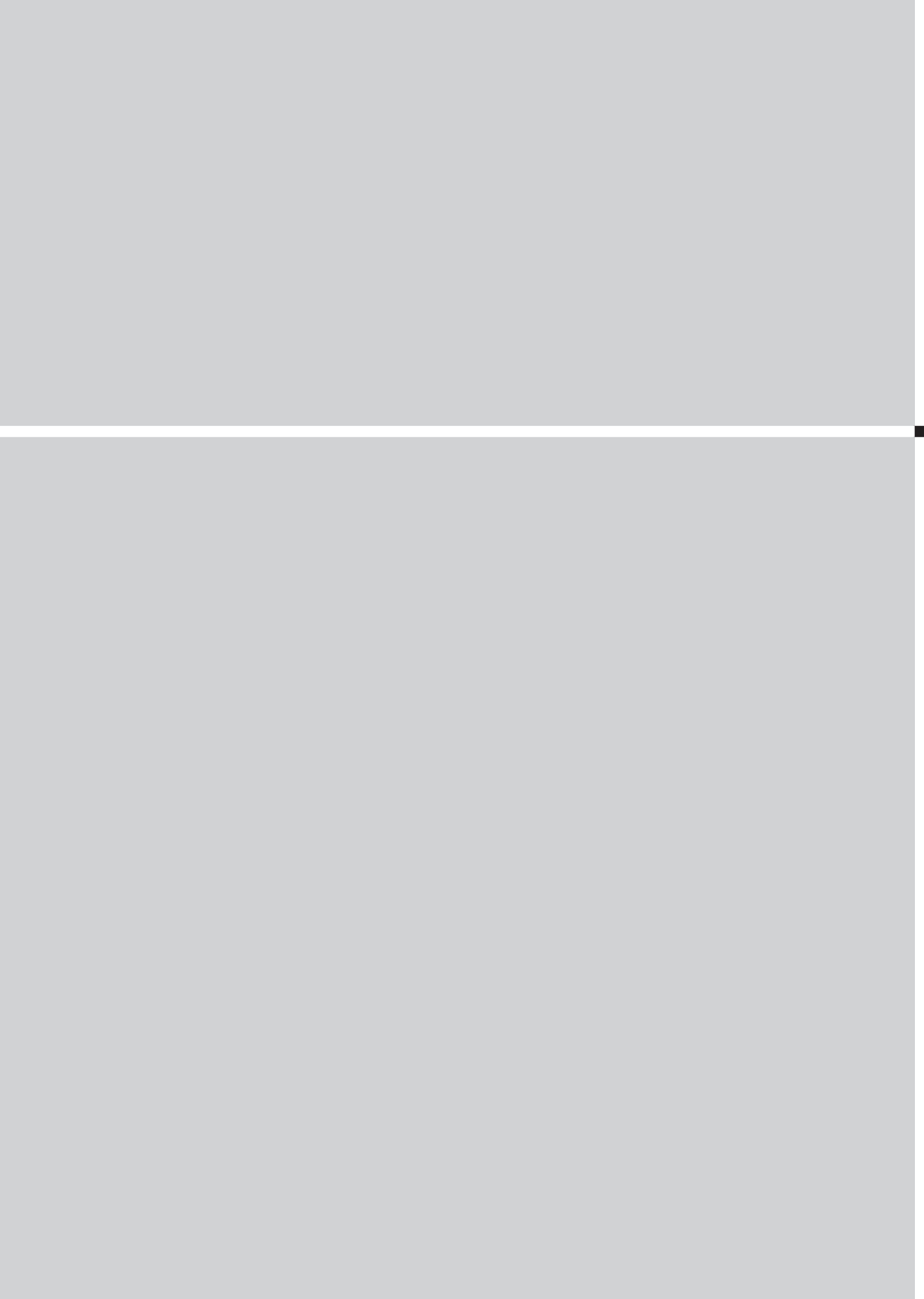
the port authority and control of leader firms. This creates the sensitizing concept of ownership.

Summarizing this review of the literature, sensitizing concepts needed to inductively analyze the empirical data which are created as is visualized in Figure 3.4, which is summarizing the sensitizing concepts taken from the second body of knowledge, Governance.



Trust
Business relations
Ownership
Company's investment in society

Figure 3.4 Sensitizing concepts from the Body of Knowledge Governance



Chapter 4

Institutional arrangements

4.1 INTRODUCTION

This thesis is about studying port-port city relationships. The previous chapters have dealt with clusters and governance. The governance of the port city cluster is not performed in an isolated situation, but within a context. This context is the subject of this chapter, which researches the phenomena that influence the way in which governance takes place. As noted in Chapter 1 (section 1.10.3, footnote 4), policies, systems, and processes that organizations use to legislate, plan, and manage their activities can be seen as institutional arrangements. What we can experience in reality as an outcome of processes of governance is a result of behavior that is defined by institutions, which in turn are influenced by culture. Figure 4.1 illustrates these relationships.

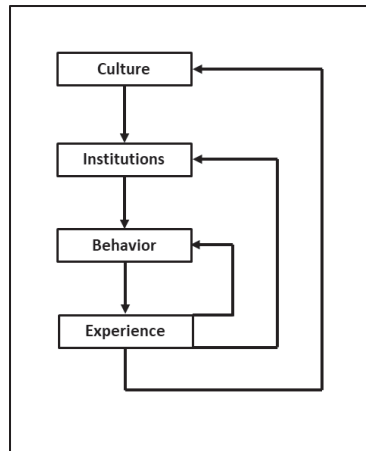


Figure 4.1 Cultural and institutional change (Source: Keizer 2008)

So, institutional arrangements can be studied by taking these elements into account. In this section, the elements institutions and culture of Figure 4.1 are briefly introduced. In section 4.1.1, the concept, institutions, is introduced (manmade rules), and in section 4.1.2 this is further elaborated on by connecting it to the idea of arrangements (manmade rules based on norms and values that govern behavior). As shown in Figure 4.1, these concepts can be related to culture, as discussed in section 4.1.3. In section 4.2, the relationship between institutions and behavior is further elaborated on. In section 4.3, the concept of culture is examined to provide the necessary background for the various institutional arrangements that can be found in port/port city clusters. Because of the lack of obvious operators of culture as a determinant for context, the research needs concepts that give insights into

how different institutional arrangements express themselves in port/port city environments. In section 4.4, tacit knowledge as a manifestation of institutional arrangements is presented, and in section 4.5 the concept of economy of touch is introduced as another manifestation of institutional arrangements. Both concepts are given considerable attention as they are an important tool to conduct the empirical research regarding the configuration of institutional arrangements in social networks based on shared values.

These shared values play a role in the strength of social networks and the formalization of power as expressed in one of the characteristics of governance in port clusters: the devolution of port authorities. The tacit knowledge and the economy of touch concepts, within the framework of institutional arrangements, complete the theoretical framework. A framework to conduct the research to describe and analyze the differences in relationships between the actors in various port cities.

4.1.1 Institutions

According to Keizer (2008, p. 2), institutions are a set of manmade rules that govern behavior. The context in which a port/port city functions is not a universally existing situation that provides the same circumstances wherever cluster activities are involved. This context, which is determined by manmade rules, has various manifestations based on socio-cultural differences that are spatially distributed. For this thesis, the locus of these institutional structures is molded by the port region of Rotterdam, in the nation-state The Netherlands, the port region of Antwerp in the nation-state Belgium (and important for Belgium, to be precise: the province of Flanders!), and the port region of the city-state of Hamburg in the nation-state Germany. These different regions have different regulatory regimes based on political economic structures that are an outcome of these institutions (but in itself also influence them). Elaborating on this theme will be done in Chapter 5.

4.1.2 Arrangements

In the theoretical framework, these institutional structures are the third important category for studying port–port city relationships, following on from the discussion of cluster development in Chapter 2 and governance in Chapter 3. They are called institutional arrangements: the way in which actors interact because of an, often unspoken, structure of rules and norms, called arrangements, or to quote the *Penguin English Dictionary*: “arrangement” *n*, order, design (Garmonsway, 1969). Scott (2014, p. 358) adds to that: “it is an underlying normative pattern, in terms of which a group is organized.” Stevens (1997) sees patterns of rules as a basis for long lasting expectations as institutions, and considers “predictability” as a feature of it

(Stevens, 1997, p.28). For that he implicitly combines the elements of institutions and arrangements in his definition. The institution concept is a topic of interest in various disciplines, from various perspectives. It can be seen as “a set of mores, folkways and patterns of behavior that deals with major social interests” (Scott, 2014, p. 357), and, as further elaborated by Scott, it is not about the group itself, but rather the underlying normative pattern. This normative pattern is defined by culture. These patterns of behavior are formalized (arranged) so that they are recognized by the actors in such a way that they can respond to them. This thesis uses the term institutional arrangement to get a greater grip on the concept of culture that underlies the political-economic context.

4.1.3 Institutional arrangements and culture

Culture is defined in various ways: “systems of meaning, ideas and patterns” (Van Maanen & Laurent, 1993, p. 275). “It is what goes without saying” (Van Maanen & Laurent, 1993 cited in Rosenzweig, 1994, p. 3), to which Rosenzweig (1994, p.1) adds: “there is a lack of clarity.” Keizer relates it to the way in which people try to cope with the reality surrounding them and gives it a strong behavioral context: “Culture is a frame of interpretation or worldview of a group. It includes a set of values and norms. A society is characterized by a particular social structure, which means a ranking of groups according to the status they have towards each other” (Keizer, 2008, p. 2). Institutional arrangements as an articulation of culture reveal these interpretations of how a group perceives the world, the type of behavior that is valued as accepted and fruitful. Institutional arrangements as a term also shows that interaction is necessary, it is about relations between actors. This means that this thesis approaches culture from action-related indices that can describe and explain culturally determined (or influenced) behavior. These indices are: 1. tacit knowledge, emphasizing the unspoken character of arrangements; 2. economy of touch, expressing the physical presence of actors; and 3. the political-economic systems in which 1 and 2 are embedded.

4.2 INSTITUTIONS AND BEHAVIOR

Studying clusters and governance is all about studying relationships. Relationships are based on mutual dependence, determined partly by markets and hierarchies (Williamson, 1979) and partly by the system of which they are part, the networks (Klijn & Koppenjan, 2016). So, for research on clusters and governance, it is essential to study relationships and how they emerge and develop. Because, according to Keizer (2008), institutions are a set of manmade rules that govern behavior, it must

be realized that behavior is a result of relationships, two of them with the environment, one of them with oneself. The first relationship is the interrelationship between humans and non-humans (e.g. organizations): the drive to use non-human objects: the economic motivation or force. Humans are assumed to be perfectly rational actors, and economically motivated institutions are at hand to regulate these interactions. From a traditional neo-classical point of view, there is no emotional relationship, there is no culture, there is no feeling, no guilt; so, a political control system (policing agents) must be available to punish extreme deviations. This is the world according to theoretical economists: a world of economic, rational actors. They solve economic problems and that means: reduce scarcity, realize efficiency. This is the perfect economic society associated with Adam Smith (2012). In the extreme, this is the world of John Galt in *Atlas Shrugged*, the famous novel of Ayn Rand (1957).

The second relationship is the interrelationship between humans and other humans: social motivation. It is about maximizing our status in the eyes of socially relevant others. The actors are social beings (Keizer, 2008, p. 9). Institutions are used to minimize the costs of this social battle. They do so by creating stable systems of hierarchically ranked groups. People realize that humiliation of another group could in time backfire on themselves, so we all benefit from a culture that maximizes the lowest level of humiliation (p. 10). This can be related to John Rawls' (1974, p. 142) maximin criterion as stated in his second principle:

Social and economic inequalities are to meet two conditions: they must be (a) to the greatest expected benefit of the least advantaged members of society (the maximin equity criterion) and (b) attached to offices and positions open to all under conditions of fair equality of opportunity.

The first part of this principle can be considered as the perfect condition for a truly democratic society.

The third relationship is the interrelationship between human and itself: the psychic motivation: to maximize our own status in our own eyes. The tension that needs to be reduced is the one between an individual's desired identity and actual identity. For this thesis, this is not the obvious relationship that should be elaborated on, but given the notion that "the psychic world is surrounded by the economic and the social world" (Keizer, 2008, p. 10), there undoubtedly is an interaction that is not only a downstream one (from economic, via social to psychic), but also an upstream one (the other way around), which in the case of powerful people can have interesting

(sometimes disastrous) effects on economic decisions, as demonstrated in the works of economist and psycho-analyst Manfred Kets de Vries. These three interactions, existing on different levels and expressed by behavior, form a confrontation between these different worlds and must be governed by rules to prevent undesired economic, social, and individual outcomes. This relationship, which can be expressed as shown in Figure 4.1, has checks and balances. Institutions control (govern) the individual actor's behavior, and behavior creates experience as an outcome of it. However, the institutions are also learning and correcting mechanisms influenced by feedback, based on experience; and, as an all-embracing fabric, culture governs these different manifestations of society, but in its turn is influenced by these manifestations. This feedback will have a different response times for the realization of its influence: behavior will respond much faster to the input from experience than culture will.

From this, it can be concluded that behavior is constrained (or fostered) by institutions, consisting of rules made by humans from their different drives: economic, social, and psychic. As stated however, culture is the all-embracing fabric that determines the way in which these manifestations of economic, cultural, and psychic behaviors will be manifested. Furthermore, as cultures vary, institutions and actors' behavior also vary. The next section explores the variety in cultures.

4.3 CULTURE

From the notion that culture is a way of guiding human behavior, following a pattern, many perspectives have been used to elucidate the concept. Hall (1960) used the various 'languages' to describe national culture:

- a. The language of time (scheduling or being more fluid);
- b. The language of space (personal space);
- c. The language of material goods (importance of material possessions);
- d. The language of friendship (emphasis on one's personal relationships);
- e. The language of agreement (spelled out or a handshake).

Hall approaches these national cultures strongly from the business point of view, and he touches manifestations of probably more profound, but hidden, values behind these languages. To gain more insight into these profound values, the notions of Hofstede (1984) are probably more valuable, grounded in empirical research as they are, but Hall's languages can be related to Hofstede's dimensions, as they are manifestations of these dimensions. Hofstede's notions, although dating back to the 1970s and the 1980s, are still valuable, as scholars still ground their research

and findings on Hofstede's taxonomy of culture (Schwartz, 1999; Loenhoff, 2011; Trompenaars & Hampden-Turner, 2011).

Being a psychologist, Hofstede (1984, p. 82) defines culture "as the collective programming of the mind which distinguishes the members of one group or society from those of another." For him, culture is the reflection of meanings, the way people look at the world, their values, their beliefs, and their artistic expression. It is a "collective programming shared in the minds of otherwise different individuals and absent in the minds of individuals belonging to a different society" (p. 82). He looks especially at the dimensions of work-related values when describing the different values that actors attribute to interrelationships:

- a. Individualism/collectivism;
- b. Power distance;
- c. Uncertainty avoidance;
- d. Masculinity/femininity;
- e. Long-term orientation/indulgence.

The last dichotomy, with the dimensions long-term orientation and indulgence, which he considers aspects of Confucianism (and can be seen as diligence, patience, or frugality), were added in a later phase because Hofstede (1980) wanted to incorporate East Asian cultures. His interest in culture stems from the fact that he relates it to management techniques, and the first sentence of his article's abstract makes management's position quite clear: "the nature of management skills is such that they are culturally specific: a management technique or philosophy that is appropriate in one national culture is not necessarily appropriate in another" (Hofstede, 1984, p. 81). Even within the Western approach to managing he observes distinctive differences. These differences are discussed in more detail in relation to political economic structures in Chapter 5 because these differences go deeper than just Hofstede's operationalization. The situation depicted in Figure 4.1 emerges when the dimensions are applied to the three countries where the ports under study are situated.⁸

⁸ Note: Hofstede's dimensions are on country level. A citizen of Hamburg can be quite different compared to a citizen of Munich. Still, these dimensions on the aggregate level give a good insight as they are based on a huge amount of data, gathered over a long period.

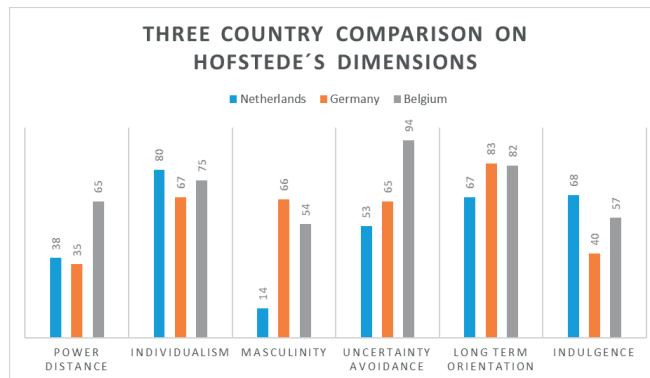


Figure 4.2 Three country comparison: The Netherlands, Germany, and Belgium (Source: <https://geert-hofstede.com/netherlands.html>. Retrieved: 6 March 2017)

Hofstede's dimensions can be related to Keizer's (2008) relationships in which human behavior is expressed. The dimensions of individualism, masculinity, and power distance are based on the social world, whereas uncertainty avoidance and indulgence can be considered as aspects of the psychic world. Long-term orientation is then an outcome of a strategy to cope with scarcity and create efficiency. But these dimensions do not exist in isolation. Reality cannot be cut with a razorblade but should be considered as a complex of interacting aspects of these dimensions based on economic, social, and psychic spheres.

To describe different cultures, features of interactions related to Hofstede's dichotomies are sometimes taken as a starting point (Doney et al., 1998). For Doney et al., national culture influences cognitive processes that via behavioral aspects influence trust. By stating that, they tread in the footsteps of Hofstede (1980) who recognized the variable, uncertainty avoidance (which is based on trusting the other). Trust between firms creates a source of competitive advantage (Doney et al., 1998, p. 601). This aspect of trust was dealt with in Chapter 4. Doney et al. acknowledge other aspects like intermediate institutions and organizational, relational, and individual factors, but their focus is on how people anticipate their own assumptions and their assumptions about other people's presumed behavior. Hofstede's dichotomy is the basis of Schwartz' framework. Schwartz (1999) also constructed dichotomies that were empirically tested: embeddedness vs autonomy; hierarchy vs egalitarianism; mastery vs harmony. He approaches the concept of culture from the values that give shape to a culture: "conceptions of the desirable that guide the way social actors (e.g. organizational leaders, policy-makers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations" (p. 24). The fallacy of

using the term, culture, as a kind of bin for explaining everything is for Mitchell (1995) a reason to reject the term, as he fears that its use will justify existing patterns of differences in power. From the Marxist perspective, he thinks that:

- Culture is seen as a material relation;
- Culture is determined by the economy, by consumption;
- Culture is the domain of ideology and, often, hegemony (it reflects the values and ideas of the dominant class).

Mitchell opposes the concept of culture as having an ontological status that has causative power and that can be viewed as a domain. That position could justify the status quo, as he thinks it hides the division of power that is responsible for the inequalities in the world. He considers culture as an outcome of the “struggles by groups and individuals possessing radically different access to power” (Mitchell, 1995, p. 108). However, Mitchell’s stand towards the concept of culture is much too dialectic to use it to explain the often-fruitful relationships between groups of actors with, albeit sometimes opposing, mutual interests. Loenhoff (2011, p. 62) defines culture as “a background of common meanings, which are interwoven with a common praxis.” He strongly relates culture to the unspoken meanings of language and behavior. For that, he studies intercultural communication as a platform where cultures meet, and he needs the concept of implicit, or tacit, knowledge, because “the ability to frame communication and action as the identification of the context, in which things explicitly known can be applied, is the stuff of implicit knowledge” (Loenhoff, 2015, p. 62).

4.4 A PHENOMENON OF INTANGIBLE AGREEMENTS, THE CONCEPT OF TACIT KNOWLEDGE

4.4.1 Codified and non-codified knowledge

The idea of culture and its influences on behavior and the way in which society is organized brings in the aspects of recognizability, understanding, and measurability. Understanding differences is important in a world where so many cultures meet, not only between organizations, but also within organizations. Although we might think that, within and between organizations, understanding one another’s behavior is based on rational principles that can be known, the transaction costs theory shows that the real world is much more complex and has hidden characteristics, known only by the insiders, e.g. the actors who are part of a certain network. Many rules that regulate behavior are codified; but many rules are also very implicit. This implicitness is a problem when behavior is being attributed to certain existing

but non-codified sets of knowledge: the way things are done, mores, or, using the term used to study this, tacit knowledge. It is in this implicitness that differences in culture can often be seen. This is expressed in the concept of tacit knowledge, and therefore it is worthwhile having a look at this phenomenon.

The term, tacit knowledge, was first coined by Polanyi (1966) to explain the acquisition of knowledge by men surrounded by the world of nature. Later, to explore its use as a sustainable competitive advantage, it was more elaborated, for example by Ambrosini and Bowman (2001). They and others (Lam, 2000; Nonaka & von Krogh, 2009; Jones et al., 1997) relate the concept to organizational learning. To define tacit knowledge, they place it in opposition to expressed and obvious knowledge. Objective knowledge is codified; it can be possessed (not restricted to the firm or person/group of persons), and it can be shared. In contrast, tacit knowledge is difficult to write down and is a set of rules not known as such. Tacit knowledge is personal or shared within a specific group. It consists of mental models that individuals follow in certain situations; embedded, so for the user it is natural. It is context specific and deeply rooted in action. This last description is perhaps the most important one. It is in action that tacit knowledge (or the lack of it!) is manifested. The abovementioned authors give this resumé of characteristics based on the literature. Most of them are attributed to several scholars, but in fact Polanyi (1966) had already described them. What is missing, but what Polanyi also acknowledged, is the emphasis on the fact that it is about behavior: knowing how to behave, the mores, knowing what to expect from others. It is about “organized and ‘typified’ stocks of taken-for-granted-knowledge upon which activities are based and that ‘in the natural attitude’ are not questioned” (Scott, 2014, p. 100).

So, it should be more conative (on the action). Because it is in actions – what Polanyi (1966, p. 10) calls the distal term – that we can recognize the knowledge “that we may not be able to tell”. It can only be transmitted through direct experience and personal interaction, in contrast to codified knowledge (Castree et al., 2013, p. 504). Ambrosini and Bowman (2001) see tacit knowledge as a resource of a firm and link tacit knowledge as an internal characteristic of a firm to the firm’s performance. Therefore, according to the resource-based view of the firm (Barney, 2007), it can be seen as a distinctive, sustainable, and therefore competitive strength. If Barney’s assessment of firms according to their VRIO⁹ score is applied, tacit knowledge is

9 Barney developed a framework to assess firms’ competitive resources. He evaluates each resource by asking whether it is valuable, rare, imitable, and supported by the organization (VRIO). The answers to these questions determine whether a resource really contributes to a firm’s competitiveness in terms of strength, uniqueness, and sustainability.

inherently rare and inimitable; and, if this knowledge really contributes positively to the firm's performance, having relevant tacit knowledge can be regarded as a valuable resource (Barney, 2007, p. 150; Kapas, 2006). Nijdam (2010) scales up this ownership of knowledge to the cluster level by considering it an important function for leader firms within the cluster to implement fast diffusion and transfer of this knowledge. For him as well, this contributes to enhancing the cluster's competitiveness, although he does not mention the role of tacitness as the source of this competitive knowledge (Nijdam, 2010, p. 144). Lam (2000, p. 493) also links tacit knowledge to the resource-based view of the firm and uses the term, embedded knowledge, a knowledge "residing in the organizational routines and shared norms." Thanks to the shared beliefs and understanding within the organization, effective communication is possible, making it a valuable asset.

The tacit knowledge concept has many definitions. Its intangibility invites authors to make their own interpretations. Tacit knowledge is embodied knowledge to "assess the appropriateness of communications" and is studied in relation to intercultural communication (Loenhoff, 2011, p. 1). Loenhoff deals with the problem that may arise when representatives of different cultures meet: their communication might be restricted (or misunderstood) because of cultural differences embodied in behavior that is an articulation of unuttered values, mores, expectations: "We live as Europeans and Chinese, yet we don't 'know' how. We simply do it" (p. 58). This is a very interesting concept because different cultures meet within the same firm, thanks to mergers and takeovers, where middle and top management from different cultures meet, trying to achieve the firm's goals. Behavior might be inappropriate, unfruitful, or completely misunderstood. This makes this tacit knowledge concept fruitful for this thesis, researching port/port city clusters in various countries. One of the general dynamics described in Chapter 1, globalization, with its specific manifestation in port clusters, is responsible for mergers and takeovers. How this is perceived and dealt with is one outcome of the presence of tacit knowledge.

That there is a relationship between location and the nature of tacit knowledge was examined (and contested) by Gertler (2003). He contends that the production of this knowledge is the central theme. It is often assumed that this knowledge can be shared when people have shared values, language, and culture, a common social context, so to speak. So, geography seems to matter when he sums up the arguments:

- Tacit knowledge is difficult to exchange over long distances because it should be acquired experimentally;
- "Its context-specific nature makes it spatially sticky" (Gertler, 2003, p. 79).

The interesting element introduced by Gertler is that he relates tacit knowledge to firms and poses three problems: First, how is tacit knowledge produced? Second, how do firms find it and appropriate it? And third, how is tacit knowledge shared? In relation to the second problem he introduces – without using the term – the cluster, as he considers that the existence of tacit knowledge in regions where it is produced and shared is decisive for locating there (Gertler, 2003, p. 81) So, tacit knowledge becomes a centripetal force. The third problem, how to share it, makes him question whether cultural commonality is important, or whether relational proximity is the crucial factor (p. 83), what he calls spatial stickiness. Apparently, Gertler observes an opposition between the strength of a firm's culture, which defines a firm's tacit knowledge, and the environment in which a firm is located and which is decisive for the firm's tacit knowledge. I prefer to make that distinction more inter-relational. It is not an opposition but a co-existence. Both phenomena are present. They are:

a. Internal tacit knowledge

Internal tacit knowledge can be seen as a firm's 'private' tacit knowledge, only within the company. It is the "unsurpassed tacit knowledge of the organization.... A deep understanding of the markets, its customers and suppliers" (Alderson, 2012, p. 401). It is a tacit knowledge that needs to be distributed throughout the whole organization, and eventually globally if it is multinational. Gertler's (2003) above-mentioned problems refer to this.

b. External tacit knowledge

External tacit knowledge can also be called common tacit knowledge, although this is a contradiction in terms. It is, however, about common values and so on, known exclusively by the insiders, the group where the tacit knowledge is shared. This goes beyond the firm and can be linked to the concept of commonalities as posed in Chapter 2 where cluster theory was discussed. In the management of multinationals, this problem has to be coped with when a firm is being managed in a setting that is different than that of the mother firm.

For Gertler (2003, p. 95), the spreading of innovation has more to do with "local opportunities to share or monitor codified knowledge." Knowledge, to be truly tacit, is in his opinion limited by the social context. That may be so, but this social context is very often spatially bound because of the characteristics of its interaction. When Lam (2000, p. 490) states that "the transfer of tacit knowledge requires close interaction and the buildup of shared understanding and trust among them," we can say that tacit knowledge is indeed a phenomenon with cultural aspects that needs to be considered in discussions about the behavior of firms in clusters (see also Van den

Berg, Braun, & Van Winden, 2001, p 178, discussing the importance of knowledge for the growth of clusters). In view of the clusters under study, it is interesting to note that especially in the Rhineland (= Rhenish or German) culture, the master–student relationship, as was the custom in the Middle Ages throughout Europe, is still a model applied to pass on knowledge within a company. Consequently, it should come as no surprise that vocational studies are highly valued in Germany.

4.4.2 Operationalizing tacit knowledge

But how can one research the unspoken, the unarticulated, the implicit? Like Nonaka and von Krogh (2009), Ambrosini and Bowman (2001) distinguish a continuum of tacitness, based on the fact that tacit knowledge should be replaced by tacit skills. In doing so, they, like Polanyi, agree that, in the end, tacitness is recognized only in actions. It is not about “knowing in the abstract, but knowing about action” (Ambrosini & Bowman, 2001, p. 814). Using the degree of codifying and articulation, they propose a continuum as depicted in Figure 4.3.

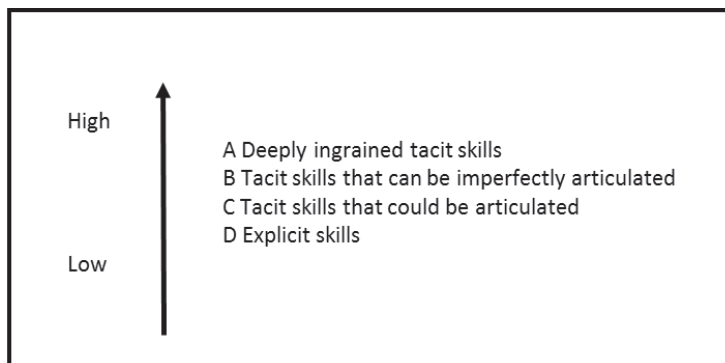


Figure 4.3 Degree of tacitness (Source: Ambrosini & Bowman, 2001)

These four categories have implications for the forms of tacit knowledge (or tacit skills as the authors prefer to call it) that can be researched and for the methods that are suited to researching this. Skills in the explicit category (category D in Figure 4.3) can hardly be called tacit skills as they are completely explicit and thus probably codified if transferability is needed. Category A in Figure 4.3 comprises skills that are so deeply ingrained that they are not accessible for the knowers, let alone the outsider. So, they cannot be transferred. Between these two extremes of this continuum, there are two categories that the authors think could or can be articulated. For that, they think that the simple question referring to action: How do you do that? would be the opening question for a model of relationships (causal maps) or the start of a narrative (Ambrosini & Bowman, 2001, p. 815). Tacit skills that could

be articulated, the C category can be researched using causal maps. This is useful because it focuses on action, or rather behavior, because, in the end, tacit skills are about action. These authors think that building a causal map should be a group activity. I do not fully agree: in a group, experiences might converge, so possible aberrations might not surface. In that case, individual maps should be preferred. If these different maps converge in the end by comparative analysis, the stronger the case made. The B category, the tacit skills that can be imperfectly articulated, cannot be dealt with in this way. The skills can only be recognized by talking about and around them. The narrative approach should be used with storytelling and the use of metaphors:

- To give tacit knowledge a voice;
- Making a vague idea concrete;
- People may be able to explain complex organizational phenomena;
- Images are not discrete; they reflect a process. Tacit skills are a process (they are capabilities).

Although the term, tacit skills, is a logical expression because it describes the action, I still prefer the term tacit knowledge because it is knowledge that anticipates these skills. It is a dual element, which Polanyi described by the terms proximal and distal. Realizing the outcome (for Ambrosini and Bowman, 2001, these are the skills) makes us aware of the existence of that which produces these skills (or actions). It is this awareness of this unarticulated existence that Polanyi calls tacit knowledge (Polanyi, 1966, pp. 8–11).

Tacit knowledge is about unarticulated knowledge that can be discovered by certain actions (Polanyi, 1966; Loenhoff, 2015). It is about social learning, is context specific, and hardly travels spatially (Gertler, 2003). It is normative and collective (Loenhoff, 2015). It can be seen in firm behavior (Alderson, 2012) and especially in its organizational learning (Ambrosini & Bowman, 2001; Jones et al., 1997; Lam, 2000; Nonaka & von Krogh, 2009). It is the narrative that can be the medium to communicate the tacit knowledge to a broader audience. This tool can be used to give a voice to what is needed to foster the community. For research, this means that open interviews with actors are best suited to discover and discuss this narrative.

The way in which people interact is one of the manifestations of these actions, based on tacit knowledge and skills that can be related to the abovementioned aspects (social learning, context, spatial stickiness). The context makes this interaction culturally determined. This is particularly important for the development of industries and might be more prominent in places where these industries are

spatially concentrated: the cluster. Therefore, these interactions can be studied as culturally determined expressions of tacit knowledge. A cluster is more than just the firm. The relationships within the cluster concern all participants: the leading firms, competitors, related and supporting industries, local suppliers and customers, governmental and non-governmental organizations (Porter, 1990a). This brings us to the next section where the characteristics of cluster actors are described from the perspective of the existence of such a tacit knowledge. The strength of such a cluster-spanning tacit knowledge ‘immersion’ varies between different clusters located in different socio-political economies. To put it clearly: in some regions, tacit knowledge is more profound and used compared to other regions, and it has an impact.

4.5 A PHENOMENON OF INTANGIBLE AGREEMENTS: THE CONCEPT OF AN ECONOMY OF TOUCH

4.5.1 Relations between intangible phenomena

The physical presence of actors is strongly related to tacit knowledge. In section 4.4.1, Lam (2000, p. 490) was cited: “the transfer of tacit knowledge requires close interaction and the buildup of shared understanding and trust among them.” Besides tacit knowledge, three other notions are interesting in her remark: “shared understanding”, “trust”, and “close interaction”. These notions can hardly be separated from one another. The distribution of tacit knowledge is enhanced by close interaction, which means proximity, i.e., the amount of trust and the degree of having the same basic ideas of how things can be understood and recognized by the other actors, as shown in Figure 4.3. As Fukuyama (1995, p. 26) states: “most effective organizations are based on communities of shared ethical values.” These different notions also influence one another. Trust enhances tacit knowledge and tacit knowledge enhances trust; and then proximity helps to develop trust and is a condition to create this ‘knowing how things should be done without explicit explanation.’

This brings us to the mechanism that operates in networks and is a vital aspect in management, the element of physical proximity, or, the economy of touch (Geerlings, 1997). Geerlings introduces this concept while discussing strategic alliances in which trust is of the greatest importance. In that sense, he mentions Fukuyama (1995) with his belief systems, who “assumes that the success of various countries in the world can be explained by looking at the way people associate with each other” (Geerlings, 1997, p. 97). Fukuyama (2001, p. 480) also speaks of an “actual

relationship among two or more people that promotes cooperation between them” when defining social capital as one of the origins of trust. He is clearly emphasizing the physical presence of these actors. As an element of social proximity, physical presence is important for enhancing economic performance: “If business relations (within an organization) are more socially embedded, the possibility of a better innovative performance is available” (Vas, 2009, p. 166). One can elaborate on that by stating that this is not confined to organizations, but also refers to larger entities like clusters.

4.5.2 Tangible and intangible proximities

Proximity is a concept that has long been interpreted in a geographical sense: the nearness of locations. This geographical interpretation has been nuanced by the developments in information and communication technologies. Proximity itself is the basis of clustering: it is one of the reasons for firms to stick together. A firm wants to be near its suppliers, its market, the available infrastructure, capital, supporting industries (Porter, 1990a). Clusters, centers of proximity of related industries, enhance competition, influence increasing returns, facilitate knowledge transfer, stimulate the development of a labor pool, create technological spillovers, and reduce transaction costs (Marshall, 1920; Krugman, 1991). These factors were discussed in Chapter 2 where the cluster aspect of the research model was discussed.

These factors often need a physical presence, although within some industries there is a growing tendency to be footloose, as Vas (2009) showed in her research on the software industry in the Hungarian cluster of Szeged; and even the concept of geographical nearness itself is questioned (Lublinski, 2003). Vas (2009, p. 166) attributes a large role to information and communication technologies by stating that geographical proximity is not necessary per se and that it is not sufficient in interactions and cooperation. One can agree with her that technology has provided possibilities that make communication faster and easier, but there is the risk of too easily underestimating the role of personal contacts, building trust, and getting to know one another. This section shows that there are differences between market economies based on valuing different proximities. The literature shows that different kinds of proximities exist besides geographical: institutional, cognitive, social, organizational (Knoben & Oerlemans, 2006; Velenturf & Jensen, 2015; Torre & Gilly, 2000). Boschma (2005) pleads for geographical proximity to be studied in its relations to other dimensions of proximity and takes the proximity perspective as a solution to the problem of coordination. Like Lublinsky (2003), he sees the facilitating role of proximity for the transfer of knowledge, but also relates this to the possibility of getting locked in, which does not favor a positive development of

a cluster (Chapman, 2005; Frenken et al., 2007; Menzel & Fornahl, 2009). Vas (2009) makes a basic distinction between geographical and organized proximities, as in the latter the other types of proximity are grouped together. Geographical proximity is a rather tangible manifestation of proximity. It can be measured and even observed, as one looks for instance at the difference in spatial appearance between the ports of Hamburg, Rotterdam, and Antwerp. More intangible, but still measurable, are the organized proximities. This has four categories:

- a. Cognitive proximity (Nooteboom, 2000);
- b. Organizational proximity (Boschma, 2005);
- c. Institutional proximity (Boschma, 2005);
- d. Social proximity (Boschma, 2005).

For this thesis, the last two are interesting. Social proximity is defined as “.... socially embedded relations between agents at the micro level. Relations between actors are socially embedded when they involve trust, based on friendship, kinship and experience (Boschma, 2005, p. 66). Boschma does not include the sharing of the same set of values. He categorizes this under cultural proximity, which relates to institutional proximity and is on the macro level. Here, institutional proximity is tangible in formal institutions like rules and laws and informal institutions like cultural norms and habits “...that influence the extent and the way actors or organizations coordinate their actions” (p. 68). Social proximity is articulated by the physical presence of actors: this can be seen as personal proximity. This brings us back to Fukuyama’s (2001) actual relationship. This is the true economy of touch (Geerlings, 1997).

In summary, economy of touch can be studied through:

1. Social proximity:
 - a. Socially embedded relations,
 - b. Physical presence/contacts;
2. Institutional (or cultural) proximity:
 - a. Formal institutions: rules and laws,
 - b. Informal institutions: cultural norms and habits.

The three ports under study might not only differ in their geographical proximities, but also in their personal micro- level and institutional macro-level proximities. These are seen as features of social networks. The differences between these social networks in the three port-port city clusters are articulations of differences in the social political contexts that shape shared values. Chapter 5 will be dealing with this.

4.6 CONCLUSION

This chapter has been presenting theoretical insights concerning the body of knowledge on Institutional Arrangements. Using Keizer's model as a framework (Keizer 2008), different levels of articulation of institutional arrangements were surveyed. From culture to the individual behavior these arrangements are manifested. And there is an interaction between these levels. For this study these different levels are important. For that reason, the literature reviewed can be brought back to the two sensitizing concepts tacit knowledge (section 4.4), and economy of touch (section 4.5). Besides these two concepts, the formalization of power as an expression of economy of touch can be used as a sensitizing concept (in perspective of port devolution developments) and social networks, as depicted in Figure 4.4. The more aggregated level of culture will be seen as a context which is the subject of Chapter 5.

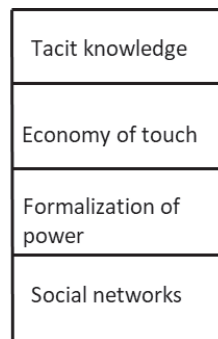


Figure 4.4 Sensitizing concepts from the Body of Knowledge Institutional Arrangements

Chapter 5

**Political economic structures
as the embeddedness**

5.1 CULTURE AS THE DESIGNER OF THE POLITICAL-ECONOMIC CONTEXT OF THE CLUSTER AS A NETWORK

Overviewing the research framework in Chapter 1, the need for taking the political economic embeddedness of clusters, was introduced. Networks are inherently extremely complex, and they can be studied only partially, from a certain perspective. Klijn and Koppenjan (2016, p. 12) distinguish three types of complexity that characterize governance networks: substantive, strategic, and institutional. Institutional complexity is made of “clashes between divergent institutional regimes” (p. 13). The port regions of Rotterdam, Antwerp, and Hamburg are described from the institutional complexity perspective: the assumption that different political-economic systems (regimes) might lead to different governance systems that lead to different answers to the dynamics as described in Chapter 1 that influence port–port city relationships.

A perspective that focuses on understanding the institutional similarities and differences between economies is that of comparative political economy (Amable, 2003; Crouch, 2005; Hall & Soskice, 2001; Vitols, 2001). This approach to society views networks as an outcome of a certain configuration of institutional complexity. Questions that this perspective proposes are policy related: “What kind of economic policies improve the performance of the economy?” “Can we expect technological progress and the competitive pressures of globalization to inspire institutional convergence?” (Hall & Soskice, 2001, p. 1). Some questions, however, are firm related, meaning that the topic is taken as a form of strategic complexity: “Do firms, located in different countries, display differences in structure and strategies?”, and “What is the source of these differences?”.¹⁰ Chapter 1, dealing with the problem analysis, described the dynamics influencing port clusters. These dynamics have a special influence on the way in which port governance has changed. The way in which these dynamics are absorbed differs between the various political systems.

Culture plays an important role in models of political-economic systems (Meyer et al., 2006). The literature distinguishes various models of these systems that are ‘glued’ by the culture in which they are embedded. Within the Le Havre–Gdansk Range, that spans the region in which the three ports under study are situated, one can distinguish three kinds of political-economic, or capitalist, systems: 1) the

¹⁰ Kuipers (1999), researching chemical industries in ports in the USA, the UK, and The Netherlands, concludes that they all had the same strategy, but Kuipers’ research object, the petrochemical industry, is highly internationalized, so a more uniform attitude towards international strategies was to be expected.

Coordinated Market Economy (CME), 2) the Liberal Market Economy (LME) (Hall & Soskice, 2001), and 3) the Latin variant of the CME, more or less Etatism. The last one shows the diversity within the CMEs, as shown by Amable (2003). These systems are the result of different spheres in which firms must develop relationships to resolve coordination problems. Hall and Soskice (2001, p. 6) call their approach a “relational view of the firm.” For them, the quality of the relationships that the firm establishes internally (employees) and with their environment (suppliers, clients, stakeholders, governments, and so on) is critical for the way in which this is needed to resolve coordination problems. These relationships need to be developed in five different aspects (or spheres as they call this):

1. The sphere of industrial relations (for Hall and Soskice, 2001: the problem facing companies of how to coordinate bargaining with their labor force over wages and working conditions);
2. The sphere of vocational training and education (securing a workforce with suitable skills);
3. The sphere of corporate governance (access to finance);
4. The sphere of inter-firm relations (here, coordination problems stem from the sharing of proprietary information and the risk of exploitation in joint ventures);
5. The sphere as a set of coordination problems of firms vis-à-vis their own employees (information sharing: giving power away).

Using the differences in the way in which firms solve their problem, Hall and Soskice identify different types of economies, as mentioned: the CME, the LME, and the Latin variant.¹¹ The differences between these types of political economies generate differences in corporate strategies (Hall & Soskice, 2001, p. 16). The relationships are established in an environment governed by institutions: “a set of rules, formal or informal, that actors generally follow, whether for normative, cognitive, or material reasons” (p. 9). These institutions define the way in which organizations behave: “durable entities with formally recognized members, whose rules also contribute to the institutions of the political economy” (p. 9). From this perspective, LMEs are characterized by arm’s-length relations, high levels of competition, formal contracting, and complete contracts. The relationships between the actors are clear-cut. Firms rely completely on the market, which determines how these relations should develop. On the other hand, within a CME there are institutions that coordinate

11 Hall and Soskice consider Belgium as part of the CME. They remark that other economies like France, Italy, and Spain are in more “ambiguous positions”, “indicating that they may constitute another type of capitalism, sometimes described as ‘Mediterranean’” (Hall & Soskice, 2001, p. 21). They are characterized by political influence combined with more liberal arrangements in the sphere of labor relations.

and support the interactions between the actors (firms and institutions that represent cities) and support them in their endeavors. These institutions aim to reduce the uncertainty that actors might have in evaluating other actors' behavior. These institutions can be business and employer organizations, trade unions, networks of cross-shareholding, and legal and regulatory systems. Hall and Soskice state it very clearly in their introduction: "Firms can perform some types of activities, which allow them to produce some kinds of goods, more efficiently than others because of the institutional support they receive for those activities in the political economy, and the institutions relevant to these activities are not distributed evenly across nations" (p. 37). This distinction between the LME, the CME, and the Latin system shows differences in the way in which trust can be established and, consequently, also differences in how, and the extent to which, shared values, based on mutual trust, are developed. I follow Hall and Soskice when they state that "...these differences correspond to the level of institutional support available for market, as opposed to non-market coordination in each political economy" (p. 38). This approach does not need to be restricted to firms and their relations but, as a logical consequence, can also be applied to a spatial articulation of such relationships, i.e. to assess the relationships between actors in a cluster. This analysis, they suggest, is "fruitful to consider how firms coordinate their endeavors and to analyze the institutions of the political economy from a perspective that asks what kind of support they provide for different kinds of coordination, even when the political economies at hand do not correspond to the ideal types we have just outlined" (p. 33). So, it is not a matter of trying to fit the nations or regions completely in all their manifestations into one of the political economies described, but it is an analysis to distinguish coordination problems based on differences in the support of institutions. The differences in support themselves can be related to different spheres. To characterize the different political economies based on the five spheres mentioned, Hall and Soskice give examples from: the financial system, the internal structure of the firm, the industrial relations system and the education and training systems.

Regarding the financial system, in a CME, there is 'patient capital', not directly related to short-term balance sheet criteria (Hall & Soskice, 2001, p. 22). Financing is often sourced from internal resources (Simon, 2007). The firm is monitored by the presence of dense networks whereby firms share information with counterparts in other firms about their performance. This information is then available to investors and is articulated by close relationships that firms have with major suppliers and clients; the knowledge gained from networks of cross-shareholding and joint membership in industry associations.

Regarding the internal structure of the firm, Hall and Soskice remark that, compared to LMEs, the top managers in CMEs are hardly able to decide individually but are dependent on supervisory boards (which include employee representatives). Besides this command structure, top management in CMEs have a smaller number of stock options so they are less focused on short-term profitability. The industrial relations system in the CMEs is based on cooperation between the firms and between firms and unions. Because these firms have a range of companies in need of a highly skilled labor force, they must avoid being 'kidnapped' by them in their quest for high wages (with a threat of defecting to the competition, lured by a higher wage offer). By setting wages throughout the industry, which are quite satisfactory thanks to strong unions, they make it difficult to compete with one another for qualified personnel. At company level, these relations are articulated by works councils where employee representatives discuss working conditions with firm management. Requiring these highly skilled employees means that the education and training system must constantly update these workers' skills, which are often very firm specific. In Germany, a typical CME, firms are pressed by employer associations and trade unions to take on apprentices. They monitor the firms' participation in these programs. Having such an organization above the firms reduces the risk of a firm investing heavily in an employee's education, only to see this employee poached by another firm when the education is finished. For the firms, this means that they do not invest in vain; for the employees, this means that their job security is increased and their skills are updated. These examples are typical of the CME, but such arrangements exist less or not at all in an LME (of course there are degrees in differences per category and between the categories). Because there is a kind of homogeneity within a cluster, it is interesting to compare clusters of the same industry originating from different countries.

5.2 INPUTS AND OUTPUTS OF A POLITICAL SYSTEM

The dynamics as formulated in Chapter 1 that have been influencing port-city relationships and that played their role in the separation of port and city are regarded as universal. But they may be absorbed in different ways due to other contexts as shaped by different political economic structures. Especially in ports this can have interesting outcomes as described by the process of port devolution in section 3.4. And this devolution is not only taking place in the ownership of port authorities, but also of port firms. The spheres as described by Hall & Soskice (2001) of industrial relations, inter-firm relations and access to finance may in their variety have developed differently due to these variations. The model as designed by Easton more

or less illustrates this situation. In his research on political life in society, Easton views the political system as a black box. Using the concept of institutions, partly shaped by socio-political culture, the black box “political system” can be opened in a way that can help to explain how more or less the same inputs (demands and supports) in certain socio-political environments lead to different outputs (decisions or politics).

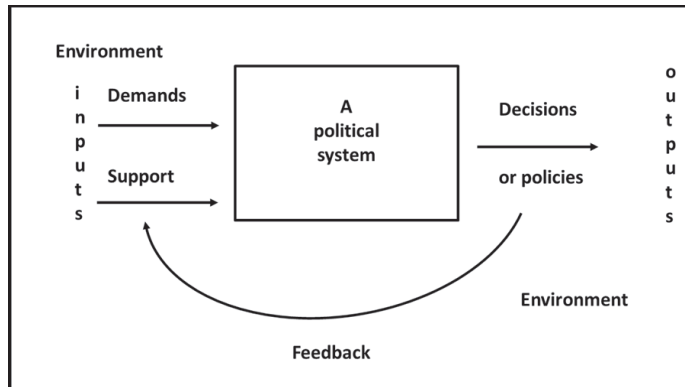


Figure 5.1 A model for approaching the study of political life (Source: Easton, 1957)

The decisions and policies that result from the political system – the output – influence the degree of support that the political system needs and also shape its demands. One of the problems that arises is that of who is controlling the controllers, or the problem of accountability. Van Kersbergen and Van Waarden (2004) mention the problem of advancing technocracy that makes accountability difficult. A lack of knowledge on the part of those who need to control makes it difficult for them to control. The process itself should also be transparent and that is why a third legitimacy is needed: throughput legitimacy (Klijn & Koppenjan, 2016, p. 221). Applied to the port regions under study, a comparison between the three port regions must examine how support for certain developments is generated (input legitimacy) and how the outputs of the system (output legitimacy) as feedback shape the support and the demands emanating from the city environment.

5.3 CONCLUSION

Although Merk (2014) hesitates to link spatial clusters to particular locations, linking these clusters to political-economic systems and their cultural embeddedness is an interesting approach that could contribute to the discussion on how the various

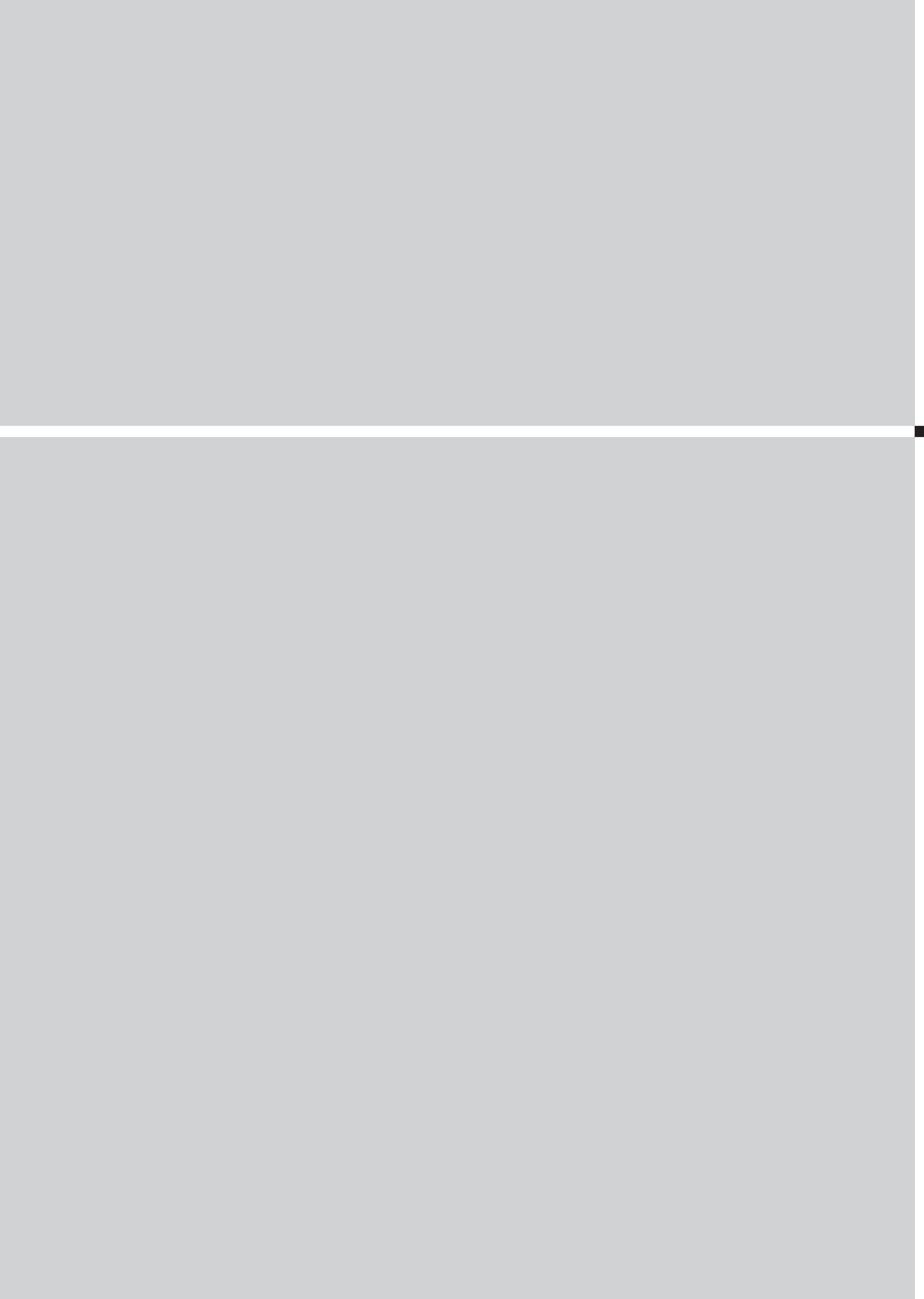
port regions have developed and will be able to cope with transitions in the future. This link has already been made (Vroomans, Geerlings, & Kuipers, 2018). A study that contributes to this perspective should pay attention to:

- How the different port actors establish their relation with their employees (sphere 1). The presence of family-run companies in CMEs is interesting here;
- How port firms and the port city jointly coordinate and initiate vocational training and education (sphere 2);
- The financing of port firms' activities (sphere 3);
- The relations between port firms, port authorities, and city governments (sphere 4);
- The intrafirm relationships (sphere 5).

To operationalize these spheres, one can examine how:

- An economy of touch has developed as a means of interacting between cluster actors;
- The interaction between firms, port authorities, and city government is organized and whether joint activities are undertaken to create positive conditions for port firms to act and to create opportunities for the city to implement benefits for society (knowledge, employment, attractive city environment);
- cross-shareholding is present in the ports of the different political systems;
- social networks are developed;
- ownership of dominating or crucial port firms is organized.

As companies have developed globally and their offices are branches of foreign companies or headquarters of original domestic companies, the relationships between them and their environment become more important (Dicken, 2009). Studying ports as examples of clusters can reveal differences in the development of various port cities from the perspective of the differences in political-economic contexts as the embodiment of institutional arrangements.



Chapter 6

**A framework for researching
port-port city relationships**

6.1 SUMMARIZING THEORY

In Chapter 1, the changing relationship between port and the city to which it belongs was introduced. The problem was defined by describing how this relationship has been constrained by global dynamics that have a positive but also a negative impact on ports all over the world. In particular, the three most important European ports – Rotterdam, Antwerp, and Hamburg – have each responded to this in their own way, with effects on the relationships between the port and the port city. In this chapter a research model was presented (Figure 1.7) to enable research on the port–port city relationships. This framework contains concepts that create three main perspectives from various bodies of knowledge to direct this research: cluster development, governance determinants of social structure and institutional arrangements. In addition, varieties in political economic structures were examined. These perspectives were dealt with in Chapters 2, 3, 4 and 5, respectively. The reason for elaborating extensively on this was to find out whether the concepts within these perspectives could be used as a basis for a. characteristics of port-port city clusters, and b. to find sensitizing concepts for describing and analyzing the relationships to structure the empirical research presented in part C of this thesis. In Chapter 2, the cluster as a unit of analysis was described from the perspective of the components of a cluster, the development of a cluster, and the relationships within a cluster. It was found that heterogeneity, the presence of a good balance in commonalities but certainly also the right complementarities, are essential for the performance of a cluster to survive external influences over time, in order to survive a situation of being locked in, which makes the cluster vulnerable in the future. Chapter 3 operationalized governance by examining actors, processes, and institutions. Governance in the cluster was seen as a network in which actors balance out structure and strategies within a given environment to create a fit. Trust, business relations, ownership and company's contribution (investment) to society were discussed as the mechanisms guiding the processes. Chapter 4 examined the forces driving the behavior of actors positing that it is the institutional framework with its arrangements that absorbs external forces that influence society – in this thesis, the port-port city cluster. Institutional arrangements can be seen as outcomes of political-economic systems. For this, in Chapter 5 the comparative capitalism approach offered the concepts of the LME, the CME, and the Latin economy as a variant of the CME. This is seen as the context in which cluster is situated.

6.2 DETAILING THE RESEARCH MODEL:
CHARACTERISTICS, SENSITIZING CONCEPTS AND
CONTEXTS

Taking these perspectives together the next visualization emerges as shown in Figure 6.1.

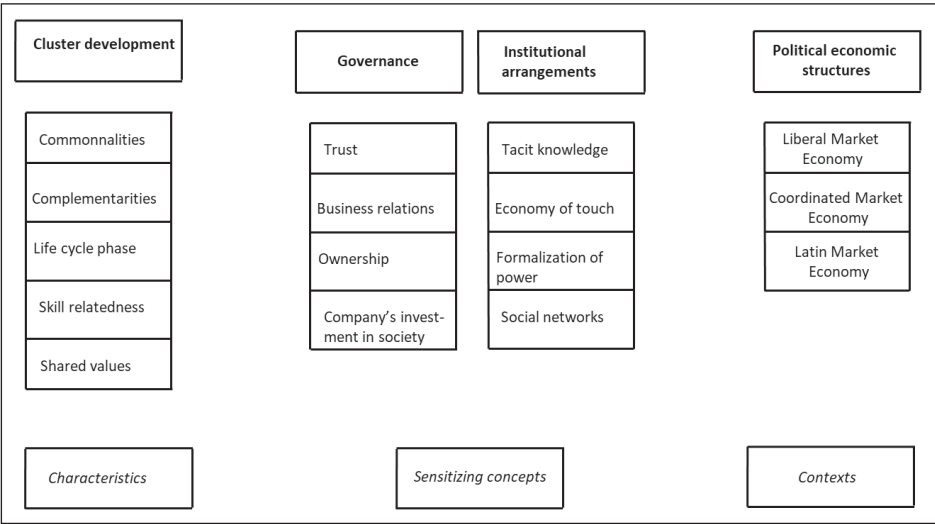
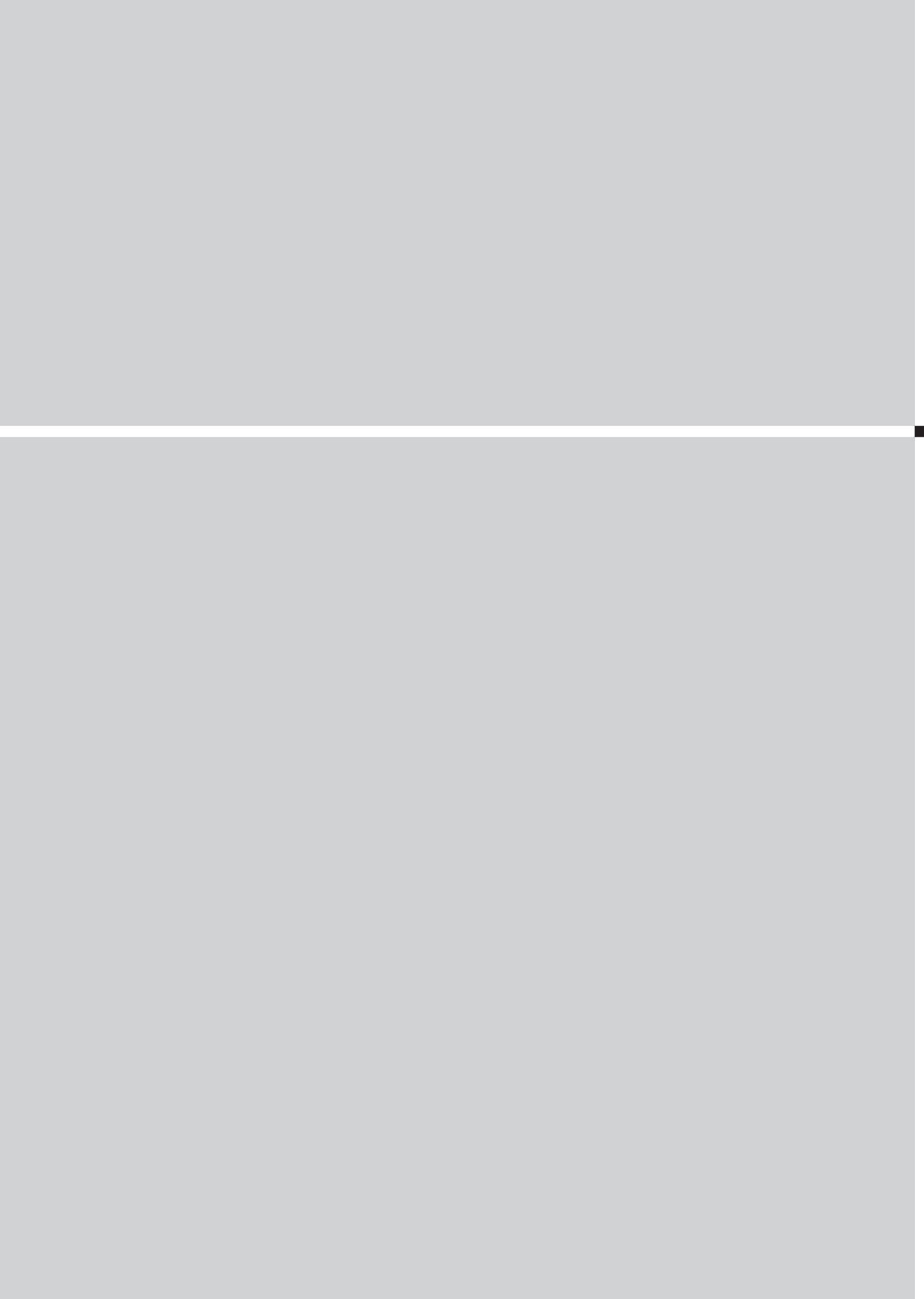


Figure 6.1 Describing and explaining port-port city relationships

The research will use characteristics of cluster development, the sensitizing concepts of governance and institutional arrangements and the contexts of political economic structures to describe and analyze the port-port city relationships of Rotterdam, Antwerp and Hamburg. The elements used were starting points for the empirical research: desk research and field research as to be found in Part C of this thesis.

The characteristics guide the research for describing the three ports and their cities where the dynamics increase of scale, containerization and globalization/agglomeration have been influencing their developments. This will lead to a description of how the current situation can be viewed economically and culturally. The sensitizing concepts will explain what mechanisms were of influence that helped shape the end results as described, whereas the contexts will relate this to structures in which governance and institutional arrangements were shaped and in turn shape the contexts.



Chapter 7

Research methodology and
data analysis

7.1 INTRODUCTION

Before the structure of the research process developed to sample and analyze the research data is addressed, the next section elaborates on the theoretical base used to design the analysis process and to arrive at explanations. For that, a framework was applied to make a connection between the outcomes of the theoretical part and the fieldwork, which consisted of three cases by conducting interviews with port and port city representatives of the ports of Rotterdam, Antwerp, and Hamburg and an analysis of the annual reports of the port authorities of these three ports for the years 2011–2016. This framework was based on the grounded theory approach as developed by Glaser and Strauss (1967). The use of this method has been and still is under discussion (Kendall, 1999). The use of literature in relationship to the process of gathering data and the analysis itself has been subject of controversy (Dunne, 2011). So although literature was reviewed needed for the creation of sensitizing concepts, this can still be seen as an application of Grounded Theory to be able to analyze the data of the empirical research inductively. As Swanborn emphasizes, it is a method to reach a new level of abstraction by combining various bodies of knowledge and to design bottom up a more formal theory if possible (Swanborn, 2013, p. 197).

7.2 CONSTRUCTING THE THEORY IN THE GROUNDED THEORY APPROACH

Grounded theory is one of the most used methods in research dealing with between 5 and 50 open or semi-structured interviews (Swanborn, 2013). The grounded theory approach is a variety of the comparative method of analysis (Glaser & Strauss, 1967). Glaser and Strauss (1967, p. 5) took the position that the adequacy of a theory cannot be divorced from the process of creating it. The method consists of having the results of the research ‘speak for themselves’. The elements of theory generated from comparative analysis are first conceptual categories and their properties and second hypotheses or generalized relations among the categories and their properties. “The constant comparing of many groups draws the sociologist’s attention to their many similarities and differences. Considering these leads him to generate abstract categories and their properties, which, since they emerge from the data, will clearly be important to a theory explaining the kind of behavior under observation” (Glaser & Strauss, 1967, p. 36). It is better to let the categories emerge than to come to the study with pre-set categories based on existing theories. The grounded theory approach is characterized by the following steps (De Boer, 2011, p. 1):

- Sampling the data, analyzing the data, and reflecting on them to decide what kind of additional data are needed to take the next step in collecting new data;
- The sampling is aimed at developing categories or concepts;
- The method of constant comparison is applied to get more detailed categories by comparing texts with one another, the concepts with one another, and the relationship between the concepts;
- The sampling of data and the analysis are aimed at the development of a substantive theory.

Swanborn (2013) adds that thinking in terms of variables is rejected and a more holistic approach is preferred. The term theory is used for the result of the analysis where relationships are made between concepts (Swanborn, 2013, p. 196). In Figure 7.1, this loop is illustrated where the process from induction (from data) to theory is achieved by the upcoming (emerging) questions (and one could also say ideas) and patterns that are more or less verified by the available data.

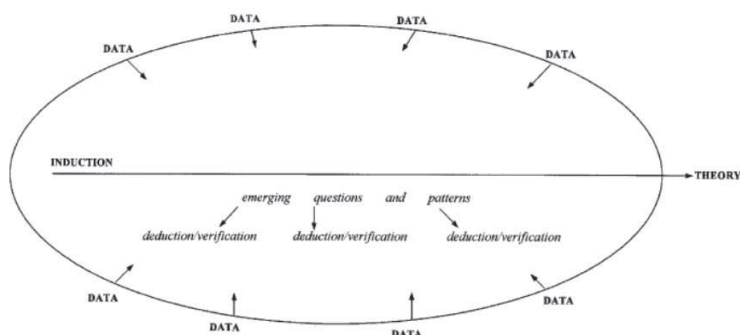


Figure 7.1 A model of the place of induction, deduction, and verification in grounded theory analysis (Source: Heath & Cowley, 2004)

Glaser remained faithful to his first ideas (Glaser & Strauss, 1967), whereas Corbin and Strauss (1990) reformulated the classical mode. Glaser still considered that the data alone should speak for themselves without any pre-notion or theoretical model. The concepts should emerge purely by induction, and then from that deduction/verification should take place. Because this might generate new questions or patterns, the researcher should constantly go back to the data. Induction is the key process in the journey from data to theory. Methodologically speaking, Strauss took another turn, by stating that there is always a framework of knowledge and notions present with the researcher. Although Glaser also acknowledges that, the difference especially appears with the role of literature. For Glaser, literature is additional after the emergent theory has been developed; it is to be used as additional data. This lit-

erature will then be read in a more focused way because it can then allow for more interpretations. For Strauss, it is the source of stimulating theoretical sensitivity. It forms the foundation of a paradigm model that will evolve into a theory.

This does not mean that Glaser denies the fact that each researcher cannot conduct his/her research free from any precognition or ideas, but the role of literature is seen differently by these two founders of the grounded theory approach (Heath & Cowley, 2004, p. 143). Strauss asserts that literature can be used to create concepts that steer the research. These concepts are called sensitizing concepts because they 'hint' at phenomena that might be able to explain processes in reality. These concepts are summarized in Chapter 6 of this thesis. Figure 7.2 shows the place of data in Strauss' approach, where it is used to verify them after deduction of former data. In this way, a constant interplay between new data and explanations (deductions) is created. The trouble with this is the use of verification. Verification as a concept could generate the idea that results in an explanation that is objective, ever repeating in the same circumstances and the same in appearance; thus, it will be the evaluation for everyone examining the phenomenon. Therefore, this term does not do full justice to the underlying philosophy of this research method. The basis of the method can be traced back to the philosophical approach that not only can empirical, objective realities be experienced, but also that phenomena, 'that which it is in itself', can be known. This is based on Kant's ontological approach, which argues that a distinction must be made between the things that are as they are (*Ding an Sich*) and the knowledge of them that is experienced. This was taken further by Brentano, who states that the object to be known is intentionalized by the observer (Bakker, 1977). That is why, for phenomenology, there "can be no world without a subject and no subject without the world" (Bakker, 1977, p. 70). Husserl, a student of Brentano, elaborated on this with his reductionism, which argues that withdrawal of all precognitions offers the opportunity to know things (*Wesenanschauung*) (Bakker, 1977, p. 80). The question is whether this type of phenomenological thinking really is the basis of the controversy between Glaser and Strauss. Husserl's pure reductional approach is not to be found in the original grounded theory approach as later continued by Glaser. In the process of deduction/verification, ideas are created that are used to select or evaluate (what Glaser and Straus called "verificate") new data. So, then precognition is present. Strauss' deviation from the original idea is in that sense more honest because he states that upfront in the process there is a model based on theory or ideas.

The methodology used in this thesis takes the Strauss deviation by formulating ideas and developing a framework on which the field research is designed and based. However, in contrast to the model as shown in Figure 7.2, I do not agree that the

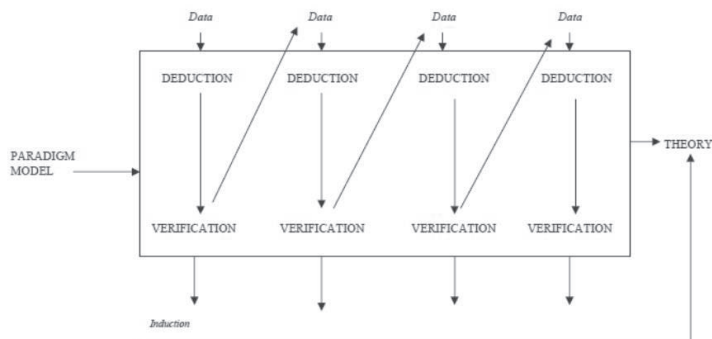


Figure 7.2 Place of induction, deduction, and verification in grounded theory analysis (Source: Heath & Cowley, 2004)

steps in the process are based on verification. Whenever new data were collected, the approach to the new data was of course ‘biased’ by this; and this in fact enriched the collection of new data because a certain theme discussed in the interviews could be taken a step further by already taking this new information into account. Therefore, it is better to speak of plausibility. The data are interpreted by the researcher with his background, his experiences, his precognitions, and his knowledge furthered by the previous data collections. Strauss acknowledges that: “Here, analysis is necessary from the start because it is used to direct the next interview and observations. This is not to say that data collection is not standardized. Each investigator enters the field with some questions or areas for observation, or will soon generate them. Data will be collected on these matters throughout the research endeavor, unless the questions prove, during analysis, to be irrelevant” (Corbin & Strauss, 1990, p. 6). Thus, the outcome in terms of an explanation of described and illustrated phenomena is not something that is a substantive, measurable, objective, verified fact in itself, but a possible phenomenon that, given these backgrounds, creates, including for another researcher, a understanding that he too sees this as a possible outcome of the research. This means that ‘possibility’ is the proper term to evaluate the outcomes of much of the sociological, human geographical, political, and psychological research. This is also why so often different studies in the same area, studying the same phenomena, come to different conclusions¹². This is not a problem as long as it is clear on which data the study has been performed and how the researcher has come to his conclusions, or, in terms of grounded theory, his new – or in the case

¹² An explanation for this might have its roots in the way that people, researchers as well, look at reality which is a construct based on its own primary and secondary socialization (Berger & Luckmann, 1967): “” social worlds are interpretive nets woven by individuals and groups” (Scott, 2014, p.692).

of existing theories adjusted – theory. How the field research for this thesis was designed is the subject of the next section.

7.3 METHODOLOGY

7.3.1 Basis of analysis

To operationalize the research, sensitizing concepts were formulated that resulted from the literature study (Bowen, 2006; De Boer, 2011). These concepts are interpretations of the elements defined in the research model visualized in Figure 1.7. The concepts are summarized in Chapter 6. They are economy of touch, company's contribution to society, business relations, social networks (during the research defined as closed community), and trust. These were the main sensitizing concepts that formed the basis for the analysis of the multiple case study. The concepts were used for two types of empirical sources:

- The interviews with port and port city representatives of the three ports under study;
- The annual reports for the years 2011 to 2016 of the port authorities of the three ports under study.

Both types of resources resulted in written texts that needed to be analyzed. For this, the concepts were broken down into codes in steps that created more detail in every step taken.

7.3.2 Coding based on constructs from the model: deductive coding

Coding started by using the constructs from the model: economy of touch, company's contribution to society, business relations, and trust. These were the main sensitizing concepts and so the first heading of the groups of codes. Codes, found to be related to them, were attributed technically from the process of open coding, but in fact heuristically derived from the sensitizing concepts, that is, the concept of trust (a code) generated more detailed codes:

1. Trust between companies;
2. Trust between the port and cities in the region;
3. Trust between the port and the port city;
4. Trust between the port authority and port firms;
4. Trust within companies;
5. Institutional trust;
6. Personal trust.

This process also relates to the fact that a constant comparison was made between the concepts and that it appeared that a more detailed code was needed to describe the text fragment in a way that it gave it more credit. Thus, a concept like business relations created the concept of foreign ownership, thanks to the interviews where this issue became a frequently discussed topic.

7.3.3 Coding based on findings: open coding

New codes were found by the process of open coding: not directly related to the sensitizing concepts but appearing in the research material (interviews and annual reports of the port authorities dating from 2011 to 2016) by the researcher constantly moving forward and backward for new codes or renaming them and checking them with their presence in formerly coded interviews and reports. This was done according to the methodology described by Glaser and Strauss (1967). In total, 434 codes were defined, but many of them were used on one or two occasions, so they were grouped together as described below.

7.3.4 Analysis based on axial coding

Axial coding was performed by grouping the codes. This created new insights, such as the fact that some codes gave rise to a concept that could be regarded as a new sensitizing concept. For example, the concept of diversity as a characteristic of a cluster became an important element to describe and explain port-port city relationships. This proved to be such a fruitful code, that the original sensitizing concept 'commonalities' was not further used. This coding led to a combining of the distinguished concepts to construct a theory.

Networks could be created by relating the codes to one another and defining their interrelationship. This was done per port, per annual report (per year), and per sensitizing concept as formulated by the model. When the codes were summed up, the networks for annual reports showed how much attention was given and apparently marked as important. By doing so per year for each port, a development of themes of importance could be reconstructed, assuming that themes that were worth mentioning and seen as important for that year were incorporated in the annual report.

For the interviews, the sensitizing concepts were first established based on all the interviews at all three ports. This created schedules (overviews) about the sensitizing concepts. This was repeated per port per sensitizing concept and accompanied by 'arguments for', where (relevant) striking quotations were presented. These were of course limited to the respondents from the port in question. So, quotations supporting the Latin approach were found in the interviews with the Antwerp respondents,

whereas the more Liberal Market Economy (LME) approach was supported by the interviews with the Rotterdam respondents.

This process of analyzing the annual reports and the interviews with representatives of the port and port city communities resulted in the explanations that form the theory of differences in port–port city relationships in the Le Havre–Gdansk Range, confined to its three most important ports, Rotterdam, Antwerp, and Hamburg.

Two methods were used to analyze the interviews. The first method was applied during the transcription of the interviews. By listening to and transcribing the interviews, the researcher was forced to reflect and comment on the elements of the conversations belonging to the themes (derived from the sensitizing concepts). The second method was to let the texts speak for themselves through the Atlas Ti program. For that, the interviews per port were selected and, guided by the sensitizing concepts, the text elements representing the responses that covered the various concepts of the various respondents were used to represent the insights. This was done per theme per port. Sometimes, a concept was coded in a way that another term better represented the elements of that concept. For example, business relations in Antwerp were coded as ‘business relations’, but, during the analysis, it appeared that the code ‘complementarities’ provided some very interesting remarks (quotes) on that theme as well. In that case, a representation of that was also made to show the insights of the respondents: ‘complementarities as business relations POA (POR, POH)’¹³; or ‘composition port authority POA (POR, POH)’, and ‘informal business contacts’ as another code representing aspects of economy of touch.

It sometimes happened that a certain quote was used for two representations. For example, in economy of touch, some quotes that nuanced this were represented in two opposing representations (economy of touch present and economy of touch decreasing). In the process of adding quotations to codes representing these sensitizing concepts, this happened when a quotation was analyzed and found to be applicable in the concept that was constructed but also applicable in another concept. So, it was immediately added to that other concept as well, as it served both (or more) concepts. This does not mean that the concept is too broadly defined; it merely illustrates that these concepts are very interrelated and one leads, influences, or determines the other.

13 POA: Port of Antwerp; POR: Port of Rotterdam; POH: Port of Hamburg.

It was not only the sensitizing concepts that were treated in this way; other phenomena were similarly handled. This led, for example, to a representation of Rotterdam's competitive outlook as a kind of wrap up of that theme that was discussed with the respondents. Some representations, therefore, were not the result of an analysis within all three ports, but were in themselves so characteristic that it was interesting to make a representation of them. For example, the representation 'closed community' in the research of the situation within the port/port city of Hamburg was so omnipresent in some interviews that it was worthwhile structuring it as a separate concept as an expression of social networks, because in itself it supports one of the sensitizing concepts, in this instance shared values within Hamburg. The visual representations of the concepts by using quotations supporting them were designed in a way that quotations supporting the concepts were placed on the left side of the overview and quotations that weakened or even opposed the concepts were placed on the right side. This created, when possible, a kind of continuum. This was also done when there were quotations that illustrated that the concept was far more present in another port. In Rotterdam, some respondents used examples to show how this was the case in Antwerp or Hamburg. These quotations can be found on the right side.

7.3.5 Searching for relations between coded items: the process of selective coding

Finally, visual representations of the most striking concepts with their interrelations were produced to sum up the issues in each port/port city. These were the different types of political-economic systems, the concepts of trust, shared values, ownership, company's investment in society, and economy of touch. This led to a number of schedules (networks) of the variety of code groups. The networks based on code groups for the interviews are shown in Table 7.1

Table 7.1 Networks interviews port/port city representatives

	POA	POR	POH
Arguments for LME/CME/Latin economy	x	x	x
Business relations	x	x	x
Characteristics of the port	x	x	x
Closed community	o	o	x
Company's investment in society	x	x	x
Complementarities as business relations	x	x	x
Composition port authority	x	x	x
Conflicts	x	x	x
Diversity	x	x	x
Economy of touch -	x	na	na

Table 7.1 Networks interviews port/port city representatives (continued)

	POA	POR	POH
Economy of touch +	x	x	x
Family companies	x	x	x
Foreign ownership	x	x	x
Local ownership	x	na	x
Port/port city relationships	x	x	x
Shared values	x	x	x
Tacit knowledge	x	na	x
Trust	x	x	x

Note: LME: liberal market economy; CME: coordinated market economy; na: not applicable; o: not constructed, no data to substantiate; POA: Port of Antwerp; POR: Port of Rotterdam; POH: Port of Hamburg

Table 7.1 lists the original concepts (economy of touch, company's contribution to society, business relations, and trust). Other networks represent the concepts found to influence port–port city relationships: complementarities, foreign ownership, closed community, and diversity. The networks not specifically analyzed are those that support the stated concepts. They were created to understand the phenomenon, but support another concept. For example, tacit knowledge is not extensively analyzed per se, but supports the concepts economy of touch and trust. The networks based on the code groups formed during the analysis of the annual reports are shown in Table 7.2.

Table 7.2 Networks annual reports of the port authorities of Antwerp, Rotterdam, and Hamburg

	AR 2011	AR 2012	AR 2013	AR 2014	AR 2015	AR 2016
Antwerp						
Business relations	x	x	x	x	x	x
Company's investment in society	x	x	x	x	x	x
Shared values	x	x	x	x	x	x
Rotterdam						
Business relations	x	x	x	x	x	x
Company's investment in society	x	x	x	x	x	x
Shared values	x	x	x	x	x	x
Hamburg						
Business relations	x	x	x	x	x	x
Company's investment in society	x	x	x	x	x	x
Shared values	x	x	x	x	x	x

As can be seen, the range of code groups differs considerably between the annual reports and the interviews. The annual reports deal with three of the five original concepts as formulated in the research model. The concepts economy of touch and trust are not dealt with. This does not mean that they were overlooked. The texts in these annual reports just did not provide any connections to these concepts. This is not surprising. Annual reports are meant for public reading and serve different purposes. Not only do they have an informative function in terms of reporting on actions taken, results achieved, and future prospects, they also have a more marketing-directed function. Discussions about how more intimate relationships are formalized (or not), what the economy of touch concept entails, or how trust is built are not subjects for broad publication. In contrast, in the interviews, these issues could be exhaustively discussed, and so they form the source material for evaluating these concepts. Examples of these schedules, in code structure as well in text fragments, are available in the appendices. For an example, see Appendix 3. These schedules helped to clarify the relationships between concepts.

The researcher interprets these kinds of representations to a high degree. The lines connecting the concepts visualize relationships like 'is a property of', or 'supports', or 'contradicts'. These representations are therefore accompanied by visualizations that form the arguments behind the selection of the concepts and the choice made to attribute a certain kind of relationship. These visualizations consist of supporting text fragments from interviews or annual reports.

As already stated, besides the analysis of the coding process, during the reading of the annual reports and the transcription of the interviews, insights and observations were established that were noted and remarked on immediately, providing additional information and allowing interpretations on the spot. This was particularly interesting for the annual reports because it enabled comparisons to be made between these reports over consecutive years on certain subjects. To sum up the sources and their instruments for analysis, Figure 7.3 visualizes this database.

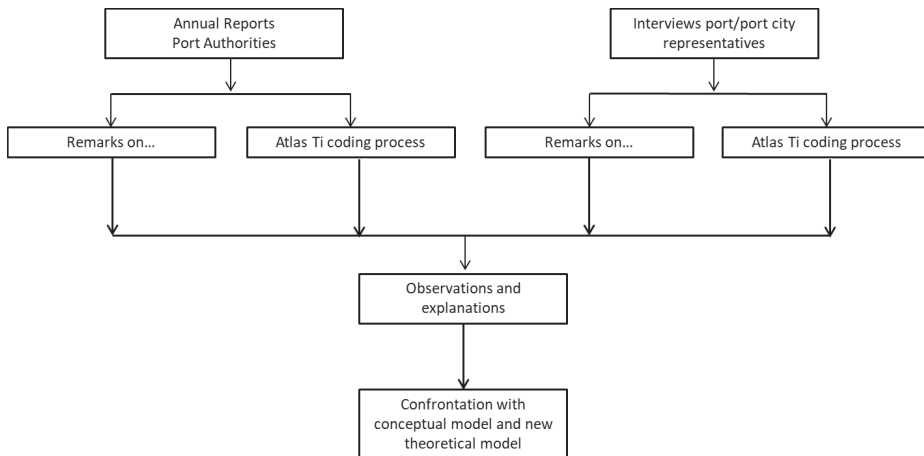


Figure 7.3 The structure of the field research on port-port city relationships

7.3.6 Interviews: the respondents from the three ports

To conduct an inquiry into the port-port city relationships of Antwerp, Rotterdam, and Hamburg, respondents from different backgrounds were needed who could be seen as shaping and influencing these relationships. The following groups of respondents were distinguished:

- Scholars;
- Representatives of port authorities;
- Representatives of port cities;
- Representatives of influenced municipalities in the port region;
- Representatives of port companies, especially container terminal companies;
- Representatives of consultancy agencies, non-municipal organizations, and so on.

Finding respondents from the three ports presented various difficulties. Respondents from the port and port city of Antwerp were found rather easily. A scholar from Antwerp University acted not only as a respondent but also as an expert with an extensive network that included appropriate, knowledgeable respondents. This provided the researcher with a first set of names that could be increased by the snowball method and by using the interviewed persons as a reference for new conversations. It was very difficult to make contact with the management of large international corporations, and it was thanks to the cooperation of a former executive top manager of an international container terminal company that information from that level and field could be acquired. In total, 10 interviews were conducted with representatives of Antwerp.

The situation in Rotterdam was even easier because this was home ground for Erasmus University. Faculty members know a lot of port actors, but an employee of the Rotterdam Port Authority also played a very important role as she knew many influential actors on a personal basis and could act as an intermediary. In total, 16 interviews were conducted.

Getting into Hamburg was far more difficult. Even email requests were often unanswered. Some respondents were persuaded to cooperate only after the intervention of other personalities, and in the case of the Hamburg Port Authority top level management, this was done only by written statements on a questionnaire. The interviews that could be conducted took place in a very friendly and open atmosphere, and the respondents acknowledged that it is very difficult to get to speak to someone in Hamburg. In total, 11 respondents were interviewed, but it must be noted that two of them completed the written questionnaire instead of having a face-to-face interview.

The interviews lasted 1 to 1.5 hour each and were transcribed verbatim. This allowed for the interpretation of some quotations as most serious, humorous, or ironic. Given the phenomenological approach of having the data speak for themselves, it is most important not only to have the exact words, but also to be able to make the most applicable interpretation by observing the context conveyed by respondents' non-verbal or non-explicit expressions.

The interview structure was open-ended, although some topics were discussed in every interview. Depending on the expertise, the experience, the respondent's (former) function, and his/her willingness to discuss these topics, initially the following list was used:

- Positions and interests of the various factions in the port/port city;
- Foreign ownership;
- Relationship port city;
- Business relations;
- Company's investment in society;
- Manifestations of trust;
- Shared values;
- Comparison with other ports.

These topics are of course in line with the networks derived from the interviews, but, as can be seen, there are more networks in Table 7.1 because, during the period in which the interviews were conducted, it appeared that certain concepts needed

to be elaborated on or needed to be added. To test the validity of an answer, respondents' remarks were regularly used to observe the opinion of another respondent, so that extreme, particular opinions could be eliminated in the analysis of these interviews. This can be seen as a kind of triangulation. The timespan of the interviews was October 2017 to September 2019.

7.3.7 A description of the coding and analysis process for the interviews

Broken down in consecutive steps, the process of coding and analysis can be described as follows:

- Verbatim transcription of the interview texts from recordings made with the respondents;
- During transcription, notes were made with insights, remarks, and first observations based on comparisons with previous interviews. This was recorded in a separate document;
- Coding of the interviews with Atlas Ti;
- First codes based on the conceptual model: business relations, economy of touch, etc.: list coding;
- Elaborations of the codes representing the basic concepts by open coding;
- During coding, it appeared that the names of some codes needed redefinition. In many cases, memos were created to identify a code;
- After coding the interviews of the Antwerp and Rotterdam representatives, the first coded interviews were re-examined to see whether any new codes created during the coding of the consecutive interviews needed to be included;
- Creation of co-occurrence tables to spot correlations between codes and code groups on theme level as well as on port/port city level¹⁴; creation of a co-document table to spot between codes and code groups on document level;
- Selective coding: creation of relationships between code groups to identify the density and nature of the relationship.

¹⁴ This is a tricky feature in Atlas Ti. Atlas Ti gives the opportunity to make statistical inquiries based on these co-occurrence tables, making quantitative something was originally meant to be a qualitative method. As the coding process is based on the researcher's interpretations with all his perspectives, leading to conclusions that aim to meet the criterion of plausibility, making statistical correlations, although with possibly sound quantitative results, is rather questionable from a methodological perspective and casts doubt on validity.

7.3.8 Annual reports of the port authorities of Antwerp, Rotterdam, and Hamburg

To analyze the annual reports, the same procedure as for the interviews was followed, whereby the text of the various reports for the years 2011 to 2016¹⁵ were the input. It was very easy to acquire the reports for Antwerp and Rotterdam, as the websites of both port authorities have an archive where older reports can be found. Acquiring the reports of the Hamburg Port Authority was much more difficult.¹⁶ The reports for the years 2011 and 2012 are detected rather easily, but then suddenly they changed into *Finanzberichte (Zahlen, Daten und Fakten)*. The content is much more financially oriented, but there are still comments on developments that are like the original reports for previous years. Some texts are even copied integrally, and then suddenly, without any explanation, the 2016 report reverts to the original format.

7.3.9 Considerations on the method used

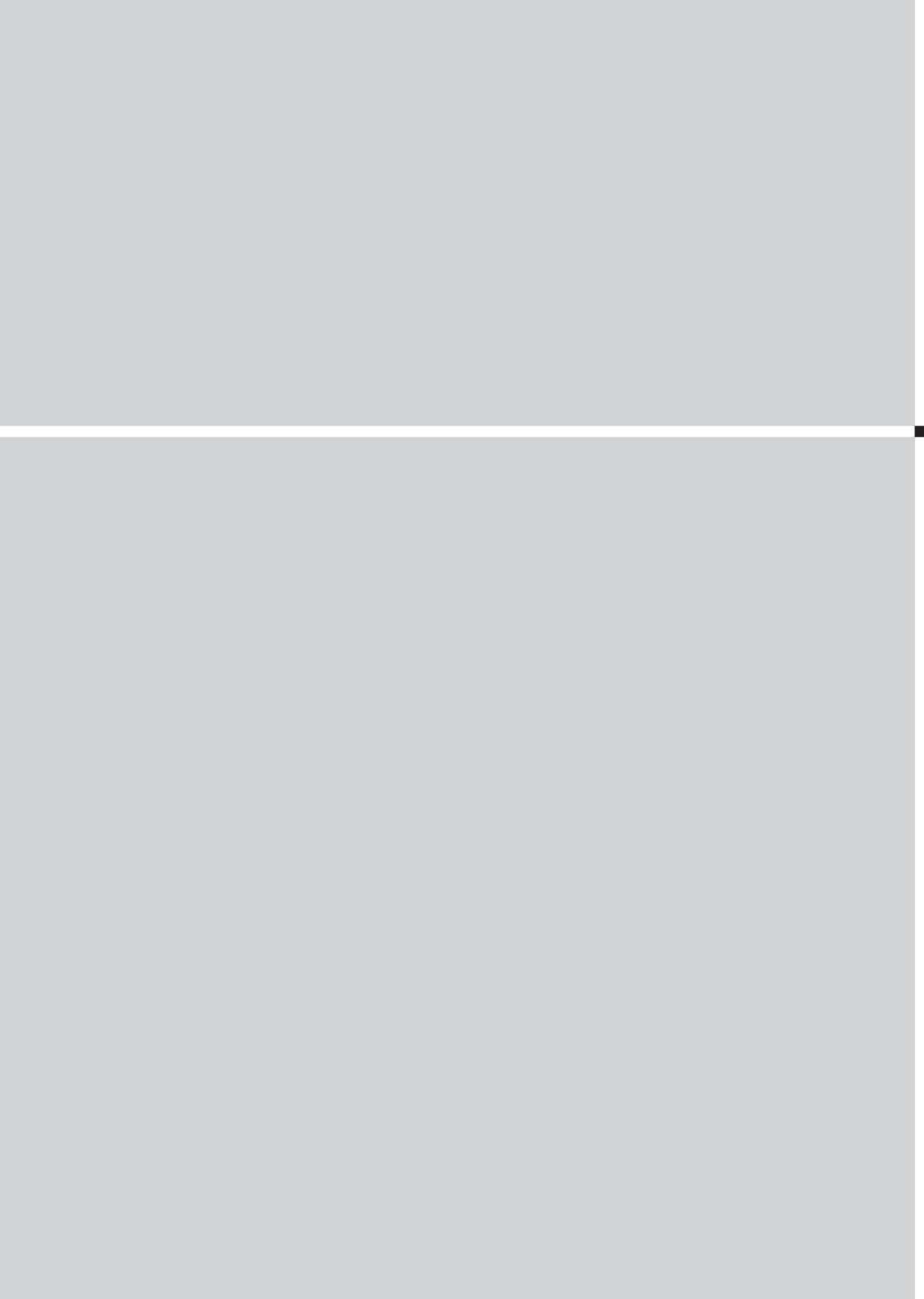
As stated in section 7.3.4, not only were the annual reports analyzed in Atlas Ti, but also remarks on these reports were written in a separate document and form the basis of the analysis evaluation. Swanborn (2013) considers the use of several different sources – and especially if these sources cover a longer period so that a longitudinal analysis is made possible – as a strong method. He warns against the strict use of only a single qualitative analysis program (like Atlas Ti) (Swanborn, 2013, p. 201). Therefore, using interviews and annual reports and analyzing both sources by using a qualitative analysis program and one's own personal comments is a security against one of the main objections to qualitative research following the coding procedures: the possibility of prejudice during the attribution and interpretation of codes. As stated, the researcher cannot exclude himself, so there is always precognition before starting a project in detail. In this thesis, this issue is tackled by:

- Formulating a research model whose constituent concepts are rationally derived from scientific literature;
- Recognizing the prejudices that exist and therefore deliberately keeping an open mind for findings that touch these prejudices;
- Confronting respondents with conflicting statements and noting that;
- Incorporating these conflicts in the results and evaluations;

15 The analysis was conducted in 2018–2019, and these reports covered the most recent five-year period.

16 The fact that economics faculty members of Erasmus University asked the researcher of this thesis to send them these reports because they were not able to find them shows that it was certainly not the lack of personal ability on the researcher's part that made this a rather difficult task.

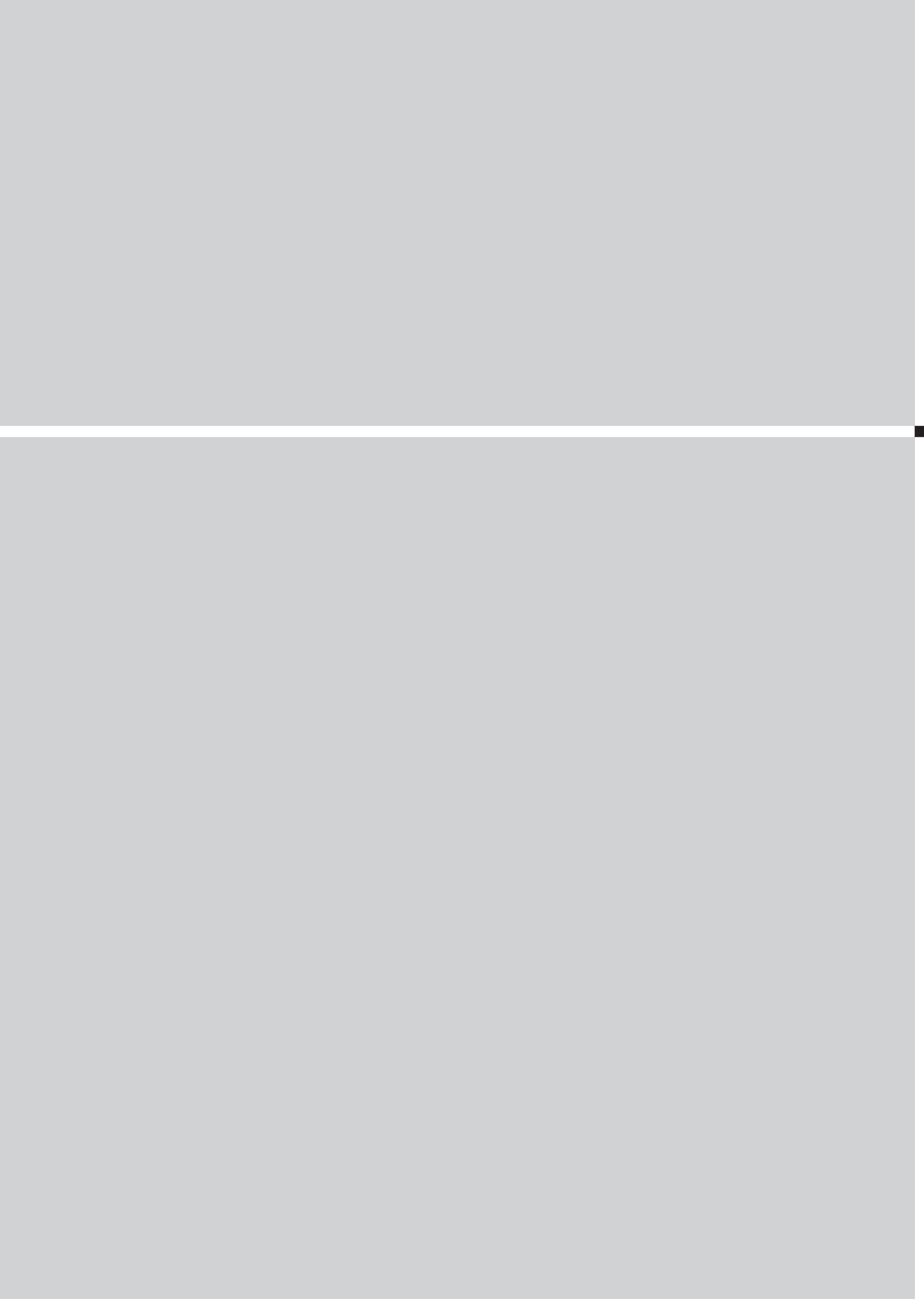
- Making use of official sources (the annual reports) and personal insights and opinions of acknowledged peers in the industry, politics, and academic institutions;
- Reporting how conclusions were established.



Part C

Empirical Part

This Empirical Part is the description, analysis, and evaluation of port-port city relationships in Rotterdam, Antwerp, and Hamburg. Chapter 8 presents three monographs to set the scene. The chapter summarizes the current situation from a spatial, cultural, and economic perspective. The scene set is used as the basis on which the current relationships between ports and cities are analyzed by using the concepts developed in the theoretical part. This analysis is presented in Chapter 9. Chapter 10 evaluates the analyses made, by reflecting on them in terms of political-economic contexts. The chapter, and so the thesis, ends with a reflection on its scientific and societal contribution.



Chapter 8

Profiling the ports of
Rotterdam, Antwerp, and
Hamburg: a brief history

8.1 INTRODUCTION

A short overview of the development of the ports under study is given in this chapter. As it is not the intention to give an exhaustive historical overview of how these three ports have developed over time, this chapter aims to give an overview that encompasses elements that provide a clear picture of the most important elements of the development of Rotterdam, Antwerp, and Hamburg from the perspective of the relationship between port and port city. Sections 8.2, 8.3, and 8.4 are essentially monographs of these three ports, with historical overviews to show how the current situation finds its origin in the past. In addition to the historical overview, the general dynamics from the research model are used as a guide. So, besides the history, each port is described along the general dynamics : containerization, regionalization, and globalization. In section 8.5, the historical development and the influence of these dynamics that led to the present visible situation is wrapped up by comparing the three ports from the spatial perspective as described in the problem analysis (section 1.6), which is the separation of port functions from the port city. This is referred to as visibility. As the component, presence, co-exists alongside visibility, section 8.6 compares the cultural and economic aspects, paying explicit attention to the ports and their respective port cities. In section 8.7, some concluding remarks are made based on the descriptions in the monographs, thereby creating a bridge between this chapter and the analysis in Chapter 9, where the political-economic systems are espoused as a perspective to describe and explain the relationship between ports and cities.

8.2 THE PORT AND PORT CITY OF ROTTERDAM

8.2.1 Site: a dam in the river Rotte

It was a rather swampy area, the land along the coast of Holland in the 13th century, where several rivers formed a delta in which settlements were created, especially at those places where rivers joined together. And it was absolutely not Rotterdam that took the lead in those days. At the end of the 13th century, Dordrecht was the jewel among the northern Dutch merchant cities, thanks to the support of the Dutch counts (Blok, Prevenier, & Roorda, 1980, p. 93). All the merchandise – especially wine, timber, and corn – shipped along the river Merwede was traded in Dordrecht, which had received city rights in 1220. In 1299, the nobility granted Dordrecht staple rights. For a long time therefore, Dordrecht was the economic center of the region, but it focused on its staple rights and the money that the city earned from the toll demanded from passing ships. It did not really have a maritime position;

that position was primarily held in the southern part of The Netherlands, Sealand and Flanders, which were far more developed in terms of urbanization, trade, and industry (Blok, Prevenier, & Roorda, 1982). The nobility of Holland concentrated on this toll, thereby creating room for other cities to play a role in the trade via the sea to England. Another interesting difference is that Dordrecht was a member of the Hanseatic league (Hammel-Kiesow, Puhle, & Wittenburg, 2015) and Rotterdam was not (at that time much too insignificant, later on too competitive with cities like Antwerp and Hamburg).

In the middle of the 13th century (around 1270), a dam was constructed in the little river, the Rotte, connecting the river Maas (connection between France, Germany, and the sea) and the inland of Holland, whereby a sheltered area was created (see Figure 8.1; the map dates to about 1340). Such constructions were often applied in Holland, as can be seen in the names of its towns and villages (Schiedam, Amsterdam, Leidschendam) (Blok et al., 1982, p. 197) and formed a base to load and unload ships on both sides of the dam. These activities formed the core for a settlement. This dam in the Rotte was positioned at the current Hoogstraat, thereby initiating the urbanization of Rotterdam.



Figure 8.1 A dam in the river Rotte (Source: <https://www.entoen.nu/nl/havenvanrotterdam>) Retrieved: 8 August 2019

Note: Regarding orientation: the left the Rotterdamse Schie forms the left side of a triangle. The base of the triangle is the river Meuse. The top is where nowadays the Weena is situated. This triangle can still be seen on a topographical map of Rotterdam.

The construction of the Rotterdamse Schie improved the connection with the western and northern parts of Holland (via the Rhine Schie canal), and the city's economic growth could take off. During the 14th century, Rotterdam's position was still quite weak. City rights were granted and later revoked and granted again. It was a city whose inhabitants lived from fishery, local trade, and agriculture (Hooydonk & Verhoeven, 2007, p. 318).

To recognize Rotterdam as a port city, a leap in time has to be made to an era when Rotterdam really became an important port city. This was not reached overnight. It took about 200 years before that could happen. In those 200 years, Rotterdam was a fishing port and a market center without any other industries. There simply was not really any business: "Rotterdam and other Maas ports, as well as ports farther north, assumed the transport function for the merchants of Flanders who were not interested in developing ocean-borne and coastal trade" (Weigend, 1973, p. 9). Two factors stimulated growth after these 200 years of quietness. On the one hand, in an early phase, Rotterdam declared itself a supporter of the rebellion against the kingdom of Spain and sided with William of Orange (Weigend, 1973, p. 9). The other factor was that the influential lawyer, Van Oldenbarnevelt, achieved the highly ranked position of Grand Pensionary (nowadays Prime Minister) and protected Rotterdam's interests in the States of Holland (the "national" government). He used his influence to create the expansion of the few docks towards the southwest, so a real port with docks and quays began to take shape (Hooydonk & Verhoeven, 2007). This direction south/southwest/west determined Rotterdam's expansion from that period.

It is important to note that the functions of towns in the political-economic structure in those days were quite separate. The Hague was the political center where the politicians came together and political governmental power was situated. Amsterdam and Rotterdam were important merchant cities where institutions like the United East India Company (V.O.C.) – the first stock-issuing company to initiate and organize trade with the East Indies – were located, although Amsterdam had the upper hand in trade with the Far East, and Rotterdam was more into trade with the West Indies (and later, Western trade). This division of functions, especially the separation of economic importance and political influence, is a characteristic that shaped the development of the port of Rotterdam compared with the ports of Antwerp and Hamburg. This will be made clearer in future sections.

8.2.2 Becoming a port of national interest

As noted in the previous section, the port of Rotterdam expanded to the south and the southwest. Its development in terms of spatial growth was rather slow, and its

growth would not accelerate until the third quarter of the 19th century. Before 1860, Rotterdam's docks and quays (built in the 17th century) were still situated on the northern edge over the river. The city and its port were more or less locked into the old urban triangle. Thorbecke, the national liberal politician, strongly favored free trade, which would be enhanced when shipping was liberated from all the constraints of the existing (international) legislation of those days; and in 1868 this was realized. Three developments can be identified as laying the base for the accelerated growth:

- The abolishment of shipping rights on the Rhine;
- The abolishment of duties on exports;
- The introduction of shipping laws that ended the favoring of Dutch ships in their own ports.

These measures, formalized in the Manheimer Akte (Manheim Act), enhanced competition (Oosterwijk, 2011, p. 15), but Rotterdam still suffered from a lack of the accessibility that makes it so unique nowadays. It took years before the needed gateway was realized. The first step was the canal through Voorne (1830), which was an improvement but still meant that ships had to round an island with all its problems of distance and navigational difficulties. It took another 40 years before the daring but obvious solution was created by Pieter Caland, whose new canal penetrated the protection from the sea right through the dunes and created a highway for ships: De Nieuwe Waterweg (the New Waterway). The second important improvement was the canalization of the Rhine that made the connection from west to east faster and enhanced the possibility for larger barges to use this waterway.

The second effect of the legislation that enhanced industrial development was the enlargement of the port on the left side of the river Meuse. One man must be mentioned who had a tremendous influence on this development: Lodewijk Pincoffs. To create a new port area, infrastructure such as railways were needed. Pincoffs was the man who was the motor for the 'Leap over the Meuse'. In 1878, the connections to the south – Willemsbrug for road traffic and a railway bridge over the river – were realized, paving the way for further development on the south bank. Thus, the creation of the port on Feijenoord was made possible. This development involved cooperation between the national authorities, the municipality, and private investors: a kind of public-private cooperation, but not completely, because the responsibilities were strictly separated. Some infrastructure was realized by the national authorities: railways and the digging of a dock (Spoorweghaven). Rotterdam municipality was in charge of building the Noorderhaven, the bridges, and the

quays. Other facilities were the responsibility of a private investor, Rotterdamsche Handelsvereniging (Oosterwijk, 2011).

Economic activity focused mainly on port activities and not on industrial activities in the city. The space needed for the maritime function was accommodated by expropriation and incorporation in the municipal structure in order to have all the facilities under direct municipal control (Weigend, 1973). In the 19th century, the port-related activities were based on storage of goods waiting to be transshipped. Later, thanks to industrialization in Germany, the increased need for raw materials like coal and ore gave rise to further expansion of shipments to and from this industrial heart of Europe. At the end of World War 1, the devastation of German industry also affected Rotterdam, but, when the German economy started to recover, so did the port of Rotterdam, as the rebuilding of the German economy needed many materials, transported via the port of Rotterdam. This was the heyday of companies like Steenkolen Handels Vereniging, with which illustrious names are associated. The people who were in charge of these companies are certainly well known and remembered – people like Van Beuningen and Fentener van Vlissingen, who was the founder of a company that in time became known as Akzo Nobel; Jan Veder, stemming from a family of bankers, later involved in stevedoring and who became the director of Rotterdam Droogdok Maatschappij; Willem Ruys, starting as a shipper, the founder of the Rotterdamse Lloyd and Nedlloyd; Willem de Monchy, of the company Pakhuis Meesteren, the foundation of what later, after several mergers, would become Vopak; Anton Kröller (shipping company) and Willem Van der Vorm of the Scheepvaart en Steenkolenmaatschappij and Jacques Schoufour. These people, known as the barons of the port of Rotterdam, not only were responsible for their economic activities, but also felt themselves responsible for the wellbeing of the city. Examples of their actions include the financing of the port hospital (later well known for its treatment of tropical diseases), the football stadium Feijenoord (thanks to Van Beuningen), the well-known collection of the Boymans van Beuningen museum, the Blijdorp zoo, and so on. They were the rich business people who supported the city to make life more pleasant without having direct economic profit from it. Of course, they benefitted from that as well: happy workers create fewer social problems, but still they were examples of a class of people who looked beyond direct self-interest.

In those days, Rotterdam's main focus was on maritime activities in terms of moving goods as fast as possible to and from the German industrial area as a transshipment port, and not so much on other industrial activities. It was only in the 1930s that manufacturing started in Rotterdam itself. Oil activities started in the 1930s

when the Bataafse petroleum Maatschappij (predecessor of Shell) started its refinery near the little town of Pernis. In 1938, the port of Rotterdam handled 42.3m tonnes of goods and headed the list, with Hamburg handling 25.7m and Antwerp 23.5m (Hooydonk & Verhoeven, 2007, p. 332).

Then, the bombardment of Rotterdam in 1940 seemed to blow away all its aspirations to be Europe's main port. Within 10 minutes, 850 people were killed, 75,000 made homeless, and 638 hectares destroyed. This bombardment was specifically directed at the city, although Willemsbrug and many quay walls in the old parts of the city (behind the Leuvehaven locks) were also destroyed. From a port function perspective, the bombardments of 1943 and 1944 had an even more severe impact, because then the quay walls for berthing the seagoing vessels were destroyed. This was the first part to be rebuilt after World War 2 (Posthuma, 1972). The resurrection of the port of Rotterdam in the first 20 years directly after the war can be divided into three phases:

1. 1945–1950: restoration and modernization of the port;
2. 1950–1960: realization of the Botlekplan and new facilities for the transshipment of cargo and breakbulk in the old port areas;
3. 1960–1970: the realization of Europoort, Maasvlakte, and the dredging of a channel for the mouth of the New Waterway (Posthuma, 1972).

Rotterdam had already made preparations for the first phase. During the occupation, groups of men came together, initiated by Van der Mandele, chairman of the Chamber of Commerce of Rotterdam. After the liberation, he became the chair of the Reconstruction Committee. Posthuma (director of the Municipal Port Company from 1959 to 1973) remarked that the national government was of the opinion that rebuilding the port was not a local matter but needed prioritization on the national agenda and had to be given full support (Posthuma, 1972, p. 19). Since then, the national government has always been involved in the development of the port of Rotterdam; this eventually led to the main-port policy, which is of national interest. This rebuilding of the port and the city was not the work of governmental institutions only. The port barons also played a large role in it. They met one another in an organization called The Rotterdam Club. The members of this club were involved in the rebuilding of the city after the war together with the city's officials. This subsystem was later unified in the Scheepvaartvereniging Zuid. One of its chairmen, Jan Backx – director of Thomsen's Havenbedrijf, founding father of the Havenvak-school, and chairman of the Chamber of Commerce – applied the social system that he had introduced in his company to the development of the Rotterdam Port Community (Sennema, 2015).

The second phase, the Botlekplan, was the second real enlargement of the port in a westerly direction, following the Pernis area, assuming that the Waalhaven construction can be seen as still being part of the city's environment. In the Pernis area (first and second Petrol Port), large areas were leased out and international companies got a foothold in the port area. Caltex (nowadays Texaco) and Shell made their way in and enlarged their presence in the port. The typical Rotterdam port baron was slowly exchanged for captains of industry, a change that frightened some people, afraid as they were of an American influence that could be too strong (Posthuma, 1972, p. 24). For the Botlek, another industry was reserved: Dow Chemical made its way in (1957), but, before that, the shipbuilding industry entered this area under the leadership of one of the post-war port barons: Cornelis Verolme. As stated, before the war Rotterdam was mainly a transit port for bulk to Germany, but now additional activities emerged. The Botlek area attracted a lot of industries. It was now that, in contrast to other ports where this was already the current situation, manufacturing happened within the port area itself (Weigend, 1973). The interest shown by these industries was of such a magnitude that the port and the civil service, the Municipal Port Company (Gemeentelijk Havenbedrijf: GHB), responsible for the leasing of port areas, had to make selections based on what they thought best suited the port. The Ministry of Economic Affairs intervened regularly, the criterion being that it had to be an industry that needed deep water before it could be taken into consideration. There was, however, also a second criterion. In those days, thanks to the rebuilding of The Netherlands as an aftermath of the war, the availability of employees was low. So, the choice of which company to allow to settle in the port was also determined by the nature of its employment, which needed to be as labor extensive as possible (Posthuma, 1972). Expropriation from farmers of the land needed went rather smoothly after GHB took over the lead in this process, formerly supervised by municipal officers. The Botlek complex was built to its maximum in no time, and new port areas were needed. The number of cargoes transshipped exploded in those years. One of the drivers of the increase in transshipment was the role that Rotterdam played in supplying the American forces in Germany. Paardenkooper (2018) states that these goods formed the critical mass to achieve the economies of scale that formed the basis of the conditions later needed for container transport.

The third phase (1960–1970) was the realization of Europoort, a jump further to the west. In this area, again oil companies such as Shell, Caltex, and Mobil Oil settled. In the meantime, bulk transport increased (ore and grain). In 1963, a visit by Posthuma, director of GHB, to New York with Tobin, director of the New York Port Authority, was the beginning of a new phase in the handling of goods. Rotterdam was interested in creating a container service between New York and Rotterdam. Mc Lean of

the Sealand company discovered the possibilities of the Princess Beatrixhaven in Europoort. Just a common quay was not enough, a depth of hundreds of meters was needed to store the containers (Posthuma, 1972). That kind of terrain was available in the Beatrixhaven. It was there that the first containers landed on 3 May 1966 (Kuipers, 2018b).¹⁷

For the handling of ships with containers, Posthuma succeeded in getting together several companies that at first formed the Europe Container Terminus, which in 1989 became Europe Combined Terminals, consequent to a merger with the stevedores Quick Dispatch and Müller-Thomsen Rotterdam. With the arrival of British Petroleum in Europoort, the availability of land was getting scarce. On the level of the national department of waterworks, Rijkswaterstaat, plans were developed for an extension of unseen proportions. This extension was determined mainly by theoretical models that forecasted how long the piers needed to be to have the least need of dredging. So, it was not the need of land that determined the new area of reclaimed land called Maasvlakte I, but rather hydraulic engineering modeling (in the end, the length of the piers determined how much land would be required in between) (Posthuma, 1972). Again, initiatives were taken on a national level together with GHB. Posthuma likes to recall that, from 1970, a “Havenbedrijf”, a more or less autonomous entity, was responsible for these investments (Posthuma, 1972, p. 74).

What can be said of this development of the port of Rotterdam in the first 20 years after the war? Despite the fact that a lot of smaller companies also settled in the port area, the main characteristics of the development of the port of Rotterdam in those years was that:

- It was labor extensive, aimed at mass (petrochemical, bulk, and eventually containers);
- It was getting more diversified as it became not only a transit port, but also a maritime-based industrial cluster;
- It was driven by a few visionary people: e.g. Van der Mandele and Postuma, as representatives of the Rotterdam institutions, and De Lange, Thomassen, and Van Veen as representatives of governmental bodies at regional and national level;
- There was strong cooperation between local and national governments;
- There was a strong feeling that the development of the port was of national interest;

¹⁷ Posthuma himself dates it to 5 May 1966 (Posthuma, 1972, p. 67).

Individual business men felt a strong responsibility for the wellbeing of the port city. This was not only felt in the years after the war; this cultural subsystem had already been present in the years shortly before the war and was ready to be mobilized when Rotterdam could benefit from it.

8.2.3 Becoming an international port with an effect on location and city functions

Containerization

A new era started with the arrival of containers in the port. The recovery from the war damage was definitely over in the port, although the city still bore the marks. The new way of handling cargo meant that suitable areas with enough space could not be found within the old docks and quays. The small fingers of water basins were not suitable for the new way of handling goods, and the amount of breakbulk also decreased in favor of containers. Those areas became desolated while prosperity-generating activities went westward (the left wing of the butterfly: Figure 1.3 in Chapter 1). The character of employment in the port changed as well. The handling of containers needed another kind of employee. Between 1968 and 1988, the share of containers within the total transit of general cargo had increased from 8 to 64% (Van den Eijnden, 2016, p. 80). So, companies like ECT, looking for the right kind of employee, offered training and employment tracks to educate their employees. This was more than stimulated by the high degree of automation that took place in the port. The container terminals in particular underwent a transformation that was unique in the world. The combination of a technical university in the neighborhood (TH Delft) and Gerrit Wormmeester as the CEO of ECT (in the 1980s and 1990s) was responsible for taking the possibilities of logistical improvements to the highest level, especially because of the implementation of robotization. Fostered by the GHB director, Henk Molenaar, an engineer himself, this created a company that was famous in Rotterdam, even in The Netherlands, and was considered to be proof of Dutch ingenuity and entrepreneurship. In one of the interviews for this thesis, a respondent sighed that, when he was first employed at ECT, it “looked more like a laboratory than a company with all these scientists from Delft”.¹⁸

Regionalization

Another characteristic of the containerization was that new drop-off points were needed in the hinterland, connected via railway and barge. These were the port-linked distribution centers in the hinterland of The Netherlands. Regionalization

¹⁸ Interview June 2018

was especially realized by ECT (the first and for a short while only terminal in those days), which took over the hinterland terminals of Duisburg in Germany and Wilbroek in Belgium as additions to the terminal in Venlo. So, the transit function was even more simplified in terms of visibility within Rotterdam. Containers were put on a railway or a barge, located far in the west (Maasvlakte) and then rushed eastwards for further handling. This aspect was responsible for the right wing of the butterfly (Figure 1.3 in Chapter 1), illustrating the dispersion of these activities from the port city to other regions in the country.

Globalization: competition and changing ownership

The changes in the world economy did not bypass Rotterdam. The big shipping lines like Maersk wanted to have more control of the total logistics chain and opted for their own terminal on the Maasvlakte. Maersk, a big customer for ECT, bought another big ECT customer, Sealand, and that gave them enough leverage to do business. At first, a joint venture was realized with ECT in the Maersk Delta Terminal; later on, it had its own terminal. This was the trigger for some shareholders to withdraw from this business and for ECT to look for new investors. In 2002, Hutchison Port Holdings from Hong Kong became the owner of ECT. Later on, Dubai Ports got a foothold in the port of Rotterdam with RWG (Rotterdam World Gateway) and, in 2006, APMT, a division of AP Møller Maersk, created a terminal. This was an outcome of the desire to have more competition in the port of Rotterdam – a desire articulated by the former CEO of GHB, corporatized in 2004, which thereafter was known as the Port Authority of Rotterdam. Hans Smits stated: “The contract with APMT is important because it is a sister company of Maersk Line that is taking care of 20% of the global container transport and has a very strong financial position. The Danish company has foreseen guaranteed decennia of growth. What else do you want?” (Van den Eijnden, 2016, p. 152). This made it clear that Rotterdam’s port activities were no longer a Rotterdam affair, but were dependent on international, even global, developments where not only maritime considerations, but also financial ones, would play a role.

That this was not a game for a city to play but for a professionalized organization that could act as an independent entity had already been clear for a very long time, as it was a worldwide process (Brooks, 2004; Brooks & Cullinane, 2007a). The Port Authority of Rotterdam is a fine example of an entity that knew how to act entrepreneurially and to be on a level with the international players. In 1996, the first signs of independence were already clear. “By accident”, a chapter was added to a

plan in which the intention to gain independence was stated.¹⁹ From that moment, an active lobby from GHB was started. In 2004, GHB became an independent public company. For quite a long time, it had already been very involved in rolling out its internationalization strategy (Van der Lugt, 2015). The landlord model is applied in many partnerships with ports in developing countries. Thus, the port behaves in terms not only of exploitation – although it “explicitly intends to act as a landlord port” (Van der Lugt, 2015, p. 122) – but, by stretching its basic responsibility, also of exploration in a role that is highly entrepreneurial. Doing so raises the question of whether it is not transcending too much and losing contact with the city from which it originated. That is for the second part of this thesis to explore.

8.2.4 International port and local city

How did the relation with the city manifest itself? Many Rotterdam citizens in the higher income range had left the city favoring the suburbs, leaving a poorer city behind. At the same time, new groups of migrants entered the city, stemming from different countries, partly attracted by the need for labor (Turkey, Morocco), partly by choosing to live in The Netherlands instead of being an inhabitant of the former Dutch colonies of The Antilles and Suriname.

Table 8.1 Composition population of Rotterdam 2019

Native	313,861	}	By Country	
Western immigrants total	80,742		Morocco	44,164
Non-Western immigrants total	244,109		Netherlands Antilles	24,693
Total population	638,712		Suriname	52,620
			Turkey	47,712
			Other non-Western	74,920

Source: <https://allecijfers.nl/gemeente/rotterdam/>. Retrieved: 4 April 2019

In the 1970s and 1980s, this population did not have the best economic prospects due to changes in the character of employment (less blue collar more sophisticated) and the general economic circumstances in the early 1980s that led to a high degree of unemployment. This had large effects on the socioeconomic situation in Rotterdam. The position of the city in the rankings of income per household was staggeringly low and still has not recovered. In the year 2016, Rotterdam ranked lowest for standardized income in the four big cities in The Netherlands, at €25,600 (The Hague, €27,800; Amsterdam, €29,200; Utrecht, €29,700; for The Netherlands

¹⁹ Interview with city representative

as a whole, this was €28,900).²⁰ The size of the population increased from 610,385 in 1945 to 731,564 in 1965.²¹ From that year, despite the immigration, the city's population decreased consequent to the growth of suburbs like Poortugaal, Hoogvliet, and Spijkenisse, where higher income earners could get better housing conditions. This had a tremendous effect on the composition of the city, with the biggest problems in Rotterdam-South. The population of Rotterdam was at its lowest in 1984, with 555,353 inhabitants. In 2019, the number is 644,373.²²

Rejuvenation of the city

In the meantime, the city reclaimed the abandoned port areas, and, in line with other port cities worldwide, started a rejuvenation of these areas known as waterfront projects (Hoyle & Pinder, 1992). The RDM dock, transformed into the RDM Campus, combines the need to restore the old complex with the need to address education and employment, and stimulate start-ups. The old complexes with former warehouses on the Wilhelmina pier, together with Binnenhaven, Spoorweghaven, Rijnhaven, and Entrepothaven (an area that was partly developed by the entrepreneur Pincoffs in the late 19th century) were also redeveloped. The companies in the port play an active role in this with their apprenticeships and their donations to events. The upgrading of this area with its restaurants, dwellings, and cruise terminal has stimulated the perception of Rotterdam as a dynamic city.

On the other hand, this upgrading is well perceived by the higher income earners in the city. They welcome this. The domestic function of this area is suited for middle and higher incomes; but the situation of the population in Rotterdam-South is still below the average socioeconomic situation in The Netherlands. Furthermore, economically speaking, this affects the position at household level as well, as Table 8.2 shows.

20 Source: Stadsarchief Rotterdam. Bevolkingscijfers van Rotterdam vanaf 1868. Retrieved: 2 August 2018

21 The standardized income is the available income after correction for differences in household size and composition. Source: <https://rotterdam.buurtmonitor.nl/documents/Werk-en-inkomen>. Retrieved: 5 April 2019

22 Source: https://rotterdam.buurtmonitor.nl/jive?cat_open=Beleidsthema%27s/Demografie. Retrieved: 5 April 2019

Table 8.2 Standardized income per household

	2016	2006	Δ 2006–2016
Rotterdam	€ 25,600	€ 19,600	31%
Amsterdam	€ 29,200	€ 21,200	38%
The Hague	€ 27,800	€ 21,200	31%
Utrecht	€ 29,700	€ 22,100	34%
Netherlands	€ 28,900	€ 21,600	34%

Source: Rotterdam Buurtmonitor: <https://rotterdam.buurtmonitor.nl/documents/Werk-en-inkomen>. Retrieved: 6 April 2019

Rotterdam is at the bottom of the standardized income per household scale, at 11.4% less than the average in The Netherlands. Growth in the 10 years between 2006 and 2016 also lags behind. The new Rotterdam, as built on Kop van Zuid and to be developed further along the edges of the Maas, might attract young urban professionals who view the port as a vibrant, leisure-offering phenomenon, but the Rotterdammers at the other end of the socioeconomic scale may not have the same positive feelings about the possibilities of the town and may have another perception of the port, if at all.

8.2.5 The significance of the port of Rotterdam

The impact of the port of Rotterdam as a main-port cluster on the Dutch economy is considerable as an outcome of the transit function. For 2017, in terms of direct employment it is 121,800, for indirect it is 103,3000. In terms of direct added value, it is €18 bln; for indirect added value, it is €9.2 bln (Kuipers, 2018a). These figures, however, refer to Rotterdam as the port cluster: Rotterdam plus the Drechtsteden and Moerdijk. Looking at the municipality of Rotterdam gives an insight into the effects of the port for Rotterdam itself (see Table 8.3).

Comparison of the percentage change between Rotterdam municipality and the main-port cluster reveals that the values do not differ that much. The increase in total direct added value is the same. What is striking is the increase in direct employment in Rotterdam, at 23.8% compared to the increase for the main-port cluster of 8.1%. Kuipers attributes this increase to the increase in demand for goods and services in the rest of the country (Kuipers, 2018a). However, as the increase in total added value was the same, this had an effect on the added value per employee, which increased slightly more in the main-port cluster (33.8%) compared to Rotterdam (31.4%) within the city's boundaries. This effect could result from high value industries like Boskalis, Van Oord, IHC, and so on (Kuipers, 2018a, p. 20).

Table 8.3 Added value and employment port of Rotterdam within the municipality

	Rotterdam municipality 2002	Rotterdam municipality 2017	% change	Main-port cluster 2002	Main-port cluster 2017	% change
Direct added value	8.8	13.4	52.3	11.7	18.0	53.8
Indirect added value ^a	4.2	6.8	61.9	5.8	9.2	58.6
Value added multiplier	1.48	1.5	1.4	1.49	1.51	1.3
Total direct added value (blns €s)	13.0	20.2	55.4	17.5	27.2	55.4
Direct employment	69.8	86.4	23.8	103.4	121.8	8.1
Indirect employment ^b	62.6	70.2	12.0	90.4	103.3	14.2
Employment multiplier	1.9	1.81	-4.7	1.87	1.85	-1.1
Total employment (thousands)	132.4	156.6	18.3	193.8	225.1	16.2
Added value/ employee	€98,187 ^c	€128,991	31.4	€90,299	120,835	33.8

Source: Kuipers (2018a).

Note: a: Attributed to supplying industries; b: Attributed to supplying industries; c: Total direct value/total employment.

Table 8.4 Direct added value Rotterdam Rijnmond (€ m)

	2012	2013	2014	2015	2016	2017
Transport	2,590	2,766	3,061	3,201	3,258	3,193
Transport services	2,040	1,998	2,117	2,163	2,251	2,202
Transshipment and storage	2,054	1,993	2,124	2,084	2,146	2,117
Food industry	320	318	314	313	339	348
Oil industry	1,506	1,064	81	1,674	1,589	1,650
Chemical industry	1,921	1,811	1,851	2,206	2,530	2,829
Metals	267	294	306	254	306	330
Transport equipment	104	120	120	117	112	100
Electricity	661	543	491	496	473	413
Others	209	256	261	285	353	361
Wholesale	660	790	860	881	951	969
Producer services	623	677	680	664	710	714
Total	12,955	12,630	12,266	14,338	15,018	15,226

Source: Van der Lugt, Witte, Becker, & Streng (2018)

If the numbers for direct added value are broken down, the picture portrayed in Table 8.4 emerges.

8.2.6 A score so far

As the port's maritime activities are more labor extensive than before, need a more highly educated workforce, and are further away from the city, they are especially suited to the inhabitants of the suburbs and less to the citizens of Rotterdam. This, in combination with the fact that Rotterdam is less diversified in its economic activities and its activities are of a less extensive nature, makes it hard for Rotterdam to benefit from its industrial cluster. Rotterdam's new employment is in research, education, and other high-level activities – regarding maritime activities, maritime advanced producer services (MAPS), and Rotterdam does not benefit from these activities as much as it could, because 30% of companies involved in economic activities in Rotterdam buy only 12 % of their MAPS within Rotterdam. Many such services are sourced outside the region (financial and legal services in Amsterdam or London) (Kuipers et al., 2011). It is even more interesting to see how this is affected by company ownership. Companies with local headquarters (indigenous companies) are more inclined to do business with local suppliers, whereas international companies (and indigenous companies that outgrow the region) do business with suppliers with an international profile. Kuipers et al. (2011, p. 12) state that companies with an international profile like Esso, APMT, and ECT have less autonomy in their buying procedures and so will often exclude suppliers located in the region. They make a plea for international companies to be headquartered locally. This shows that internationalization has made the activities of the port of Rotterdam less dependent on the region in which they take place. Not only has a spatial separation taken place, but also local economic supply chains that would intertwine businesses have been excluded.

So, it can be concluded that there is a certain imbalance within Rotterdam as a main-port. Its position as Europe's biggest port is not to be doubted in terms of tonnage and TEUs, nor in terms of its innovation power (Smartport) and its position in the Dutch economy. The main-port concept underlines the way in which the Dutch government values its contribution and importance for the Dutch economy, as Kuipers (2018a) depicts in his contribution to this –often debated (Merk, 2013) – subject. On the other hand, however, from this position one might expect Rotterdam to have a bigger share in the number of maritime headquarters and a more prominent position in the share of MAPS, but this is not the case.

In this short review of the development of Rotterdam, aspects of the general dynamics as pictured in the research model, and mentioned in section 8.1, can be recognized: containerization, globalization, scale increase, foreign ownership, as well as regionalization and relocation. Consequently, a spatial, economic, and mental separation has taken place.

8.3 THE PORT AND PORT CITY OF ANTWERP

8.3.1 Site: a fortress opening up to the river

The city of Antwerp can trace its origins back to a Gallo-Roman settlement, as remnants have been found near the so-called fortress zone – between the Steen and the Noorderterras along the quays of the Scheldt (Vander Ginst & Smeets, 2015). Unlike Rotterdam, the start of the port and the city of Antwerp did not originate in a rather slow and careful building up of settlements. In Rotterdam, transshipment activities arose because, to handle and process shipments, goods had to be transferred from one carrier (barge or cart) to another (barge or cart) in order to be processed elsewhere. In Antwerp, the current well-positioned warehousing activities of the port of Antwerp were already in place in the 11th century. Storage of fish and salt, and the trade in wine stemming from the Rhone valley, gave the city of Antwerp an important position in the flows of goods (Hooydonk & Verhoeven, 2007). Antwerp, however, was not the only important trade center. In the 11th century, the route between Bruges and Cologne was the most important one, and a lot of trade took place along that route. Antwerp was a bit off that route's track. It was more important for the north-south route (from Brabant to Namur). In time, however, Antwerp played a bigger role in competition with Bruges: partly because of problems with the depth of Bruges' maritime entrance to the North Sea, the Zwin, (although according to some this is highly exaggerated (Munro, 1966)), partly because the navigability of the Scheldt improved, but also because of the city's more liberal policy towards foreigners (Hooydonk & Verhoeven, 2007). In the 13th century, Antwerp was trading Rhine wine, fish, metals, and English wool. Later on, the wool was transformed to cloth, which was more lucrative (added value) and for which there was a great demand from Germany. Moreover, Bruges was protecting its own cloth guilds, whereas Antwerp had no cloth industry at all, so there was nothing to protect and they welcomed the English cloth, which formed the base for the rise in the late 15th century of extensive dyeing and finishing industries based on English cloth imports (Munro, 1966). Wine in particular was imported from Cologne, which formed a staple place for the wines from Southern Germany (Harreld, 2004). This all needed to be handled with ships and barges.

Antwerp's merchant base was secured (Harreld, 2004). Trade in Bruges was based on local goods, whereas Antwerp's trade was based on goods produced elsewhere. So, Bruges was serving a nation market and, in contrast, "Antwerp truly was an international marketplace" (Harreld, 2004, p. 1). The existence of these merchants also has a more fundamental economic element: the ability to decrease transaction costs. Those were costs that could occur, like seizure or taxes, when goods had to be transported through politically unstable regions. This was to a certain degree avoided when the goods were handled and stored by merchants (Harreld, 2004). Besides merchants, Antwerp also attracted Italians, Spaniards, and immigrants from the Low Countries who settled as artisans adding value to products: sugar refiners, soap makers, cloth finishers, knife makers, packers, and teamsters.

8.3.3 Being part of the Hansa: securing an outward orientation

A special group within the Antwerp community were the German merchants who participated in commercial and social life. They were factors and agents. They were the founders of great German merchant houses, like the Welsers, the Hochstetters, the Fuggers, the Herwarts, and the Reitweisers. These merchants, who were often Cologne based, established themselves in Antwerp and controlled the trade between the Low Countries and Germany. Many merchants in Antwerp were foreign born, and in the 15th and 16th century especially, the Italians and the Germans formed large number of organized communities (called *naties*) that were in charge of north-south and west-east trade, respectively. These agency relationships were founded on "family ties, norms and beliefs, laws and organizations [such] as merchant guilds or city governments and the services of these organizations such as justice and contract registration" (Puttevils, 2016, p. 10). Antwerp's trade was part of the Hansa network, of which of course initially Bruges was the center in the Low Countries. However, as Bruges lost its prominent position (see section 8.5.2), the city of Antwerp became the base for German, English, Italian, Spanish, and Portuguese merchants. The Hansa was responsible for the import of wheat, oats, and ash from the Baltic region to Antwerp, which was an entrepot for the grain trade, because some of this was re-exported to Portugal for sale (Harreld, 2004). Trade was financially supported by the establishment of bankers like the Welsers and the Fuggers. Antwerp certainly became "the center of early modern economy, not just European but global" (Munro, 1966, p. 1144). This was materialized in the gesture made by the council of Antwerp in 1563 by granting them the Hansa house (known as the Oosterhuis) located at what is nowadays known as The Little Island (het Eilandje) which formed the most northern part of the port in those days and for many years after. This was a deliberate policy. An investment was made in a commercial infrastructure with the intention of enhancing contacts and trade between buyers and sellers as part

of a policy that resulted from inter-city competition (Puttevils, 2016; Harreld, 2003). Antwerp's commercial attitude was based on a particular political economy that allowed trade to be in the hands of non-natives organized in open-access institutions; and, in that respect, Antwerp was unlike other trading cities. Puttevils (2016, p. 14) makes an interesting remark when he states that in the 16th century "there was not a considerable group of politically entrenched merchant-citizens". This is very different from that other great Hanseatic merchant city in North West Europe, Hamburg, in the 16th century, (see section 8.4), and different from Amsterdam in Holland, where being a merchant was very much combined with being a politician.

Antwerp became a city of great wealth, although this wealth was not evenly distributed. It was a city of extremes, with the rich merchants in the center and the poor masses in the peripheral areas (Harreld, 2003).

8.3.4 A cutting off from its life line

Antwerp's Golden Age, which made it a far more important city than other seaports in the 16th century (Van Hooydonk, 2008), came to an end in the second half of that century. The Religious Troubles between the Low Countries and Spain led to the so-called Spanish fury, when Spanish troops ransacked and plundered the city. This was followed by the siege of Antwerp in 1585. After the capitulation of the city, the Dutch closed the Scheldt estuary "to protect the commercial interests of their own ports" (Hooydonk & Verhoeven, 2007, p. 43). This was the moment for many merchants to leave Antwerp and to go to another liberal and open society, which they found in Amsterdam, spurring the rise of this new merchant jewel in the Low Countries. The city of Antwerp did not completely lose its function as a port thanks to inland barges calling at the port, but seagoing vessels were no longer seen. So, the supremacy of the city was tenuous. The merchant companies depended on the seagoing vessels of their northern neighbors – the Germans and the Dutch. The city was deeply affected by the exodus after the 1585 siege. So, goods were no longer physically transported from the city, but merchants, bankers, and insurers continued to maintain Antwerp as a maritime city. For two centuries however, it would be a shadow of its former self.

What one sees in Antwerp in these early times is the birth of a merchant cluster in Porter's (1990a) true sense. All the Porter diamond factors are present. There was demand, especially from Germany. There were related and supporting industries: the dyers, the storage, the stevedores. There were factor conditions: capital from the merchant families like the Fuggers; the site at the Scheldt; labor, attracted from countries all over Northern Europe. There was a firm structure and rivalry. There

certainly was government in the sense of a city council that favored trade. This led to a self-enforcing institution that could only be stopped by forces from outside (chance), as eventually happened with the diaspora of the Antwerp merchants (especially to Amsterdam) and the closure of the Scheldt.

8.3.5 Rising again: becoming a modern port

Despite these radical changes, Antwerp managed to stay in the European picture. It had the tradition, the structure, and the hinterland connections. The inland barge trade still made Antwerp an important port (not to mention the fact that Holland and Zeeland earned money on tolls, so why stop the business?) (Hooydonk & Verhoeven, 2007). Furthermore, the existing infrastructure of bankers and insurers was still intact, so the city was able to revive and play a role in the early 17th century. It was only the 1648 decision to keep the Scheldt closed that was decisive for its demise as a port for a long time; and, even then, it remained “one of the richest, best cultivated, and most populous provinces of Europe” (Smith, 1776, p. 413). That situation continued until the early 19th century when, finally, the Dutch pressure to close the Scheldt was lifted. Napoleon’s decision to open the Scheldt to allow vessels to enter the port again and the building of large docks (Bonapartedok and Willemdok) ushered in a new era. Belgium’s independence helped the port of Antwerp thanks to the abolition of the toll, which improved their competitive position. In those days, Antwerp became the port of Belgium, as manifested by the Belgian government’s decision to construct a canal between Antwerp and the industrial hinterland of Wallonia. To overcome debates with Holland, it was realized entirely on Belgian territory (Hooydonk & Verhoeven, 2007).

One cannot study the port of Antwerp without paying attention to its most striking characteristic: being a port with a large logistics function. For Antwerp, this is expressed by the presence of many *naties*, of which the multinational *Katoen Natie* is the most prominent. In every port, goods need to be handled after they are unloaded or when they have to be loaded onto a ship; and these quayside activities are undertaken by unskilled laborers – and especially in former times. In almost every port in Europe, such laborers united to avoid competition amongst themselves that would weaken them vis-à-vis the men who hired them: the shippers and the traders. These organizations had different names in the various countries (in Hamburg, *Quartiersleute*; in Bremen, *Küper*; in Lübeck, *Verlehnten*; in Amsterdam, *Vemen*). These terms were often accompanied by the names of the type of goods they handled. In Antwerp, they were – and still are – called *naties*, a term dating back to the late middle ages (Devos, 2013). The word *natie* means handler of goods. In the 19th century, the old organizations of port workers, more or less privileged by the

city government, reorganized themselves in commercial companies. In 1838, there were more than 23 *naties* at work in the port (Devos, 2013), such as Katoen Natie, Gist Natie, Kraan Natie, Noordnatie, Baltiknatie, Zuidnatie, and Rijnnatie. These organizations were powerful and played an important role in Antwerp's cultural life with their meetings, their processions, and their umbrella organization, De Vereniging der Werknatiën van Antwerp. These *naties* were also strongly present in city politics. The *naties*' executives originated from the rural Catholic area around Antwerp. They formed a front against the liberal merchants and entrepreneurs who as shippers, agents, and forwarders were the *naties*' customers (Devos, 2013, p. 81). These tensions were never relieved and later formed the base of a strong culture of dockworkers' unions that would turn into a pool of laborers that decided who would work where. The *naties*' managers, who in fact were a kind of chairmen (called *deken*), would later become real entrepreneurs and even company owners, as exemplified by Fernand Huts, CEO of Katoen Natie.

In the interbellum (1919–1939), the port expanded northwestwards with the construction of the Albertdok, the Leopolddok, the Hansadok, and the Fourth Portdok. This expansion diversified the port: both the maritime and the industrial sector increased in industries like automotive (General Motors and Ford), oil refinery, wood, and shipbuilding (Devos, 2013). From then on, the important family companies that owned industrial and maritime businesses played a central role in Antwerp's development into a modern port: the Cigrand family, with the Cobelfret company for stevedoring, forwarding, and shipping; the Saverys family, involved in shipping with CMB, Exmar, and Bocimar; the Roussis family, involved in the production, distribution, and recycling of synthetic granulates; the Moorkens family, with the import of cars with the Alcopa company; the Dieryck family, with its dredging company Ackermans & Van Haaren²⁴; and the Huts family, with Katoen Natie, a logistics company globally represented in 38 countries. Family business is still a very important factor characterizing the port of Antwerp.

After World War 2, the damage in the port and the city of Antwerp was far less than in Rotterdam and Hamburg. At first sight, this was an advantage. Business could quickly recover as the port was open in 1944 and was used by the Allied Forces to supply the troops with ordnance and provisions, thereby availing of Antwerp's port facilities. However, this would later prove to be less favorable, because Rotterdam and Hamburg could start with the newest technology, which was not available in Antwerp. Halfway through the 1950s, Antwerp speeded up, thanks to the large

24 Source: <http://www.nieuwsblad.be/cnt/ghi1hbv8u>. Retrieved: 12 August 2017

petrochemical plants that chose to be located near the Scheldt – a development fostered by the fact that a lot of petrochemical industries could not get a location in Rotterdam and therefore chose Antwerp. This made Antwerp the second largest petrochemical cluster in the world behind Houston, Texas (Hooydonk & Verhoeven, 2007), despite the fact that the port of Antwerp does not have as large an oil storage infrastructure as Rotterdam has. The increasing draft of oil tankers in the 1970s rendered the Scheldt insufficiently deep for these ships to be served in Antwerp. The solution was found by connecting the Antwerp refineries to the oil intake in the port of Rotterdam, which is very suited to these large tankers because of its deep water. For Antwerp, this can be seen as a blessing in disguise. Port areas can now be used for more value-adding activities with these large petrochemical industries, instead of simply being used to store oil. The expansion of the port was enhanced by the collaboration of the national government and the city. This situation can be qualified as rather rare. For example, the national government, as an energetic instrument of decision making, failed in the case of the Baalhoekkanaal. This project (a canal, cutting off the curve in the Scheldt at Bath) could have spurred the development of the port, but the federal government of Wallonia was opposed, fearing changes in the flow rate of the Meuse. This political opposition does not stand in isolation. The two regions, Flanders and Wallonia, do not only collide from time to time. When Antwerp wanted to expand on the Left Bank, it encountered (and still encounters) a rather hostile attitude, channeled through the mayors of the Left Bank communities who are truly political representatives with strong bonds at national level.²⁵ The way in which labor is organized is also a politically influenced situation. Thanks to the Majoor Legislation – legislation initiated by the Minister of Labor in 1972 – labor in the port is confined to laborers united in the officially acknowledged labor pools, from which employers hire their laborers. This legislation has resulted in rather high wages, even for many jobs that have significantly changed in character, such as those in distribution centers. For Antwerp, this means that sometimes rather simple logistics activities must be performed by these highly paid laborers because the companies are located within the designated port area. On the other hand, when economic times get tough, like in the period 2008–2010, employers can easily dismiss them from their payroll and have them sent back to the pool. It is, however, remarkable that working conditions, influenced by new technologies and so creating new jobs, are still dominated by legislation that is understandably strongly supported by labor unions, but might also endanger future flexibility.

25 Source: Interview with the mayor of a Left Bank municipality. It is interesting to note that the Left Bank is in the province of East Flanders, whereas the city of Antwerp is located in the province of Antwerp. These are completely different cultures, based on an agricultural East Flanders and an urban, industrial Antwerp.

8.3.6 Growing out of the city, the need to expand

Containerization

So, the various docks like Havendok 1-6, Albertdok, Churchilldok, Leopolddok, Hansadok, and Kanaaldok were developed in the 20th century. The first container-ship in Antwerp was received in 1966 at the Churchilldok, located on the right bank. The possibilities to build new docks were limited however, especially docks suited to the new large container vessels. In the north, the Dutch border prevented a further expansion on the right bank of the Scheldt, so now the Delwaidedok, finished in 1979, is Antwerp's most northerly situated dock on the right bank. A right bank with 19 kilometers of docks stretched out to the north. As the map depicted in Figure 8.3 shows, this is the port moving seaward. The map also shows the inland orientation, which for Antwerp meant development along the Albert Canal heading for the east (Genk, Liege) and moving upstream on the Scheldt to serve France's northern industries. To respond to the need for more quays and areas for other maritime-related activities, jumping over the river Scheldt was the only alternative if Antwerp wanted to stay in the race for its share of the continuous growth of maritime activities in the Le Havre–Gdansk Range, which Rotterdam so strongly dominated in terms of cargo tonnage. Refocusing attention from the right to the Left Bank of the river Scheldt did not mean just crossing a waterline. In fact, the Antwerp situation appears to be more of a watershed, metaphorically speaking. Turning to the Left Bank did not mean just crossing a couple of hundred meters of water, but appeared to be a kind of 'crossing of the Rubicon', because creating infrastructures and realizing spatial planning is more than just taking care of the physical environment. It is about dealing with socio-cultural and socio-political structures.

The space needed was on the territory of other (rather small) municipalities, primarily the villages of Beveren and Zwijndrecht. These small communities (located in the Waasland region) did not want to give in just as a response to the port of Antwerp's



Figure 8.3 Antwerp, moving seawards along and across the river and reaching out to the hinterland (Source: Vroomans, Geerlings, & Kuipers, 2018)

need for land. In fact, their stand was that, if they had to transfer agricultural land for port activities, they wanted to be in charge of it. On the other hand, the city of Antwerp, which owned the port, had a quite opposite position: “If this is going to be a port, this is going to be Antwerp.” Because of the foreseen imbalance between these villages and the demands of the port, for which in those days (mid 1970s) the city of Antwerp’s council was responsible, the Belgian government intervened with a law, known as the Chabert Legislation. This law determined that everything that had to do with maritime activities should be the responsibility of the port of Antwerp, in those days the city of Antwerp. The quays belonged to that as well. Everything beyond was the responsibility of a new company that was to be founded. In 1982, the Company for the Left Scheldt Bank (MLSO) was founded. In this company, which is a public institution responsible for issuing concessions for industrial areas, consists of various shareholders, each of which has a stake in the benefits of the maritime activities developed on the Left Bank. The MLSO can act as an intermediary if there are opposing interests between the port authority and the population and its representatives in the Left Bank communities. In this construction, not only the potential controversies between Antwerp and the region of Waasland, but also political divisions have to be taken into account (Vroomans et al., 2018).

Regionalization

Whereas in Rotterdam the port spread its fingers to the far west, Antwerp also relocated but not that far. The Left Bank is still rather close to Antwerp city, and the city is strongly involved in its development. Heading inland, the port of Antwerp also developed its hinterland with the creation of new ports and transit points to reach its customers. Because of its large petrochemical cluster, one of its main customers is the chemical industry in Dutch Limburg at Geleen: Chemelot (Antwerp Port Authority, 2013). Furthermore, Antwerp has partnerships with a network of gates extended inland (Merk, 2018) like Meerhout, Willebroek, Genk, Moerdijk, Duisburg, and Ghent. Near the Albert Canal (Grobendonk) in 2012, a container terminal was realized in a joint venture between the Antwerp Port Authority (20%) and DP World (80%). Antwerp also strengthened its relationship with the port of Liege (Antwerp Port Authority, 2012).

Globalization

The port of Antwerp is a gateway to the world. Although an inland port, it owes its gateway position to its good location on the Scheldt estuary, but also to how internationalization has influenced relationships within the port. Like in Rotterdam, multinationals have come to the port. After the merger of Hessenatie and Noord Natie, the shares were sold to PSA, and DP World started container activities. MSC

has been an appreciated customer for more than 20 years, and the Aponte family is one of Antwerp's established elites. So, one of the most influential trends in ports and port cities – changing ownership of very important actors from local to foreign multinationals – has also made its mark in Antwerp.

8.3.7 International port and local city

The politically fragmented society in Flanders is also mirrored in the port authority. The Antwerp port authority was the first in the Le Havre–Gdansk Range to achieve autonomous status in 1996, but the political “color” of the city council is mirrored in the supervisory board, and the chairman of this board is the city alderman. At the beginning in particular, the number of political representatives was quite large. In 2015, this changed: *In 2015 Antwerp Port Authority changed its legal form to an “nv van publiek recht” (a type of joint stock company under Belgian law). This means that the board of directors now has fewer politically appointed members and more external, independent directors with the necessary expertise* (Antwerp Port Authority, 2016, p. 39). In 2004, eight members were political representatives, with Baronet Leo Delwaide as chairman. In 2015, it was stated that four independent members were needed, but that still leaves room for strong city-based political influence on the port's activities.

Rejuvenation of the city

Like in other ports, in Antwerp too, the old abandoned parts of the port gave way to city development. The old area, known as *het Eilandje*, is experiencing a gentrification in which the Museum aan de Stroom (MAS) is an accelerator thanks to thousands of people visiting this museum, which also celebrates centuries of port history with a permanent exhibition. Two other dominating buildings that changed function and act as landmarks are the Hessenhuis and the Magasins et Entrepot Réunis la Cloche. This neighborhood is an attractive place for small entrepreneurs and artists. Combined with the adjacent student area of the University of Antwerp, it has become an attractive site. Despite these developments however, it has the scale and the turnaround of the waterfront developments and neighborhood gentrification that has been happening in both Rotterdam and Hamburg. Mobility is a big problem in Antwerp. The famous Antwerp Ring is one of the most negative externalities of the port's activities for port business as well as for the Antwerp population. Traffic is congested from early morning to late evening with hardly any letup. Since 2017 however, the Deurganckdok is open at night as well as during the day, and this should relieve traffic pressure, and waterbuses provide transport for employees liv-

ing on the right bank of the Scheldt who work on the left bank and consequently no longer have to use private cars.²⁶

It is a city like other port cities with a variation in original nationalities. Spatial segregation is clear-cut, with the poorer neighborhoods at the edges of the inner city and social inequality because of a large contingent of less educated people. This is remarkable in a city that hosts a large industry sector, but whose economic development is led by the high-level service sector. The well-to-do population resides in the suburbs on the outskirts of the Antwerp region, leaving the problems behind (Grippa, Marissal, May, Wertz, & Loopmans, 2015), and, with a median income of €55,576, this means that inequality must be strong, although the OECD report shows a Gini coefficient of 0.30 (OECD, 2016), which is more or less the same as in Rotterdam (0.31)²⁷ and Hamburg (0.32) (Freie und Hansestadt Hamburg, 2014).

The city of Antwerp has a diverse composition of population like the other two ports, with 21% of its population (totaling 527,000) coming from outside Belgium (see Table 8.5).²⁸

Table 8.5 Immigrants residing in Antwerp

Nationality	Number	% of total population
Total EU	54,565	10.5
Neighboring countries	23,147	4.4
West and north EU non-neighbors	2,525	0.5
South EU	10,734	2.1
EU 13	18,159	3.5
Total non-EU	52,643	10.1
Europe non-EU	5,206	1.0
Turkey	4,188	0.8
Magreb (Marocco)	12,472	2.4
Other countries	30,777	5.9
Total	107,208	20.6

26 Havenbedrijf en private sector gaan samen voor betere mobiliteit in en rond havengebied. 19 September 2017. Source: <http://www.portofantwerp.com/news>. Retrieved: 19 November 2017

27 <https://evr010.nl/inkomensverdeling-rotterdam/>

28 Source: <https://stadincijfers.antwerpen.be/dashboard/Hoofd-dashboard/Demografie>
Retrieved: 7 June 2019

8.3.8 The significance of the port of Antwerp

Value-adding activities are activities that create the heterogeneity that characterizes dynamic port environments, which in turn creates good incomes, business relations, and the ability to cope with external dynamics that can influence, positively or negatively, port cities' development. The port of Antwerp has extended 29,821 acres along its river banks, of which 16,763 acres on the right bank and 13,057 on the Left Bank (Port of Antwerp, 2017). So, the port extensions on the Left Bank almost doubled the port's capacity in terms of available space. The port itself is about 80 kilometers inland, and it promotes itself by stating that the first 80 kilometers are transported over sea, which, per tonne, is the most efficient mode of transportation. With a cargo handling of 223.3 m tonnes (2017), Antwerp is the second port in Europe in terms of total tonnage. For breakbulk, Antwerp is the absolute leader, with 15 million tonnes (including RoRo).²⁹ However, tonnage should not be the measure to assess a port's viability and contribution to the economic wellbeing of its region – what is done with it is what matters. Handling cargo in addition to just transshipping it creates the added value from which port's community can benefit. Table 8.6 depicts the value added throughout the years by the various clusters within the port of Antwerp.

Table 8.6 Value added at the port of Antwerp from 2012 to 2017 (€mln)

	2012	2013	2014	2015	2016	2017
Cargo handling	1,481.2	1,563.3	1,604.8	1,665.0	1,697.7	1,803.9
Shipping agents and forwarders	591.3	631.6	593.1	632.8	603.0	607.8
Shipping companies	558.1	368.0	438.8	739.8	661.6	451.8
Other maritime	708.6	718.3	686.3	749.7	714.9	740.3
Maritime	3,339.2	3,281.2	3,323.0	3,787.3	3,677.2	3,603.8
Chemical industry	2,946.1	2,944.2	3,113.2	3,421.9	3,165.2	3,653.5
Fuel production	970.8	806.2	824.9	1,064.5	1,066.4	1,182.4
Trade	903.6	855.1	917.0	908.1	997.9	1,065.8
Other non-maritime	1,896.1	1,914.0	1,831.1	1,816.4	1,884.3	1,947.2
Non-maritime	6,716.6	6,519.6	6,686.2	7,210.9	7,113.7	7,849.0
Direct	10,055.9	9,800.7	10,009.2	10,988.2	10,790.9	11,452.7
Indirect	9,085.8	8,525.2	8,478.5	9,222.4	8,647.6	9,284.3
Total	19,085.8	18,326.0	18,487.7	20,220.6	19,438.6	20,737.0

Source: Gueli, Ringoot, & Van Kerckhoven (2019)

29 Source: <https://www.portofantwerp.com/en/breakbulk>. Retrieved: 7 June 2019

The value-adding activities relate especially to the chemical industries, with a rise from 29.3% of total direct added value in 2012 to 31.9% in 2017. This strong position of the petrol-chemical sector is clearly illustrated in Table 8.7 where BASF takes the lead as the most value-adding company in Antwerp. The position of the Centrale Der Werkgevers Aan De Haven Van Antwerpen shows the importance of logistic activities in Antwerp.

Table 8.7 Value-adding top 10 at the port of Antwerp in 2017

Ranking	Company name	Sector
1	BASF Antwerp	Chemical industry
2	Kuwait Petroleum (Belgium)	Trade
3	EXXONMobil Petroleum & Chemical	Fuel
4	Centrale Der Werkgevers Aan De Haven Van Antwerpen	Cargo handling
5	Total Raffinaderij Antwerpen	Fuel production
6	Antwerp Port Authority	Port Authority
7	Electrabel	Energy
8	COVESTRO	Chemical industry
9	Evonik Degussa Antwerpen	Chemical industry
10	Lanxess	Chemical industry

Source: Gueli et al. (2019)

8.3.9 A score so far

From the early years, Antwerp was very internationally oriented. It truly was founded on trade and adding value and therefore a gateway to the world from its beginnings until now. Merchants acted as information channels to “familiarize the outside consumers (demand) with the abundance and its location (production) and to familiarize the producer with the location of external scarcity in the goods” (Mathys, 2017, p. 5). Harreld (2006) contends that, for Vance, this is the city acting as an open system, an agent of trade, and thus a center of information exchange. The bonds between the merchants were based on agency relationships. For that, 16th century Antwerp is a fine example, and Vance’s statement that “The vigorous mercantile entrepreneur of the seventeenth and eighteenth century had to turn outward from Europe because of the long history of parochial trade and the confining honeycomb of Christaller cells that had grown up with feudalism left little scope there for this activity” (Vance, 1970, p. 148) fully neglects the very internationally oriented merchants of 15th century Antwerp that cast out their nets across Europe. The city still reflects its history with the obvious presence of logistic activities reminiscent of older storage and value-adding activities, but it is also a city with a very

industrial port where chemicals especially play an import role. Thanks to the oil pipeline connection with Rotterdam, no space is needed for rather low value storage, and so this space can be used for more interesting higher value-adding activities such as logistics, manufacturing, and petrochemicals. It is, however, also a port city affected by the whimsical political landscape – not only on council level and on the level of the port authority board (due to its political representation), but also as a port situated in the complex political landscape of Belgium, where a favor bestowed on one region must be compensated with a gesture to another region. This could hamper further development significantly, as the international actors within the port are getting larger and more dominant and have a very clear goal. In combination with the rather ancient labor structure, this is likely to be a less favorable mix.

8.4 THE PORT AND PORT CITY OF HAMBURG

8.4.1 Site: a fortress (burg), located on the Ham (swamp)

The origin of this city, dating from the beginning of the 7th century, reflects its main characteristic: a place where, in addition to some craftsmen and fishermen, merchants located because of the existence of a landing stage that is believed to have been located (much doubt exists about its exact location) near the Binnenalster (Hooydonk & Verhoeven, 2007). In the following centuries, it suffered, as many towns in the northern parts of Europe did, from attacks by Vikings who ransacked the town from time to time. The core of the town's activities was embedded in the existence of a powerful merchant class that fiercely protected its interests as a closed community. It did so by demanding toll for goods shipped on the Elbe that did not belong to the Hamburg merchant class. This merchant class was so influential that they even succeeded in claiming privileges like exemption from duty or other levies on their vessels – a privilege erroneously based on a Charter of Privileges granted by Emperor Barbarossa (1189). Later, this Charter, from which they benefited so much, proved to be a fraud dating from 1265 (Hooydonk & Verhoeven, 2007). In the 13th century, a dam was built that blocked the flow of the river Alster, resulting in two lakes, the Inner and the Outer Alster (see Figure 8.4).

The real take-off of the port (which was first located at the Inner Alster, which did not exist before the dam was built) was when infrastructure such as cranes and quays were located at the mouth of the Alster at the confluence of the Elbe. So now, there was a true connection between the port's activity and the Elbe seaway to the North Sea. Hamburg's maritime history really could take off, and so it did, for the rise of this port city really accelerated when it joined the Hanseatic League.

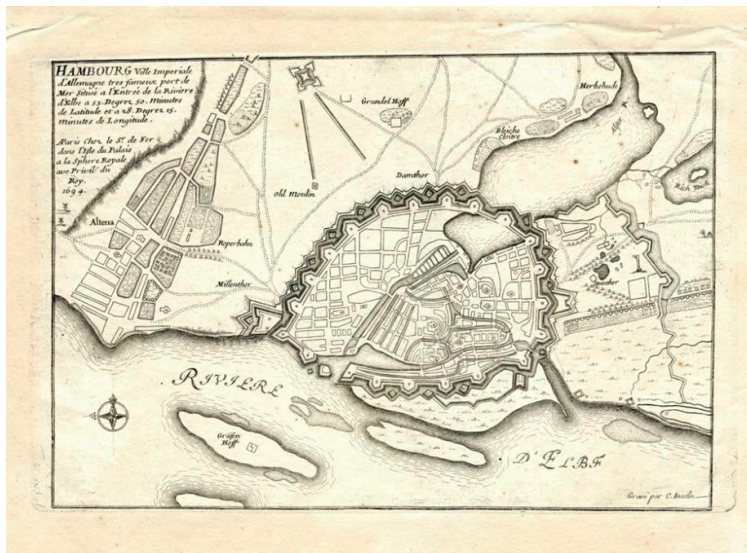


Figure 8.4 The port and city of Hamburg (Source: ownership author) Note: This map, dating from 1702, shows the Alster dam, creating the two lakes and the finger-shaped piers of the original port on the east side of the Elbe. The Reeperbahn, the place where ropes (Reeper) for the ships were manufactured, is also depicted.

8.4.2 The Hanseatic league: fostering economic prosperity

That the merchants of Hamburg really fitted within the Hanseatic league is a bit surprising, as we shall see later. As mentioned above, it was initially a closed community that really wished to separate itself from others in order to benefit from that. The cities that belonged to the Hansa are also called *Wendische Städte*, and the German-Slavonic word *Wende* means “to seclude oneself from others” (Hammel-Kiesow et al., 2015, p. 14). The merchants were really powerful and took over the governance of the city. This happened in many Hansa cities, and also in Hamburg, by the Hansa replacing the existing representatives of the – until then – influential lower nobility.

The Hansa was a large network of participating cities, as shown in Figure 8.5, but this was not always a situation of equality with everyone’s interests taken into account. During the 15th century, more and more there was the tendency to exclude the smaller member cities in favor of the seaports. The trade between the ‘German’ cities with London, which, next to the trade with the Baltic regions, was the most important, was dominated by Lübeck and Hamburg. Besides its commercial success, many scholars in the Romantic period (late 18th century) were of the opinion that this success could be attributed to the Hansa’s effect of binding people in a society. “Man sah in der Hanse also durchaus ein Alternativ-Modell zum adligen Ständestaat

der Vorrevolutionszeit”³⁰ (Hammel-Kiesow et al., 2015, p. 194). In terms of Tönnies’ (1887) concepts: the Hansa in fact was a *Gemeinschaft* based on a *Gesellschaft*; and perhaps that is the most striking way to describe Hamburg society up to the present day, as we shall see later.



Figure 8.5 The Hanseatic network Source: Doc Brown (own work) + Base map from: File:Europein1328.png by Afterword, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=5490716>. Retrieved: 9 May 2017

Because the Hansa’s bonds were based on commercial ties, these ties were rather weak. A breakaway by one of the partners did not really affect the existence of the pact (Hammel-Kiesow et al., 2015, p. 194). In fact, whereas the guilds in England and Holland disappeared after the beginning of the 16th century, they did not disappear in many parts of Europe and the Baltic. They organized themselves in strong groups that dominated their city councils. The economy and resources were in the hands of these few, thanks to legal privileges (Lindberg, 2008). For Lindberg, the German Hansa was rather “a result and not a cause of the great expansion of the German trade in the fourteenth century” (Lindberg, 2008, p. 645). So, in fact, one could say that the German Hansa was a social, political, economic structure, but not one that always acted as a representation of a unified cluster bound by a non-existent kind of unwritten tacit understanding of belonging together. They were nothing more than a *confederatio*, as was written in a letter to the English Secret Council (Pye, 2014). Opportunistic as they were, they enjoyed the benefits, but walked away from responsibilities when they could take advantage of that. As time passed however,

30 “They recognized in the Hansa an alternative model for the former hierarchical nobility-based society before the times of revolution.”

the ties between them faded away, and the last Hansa Day was held in 1669. Different interests of the different partners and the constant trade-off between ‘does my own effort pay better than the communal results’ came down more and more on the individual side. With it, the protective status of being member of the Hansa also disappeared. It was the Reichsstadt status of Lübeck, Bremen, and later Hamburg (in 1768 acknowledged by the occupying Danes as a Reichsstadt) that made them still influential and, in Hamburg’s case, rather powerful. A community of merchants formed the core of the city.

8.4.3 Hamburg as a merchant city: political-economic structures that led to success

As Rotterdam was competing with Dordrecht in the first 200 years of its existence, and Antwerp had to deal with its rival Bruges, so Hamburg was in severe competition with Lübeck. These two cities formed the core of the German Hansa. Initially, Hamburg was the port of Lübeck, a city that can be considered as the most important Hansa city in the league in those days. However, Lübeck’s role, thriving thanks to its trade with the Baltic region, diminished as the Dutch took over that trade, which they consolidated in such a way that they soon became the dominant player in the region. The Dutch, however, traded fish and other low value cargo, whereas the merchants still had the more valuable trade, such as spices. As stated earlier, not driven by altruism, Hamburg took advantage of Lübeck getting into trouble over a dispute with Bruges, which was the beginning of Lübeck’s stagnation, while Hamburg’s star rose. Its growth resulted from domestic trade as well as from being one of London’s most important partners. It was situated as the great connector between “feudal and backward eastern Europe and market-oriented western Europe” (Lindberg, 2008, p. 648). The trade via London also gave the opportunity to trade with the American market where London had the monopoly. Although that might have a disadvantage (it cost the German merchants a margin because of the extra handling by the English), on the other hand, certainly in those days, with long payment periods arising because an ocean had to be crossed, it had the advantage that “In this trade he [the Hamburg merchant] certainly receives the returns of his capital much more quickly than he could possibly have done in the direct trade to America”... and for that “...his capital can keep in constant employment a much greater quantity of German industry than he possibly could have done in the trade from which he is excluded” (Smith, 2012, p. 624). Indeed, Adam Smith, too, appreciated the Hamburg merchants’ special relationship with London. As Hamburg was not situated in a densely populated area, other reasons must explain its commercial success. So, it could not have been the site, as it could never be, but rather the political foundation

of the city's commercial institutions, as Lindberg (2008) states; and this must have been a legacy of the Hansa period, as explained in section 8.4.2.

Many Hansa cities, and in fact many cities in central Europe, can be seen as *Gemeinschafts* with protective regimes to favor the local merchants, but the closed community attitude of these cities decayed at the end of the 17th century as a result of an endless chain of debates and conflicts between councils and merchants, mostly on the issue of taxation and pressure for the establishment of the German nation-state that was taking off. Hamburg, however, had a completely other situation and was the exception. It grew to be the most important center for trade with the Mediterranean and with England. It managed to do so without being part of a larger nation-state. Lindberg sees this in contrast to Amsterdam, which was, in his opinion, also embedded within the emerging nation-state like other merchant cities (Lindberg, 2008, p. 654). In fact, in the 17th century, Amsterdam was not very attached and loyal to the emerging nation of Holland but followed its own path, as did Hamburg. Unlike the other German cities, there was not so much a conservative inner circle but a city council that represented a balance of power, formalized under the Constitution of 1529, called the Long Ordinance. This more or less made a socio-political structure of a *Gesellschaft* with an open structure and where council members were merchants. More and more, a kind of liberal Hamburg evolved over the years as, like Amsterdam, it allowed foreign merchants to settle, and it was a place of refuge for many migrants (French Huguenots, Portuguese Sephardic Jews, and Antwerp merchants as a result of the fall of Antwerp in 1585). Later, Lutheran dominance and intolerance caused a decrease in this liberal atmosphere and gave rise to more conflicts between the council (the Senate, as Hamburg is a city-state) and the people. A new constitution was needed in 1712 to establish clarity about the position of the different political/power factions (Lindberg, 2008). So, as Linberg concludes, it was politics that gave rise to Hamburg, not its site. In contrast to Lübeck, this all gave Hamburg, where merchant guilds faded away, an international style that was far ahead of other members of the Le Havre–Gdansk Range of northwestern ports.

The fact that Hamburg was a merchant city gave rise to other important economic activities as well as, for example, the banking sector. The city hosts the oldest bank in Germany, the Berenberg Bank, M.M.Warburg & CO, and HSH Nordbank; and the Hamburg Stock Exchange is the oldest in Germany. So, the merchants' activity was the core for a cluster of trade-related activities that laid the foundation for an economic center with great diversity. Initially, this diversity reflected commonalities (room for the same activities) and complementarities (contributing to the value chain in terms of customer/supplier relationships) but was mostly trade related.

Later, it also diversified into other sectors, as they appeared to be the necessary foundation for the city in the future.

8.4.4 Breaking out of the walls: the new port

The strong merchant society class, backed by the political city-state's institutions, made Hamburg Europe's leading trade center. The old port could not keep pace with all the goods that needed to be handled, so a new site needed to be created at Grosser Grasbrook. More or less forced to do so by Chancellor Bismarck, Hamburg joined the Deutsche Bund and gave up its independence. As a favor in return (they were negotiators, even at Bismarck's table), they succeeded in keeping the port as a free zone, which favored trade. They also succeeded in getting the empire to finance the building of the famous Speicherstadt (warehouses).³¹ For this project on the Kehrwieder and Wandrahm, 1,900 houses were destroyed and 24,000 people had to be relocated (Gretzschel, 2008). Until then, the port of Hamburg was a port with locks, which still can be seen. The leap over the Elbe at the end of the 19th century to the southern part of the city was accompanied by the decision to make it a tidal port with open access to the sea. Later, expansion took place on Kleiner Grasbrook. These – nowadays old – quays can still be distinguished, as they form the finger-shaped docks of the port.

The effect that an open sea entrance can have on water levels should not be forgotten. The Elbe funnels water upriver, and high storms can cause trouble. Dikes had to be built to prevent the water from inundating the city, which was built on marsh land (Ham = swamp!). In the future, rising sea levels would put this to the test, as it did in 1962 when a North Sea flood cost the lives of 315 people (Pedersen, Köster, Sempell, & Strauss, 2014).

World War 1 did not affect Hamburg very much in terms of damaged infrastructure or buildings, but trade suffered severely and it took quite some years before this recovered. During this recovery, trade with South America became especially important. It put Hamburg in the position of being the most important partner for South American trade, a position that it has retained to the present day. But the war left more legacies. One of them was formalized in the Treaty of Versailles, which determined that Czechoslovakia was entitled to have a free entrance to the port, whereby it was granted a 99-year lease of part of the port. So, Moldauhafen, Saalehafen, and part of Peutehafen do not come under the jurisdiction of the Hamburg

31 Interview with Anjes Tjarkes

Port Authority (HPA) – a situation that will end in 2028.³² Not only was the port used for handling cargo, but also was the place where industrial activities were located. Shipyards like Blohm & Voss, Deutsche Werft, and Howaldts Werke were traditionally located in Hamburg. Having had difficulties after 1918, especially in the 1930s Blohm & Voss expanded, thanks to orders to build warships. This was one of the industries that contributed to Hamburg's prosperity. Another water-bound activity that bloomed in Hamburg, and that would give a new impetus to the city in the late 20th century, was the development and exploitation of cruise ships. Hapag Shipping Company shipped millions of immigrants from Europe to America; and this shipping was not only for migration. The number of people that travelled for pleasure on cruise ships grew steadily and became a pillar of Hamburg's maritime industry – an activity that stopped for quite some time because of World War 2 (Hein, 2016). During the war, the port was severely bombed. Its infrastructure was shattered and its shipbuilding activities were stopped under regulations set by the Allied Forces. Only after 1947 was permission given to clear up the port and remove the sunken wrecks, and shipowners were allowed to restart their trade (Hooydonk & Verhoeven, 2007). Slowly, the port of Hamburg recovered and reorganized within the existing port infrastructure of that time.

In fact, after World War 2, Germany regained a powerful economic position known as the *Wirtschaftswunder*, and Hamburg was one of the wealthiest cities in Europe again, a position that it has been able to retain to the present day, thanks not least to a powerful and wealthy group of shipowners that formed the Hamburg elite: Rickmers, owned by the Rickmers brothers; Döhle Schiffahrts KG, owned by the Döhle family; CP Offen, owned by the Offen family. This elite was also involved in logistics through the Kühne family and in transshipment through the Eckelmann family. In fact, in Hamburg today, there are 34 family-owned companies, and consequently Hamburg is the city with the most family-owned companies in Germany.³³ They are descendants of old family businesses that sometimes had their roots in the 19th century and still prospered during the 20th. After the war, they formed the basic structure under Hamburg's blooming economy. The Otto family, still owners of the €17 bln company Otto Group, is Hamburg based, and the Herz family is still a major shareholder in Beiersdorf.

32 <https://www.welt.de/regionales/hamburg/article146690038/Neue-Flaeche-fuer-Tschechien-im-Hamburger-Hafen.html>. Retrieved: 10 May 2019

33 Hamburg News 24 June 2016. Source: <https://hh-business.anythingabout.net/en/trade-finance/hamburg-capital-city-family-companies/>. Retrieved: 17 May 2016

Of the three cities under research, Hamburg is the most prosperous, as we shall see in section 8.6. Its underlying structure has changed however. Heavy industry like shipyards gave way to high-tech industries and service industries. Blohm + Voss is the only shipyard left, depending for its existence on repairs and orders from the national government (Hooydonk & Verhoeven, 2007) and the construction of luxurious cruise yachts. This reorientation towards other industries, however, is very beneficial for a city that in spatial terms is so close to the port and that is so exposed to its negative external effects: air, water, and land pollution. Industries like Airbus, Beyersdorf, the cruise industry (if they use shore-based power) put less pressure on the environment. Knowledge-based activities like higher education, Aesclapius (a hospital owner that owns a lot of hospitals throughout Germany), NXP, and so on have taken over a lot of high-level jobs needed by Hamburg's citizens.

What can be said of this development of the port of Hamburg in the first 20 years after World War 2? The main characteristics of the development of the port of Hamburg in those years were that:

- It was recovering from the aftermath of the war, hampered by the fact that a lot of activities had been dismantled;
- It was situated very close to the Iron Curtain, which created a blockade to the east in terms of hinterland;
- It enhanced its role as a port for cruising, which would become one of the most interesting and port city-strengthening activities in the late 1990s;
- The elite structure whose base dates back for centuries still formed the backbone of the city's social fabric;
- Although the post-war development took off slowly, soon the economic situation of the port and the city was back on its feet;
- Many non-maritime industries were founded in Hamburg and grew fast, so Hamburg's economic base was very diversified.

8.4.5 Becoming an international port with an effect on location and city functions

Containerization.

After World War 2, Germany's financial position meant that the wrecked port could not be reconstructed rapidly. As stated however, from the 1960s, Germany boomed economically and, like Rotterdam, needed new port facilities, but, unlike Rotterdam, which expanded westward towards the sea where large-scale operations could be established, Hamburg had to find solutions within the city-state boundaries. Initially, this did not pose a problem as the severely bombed areas offered the opportunity to

plan new large-scale docks. In 1967, the first container terminal was opened at the Burchardkai, where on 31 May 1968 the first containership, the American Lancer, berthed in Hamburg. She was the first vessel of a new era that has changed the appearance of the port of Hamburg.³⁴ Water, the lifeline of ports, took on a new shape; containerships reshaped the port so that a new shape of the water was required (Hein, 2016). Hamburg had to adapt to that by creating new docks to accommodate these increasingly larger vessels to avoid San Francisco's destiny, which declined because piers were not created, whereas the port of Oakland (a city on the east side of San Francisco Bay) "offered dedicated container facilities and good access to transportation" (Hein, 2016, p. 423). Hamburg was also in competition with another port, Bremen, as a competitor with great possibilities and with even easier access to the sea. So, Hamburg had to keep developing its container sector, and in early 2000 the port opened a new terminal on Altenwerder where Hamburger Hafen und Logistik AG (HHLA) exploits Hamburg's most advanced container terminal.

Regionalization

Regionalization as a side effect of containerization has, like in Rotterdam, taken place in Hamburg. Magdeburg, situated on the upper Elbe, is one of its main inland partners, and in 2011, for example, HHLA and the railway operator Polzug Intermodal started a hub terminal in Poland in the town of Posen.³⁵ The HPA spread its wings, especially to the eastern part of Europe. Traditionally, it has strong bonds with Russia, and, even in times when the relationships between the countries are tense on national government level, the bonds between the city-state and Russian regions are maintained, as shown again in April 2019 when an agreement was signed between HPA and DTL.³⁶ This is one of the efforts to enclose the eastern Europe hinterland for which the port of Hamburg is very suited, and, with its old Hanseatic partner Lübeck, its connections to the Baltic region are strengthened. Within the Le Havre–Gdansk Range, it is Hamburg that traditionally has the strongest bonds with Eastern Europe, not only from a logistics point of view, but also historically and mentally. These arrangements are a way of defending the hinterland from intruding competitors, but this policy has its side effects as well. A combination of integrat-

34 Source: <https://www.hafen-hamburg.de/en/press/media/brochure/port-of-hamburg-magazine-1-2018-50-years-of-container-37991e>. Retrieved: 29 March 2019

35 <https://www.logistik-express.com/hhla-und-polzug-eroeffnen-intermodal-hub-in-posen/>. Retrieved: 10 May 2019

36 Digital Transport and Logistics (DTL). The DTL alliance was set up by Russian Railways (RZD), Aeroflot, RT-Invest Transport Systems, Avtodor, Glosav, ZashchitaInfoTrans and Digital Radio Engineering Systems in 2018. DTL is a center of competence of the same name for Russian Ministry of Transport projects.

ing logistics chains with decoupling the activities from the port location itself will mean less income for the port. Meanwhile, port maintenance – especially high for Hamburg because of the efforts to keep the Elbe suited to large vessels and the need for investments to prevent pollution of the nearby city – will mean higher costs (Grossmann, 2008). In that case, being responsible as a city for the port's activities (and so for its investments) can be a burden.

Globalization: competition and changing ownership

One of the effects of globalization in relation to containerization was the integration of the logistics chains. MAPSs like insurance, banking, and logistics are no longer bound to traditional locations at port cities. Controlling the logistics chain will be more and more in the hands of shipping lines that operate in dedicated terminals and communicate with intermodal facilities (Grossmann, 2008). On the whole, a devolution of port operations is going on. In particular, global terminal operators like the famous four – Hutchison Port Holdings (HPH), Port of Singapore Authority (PSA), Dubai Ports World (DPW), and AP Möller Terminals (APMT) – are establishing logistics chains that they control (Rodrigue & Slack, 2013). The first three of them are stevedoring companies, and the last one stems from a liner company. From this perspective, Hamburg is an exception to this widespread phenomenon, which is also very present in Rotterdam and Antwerp. The two dominating terminals HHLA and Eurogate are not dedicated (liner) terminals, but German owned, with HHLA 75% owned by the Free and Hanseatic City of Hamburg. The fact that a shipping line such as Hamburg Süd was taken over by Maersk in 2017 was quite a shock, and actions were undertaken to stop this process.³⁷ Competition between ports will therefore be fought out on the basis of not only costs or hinterland access, but also the preferences and the interests of shipping lines that own terminals that need to operate with sufficient cargo to be profitable. Furthermore, this combination of being a shipping line and a terminal operator is an excellent tool to put pressure on port tariffs and port authorities' policies to get things done according to a global company's intentions and long-term goals. So, the tendencies of globalization, where ownership and competition go hand in hand, may have profound effects on ports, but to date the element of foreign ownership has been successfully prevented in Hamburg. How this is done, and whether it will be an advisable strategy in the long term, is evaluated later in this thesis in Chapter 10, because there is also the view that keeping the port's functions in one's own hand and trying to prevent foreigners from entering the port is a burden.

³⁷ Interview with Hamburg expert

The devolution of port responsibilities from the city to a more or less independent entity is a global phenomenon, but translated in different ways in different countries. So, the situation in Hamburg is quite different compared to that in Rotterdam. In many ports, the port authority was repositioned to give it more flexibility and the possibility to develop its own policies for the wellbeing of the port. However, the relationship between port authority and port city varies strongly if one compares the different situations in the world. Even with the three ports in such proximity as Rotterdam, Antwerp, and Hamburg, the differences are very clear. In 2005, the HPA was founded as an independent organization, 100% owned by the city but operating independently from it, although this independence may be questioned. It is the Senate that more or less determines port development, as stated in the report *Hamburg hält Kurs* (Hamburg Port Authority AöR, 2014, p. 6). In Hamburg, the port authority has a degree of freedom but is still very bound by the city-state's decisions. In fact, this situation is even more complicated than in the other two cities, because the city council interferes not only with the decisions of the HPA, but also with those of the largest port company: HHLA. So, there is a web of interests between city, port authority, and some port companies, not only in terms of responsibilities (who governs who), but also in financial terms. Of the three ports under study in this thesis, Hamburg has the closest relationship between city government and port business. For example, a former minister became CEO of HHLA (Helmuth Kern, Minister of Economics), and a state secretary became managing director of a port company (Gunther Bonz at Eurogate). The city-state has ownership in companies and widespread interests in other activities. The largest port operator, HHLA, is still in the hands of the city-state (75%). The city is still a shareholder in one of the proud Hamburger shipping lines, Hapag Lloyd (as is the Hamburger logistics company Kühne), although ownership had to be shared with the states of Qatar and Saudi Arabia (in the UASC-enterprise) in addition to the Chilean operator CSAV.³⁸ Via Hapag Lloyd, the city has shares in Grimaldi (Euro Terminal in Antwerp and Unikai Terminal in Hamburg).

Hamburg society has strong community-based bonds that go back a long time.³⁹ The foundation for this must be sought partially in its long, rich tradition (hence the reason for a brief overview of the Hanseatic period in section 8.4.2). This is strengthened by Hamburg being a city-state, which more or less fences off Hamburg from the Bundesstaat and enhances this community feeling. This proximity of companies (commonality or complementarity based) is grounded on trust as a key dimension

³⁸ Financiële Dagblad 3 April 2017

³⁹ interview with diverse Hamburg respondents

but runs the risk of getting locked in, favoring local players, and might create an over-embeddedness (Hall & Jacobs, 2010). In Hamburg, a clear example of this can be found in the almost intriguing relationship between port authority, port city, and its dominant container terminal operator, HHLA. At the same time, arguments are rising about who is responsible for bearing the cost of investments or who should be favored for sharing the benefits. This is not surprising in a situation where an entity (the port authority) bears the cost of infrastructure but is owned by the government, which is also a shareholder in – and so very connected to – port companies, but which is also the entity that has to protect the city from the negative externalities created by the port to secure its license to operate. So, different and sometimes conflicting responsibilities exist within one organization. Until recently, HPA investments in infrastructure were financed by selling some of Hamburg's shares in HHLA. Now that this source of financing has dried up, the port of Hamburg's losses are absorbed by the city-state – a situation that is surely not the case in Rotterdam.

Besides this rather complicated situation, the port of Hamburg is not seen by the federal government as the port of Germany, so special investments like taking care of the most important waterway, the Elbe, is not seen as a task of national importance. This port will have to do it by itself, as it has done for the last 1,000 years. Consequently, it is not a main-port in the same sense as Rotterdam.

8.4.6 International port and local city in a thriving metropolitan area

The port of Hamburg is very connected to the city as shown above, not only in terms of visibility (on the other side of the river) and presence (ownership intertwines with city's interests), but also in the minds and hearts of the common citizen of Hamburg. The Hamburg people are proud of their inheritance, as every respondent stated in the interviews. They are aware of the benefits accruing from the port directly (the maritime activity itself) and indirectly (trade, related to the port). The port's function is more international than ever thanks to international trade and the still growing cruise industry berthing at four cruise terminals: HafenCity, Altona, Aida, and Steinwerder. Furthermore, famous brands like Nivea (Beiersdorf) and Mont Blanc have their home in this very internationally oriented city.

Sectors like finance, insurance, business services, and real estate activities make up 33% of its gross domestic product, which is far above the average of 26.3% for the whole of Germany. Education and healthcare take 22.3% of the cake. It is home to Deutsche Elektronen-Synchrotron DESY, several Max Planck Institutes, the CAN (Center for Applied Nanotechnology), the ZAL Center for Applied Aviation Research,

the LZN Laser Zentrum Nord, and some institutions of the Fraunhofer-Gesellschaft, proof of the presence of cutting-edge high-tech industries (Hamburg Chamber of Commerce, 2016). Its gross domestic product reached €109.3 bln, which is 3.6% of total German economic output. In 2015, the city of Hamburg had a gross domestic product of €90,905 per employed person. Compared to the national average of €70,317, this certainly is Germany's number 1 city. A rich city, originally based on trade and maritime activities, has now grown beyond this and, with respect to its maritime origin, diversified successfully in many sectors. In this diversification, the city as the owner of 350 companies plays an active role. This has its pitfalls, as the city found in 2008 when it covered the losses of the credit default swaps of the HSH NordBank – a bank that led in financing ships but hit stormy weather due to the financial crisis of 2008. This meant a risk of €13 bln. In 2019, the bank was sold, so the risk was downsized, but the result is that the city-state of Hamburg is the owner of 230 ships.^{40,41}

This city also has the problems accompanying such economic activities. Congestion, as in any other major city, is rooted in the travelling of 338,431 employees in Hamburg who live outside the city limits and 111,010 employees who live in Hamburg but work outside the city boundaries. This results in a ratio of three to one commuting into and out of the city (Hamburg Chamber of Commerce, 2016). The city's international orientation is reflected in its composition. Of the 1.787 m Hamburgers, 16.1% are of foreign origin (Statistisches Amt für Hamburg und Schleswig-Holstein, 2019). This composition reflects not only the well-known immigration consequent to the search for employees during the 1970s and 1980s from the Mediterranean countries, but also its position in the center of Europe. Table 8.8 gives a breakdown per country of origin.⁴²

Given the great wealth of Hamburg city, as reflected in its inhabitants' incomes, the median income per household in Hamburg is €52,810,⁴³ whereas the median income

40 Interview with Hamburg respondent

41 The sale of German state bank HSH Nordbank to a consortium of private equity companies was completed in February 2019. The consortium consists of: Cerberus Capital Management, J. C. Flowers & Co., GoldenTree Asset Management, Centaurus Capital LP, and BAWAG. These companies now have a 100% stake in the bank between them, and it operates under the name Hamburg Commercial Bank. This is the first time that a public bank in Germany has gone into private hands. Source: Splash 247.com. Retrieved: 18 March 2019

42 Source: <https://www.citypopulation.de/php/germany-hamburg.php?cityid=02000000>. Retrieved: 16 May 2019

43 Source: Point and homes: <https://www.point2homes.com/US/Neighborhood/PA/Hamburg-Town-Demographics.html>. Retrieved: 16 May 2019

in Rotterdam is €34,700.⁴⁴ It is not an exception that wages for port labor are more than moderate, but the employee of the Hamburg container terminal operator HHLA has a very luxurious position. The average income of a HHLA employee is €85,390. Compare this with the €62,000 earned by the average employee of HafenCity, an organization that is packed with university-educated employees, and one sees how well this Hamburg-based, very embedded (and protected) company takes care of its personnel. In fact, they head the list of salaries paid, which compares the 2017 incomes of the city-owned companies and institutions.⁴⁵

Table 8.8 Composition of population of Hamburg

Land of origin	#
Germany	1.492.489,00
Austria	3.625,00
Croatia	4.129,00
Greece	5.411,00
Italy	5.446,00
Poland	18.084,00
Russia	7.042,00
Turkey	47.473,00
Europe (other)	57.826,00
Africa	14.381,00
America	8.424,00
Asia	40.236,00
Other	2.130,00

Rejuvenation of the city: in competition for land

As is the case in Rotterdam and Antwerp, parts of the town were abandoned as a result of breaking out of the city's limits in need of new land, partly because of the expansion of activities (early 20th century), but even more because of the scale increase necessitated by containerization. Hamburg has taken up the regeneration of the town vigorously. The project HafenCity, initiated in 1997, started with the area between the Speicherstadt and the Elbe – an area with mixed use nowadays, where domestic buildings are found cheek by jowl with offices, shops, educational premises (Hafencity University, Kühne Logistics University), and a harbor for yachts.

⁴⁴ Source: CBS: <https://www.cbs.nl/nl-nl/nieuws/2019/12/doorsnee-inkomen-werkenden-al-10-jaar-vrijwel-constant>. Retrieved: 16 May 2019

⁴⁵ Source: <https://www.abendblatt.de/hamburg/article215763171/Was-die-Chefs-der-staedtischen-Unternehmen-verdienen.html>; date: 11092018. Their source: Hamburg Senat. Retrieved: 21 May 2019

This project, which creates high-value uses for the former port land, is spreading its wings. It will provide 45,000 jobs and up to 7,500 homes, meaning a 40% enlargement of a New Downtown.⁴⁶ It is, however, in competition with the port, as it represents a land use with much higher value creation than when it was dedicated to port functions (Grossmann, 2008). The next phase will be the redevelopment of Billebogen (a very deserted area still enduring the effects of World War 2), followed by Grasbrook. Because for so long it was an abandoned area reminiscent of the war, there is no opposition to the invasive rejuvenation, and acceptance of the plans is widely recognized. It is a competition for land, as the CEO of HafenCity explained when he recalled the opposition from the port companies that feel protected by the Port Development Act of 1982.⁴⁷ The port companies experience a city that is penetrating into ‘their’ area, and in time fear that negative externalities faced by the new occupants will hinder their activities. Regarding this rejuvenation, Hamburg also has to take into account the possibility of flooding. So, in building the new Hafencity, they paid attention to the level to which the water could rise. For example, the ground floor of the buildings on the Elbetor Promenade have a low-value function that would not be very affected if the water rose too high.

8.4.7 A score so far

The general dynamics visualized in the research model designed in Chapter 1 are present in Hamburg as well. Containerization, globalization, scale increase, as well as regionalization and relocation can be observed in Hamburg. In contrast to Rotterdam however, a spatial, economic, and mental separation has not taken place. The factors of the conceptual model that shape the shared values concept presented themselves in another way. This has been illustrated in this brief monograph. Business relations, ownership, investment in society, are articulated in Hamburg’s own configuration. This is partly a rather tacit phenomenon that emerges in Hamburg society and influences its development. The port of Hamburg is striking for its dominance of locally owned companies, or, if not locally owned, at least German owned. As described in the theoretical part, this is very much a feature of the Coordinated Market Economy. It results in a reluctance to allow – even opposition to allowing – foreign companies to take a stake in port activities or to take over a complete business. Examples are given in the Chapter 9 where the results of the interviews with local representatives are presented. An important player in this game is the locally owned container terminal company, HHLA. This special attitude towards ownership creates a locked-in situation that may be advantageous initially but may also

46 Presentation Bruns-Berentelg, CEO HafenCity Hamburg GmbH, 13 December 2018

47 Interview CEO HafenCity

prohibit an outward-directed view on global developments in which one may have to participate (Menzel & Fornahl, 2009). But this is viewed from a port's perspective. The city is booming in a diversified way, and MAPSs, offering high-value jobs and housing international companies, are creating a wealthy society. The port of Hamburg has been the growth engine for many years and "a central part of its identity as a city of trade" (Grossmann, 2008, p. 2062). And indeed, it is still the shaper of the city of Hamburg and certainly a blue print for its mentality. The city breathes the port wherever one goes – in the name of buildings, the buildings themselves (Chilihaus is a fine example), and in the presence of the port, viewed from the city center. Threats are looming however. The increasing size of ships might endanger the port's capacity to handle them. The Jade-Weser-Port at Wilhemshaven is a threat, with its capacity to handle these bigger vessels. The network of firms in the global production system (Global Distribution Networks) gives more independence and latitude to firms to be in charge of the supply chain and to choose their partners who are competing for them as a customer (Hesse, 2006; Grossmann, 2008). The absence of liner terminals and the tendency to be a closed community might have its positive sides: policies can be adjusted to be mutually beneficial. On the other hand, this might scare off investors who want to avail of all the possibilities that the port has to offer.

However, the port is not the whole of Hamburg. Calling it a driver of the economy gives it too much credit nowadays. This does not have to be a disaster, as discussed in the analysis of the consultation with experts and the HPA annual reports.

8.5 WRAPPING IT UP, A BRIEF SPATIAL COMPARISON

8.5.1 On site, situation, and visibility and presence

So, the pictures of the three ports under study have been presented. These pictures can be viewed from the perspectives of visibility and presence. Visibility is understood in the way in which the word speaks for itself: what do you see? What does the site look like? Presence is understood as how the port expresses itself in its relationship with the city that is shaped by its different activities, leading to an artificial morphological pattern, as formulated by De Bruijne, Hoekveld, and Schat (1973, p. 31). The sites where the ports of Rotterdam, Antwerp, and Hamburg are located have led to different situations (Broek & Webb, 1973, p. 10; Abler, Adams, & Gould, 1977, p. 345), as described in the monographs by using the general dynamics of containerization, globalization, and regionalization. That these three ports have been chosen to be researched is not coincidental. They form the top three in Europe for container

handling, they each have their own particular industrial structure, and they overlap in one of the most important hinterlands in Europe: the Ruhrgebiet. In the last decennia, significant changes have occurred concerning the sharing of hinterlands, as Paardenkooper-Süli (2014) has shown. Rotterdam's hinterland is retreating to the north thanks to aggressive actions by the German ports, featuring the railways as an important steering instrument in this process. This issue is not the focus of this study, but it is a phenomenon that should not be forgotten. As a comparison between ports ticks all the boxes of competition, one cannot talk about two ports without even thinking of which one performs better, is bigger, more advanced, and so on. Competition occurs between ports for the transshipment of goods – Kreukels and Wever (1998, p. 8) call this the primary function – and for the industrial and distribution function (the secondary function) (Kreukels & Wever, 1998, p. 8). As the monographs show, these ports have been developed under similar circumstances, as they were often in competition with other national ports, and under different circumstances, as they performed in another national structure. This wrapping up is conducted through the lens of visibility: what do you see? This is the spatial outcome of the developments described as the general dynamics. Presence can be understood as *how* the port presents itself by the activities that are interconnected and lead to another ecosystem and to another artificial morphological pattern (De Bruijne et al., 1973).

8.5.2 The sites and the spatial movements of the three ports

Rotterdam

The remarkably visible effect in Rotterdam of Bird's stages of port city separation, or of Hoyle's phases III and IV, is that the port has more or less left the city behind. The Waalhaven complex is the part with large-scale activities closest to the city center. The other quays are abandoned, are places where vessels are 'parked', or where urban development plans are waiting to be implemented. Positive exceptions to these are De Kop van Zuid and the RDM docks where large-scale (the former) and small-scale (the latter) activities are taking place. The interesting thing about the port development is that it stretched not only towards the west as much as possible by creating new land (Figure 8.6),⁴⁸ but also eastward, although strictly speaking these activities are not part of the port of Rotterdam. These are the activities in the Drechtsteden (Dordrecht, Zwijndrecht, Papendrecht, Sliedrecht, Alblasterdam en Hendrik Ido Ambacht) as logistics partner of Rotterdam and the port of Moerdijk, which can be seen as part of the petrochemical complex and as an extension (and

⁴⁸ The scale of the maps in Figures 8.6, 8.7, and 8.8 is the same.

a competitor!) in logistics and value-adding activities. In fact, one could say that the most recent maritime developments are taking place further and further away from Rotterdam, that is, both upstream and downstream. This is the regionalization effect. The port of Rotterdam made its first enlargements on the south bank of the river Meuse. From there on, starting in the 1920s, the expansion of the port was westward and it could fully exploit its position towards the sea. Theoretically, there is no end to the possible expansions in the future, as the realization of Maasvlakte I and II has illustrated. The tidal basins of a port such as Rotterdam are more easily enlarged than the enclosed docks that typify Antwerp (Hayuth & Hilling, 1992), but the result of this is that the port is more than 30 kilometers away from the city center, making the core business of the port – gateway and transit – almost invisible for the town; this also reflects its emotional bond, as this thesis shows.

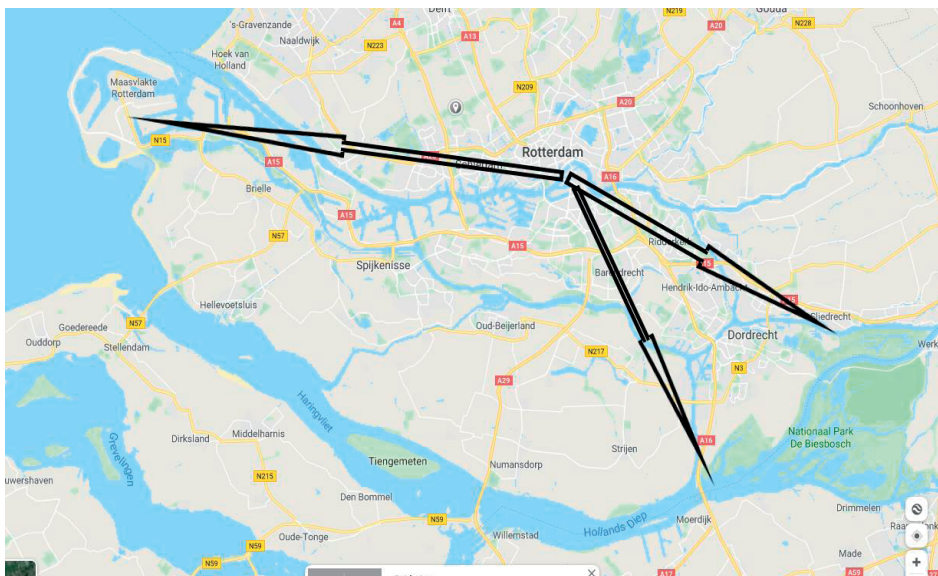


Figure 8.6 Port of Rotterdam (Source: Google Maps. Retrieved: 30 December 2019)

Antwerp

For Antwerp, the processes of the spatial separation of port and city, as described above, are comparable to those in Rotterdam. In the past, the growth phase could be realized on the right side of the river Scheldt. Stretched along the river Scheldt towards the Westerscheldt in The Netherlands, the port has moved out of Antwerp towards the northwest (Figure 8.7). In the 20th century however, there was no longer any space available without crossing the border with The Netherlands, which is out of the question. So, the only possible enlargement could take place on the left

side of the river: the “Jump over the River Scheldt”, which more or less entered foreign territory, as we shall see in the next sections. Not only spatially but also functionally, the port expanded towards Genk in the east and in the direction of France to the south, as part of the influence of regionalization. From the inner city, no large-scale activity can be seen, and Antwerp could be any city in Belgium, and (exaggerated) even not located near a river, as the city center and its main activities are southeastward. The Museum aan de Stroom underlines the importance of the river and the port function at the Willem dok, where waterfront renovation is taking place, but the port is still far away. Large-scale activities are aligned along the N1. To the east, the Albertkanaal is the transport axis towards the east and southeast, eventually towards The Meuse, where, near Herstal, the connection with the Meuse is made. In Herstal, a large marshalling yard in combination with dockyards makes a connection for a modal split from road and barge to rail. Large-scale innovations and developments, like the Deurganckdoksluis, are still taking place in the existing port area.

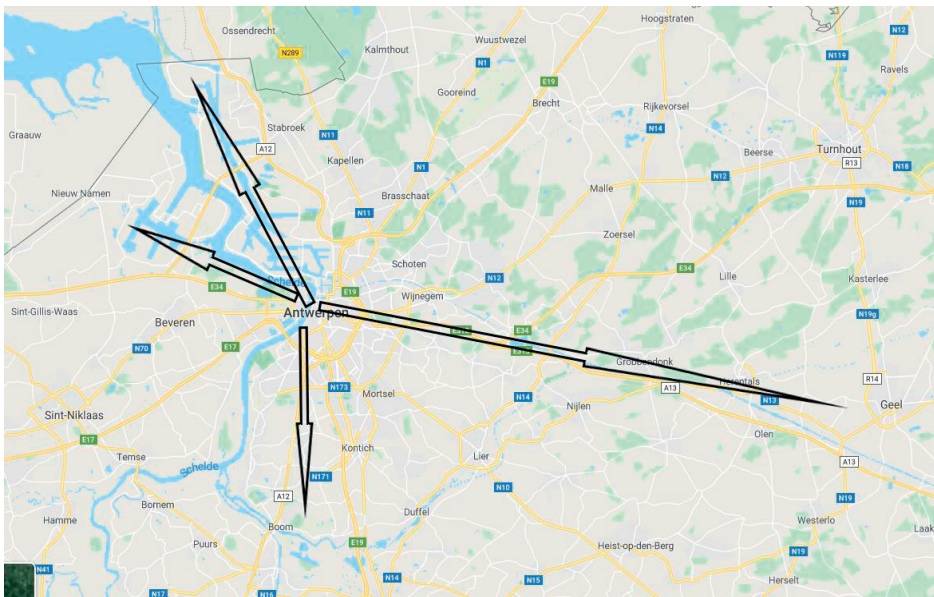


Figure 8.7 Port of Antwerp (Source: Google Maps. Retrieved: 30 December 2019)

Hamburg

The port and city of Hamburg have been intertwined from the beginning. At first glance, the port activities are best seen in the city of Hamburg. The port is very close by and is spatially more or less surrounded by the city (see Figure 8.8). There was no alternative. The initial phase, the growth phase, and the maturity phase

had to take place on the left side of the River Elbe and was stopped at the border of the city-state. In the meantime, on the right bank, there were no possibilities for expansion as the city was situated there. Its proximity makes it an integral part of the city, and the Hamburg council – which is called the Senate of the Free and Hanseatic City of Hamburg – is strongly involved in what happens in the port, as described in the monograph. The Speicherstadt, the old warehouse district that is part of the Ueberseequartier, forms a natural transition zone between the city and the port function of Hamburg. This part of the town is world famous and stands out as a successful waterfront renovation project. The container terminal activities and extensions are relatively close to the city center, giving the feeling of a true port city. Examples include Altenwerder, Moorburg, and Hohe Schaar. Contrary to other port developments, these do not head downstream as in Rotterdam or (to a lesser extent) in Antwerp. Because of its physically locked-in situation, the Free and Hanseatic City of Hamburg is, being a city-state, surrounded by other Bundes Staaten and has no possibility of growing in spatial terms. Every new desired port development has to be realized within the current boundaries. The same applies to city development; every move the city makes in a southern and southwestern direction means entering the land taken by port activities. When this happens, like in Rotterdam and Antwerp, spaces that housed former port business, or with current business that yields a smaller return, are taken over for city functions. In Hamburg, this means that new city developments are taking place right beside large-scale port business, like ship repair and container terminals. This has its attractive possibilities and unique features, but on the other hand puts stress on the current port's activities, as negative externalities, taken for granted in the beginning, in time will take their toll. Consequently, the proximity of the port in relation to the city has hardly changed. The HafenCity project exemplifies this best. Here, the waterfront integrates port and city in an intensive way, more than the other two port cities have realized. And this project is not over yet. On the contrary, large areas still remain to be transformed and will be sites where port functions and city functions will sometimes battle for their existence.

So, what we see as a spatial phenomenon by just taking a bird's eye view is diversity in the concentration in port activities, varying from rather concentrated in Hamburg, far less in Antwerp, and least in Rotterdam. All three ports show port activities in motion, started decades ago thanks to scale increase, still not finished, and sometimes forced away from the city by other dynamics. The question is whether this spatial appearance, which in some cases shows a decrease in the connection to the port city, is also articulated in such a way that the port and the port city live more or less close together and thus whether they enhance each other's performances. Or to put it in another way, do visibility and presence go hand in hand? A causal

relationship is not suggested, rather a factor that does or does not contribute to a flourishing co-existence. What factors have contributed to this weakening of the linkages? And have they led to different situations for the port cities' residents in terms of employment and skills?

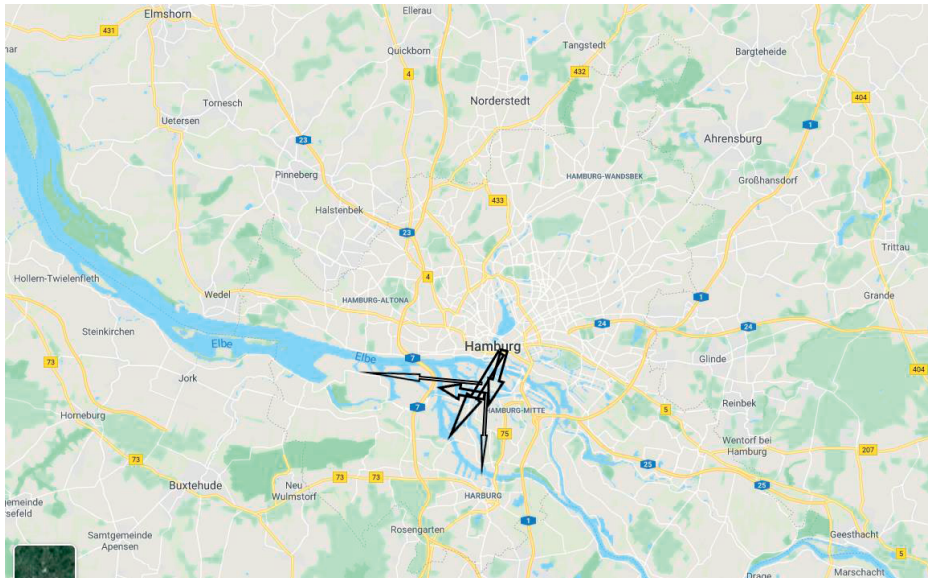


Figure 8.8 Port of Hamburg (Source: Google Maps. Retrieved: 30 December 2019)

8.6 WRAPPING IT UP, A CULTURAL AND ECONOMIC COMPARISON

8.6.1 Ports and activities: presence

Besides the visibility of the port in relationship to its port city as a result of site and situation, the presence, or how the port performs, can be evaluated. This evaluation is conducted in two ways: first, from a cultural perspective and second, by overviewing the economic situation of both the port and its port city.

8.6.2 Cultural

The port of Rotterdam has not only literally left the port. The strong independence of the port authority reflects the loosening of the ties between port and port city. This process had been going on for a long time before it was formalized by the city council's decision to make it an autonomous corporatized organization under public control, whose shares are divided between the city and the national government. In the 1990s, there was already a strong entrepreneurial orientation, although in

those days this was primarily personalized by the director of the port authority. Since it achieved its formal autonomous position, this has become even stronger, as will become clear in the analysis of the annual reports and the conversations held with Rotterdam representatives. This does not mean that the port wanted to keep aloof from the city. Many structured and planned relations have been undertaken in terms of participation in education and waterfront rejuvenation. RDM is a fine example of cooperation and proof of a port authority that wants to be held responsible for what is happening in the city. However, real involvement in terms of a constant balancing between what the city needs and how the port authority responds to that is reflected in the dichotomy between the forces within the port authority, which can be summarized as exploitation (the traditional landlord function) and exploration (the entrepreneurial attitude). And there may be a risk that the port authorities are “losing the responsibility orientation while corporatizing” (Van der Lugt, 2015, p. 55). Chapter 9 shows this balancing attitude by analyzing the annual reports of the port authority.

For Antwerp, crossing the Scheldt meant that it had to deal with a completely other cultural and political sphere. It was entering an area where rather hostile communities opposed any interference from the city of Antwerp, as the port of Antwerp was considered to be. The solution was found in having these communities take a share in the revenues of the port by creating the *Maatschappij Linker Schelde* over under Chabert's Law. This did not mean that everything decided in Antwerp was accepted, but the fact that they could participate to a certain extent ‘sweetened the pill to swallow’. That the port of Antwerp was seen as Antwerp (in the meaning of the city of Antwerp) is not surprising. Not as much as in Hamburg, but in Antwerp as well, city politics are still heavily involved in port policy. The composition of the port authority board confirms this: eight members still represent the political parties of the city council (besides four independent members to guarantee the necessary professional input). Congestion problems are experienced by the population of the city, who experience the negative externalities in other ways also (air pollution, smell). This forces the port to do its utmost to earn its license to operate. Ownership in Antwerp has switched in the past decades. Traditional, typical companies like *Hessenatie* and *Noord Natie* have given way to companies like MSC, PSA, and DP World. The former *natie* structure has partly given way to the global players that have entered the port, meaning that local governance is directly involved in the business politics of these giant multinationals. This must be considered of great concern, as these companies will undoubtedly use their increasing power to play the ports against one another, as was already a concern more than a decade ago. The city of Antwerp is the port's sole shareholder, with the city alderman for maritime

business as its chairman. The city's political influence is still very much in evidence, but the fact that it is restricted to the municipal level illustrates the position of the port in the political framework of Flanders or, even more intriguingly, Belgium.

In cultural terms, the proximity of the port of Hamburg is as strong as its spatial configuration. The city influences the port as the port influences the city. The position of the port authority, on paper an example of port devolution, is still very connected with the city council. The inter-ownership of port companies under the protection of the Free and Hanseatic City of Hamburg is still as present as it was in the middle ages when merchants were members of the city council and controlled the city. It just has another manifestation. However, if the people of Hamburg consider that “the city is the port and the port is the city”, this expression cannot be considered an empty phrase. This rather strong adherence from city to port is necessary to cope with negative externalities, and on the other hand reflects the awareness of the Hamburg people that the city's welfare started with the port. Together with the fact that Hamburg port is considered as only “one of the ports” of Germany, Hamburgers realize that they have to fight for their position. This closedness is strikingly expressed by the inclination of the Hamburg business world to retain ownership of important infrastructural business, like container terminal operators, in German – preferably Hamburg – hands. Mirroring medieval entanglements of governance via the city/state council/parliament, this feeling of *Gemeinschaft* is stronger than the idea that, businesswise, the world is changing, and, in response, ownership is becoming global. For business especially, that is so much an expression of international linkages like a port. The port authority's legal position is one of independence, but the Free and Hanseatic City of Hamburg is its owner and in fact treats the port authority like any department that needs money: it compensates its losses by financing infrastructure that actually should have been posted to the profit and loss account of the port authority. So, although it is clear that the port authority is not making a profit, as stated, at the same time, this is solved by recourse to the city's account.

8.6.3 Economic: the port

All three ports have in common that, in their early days, they were in strong competition with another city. For Rotterdam this was Dordrecht, for Antwerp this was Bruges, and for Hamburg this was Lübeck. It was not only in their youth, however, they had to keep an eye on a specific competitor. Throughout their existence, they have had to cope with national competition. For Rotterdam this was with Amsterdam, for Antwerp this was Zeebrugge, and for Hamburg this was Wilhelmshaven. Because Rotterdam reached the status of main-port, it has received much attention

and support from the national government. The other two ports lack this support, meaning that the perception of the port as a motor for economic development is limited to the local, city-bound environment, whereas the sympathy for the port of Rotterdam has a national foundation. The three ports differ considerably in terms of economic outputs.

The most common comparisons between the ports are based on throughput. Every year, the annual reports and, in line with that, press communications boast about the development in the growth (or, if necessary, the decline) of the ports in terms of tonnage or TEUs. Comparing these ports differentiated in diverse segments based on m/tonnes delivers the next overview, presented in Table 8.9.

Table 8.9 Development import/export of the ports, 2012–2017 (metric tonnes)

TOTAL (import/ export)	Rotterdam			Antwerp			Hamburg		
	2012	2017	Δ%	2012	2017	Δ%	2012	2017	Δ%
Liquid bulk	214.2	214.3	0	45.3	73.2	61.6	14.1	13.7	-8.1
Dry bulk	78.1	80.2	2.7	19.1	12.2	36.1	25.3	31.0	22.5
Containers	125.4	142.6	13.7	104.1	122.9	18.1	89.4	90.3	1.0
Breakbulk *	23.8	30.3	27.3	15.7	15.0	-4.5	2.1	1.5	-28.6
Total	441.5	467.4	5.9	184.2	223.3	21.2	131.7	136.5	3.6

*Including RoRo

Sources: Port of Hamburg: <http://www.hafen-hamburg.de/en/statistics>; Port of Rotterdam: Port Statistics 2010–2011–2012; Port of Rotterdam: Facts and Figures about the Port; Port of Antwerp: https://www.portofantwerp.com/sites/portofantwerp/files/POA_Facts_and_Figures2018.pdf. All retrieved: 1 June 2019

The three of them did grow, but the amount of growth between 2012 and 2017 differs considerably! The development of Hamburg is especially striking, because of containers. It lags far behind Rotterdam and Antwerp. These figures do not show the brief timeframe in the early 1990s when Hamburg profited from the opening up of the east with the disintegration of the former Soviet Union and the fall of the Berlin Wall. For the long run however, that apparently was not enough to keep on track with Rotterdam and Antwerp. For Antwerp, container shipping and liquid bulk are responsible for its growth. Although Rotterdam was and is the largest by far, its growth in these five years has not been as spectacular as that of Antwerp. In fact, the increase is not even spectacular compared to Hamburg. The figures for breakbulk show a decline for Hamburg and Antwerp, but, in the end, this is comparing ports in terms of tonnage. Combining tonnage and added value makes a more interesting comparison to see what size and contribution means.

The picture presented in Table 8.10 is evidently biased by the effect of the tonnes of liquid bulk that pass through the port of Rotterdam, but as the discussion within the ports is often dimensioned in terms of the largest (based on tonnage), this perspective provides food for thought.

Table 8.10 Direct added value per metric tonne in 2017

	Rotterdam	Antwerp	Hamburg
VA (€bln)	18.0	11.5	12.6
Tonnes	467.4	214.2	136.5
VA/tonnes	0.04	0.05	0.09

Source: <https://www.mobiliteitsraad.be/mora/thema/kerncijfers/vlaamse-havens/toegevoegde-waarde/>; <https://www.hafen-hamburg.de/en/statistics/seabornecargohandling>. Retrieved: 17 January 2020); (Kuipers, 2018a)

A seaport as a location for industries has its advantages (Kuipers, 2018c) in terms of cost advantages, agglomeration economies, policy support, and the availability of large sites. For Hamburg, this last advantage (availability of large sites) is problematic, as discussed in section 8.5.2. So, the development of these maritime industrial development areas has been hampered within the port's area. The Hamburg monograph shows, however, that, for the city's wellbeing, this was overcome by the establishment of other activities – non-port based, that were even more profitable than the port business – that offset the importance of the position of the port itself.

Adding value is important for a port's region. It usually means activities for which more skills are required and where profits can be higher and activities are more location based. They need high investments (as for refineries, storage, and distribution companies). These investments are responsible for their being less footloose (Kreukels & Wever, 1998). Besides, a port city located further away from the port will presumably have inhabitants who are not employed by the port itself, so they especially benefit from activities that are a spillover from the port and that are generally more value-adding activities. Rotterdam performs poorly on this issue compared to Antwerp and Hamburg. In an OECD study dating back to 2010, the multipliers for demand for suppliers' services (backward linkages) were calculated for the ports in the Le Havre–Hamburg Range (+ two more) (Merk, 2013). Rotterdam scored 1.13, Antwerp 1.18, and Hamburg 1.79. Thus, every €1 spent in the port leads to 79 cents more for the suppliers to the Hamburg port cluster and to 19 cents for the suppliers to the Rotterdam port cluster. So, Hamburg has a greater impact on the economy than Rotterdam does: "Port of Rotterdam's role in employment certainly does not dominate the labour market anymore" (Kreukels & Wever, 1998, p. 22). Rotterdam is

a typical example of a very large port in a small country, so the effects of its activities take place mainly abroad (Merk, 2013, p. 22). This is strongly confirmed by Kuipers (2018a) when he stresses that the growth of the port has a far stronger impact on the national economy than on the local economy of Rotterdam.

8.6.4 Economic: the port city

The cities of these three ports cope with similar problems regarding their population. All three of them have a diverse population of immigrants from non-European Countries, resulting in lower educational levels and lower incomes. There are, however, striking differences between these cities when income is taken as an indicator (see Table 8.11).

Because of differences in definitions used by the various statistical agencies, a better comparison can be made by looking more closely at the position of the city within the country by using the figures for other big cities. This creates the following overviews.

Table 8.11 Income in port cities (median 2018; per capita 2014)

Income	Rotterdam	Antwerp	Hamburg
Median 2018 ^a	€ 34,700	€ 55,576	€ 50,751
Per capita 2014	€ 16,480	€ 19,490	€ 23,110

Sources: Rotterdam: <https://www.cbs.nl/nl-nl/nieuws/2019/12/doorsnee-inkomen-werkenden-al-10-jaar-vrijwel-constant>; Antwerp: www.salaryexplorer.com/salary-survey.php?loc=172&loctype=3; Hamburg: <https://www.point2homes.com/US/Neighborhood/PA/Hamburg-Town-Demographics.html>. All retrieved 16 May 2019. Per capita figures: Zabrodzka (2015). Note: a: The median income reflects the situation in a comparison better than, e.g., an average income does. It illustrates the wealth of the upper 50% in a better way, and for that it is interesting to see that the top 50% in Antwerp performs better than the top 50% in Hamburg. There is a four-year difference in these figures, but they still indicate this phenomenon.

The situation for Rotterdam does not look good, as the comparison with other big Dutch cities shows in Table 8.12.

These figures are particularly interesting because they also show the inequality within the cities. Rotterdam scores the lowest in income and the worst when it comes to inequality. Of the 40% of households with the lowest incomes according to the national situation, in Rotterdam 54.2% of households belong to that category; this is the highest. And conversely, of the 20% of households with the highest incomes according to the national situation, only 13.1% are in Rotterdam. In both rankings, they score the worst.

Table 8.12 Comparison income for the top 4 cities in The Netherlands 2016

	Average personal income per citizen (x € 1000)	40% households with lowest disposable income	20% households with highest disposable income
Rotterdam	€22,800	54.2%	13.1%
Amsterdam	€27,600	52.6%	16.4%
's-Gravenhage	€24,900	49.1%	16.8%
Utrecht	€26,300	49.0%	19.8%
The Netherlands	€24,700	40.0%	20.0%

Source: <https://www.cbs.nl/nl-nl/maatwerk/2019/02/inkomen-per-gemeente-en-wijk-2016>. Retrieved: 8 October 2019.

The position of Antwerp is slightly different from that of Rotterdam regarding its position in comparison within Belgium, as shown in Table 8.13. Antwerp has the typical income position of many big cities in countries: below the national average. Compared to the other big cities in Belgium however, its score is the best, reflecting its wealth stemming from port employment.

Table 8.13 Comparison incomes for the top 4 cities in Belgium 2016

	Average income per tax return	Median income per tax return	Average income per citizen
Belgium	€ 31,938	€ 23,773	€ 17,824
Antwerp	€ 28,209	€ 21,688	€ 15,718
Brussels	€ 25,260	€ 17,802	€ 12,475
Charleroi	€ 23,518	€ 18,694	€ 13,020
Liege	€ 25,149	€ 18,792	€ 14,503

Source: <https://statbel.fgov.be/nl/themas/huishoudens/fiscale-inkomens#panel-13>. Retrieved: 9 October 2019.

The situation for Hamburg is more positive, as Table 8.14 shows. Here too, Hamburg is compared to the other big cities in Germany. Especially interesting is the position compared to Bremen, the other large container port.

Table 8.14 Comparison income for the top 7 cities in Germany 2016

City	Disposable Income
Munich	€ 29,685
Stuttgart	€ 25,012
Düsseldorf	€ 24,882
Hamburg	€ 24,421
Frankfurt	€ 21,690
Bremen	€ 21,327
Berlin	€ 19,719

Source: <https://de.statista.com/statistik/daten/studie/998971/umfrage/verfuegbares-einkommen-in-den-groessten-staedten-in-deutschland/>. Retrieved: 9 October 2019.

The position of Hamburg is not surprising as it is the fourth richest city in Germany. The position of the city of Rotterdam as the location of the richest port is remarkable at first sight. It is not that remarkable when account is taken of the fact that the port workers live in the suburban areas of the city in places like Spijkenisse, Hoogvliet, Poortugaal, leaving a contingent of poorer people behind in the city. This is also reflected in the level of education, as Table 8.15 shows.

Table 8.15 Educational level in port cities

	Rotterdam	Antwerp	Hamburg
Primary	33%	18%	11.7%
Secondary	39%	45%	42.1%
Tertiary	28%	22%	46.2%
Unknown		15%	

Sources: Rotterdam: file:///C:/Users/Jos%20Vroomans/Downloads/Feitenkaart+Opleidingsniveau+2018-voorl.pdf; Antwerp: <https://stadincijfers.antwerpen.be/?var=natcube>; Hamburg: eurostat.ec.europa.eu/nui/submitViewTableAction.do. All retrieved 9 April 2020.

This shows clearly that education does help to improve incomes. The differences between Hamburg and the other two cities for the tertiary level are strong. The position of the secondary level might have a relationship with port labor, where middle level (technical and logistic) jobs are available. For Hamburg, the presence of a significant number of tertiary educational institutions and employment in high-level (theoretical and vocational) jobs is clearly shown. As the Sozialbericht of Hamburg states, having a good education indeed helps in getting better paid: “As the most important factor in respect to participation and by that in the end to achieve a middle or higher income, education and qualifications are the key. Compared to the other counties, the Hamburg people have a more than average higher level

of education. Every second Hamburg citizen has a degree equal to or higher than a university of applied sciences (50% of the men, 49% of the women). Therefore, between 2005 and 2010, the share of people with a university entrance qualification has increased significantly.”⁴⁹

Looking at the degree of inequality within the port cities, one can see that the differences are very small. The Gini coefficient for Hamburg is 0.32⁵⁰, for Antwerp it is 0.29⁵¹, and for Rotterdam it is 0.31 (reflecting the lowest inequality of the four big cities in The Netherlands).⁵² Having an education that more or less guarantees a higher income, as is the situation in Hamburg, leads to higher inequality for those who are left behind in education. This is happening in all three cities, which have a class of people with jobs that pay well, but also have a number of citizens that are lacking good job opportunities because of their deprived social status and lack of education.

8.7 CONCLUDING PORT CITIES AND POLITICAL-ECONOMIC SYSTEMS

The subject of the thesis, how port-port city relationships helped to shape the configuration of the port, in terms not only of visibility, but also of presence, are dealt with in the next chapter. There, the results and the analysis of the interviews with the port representatives and the analysis of the annual reports and empirical literature regarding these three ports are presented. This brief historical overview was meant to show that the seeds of the outcome of the general dynamics as manifested in the present port situation, were sown in the past. In Chapter 5, three models of political-economic systems were presented. These three monographs have shown that the origins of these systems are still present and the foundations were laid in the past. These foundations can be seen as the building blocks of different political-

49 Sozialbericht der Freien und Hansestadt Hamburg, 2014: “Als wichtigster Faktor im Hinblick auf Erwerbsbeteiligung und damit letztendlich zur Erzielung mittlerer bis hoher Einkommen erweisen sich Bildung und Qualifikation. Im Bundesvergleich weist die Hamburger Bevölkerung einen überdurchschnittlich hohen Grad an schulischer Bildung auf. Jeder zweite Hamburger verfügt über die Hochschulreife (50 % der Männer; 49 % der Frauen). Zwischen 2005 und 2010 hat dabei der Anteil der Personen mit Hochschulreife an der Gesamtbevölkerung erheblich zugenommen.”

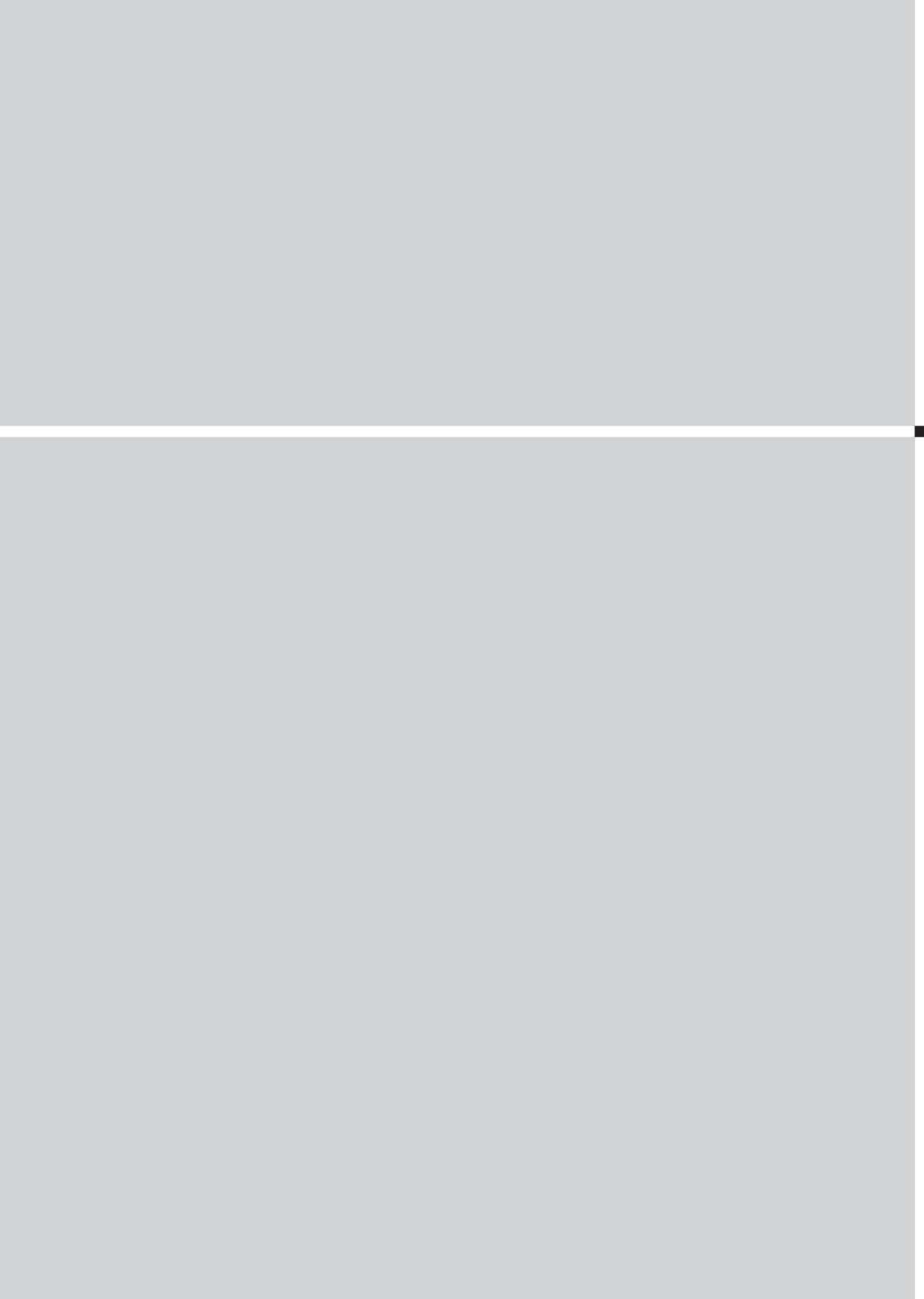
50 Sozialbericht der Freien und Hansestadt Hamburg, 2014

51 OECD (2015), OECD Regional Statistics (database), <http://dx.doi.org/10.1787/region-data-en>

52 Source: EVR 2018; Economische verkenningen Rotterdam <https://evr010.nl/inkomensverdeling-rotterdam/>. Retrieved: 5 June 2019

economic systems. There is a Rhineland political-economic system in which Hamburg is embedded, (in VoC terms: the Coordinated Market Economy; for Rotterdam, there is an Anglo-Saxon one (in VoC terms: the Liberal Market Economy; and there is a Latin system for Antwerp (in VoC terms: The Latin Market Economy). Chapter 10 restates this based on the empirical data presented and inductively analyzed in Chapter 9.

The findings of these three monographs are used in Chapter 10 to compose the narrative of how the developments that took place in these ports formed the ports as they are today and how the present port actors evaluate them.



Chapter 9

Three port city relationships

9.1 INTRODUCTION: ABOUT THE CONCEPTS, OUTCOMES, AND COMPARISONS: FOCUS AND LOCUS

The interviews (36) and the annual reports (18) having been analyzed, the outcomes are evaluated using two approaches. The first discusses each concept of the research model that presents us with an insight in the port–port city relationships. This is done by comparing the results per port and deriving conclusions per concept for the three ports. The result is that each concept is compared in its manifestation in the three port regions. Differences in how these concepts materialized for each port are made clear. The second approach takes the port/port city itself as the object of analysis, and the interplay of the concepts within each port/port city are analyzed and evaluated. For both approaches, the interviews and the port authorities' annual reports are used as input. To enhance or illustrate the analysis and the conclusions, relevant empirical literature is used. Some of the concepts are further illustrated by relevant desk research data that make the concluding arguments more plausible. Analysis of the concepts allows the study to give a picture of how prominent port/port city actors look at the port–port city relationships currently manifested. In Chapter 10, which follows this analysis, the relationship between the findings and the historical situation is described and evaluated from the perspective of the political-economic models presented in Chapter 5. The thesis ends with a synthesis, conclusions, and suggestions for enhancing port–port city relationships.

This chapter analyses the relationships between port and port city by using the concepts formulated in the research model (economy of touch, company's contribution to society, business relations, trust and, taken from the cluster characteristics, the concept of shared values), extended with the concepts as mentioned in the methodology chapter: complementarities and diversity, foreign ownership, and closed community as an expression of social networks.

9.2 EXPLORING BUSINESS RELATIONS

The business relations concept is defined in such a way that it is not only about relationships between companies, but also about the relationships between a diversity of possible actors as long as they are organization based. So, it deals with the relationships between companies, the port authority (which, in its various manifestations, can also be seen as a company), the port city, other cities, other governmental levels, business organizations, and universities. These relationships were described in previous chapters. Relationships in the three ports differ considerably.

This thesis started with the observation that the relationship between port and port city was under pressure as a result of the dynamics as described in the theoretical part: increase in scale, containerization, and globalization. In all three ports, these dynamics have had their effects, both between the companies and between the port and the port city and its environment. Special attention is given to the position of the port authorities, for which input is sourced not only from the interviews but also from the annual reports.

9.2.1 Rotterdam

“But when I said, ‘I am your neighbor now, I come along to have a cup of coffee’, he said ‘Whatever, but now you are my competitor I will do everything within my power to make your life a misery’.”⁵³

The relationships between the companies and the port and the port city of Rotterdam have been changing over time. In the 1980s and 1990s in particular, this relationship was considered to be minimal. This represented a change from the period of the *wederopbouw* (reconstruction), as illustrated in Chapter 8 where the history of the port of Rotterdam was sketched. In particular, the establishment of new container terminal operators did not advance the relationship between the main terminal operator, the port authority, and the port city as its main shareholder, but other changes have also occurred (Van den Eijnden, 2016; Kuipers, 2018b). The relationships are characterized by being more formal and business oriented, although old structures of the networks based on personal relationships still exist. Internationalization can be seen as the main cause of this more rational approach, besides the fear of being accused of entering into agreements forbidden by antitrust legislation. This affected the time required to make some decisions. Being away for a long time and returning to Rotterdam, one may experience this change in relationships in a striking way, as the opening quote of this subsection articulates. The climate for doing business in Rotterdam has changed over the years. The atmosphere between container companies seems to be still weak. Despite tougher competition-based business-oriented behavior however, there is the attitude that, when after discussions a decision is taken in a formal setting, the actors stick to that and there is no moaning afterwards. But that is the formal setting, arranged in fora like Deltalinqs. During the research, the general feeling among actors appeared to be mixed. Loyalty among the Rotterdam actors changed over the years; and, compared with loyalty between actors in other ports, as reported in section 9.2.3, loyalty

⁵³ “Maar toen ik zei, ‘ik ben nou jouw buurman’, ik kom eens even bij je buurten, zei hij: ‘even goede vrienden maar nu jij mijn concurrent bent, zal ik alles doen om jou het leven zuur te maken’.”

within the Hamburg community is perceived to be much stronger. There has been a growing apart of the port, port city, and port authority in Rotterdam, based also on tough competition and a changed entrepreneurial climate as described in section 9.5 on foreign ownership. Compared with the 1970s, the change is remarkable. In those days, the bonds were quite strong, especially between the (municipal) port authority and the leader firms in the port's industries. However, the more formal relationships of today seem to be important as a foundation for more informal contacts. The role of the previously more person-based relationships that made it easier to do business between companies and between companies and formal institutions like the port authority or the city may have given room to formalized structures that create the necessary informal networks.

The relationships with governmental levels outside Rotterdam are very strong, especially if individual actors have access to the relevant national departments in The Hague, not only on a functional, but also on a personal level, because many local actors have strong ties with national politics or vice versa – people like the Rotterdam-born former Minister of Transport and Water Management, Neelie Kroes; former Minister of Home Affairs, mayor of Rotterdam Bram Peper; and Rotterdam alderman and top executive of Urban Planning in the Dutch Ministry of Spatial Planning, Public Health, and Environmental Affairs, Roel den Dunnen. Very good relationships with important national level actors opened doors for Rotterdam on very high levels. In fact, the Rotterdam lobby was very efficient at getting things done for the Rotterdam port, especially regarding the Maasvlakte II project (Koppenol, 2016). For port business and the port authority, the relationships with the national government, which is responsible for the region's overarching infrastructure, are far more important than the relationships with the port city. This situation was envied by port authorities as well as port companies in other countries, especially Germany.

The Port Authority of Rotterdam's business relations have changed over the years. In former days, attention was paid to the role of landlord and intermediary in the development of the port area, and the Port Authority of Rotterdam wanted to invest in relations with port companies: "We invest in building relationships with our stakeholders by having a planned dialogue. This means that we do not wait to communicate when there is a need for it" (Havenbedrijf Rotterdam N.V., 2012).⁵⁴ It even sees its responsibility as stretching beyond its direct customers, in that it sees the customers of its customers as a group with whom to keep in contact (Havenbedrijf

⁵⁴ "Wij investeren in relatieopbouw met onze stakeholders door de dialoog structureel te voeren. Dit betekent dat we niet pas in gesprek gaan wanneer er een concrete aanleiding is."

Rotterdam, 2014). Not everybody was happy with the Port Authority of Rotterdam's move to become a more relationship builder and play an entrepreneurial role. One interviewee remarked that he told the CEO of the Port Authority of Rotterdam that he should be more in the port and less abroad visiting his customers. This action by the CEO has its origin in the fact that the Port Authority of Rotterdam realized that its relationships with Southern Germany should be strengthened because economic growth is stronger there than in Nord Rhine Westphalia, where heretofore the bonds had been strong (Paardenkooper-Süli, 2014). The change in the port authority's position is not viewed positively by everyone. Smaller companies find that their relationship with the Port Authority of Rotterdam has become more difficult regarding tariffs and port duties compared with the position of bigger companies that are able to negotiate better terms. The Port Authority of Rotterdam has a too dominating position without a countervailing power. In a formal sense, of course, the city and the national government are the shareholders, but their evaluation of what is going on is very dependent on the information provided by the supervisory organization (the Port Authority of Rotterdam). The knowledge of how to do that does not exist as in former days, and this puts the port authority at a big advantage compared with the city. But this can also be nuanced. The relationship between the Port Authority of Rotterdam and the city is also more professionalized as they are now two separate entities. This forces the city into the position of being on the same level in terms of being a professional countervailing partner.

It has not been long since the Port Authority of Rotterdam broadened its definition of stakeholders, which now explicitly mentions NGOs and the general public because "the port must be able to expand in balance with her environment" (Havenbedrijf Rotterdam N.V., 2017, p. 17). This is the first time that it really acknowledges corporate social responsibility, underlining 13 of the 17 goals formulated by the United Nations Global Compact (UNGC), the OESO guidelines, and the UN Sustainable Development Goals (SDGs) (Havenbedrijf Rotterdam N.V., 2017, p. 18), all of which relate to core business and stakeholders' expectations. Two excluded goals are *no poverty* and *peace, freedom, and strong public services*. Apparently, business first and license to operate still dominate policy in the Port Authority of Rotterdam.

In its business relations and its behavior, the Port Authority of Rotterdam has gradually moved from exploitation (the landlord model) to exploration (more entrepreneurial) (Van der Lugt, 2015). This can be viewed as putting its own business interests in a more central position in its business scope. With strong players like the container terminal operators or oil companies, it is a positive development that the port is professionalizing so that it can be on the same level in its business

relations with these large international players. On the other hand, the question is whether this is developing in a way in which the city itself, being the most important shareholder and a stakeholder in the context of its governmental role, should also be as enthusiastic. Van der Lugt (2015), too, is of the opinion that the government's involvement should be safeguarded, as the privatization of port authorities could be executed to the extreme. The port authority was privatized during the 1990s and the early 2000s, then brought back into public ownership under Hans Smits' directorship of the port authority, and it has re-emerged as an issue from the perspective of some port companies.

9.2.2 Antwerp

*"This entanglement, that was responsible for the setback we experienced. Absolutely. A setback that we hadn't known for decades. But in my opinion, one that was less in Antwerp than it was in Rotterdam, and perhaps that entanglement helped us. The fact that there was always locally destined cargo, although on a lower level. That could feed stevedoring."*⁵⁵

In Antwerp, changing the composition of the port authority's board to bring devolution into effect was not an overnight process. The whole process of redesigning the composition of the board, especially reducing the number of politicians, was not very smooth and easily done. In time, this 'interference' with the way of doing business within the port authority was met more and more with opposition, as it was seen as the public sector meddling in the port's business. With half an eye on the developments in Rotterdam however, this change was effectuated, and, instead of 16 of the 18 members being politicians, now 7 of 13 members are politicians (Antwerp Port Authority, 2017), which, in comparison to Rotterdam, is still a considerable number. In the first reform phase, managers of several port companies held a position on this board, and so they also had access to city representatives, but this was not considered to be a healthy situation: too much influence of companies on a board of an organization that was also their business counterpart. Therefore, they were replaced by independent managers who bring in their business orientation and experience, but who do not have a direct interest in the port authority's actions.

The strong influence of politicians from the city of Antwerp guarantees the city's interests in the port. From the point of view of a port authority that wants to have as much freedom as possible, this port authority composition is not the most favor-

55 *"Die verstrengeling daar heeft volgens mij ervoor gezorgd dat wij de klap gevoeld hebben. Absoluut. Een klap die we decennia niet gekend hebben. Maar die volgens mij minder hard was bij ons in Antwerpen dan in Rotterdam en mogelijk daar door die verwevenheid elkaar wel wat geholpen hebben. Het feit dat er toch altijd lokale lading bleef, weliswaar op een lager niveau. Die dan stouwerij kon voeren."*

able. From the perspective of balancing the interests of port and city however, this is a construction that allows the city to have a strong influence on what is happening in the port area. The chairman of the Port Authority of Antwerp board has an office not only in the council, but also at the port authority's premises. Consequently, he really gets to know the business well, and the port's interests are his interests too. Conversely, the city's needs are in the direct view of the port community.

The fact that the port of Antwerp is characterized as a port with a strong presence of logistics companies has proven to be a strength for the port. The logistics business of petrochemical companies (a strong industry in Antwerp) is handled by logistics companies that have been based in Antwerp for many years. Van Moer and Katoen Natie are companies that fulfill this role and provide a lot of employment in the port. This functional partnership in the logistics chain was even strengthened in the crisis of 2008/2009 when there was a need to cut costs and work as efficiently as possible. Thanks to their business relations (in combination with the various actors' complementarities), it was possible to get actors around the table shortly after the start of the 2008 crisis to discuss the possibilities of joining forces instead of addressing individual interests. The recognition of shared interests was catalyzed by the former CEO of the port authority. He foresaw that this complementarity could be a survival kit, and he was not the only one; other respondents stressed the importance of the presence of a strong logistics sector in the port of Antwerp. The presence of the industry also ensured the constant influx of large amounts of input for processing. It is seen as the only guaranteed part of the tonnage handled in Antwerp, because *"the rest is footloose"*. The statistics, in terms of tonnage, reveal that Rotterdam performed better in the years 2008–2010 than Antwerp, but a breakdown of Antwerp's added value (Tables 8.6 and 8.7) shows how much of the added value stays within the Antwerp region. There is a high degree of concentration, with 5% of Antwerp firms responsible for the direct added value and 13 companies generating 50% of the added value (Gueli et al., 2019, p. 31). Regarding the strength with which they coped with the crisis, it should be noted that the total direct added value in 2008 amounted to €9.2 bln (Port of Antwerp, 2009), whereas in 2010 it amounted to €10 bln. The crisis was coped with partly by the fact that there was no decline in cargo, but this is not reflected in employment numbers, as illustrated in Figure 9.1, which is based on several reports (Mathys, 2010, 2017; Van der Lugt et al., 2018). Figure 9.1 compares the changes in direct employment between Antwerp and Rotterdam to see whether the cooperation between the different industries, as fostered by the CEO of the Port Authority of Antwerp, paid off.

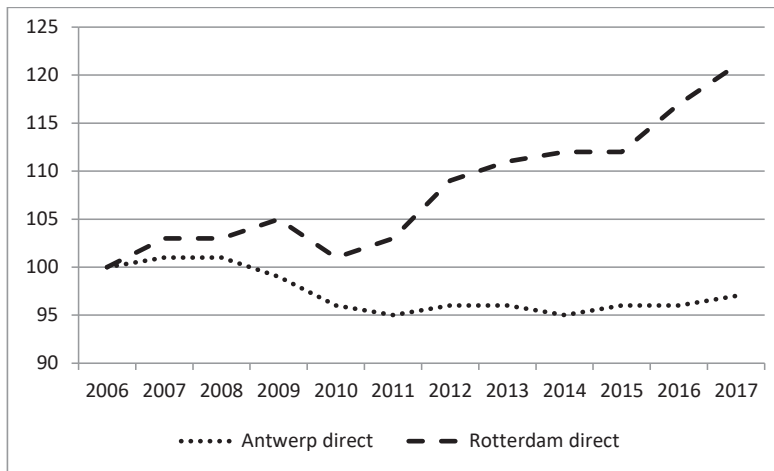


Figure 9.1 Development of direct employment 2002–2017, Antwerp and Rotterdam: Base 2006
 Sources: Mathys, 2010, 2017; Van der Lugt, et al., 2018. For figures 2015–2017: Source: <https://www.mobiliteitsraad.be/mora/thema/kerncijfers/-vlaamse-havens/werkgelegenheid>. Retrieved: 15 January 2020

Figure 9.1 shows a remarkable trajectory that is not in line with the opinion as expressed above. Although there is a perception of an interrelationship between the different segments of the Antwerp port cluster, when compared to the data for Rotterdam, the idea of these relationships in terms of protecting employment is not borne out by reality. After the 2008 financial crisis, direct employment in Antwerp decreased and did not recover in subsequent years. The effect of 2008 was felt in Rotterdam as well, but quickly recovered in 2011 and the following years and started to increase again. It is clear that Rotterdam, in terms of employment, withstood the effects of the crises better, without explicitly addressing cooperation between companies as Antwerp claimed to have done. Antwerp's underlying data for the indexes in Figure 9.1 have to be taken with caution, as every year that these figures are published a new calculation is computed for the previous years (Mathys, 2017), and the figure for the final two years are from another source.⁵⁶ For Antwerp however, the decrease in employment is unmistakable. In Rotterdam, there was a slight decrease in direct employment in 2010, but this soon recovered.

This put more emphasis on the relationship between the different segments in the port instead of focusing on maritime business only, meaning that, this time, the port really was recognized as an industrial cluster, which for a long time was getting

⁵⁶ <https://www.mobiliteitsraad.be/mora/thema/kerncijfers/-vlaamse-havens/werkgelegenheid>. Retrieved: 15 January 2020

too little attention from the port authority. The effect of the change in that period (2008–2011) continues to the present day. Before that time, the focus was on the port area itself and the entrance to the docks, and less attention was paid to the supply chain in its interrelationship. This attention on the total configuration of the port and the possibilities presented by its interdependence is officially formulated in the 2011 annual report of the Port Authority, which states: “In 2011, Antwerp Port Authority and the private companies within the port finalized the Total Plan outlining their vision of the future. The emphasis was on optimizing the logistics chain so as to bring goods to their destination as efficiently as possible” (Antwerp Port Authority, 2012, p. 14). This is not illogical for a port, and other ports may have done the same, but it is Antwerp that pays explicitly attention to this co-development. Besides this task as an intermediary that brings together various port actors to be able to have a port that performs more than its individual members could have accomplished, the port authority sees it as its core task to “act as a landlord and to develop the port infrastructure” (Antwerp Port Authority, 2012, p. 92). It says that “the trinity of maritime transshipment, industry, and logistics must develop further into a highly efficient platform on which the most sustainable and efficient supply chains converge” (Antwerp Port Authority, 2014, p. 6). Therefore, the port of Antwerp with its variety of companies and activities can be seen as a truly connected industrial logistics cluster.

However, the port of Antwerp is also characterized by relationships that are more strained. The leap over the Scheldt, by developing the Left Bank, needed because of the increasing scale of container vessels, brought Antwerp into conflict with the municipalities on the Left Bank, in particular Beveren and Zwijndrecht. The Chabert Law was enacted to regulate the responsibilities and the nature of the relationships between Antwerp and these municipalities, as discussed in section 8.3.6. This is a striking example of particularism (interested only in one’s own position) and the inclination to solve this in legal frames, as often happens in Belgian or Flemish politics, as some of the respondents remarked. In the annual reports, not so much attention is given to the ‘subtle’ relationship with the Left Bank and the role of the Left Bank Company, Maatschappij Linker Scheldeoever. In the years 2011 and 2012, the Regional Land Use Plan with the extensions on the Left Bank was an important subject, but since 2015 nothing has been said. Of course, there is no need to do so. With the exception of the Saeftinghedok, the biggest invasions of the Left Bank have already taken place. In later years, the port itself tried to elaborate on its relations with the surrounding stakeholders, and the port authority stressed its role in terms of employment and sought opportunities to play its role in society. It has tried to establish more personal relationships with the inhabitants of the different

municipalities, e.g. by being present at info markets to inform people about the port's boundaries (the Regional Land Use Plan). It does so because it acknowledges that "in recent decades the port has developed geographically away from the city, and unfortunately 'out of sight is out of mind'" (Antwerp Port Authority, 2013, p. 62); but this is also done with an eye to ensuring societal support, especially the license to operate (Antwerp Port Authority, 2013, p. 2).

Over the years, the port of Antwerp kept on stressing the business relationships between the various actors from the perspective of complementarity, as the 2011–2016 annual reports constantly show. The relationship with surrounding municipalities is strengthened by the accession of the mayor of Beveren (Left Bank) to the port authority board. This rather powerful local authority⁵⁷ understands that it is better to cooperate with big brother Antwerp than to constantly fight it, as neighboring municipalities did. Fighting for local interests hampers the development of shared interests; this is a common outcome of the existing particularism in Belgian and Flemish society. Consequently, port actors are quite jealous of Rotterdam's position, which is viewed as important for the national economy and therefore treated from a national policy perspective.

9.2.3 Hamburg

"So, Hamburg, the business families here, the business level, has a much better relationship with London than with Munich or Berlin."

Business relations are quite tight in the port/port city of Hamburg. In fact, this section cannot be viewed on its own but must be intertwined with other factors such as economy of touch and family-owned companies, as will be made clear later. Business relations are strongly influenced by the elite families in Hamburg. There was the issue about DP World wanting to establish their terminal on land along the river Elbe, but this was stopped by the city thanks to "the influence of the families". These families of the Hamburg companies have such an influence that their relations with the government of Hamburg are stronger than with the port authority. That puts the real power of the port authority in a rather strange position. The relationship between some of the businesses goes back a long time. Business relations in Hamburg are characterized by the inclination to keep things "within the house". The French firm L'Oréal showed interest in buying Beyersdorf, the big industrial pharmaceutical company. To prevent that, the city-state bought the company

⁵⁷ Mayors in Belgium are rather powerful local authorities; because they are locally elected, they feel backed by the mandate from the population of their village or city.

(which they later sold again). The same applies to the energy sector. The city bought back the formerly privatized Hamburger Elektrizitäts Werke, which was owned by Vattenfall. Another example of how close business relations manifest themselves in the port is the way in which the Hamburg Port Authority deals with the increasing importance of cruise shipping for the port. Together with Hamburg Airport, the Hamburg Port Authority created a joint venture for managing the three cruise terminals in Hamburg (Hamburg Port Authority AöR, 2016). The inner structure of relationships in Hamburg spans various sectors. As illustrated in section 9.4.3 in relation to diversity, Hamburg ranks high as a hotspot for cross-sectoral communities in a study researching Europe's hotspots for logistics services based on social network analysis (Sirtori, Caputo, Colnot, Ardizzon, & Scalera, 2019).

Thanks to the excellent railway connections, via Deutsche Bahn, the port of Hamburg is the port for the southern part of Germany and beyond. The north-south axis is the lifeline between German regions, as more than 1 million jobs are dependent on exports via the German seaports (Institut für Seeverkehrswirtschaft und Logistik, 2019). The relationships between the port and the railway system, which is one of the assets of the infrastructure, are very close. Traditionally the port and Deutsche Bahn have shared interests regarding the connections to the south, but there are also other bonds. For example, HHLA and DB Schenker Rail hold shares in each other's subsidiaries, creating strong bonds between these companies.⁵⁸ By doing so, they in fact closed the door to foreign competition over shipments for Switzerland, Austria, and Poland.

Financial relationships also used to be tight, although this has changed in recent times. In former times, if a business plan made it clear that the loan payback period was within an acceptable time horizon, the banks – local Sparkassen or Genossenschaften – were willing to go along with a firm and finance the project; and the banks were not only interested in the finance, but were an advisory institution as well. Indeed, this was the case not only for the Sparkassen, but also for Deutsche Bank. Globalization has changed this, as has been made clear. Loan terms are more restricted, and willingness to invest has decreased strongly.

Shared financial interests between the city and the outside world is not limited to port companies only. For a long time, there has been a close relationship between Germany and China. As Germany had a rather short history as a colonial power

⁵⁸ <https://www.railwaygazette.com/freight/db-and-hamburger-hafen-agree-intermodal-freight-restructuring/36884.article>. Retrieved: 13 April 2020

(briefly in Africa, mainly in Tanzania, Namibia, Ruanda, Burundi, Cameroon, and Togo), German companies are perceived as partners in business, and their reputation and image, especially that of Hamburg, is surprisingly good, as acknowledged in Beijing, Tianjin, and Guangzhou. Hamburg shipping lines to China prove this position.⁵⁹ In former days, there was a Chinese quarter in Hamburg. China is still Hamburg's most important trade partner with 30% or 2.6 m TEUs (Hamburg Port Authority, 2012). Although in the past the Hamburg elite was composed of the trading companies, nowadays it is more connected to shipping. It is especially this group of company owners (the patron of the elite) that meet frequently and are rooted in tradition. The Hamburg community is still strong – a feature that is considered to contribute to the cluster – but business relations between the companies in the Free and Hanseatic City of Hamburg and other governmental entities in Germany are rather weak. This creates the strange situation whereby the bonds between those business families and their business relations in London are better than their bonds with Munich or Berlin. This influences their position in the national policy of strengthening certain industry sectors, or focusing on them, in such a way that Hamburg is not seen as *the* national port of Germany.

Because of the effects of internationalization and globalization, the relationships between shipping lines and terminal operators worries the Hamburg port community. The 2013 annual report speaks cautiously about the projected consolidation of the three liners Maersk, MSC, and CMA CGM in the P3 alliance. They fear that this consolidation would give the lines a much greater power than before (Hamburg Port Authority AöR, 2014, p. 15). This is the first time that an annual report speaks about the risks of these consolidations. It is a power shift related to the general dynamic of globalization. This is never remarked upon in the annual reports of the port authorities of Antwerp or Rotterdam.

There is a remarkable process going on in the relationship between the port city and the port companies regarding city development as conducted by the organization of HafenCity. HafenCity's success has pushed land prices sky high and has created competition for land from a land value perspective. This puts tension on the port–port city relationship, not only on a functional level, but even between individual actors that are prominent representatives of the factions involved. Port companies feel

59 The universal port of Hamburg is Europe's leading seaport for China's foreign trade. The Middle Kingdom is its most important partner for container traffic. Volume handled totals around 2.5 million TEUs. Almost one in three of the containers handled in the port of Hamburg comes from China or starts the sea voyage to China from there. Source: Port of Hamburg Marketing; <https://www.hafen-hamburg.de/en/shanghai>. Retrieved: 22 August 2019

threatened, but business relations between port companies and city governance are strong. The companies are protected by the Port Development Law, which created a fixed boundary that protects the port from the city. So, there is an effect of land-rent-seeking port operators that try to protect themselves against the increasing land values consequent to the pressure from HafenCity port rejuvenation activities. This creates a rather strange situation whereby a public entity,⁶⁰ with its own goals as set by public governance, is constrained by that same governance that has other interests in port business. Because, in the end, it is the Hamburg parliament that decides – based on the evaluation of which land use creates the most added value and employment – the kind of development to which city areas will be exposed. This position of the Hamburg government and its management of the port authority is also the cause of the strong relations between companies and the government (the Senate). If possible, they bypass the port authority completely. The fact that former members of political institutions are also employed in port business shows the entanglement of politics and the Hamburg economy.

So, the Hamburg tradition of strong, historically built business relations is under pressure from rejuvenation projects restructuring the city as well as from globalization effects in terms of the increasing power of global shipping lines/container terminal players. These international dynamics are at the threshold of the port city of Hamburg, but the question is how long it will take before they stop knocking at the ‘closed port’ and enter the port and so the port city.

9.2.4 Conclusion

Concerning business relations, there are striking differences between the three ports. In Rotterdam, the relationships between businesses and the city used to be tight, united as they were for realizing the reconstruction of the ports and the city, and in later years for continuing to be the largest port in the world. This harmonious model has come under pressure, however, from the active promotion of competition by allowing other companies into the port of Rotterdam, where at that time ECT had a de facto monopoly on containers. The other dynamic that contributed to the erosion of this harmonious model was globalization, noticeable in company takeovers. Some (especially politicians) welcomed this development, others mourned the loss

60 HafenCity GmbH: 100% owned by the Free and Hanseatic City of Hamburg. Supervisory board members are representatives of the Hamburg Senate; their task is to look after the interests of the Free and Hanseatic City of Hamburg. The ongoing development and implementation of the masterplan that is taking place to realize HafenCity Hamburg is authorized by HafenCity Hamburg GmbH. Source: <https://www.hafencity.com/en/management/the-supervisory-board-of-hafencity-hamburg-gmbh.html> Retrieved: 6 September 2019

of cohesion in the port. Relationships between the port and the national government are very strong, as the port is seen as a national asset, but that does not mean that influence on the governing of the port authority is secured by that. The relationship is 'handy' when it comes to realizing projects; so, this is an instrumental approach rather than a way of establishing public governance. The port authority is taking the devolution process very seriously, as it has progressed from an exploitation role to an exploration role, so acting as a truly commercial company. This is in line with the New Public Management approach discussed in Chapter 3. Indeed, the Port Authority of Rotterdam underwent a change from rowing to steering, but, as remarked in section 9.2.1, this has influenced the relationship with the city in such a way that the separation became very apparent. A move to the network approach might be more apposite, as a project such as Rotterdam Maritime Capital would demand. By doing so, the relationships with the port companies could gain trust.

Relations in Antwerp are strongly influenced by the political constitution of society, where public entities like port authorities have a strong political influence. There has been a change; the council's influence has diminished numerically but still, compared to the other models of port devolution, it is a publicly influenced entity. The relations between the companies are strengthened by the Port Authority of Antwerp's active policy to create a strong, integrated cluster. This, however, did not prevent a reduction in employment in the years after the financial crisis of 2008. Relationships between communities are under pressure from the differences in attitude towards port extensions on the Left Bank. This does not hamper business relations, but it makes new developments on the Left Bank more difficult. Antwerp is a port on its own. It is not valued as a national asset, partly because of the split between Flemish and Wallonia society, partly because of the attitude of advancing one's own interests as a separate community, either big or small.

Hamburg is quite the opposite to the other two ports because of its strong belief that business relations should be kept within the town walls. Every attempt to break up this world by trying to establish a company, or to get a foothold by buying one, is prohibited by the inner business circle that uses financial instruments to prevent the complete takeover of companies, at least in such a way that the decision center stays in Hamburg and the Hamburg influence is guaranteed. The city-state is exemplary in this, by buying back former state-owned companies, or by taking stakes in prominent industries. So, although the general dynamics of globalization have not bypassed Hamburg's gates, they are mitigated by the socio-political structure of this city-state, where companies and politics are closely related. Relationships with international markets are traditionally strong: China, South America, the Baltic, and

London. Like Antwerp, Hamburg is not its country's national port. Its relationships with the national government are weak. Political influence is restricted mainly to the local (Stadtsstaat) level.

De Langen's (2004) evaluation of strengths and weaknesses of the Rotterdam port cluster can also be interpreted for the level of business relations, operationalized by his using the quality of collective action regimes. In the comparison, an average of six ports is used as a benchmark (score 1), and then the scores for Rotterdam, Antwerp, and Hamburg are compared with it. In this score, Rotterdam is equal to average, Antwerp scores the best with 2.2, and Hamburg follows with 1.6 (De Langen, 2004, p. 180). This could indicate that De Langen's respondents felt that the relations underlying these collective action regimes are weaker in Rotterdam than in the other two cities. This thesis goes one step further by stating that, although hardly noticeable, these regimes are strongest in Hamburg, but tacitly present, as will be shown in sections to come. In his overview of strengths and weaknesses, De Langen also remarks that the presence of internal competition scores higher in Antwerp than in Rotterdam. This observation is not confirmed by the research in this thesis: port actors in Rotterdam and Antwerp perceive this degree of internal cluster competition as being the result of the Port Authority of Antwerp's active cluster policy.

9.3 EXPLORING COMPLEMENTARITIES

Researching the business relations concept from the perspective of clusters suggested that more detailed attention was needed on a typical feature of clusters concerning relationships: complementarity. So, although related to business relations in section 9.2 and particularly to diversity in section 9.4, complementarity influences the forces enhancing or weakening cluster development. This characteristic of the cluster is responsible for the flexibility of the cluster to withstand economic downturns and to be the start of new activities in the future, as discussed in section 2.10.

9.3.1 Rotterdam

*"For I think that part of the urban economy can also be very important for the port economy."*⁶¹

⁶¹ "Want ik denk dat een deel van de stedelijke economie ook heel erg belangrijk kan zijn voor de haven economie."

The complementarities of the different sectors are not actively exploited very strongly in the port of Rotterdam. In the container business in particular, there is hardly any inclination to do things together with other companies within the Rotterdam region. There are activities with distribution, value-adding companies, but not locally as prominent as in Antwerp. In the petrochemical sector, companies cooperate by availing of one another's core competences. There are platforms where people meet to discuss how to organize processes in a better way. Examples include Deltalinqs and the Smart Port community, but everybody seems to have their own agenda, and there is no real synchronization of activities. This might be an effect of the stronger supervision exercised by the Anti-Trust Authority when it suspects that cooperation between companies might influence competition within the sector. Companies could overreact to this by completely avoiding even the suspicion of it by not actively trying to cooperate with one another in day-to-day business. Of course, the port authority can play a role in this. Supply chain coordination is a subject that certainly has the port authority's attention, but it does so by strengthening the relationships with the centers in the hinterland, and not so much with companies in the Rotterdam area (Havenbedrijf Rotterdam N.V., 2016). It is one of the companies themselves, ECT, that with European Gateway Services (EGS) invests in a synchromodal network with inland terminals (Van Riessen, 2018). This is a perfect example of how the butterfly model, presented in section 1.8, is applicable to the regionalization of the value-adding services. These services are more and more realized in the intermodal network, using Tilburg, Venlo, and so on. The activities are redistributed along waterways and railways and influence activities in the country (Kuipers, 2018a). It is remarkable that the respondents hardly mentioned this when debating the reorientation in complementary functions. The general perspective is that, even if the port did nothing with the cargo, it would come anyway, thanks to its position as a transit port.

9.3.2 Antwerp

*"So, I think that 2009, the year when we did the roll out, that that was extremely important for finding again the alliance between industry, logistics, and transshipment."*⁶²

As already stated in the discussion on business relations, it is the complementarity of business that characterizes the industrial port of Antwerp. Besides the fact that the port of Antwerp is an industrial port, it is also seen as a logistics port. This shows the entanglement of the three pillars – transshipment, logistics, and industry – used

⁶² "Dus ik denk dat 2009, het jaar waarin we dat hebben uitgerold, dat dat enorm belangrijk was geweest voor het hervinden van de verbondenheid industrie, logistiek, overslag."

to add value to what comes into or goes out of the port. The three pillars enhance one another; they are in symbiosis, promoted by the active involvement of the port authority following the crisis of 2008. It is stated in the port authority's mission statement, and it is repeated in all the annual reports year after year, that it is the presence and the enhancement of the supply chain that makes Antwerp strong.⁶³ It is this complementarity of the port that guarantees that cargo will come its way: if it did not have these logistical, value-adding activities, cargo would probably not come in the same quantity as it does now. So, the port has a pull factor. Besides the activities as a result of the maritime function of the port, the chemical sector plays a very important role, as presented in section 9.4.2, discussing diversity. For now, it must be remarked that, although complementarity in Antwerp is a characteristic widely recognized by the Antwerp actors, the chemical sector, contributing the most in terms of added value, is perhaps the one that takes part in that complementarity the least.

9.3.3 Hamburg

"And that is the reason why we have, we have eh, three big clusters in Hamburg. One is aviation, one is logistics. And logistics and aviation is..."⁶⁴ they are now working closely together. So that means cluster-wise we have to achieve the needs of different clusters and working closer together."

The Hamburg cluster consists of various industries that are working closely together. Aviation is strongly related to logistics in the port, where Airbus, for example, ships more than 1,000 containers a week to a production plant of theirs in Beijing. Companies like Jungheinrich and Still owe their more than 50% world market share to their growth in the port area, which was in need of equipment for moving cargo around. Universities are strongly involved in research benefitting these companies and their marine counterparts. Thus, Hamburg's port cluster can be seen as an ecosystem. If one speaks of complementarities in the port of Hamburg, they must be placed in a direct relationship with the city. The complementarities in the port city are not only in its industrial role where logistics are a next step to the handling of containers, but also in the relationship between the direct maritime activities and the maritime advanced producer services (MAPSs) like shipbrokers, container financing agencies,

63 "When it comes to carrying out the Business Plan in 2015, the starting points remain as follows: The need to think in terms of supply chains. The realization that the port of Antwerp is a unique platform for the interplay of industry, logistics, and maritime transshipment" (Antwerp Port Authority, 2015).

64 This thesis wants to present quotes exactly as they were recorded, and this mistake of mentioning three and giving two examples is a result of that.

insurance companies, and, including the cruise industry, the city itself. Hamburg is the most important container world city in Europe (Verhetsel & Balliauw, 2015). This is strikingly reflected in Hamburg's position in the ranking of maritime services and operations as illustrated in Tables 2.2 and 2.3. It owes this position to the presence of these companies with their international contacts. This is in line with the strong relationships between Hamburg and China as described in section 9.2.3, but, on the other hand, it is rather remarkable given the 'situation' – the topic of section 9.8.

9.3.4 Conclusion

Complementarities in Rotterdam are spatially more stretched with the activities of the inland ports with their logistics functions, thereby using the river and the railways as the modalities to move goods as economically as possible towards their destinations. That means, however, that this complementary function is no longer within the city's boundaries. The petrochemical complex is traditionally a perfect example of complementarity of the maritime function and the processing of its output. Government nowadays plays hardly any role in this, as it is in the hands of the Port Authority of Rotterdam, which takes a (spatially) wider perspective to complementarity by actively supporting the ports in the hinterland.

From the cluster point of view, interrelationships in Antwerp between the factor condition (e.g. the site), the related industries, and the influence of governance are very prominent in terms of complementarities. As stated, they enhance one another, and government, partly represented by the Port Authority of Antwerp, plays an active role in this by emphasizing that the strength of Antwerp is in the entanglement of its three pillars – transshipment, logistics, and industry.

In Hamburg, there certainly is complementarity, but this is especially strong between the maritime function and MAPSS. Industry has a complementary relationship with the maritime function, but these industries are big enough to act completely on their own, and they are considered to be as equally important as the port and not just a related part of it.

Just as the previous section ended by mentioning the results of De Langen's (2004) cluster study, it is interesting to reference that in this section as well. Here, the elements that he mentions in his table summarizing the strengths and weaknesses of Rotterdam's port cluster and that can be used here are the presence of embedded leader firms and the presence of intermediaries (De Langen, 2004, p. 180). For De Langen, these are parts of Rotterdam's strengths compared to Antwerp and Hamburg. The section above shows that this is not really the case (anymore?). This might

be explained by the fact that this thesis explicitly encompasses only the city within the port cluster, whereas De Langen includes the municipalities in the vicinity (up to Dordrecht, Alblasserdam, Hardinxveld, and so on) (De Langen, 2004, p. 99). In his comparison of strengths and weaknesses – a judgement by experts (De Langen, 2004, p. 177) – this places Hamburg (and Antwerp) in a less favorable position. Looking at the port city itself however, one can conclude that, within that spatial area, the city of Hamburg might be considered as being more entangled with the port compared with the other two port cities.

9.4 EXPLORING DIVERSITY

The concept of diversity takes the element of complementarities one step further. The latter concept is strongly related to cluster theory, which recognizes commonalities and complementarities (section 2.6). This is about the inner relationships that define the clusters' most prominent industry. The concept of diversity also looks at other, less related industries that provide the region with more resilience when the main industry is suffering economic hard times. It should be noted that the city is included in this concept. So, to look at diversity, the city is included as part of the port/port city cluster. Again, based on De Langen, one would expect diversity in Rotterdam to be much stronger than that in Antwerp and Hamburg, as it has a score of 3.0 versus 2.4 and 1.3, respectively. The sections below show that, if one looks at the port city as a whole, other activities will be included, resulting in another outcome.

9.4.1 Rotterdam

*"Postuma was not interested in results in financial terms, he was only interested... in results in terms of tonnage and square meters. a lot of money was spent and suddenly there was no more money. But they had these areas, five refineries. So, Rotterdam had become a refinery port."*⁶⁵

Rotterdam's maritime cluster is seen as diverse with its related industries like the headquarters in the city with insurance, finance, and legal consultancy. It is therefore strongly connected to the activities in the port itself. But Rotterdam is very much a petrochemical- and oil-oriented port. These units are production units and not so much decision centers that are in need of other kind of activity within the port itself (like insurances and banking at top level). Many maritime-related

⁶⁵ "Postuma was niet geïnteresseerd in uitkomsten op financieel gebied, hij was slechts geïnteresseerd... in uitkomsten op tonnengebied en vierkante meters.... er werden enorme hoeveelheden geld... En ineens was het geld op. Maar wel terreinen, wel vijf raffinaderijen. Nou, Rotterdam is dus een raffinaderijhaven geworden."

offshore industries are located in the cities more upstream of the river – with the exception of the port of Schiedam – and it depends on the scale whether the port city of Rotterdam is considered as diverse as one would expect of the sixth largest port in the world. There is diversity in directly related industries, but, in terms of non-marine-based industries, the diversity compared to a city like Hamburg is less. From a cluster heterogeneity perspective, the resilience to overcome crises like that of 2008 is less compared with Antwerp, as Rotterdam is so much a transit port and the wellbeing of the city is more easily affected. The economic development of the port has much more to do with the economic development of The Netherlands and not so much with the city of Rotterdam itself. The city reflects national economic developments much more than it reflects developments in the port (Kuipers, 2018a, p. 27). The activities in the port are primarily labor extensive, as shown in the monograph on Rotterdam, and the labor employed in the port attracts a lot of employees from outside the city, as the city itself cannot offer employees with the needed educational level. As Tables 2.2 and 2.3 illustrated, in terms of a score in the ranking of port cities on maritime services and operations, it is only in the last couple of years that Rotterdam has held a position in the top 5 (but still below Hamburg). However, more and more campuses and start-ups are creating a network of an educational and research community that creates knowledge spill-overs. So, the city of Rotterdam is really catching up after a period of not really benefitting from the port's activities. Regarding the composition of Rotterdam's port cluster in terms the contribution per sector in direct added value, Table 9.1 exhibits the diversity in the cluster, clearly showing the dominance of the transport sector. The maritime sector accounts for half of the added value. This table is based on Table 8.4. The maritime sector declined a fraction in the period 2012–2017, but on the whole the various sectors' contributions were stable. The total added value (direct and indirect) of the port of Rotterdam is €23 bln (Havenbedrijf Rotterdam N.V., 2018). The added value of the economic activities of the Rotterdam Rijnmond cluster is €60.8 bln (Stadsontwikkeling Gemeente Rotterdam, 2018), meaning that the port activities account for 37.8% of the total value.

Table 9.1 Contribution cluster segments in % of total 2012 and 2017 Rotterdam, direct added value

Sector	% Added value 2012	% Added value 2017
Transport	20.0	21.0
Transport services	15.7	14.5
Transshipment and storage	15.9	13.9
<i>Maritime</i>	51.6	49.4
Food industry	2.5	2.3
Oil industry	11.6	10.8
Chemical industry	14.8	18.6
Metals	2.1	2.2
Transport equipment	0.8	0.7
Electricity	5.1	2.7
Others	1.6	2.4
<i>Non-maritime</i>	38.5	39.7
Wholesale	5.1	6.4
Producer services	4.8	4.7
<i>Wholesale + services</i>	9.9	11.1
Total	100.0	100.0

Based on Van der Lugt et al., 2018

9.4.2 Antwerp

“Then I say, don’t only look at it from that perspective. And especially, especially don’t only look at it from the nautical perspective.”⁶⁶

Diversity in the port city of Antwerp is grounded in the three-pronged complex of industry, warehousing, and transshipment. These three are the main components of the port city’s cluster, which, as noted in section 9.3.2, are complementary and thus add value to maritime traffic. Table 8.6 shows the shares of the diverse companies that are responsible for this added value. So, in terms of cluster heterogeneity, Antwerp has the resilience to overcome crises that affect the maritime industry, as discussed in section 9.2.2. Regarding the composition of Antwerp’s port cluster in terms of the contribution per sector in direct added value, Table 9.2 exhibits the diversity in the cluster, clearly showing the dominance of the chemical industry.

⁶⁶ “Dan zeg ik, bekijk toch niet alleen dat plaatje. En vooral, vooral bekijk het nu eens niet alleen nautisch”.

Table 9.2 Contribution cluster segments in % of total 2012 and 2017 Antwerp, direct added value

Sector	% Added value	% Added value
	2012	2017
Cargo handling	14.7	15.8
Shipping agents and forwarders	5.9	5.3
Shipping companies	5.5	3.9
Other maritime	7.0	6.5
<i>Maritime</i>	33.2	31.5
Chemical industry	29.3	31.9
Fuel production	9.7	10.3
Trade	9.0	9.3
Other non-maritime	18.9	17.0
<i>Non-maritime</i>	66.8	68.5
Total	100.0	100.0

Based on Gueli et al., 2019

The maritime sector within the port cluster is smaller than that of Rotterdam. For a port that claims the three-pronged strategy and puts an emphasis on logistics, the share of logistics is rather modest and would not be expected in light the interviewed actors' perception of Antwerp as the value-adding logistics port. In Antwerp too, the shares in terms of added value per sector hardly changed. Like Rotterdam, the share of the maritime sector decreased. If anything, in terms of added value, it is an industrial port with chemicals as the dominant sector. So, the resilience of the port in terms of being less dependent on one dominant activity is manifested by a smaller share of the maritime segment. On the other hand, the chemical sector more or less compensates for that, so saying that dependence on one industry is avoided could be considered an exaggeration. The total added value in Table 9.2 in 2017 was €20.7 bln. The total added value of all economic activities in the Antwerp cluster in 2017 was €50.1 bln.⁶⁷ This means that share of the maritime sector is 41.3%. This is larger than that of Rotterdam, meaning that the Antwerp economy is more dependent on the port cluster.

9.4.3 Hamburg

"However, ...you can also say the strength of Hamburg economy is, is diversification. The largest company is Hamburg is not, by far not, a port company. HHLA, if you look at the largest of these companies, I don't know its place, 30 or something. The largest company in Hamburg..... is Airbus."

⁶⁷ <http://stat.nbb.be/Index.aspx?DataSetCode=REGACSEC&lang=nl/>. Retrieved: 4 February 2020. Unit of analysis is Antwerp arrondissement.

Maritime-related industry is less prominent in Hamburg than in Antwerp and Rotterdam. This statement may come as a surprise. The port of Hamburg is presented as a port with a high level of maritime node functions (Kuipers, 2018c). So, from the perspective of comparing ports regarding maritime and maritime-related activities, Hamburg is a logistics port. However, as this thesis approaches the cluster from a broader perspective, another evaluation emerges. The diversity of the port city of Hamburg is especially rooted in MAPSs, which are more city-center bound and add value to the typical city's economic knowledge-based community. In fact, the largest company in Hamburg is not a direct port-related company. It is Airbus, which is considered to be not only the largest, but also the most important. The wealth of the city is grounded historically in its port function, but that is definitely no longer the city's only resource. Chemicals, tourism, cruising, universities, the medical sector, the publishing sector, research in physics and biology, make Hamburg a knowledge-based center within Germany. In addition, Beyersdorf for personal care, and the medical sector producing medical devices, places Hamburg seventh in the ranking of the top regions of Europe (Sirtori et al., 2019). This might be the basis for the (undoubtedly exaggerated) remark that Hamburg is not really waiting for these big vessels, which could equally well berth in Wilhelmshaven. This remark is based on the presence of large value-adding firms in this city-state, meaning that Hamburg's economic position is less vulnerable to global maritime developments. Recent detailed data as presented for Rotterdam and Antwerp in Tables 9.1 and 9.2 are not available,⁶⁸ so Tables 9.3 and 9.4 give an overview that approximates these tables. In Table 9.3, the breakdown is based on employment per sector and shows a viable cluster that is very heterogeneous.

Table 9.3 Employment per sector Hamburg

Sector	Employment
Healthcare	160,000
Maritime	130,000
Media & IT	110,000
Aviation	40,000
Life Sciences	20,000
Creative	14,000

Source: <https://www.hamburg.com/business/clusters>. Retrieved: 16 January 2020

⁶⁸ There is only the integrated overview for the three ports in the NBB Planco study of 2013, partly presented by Kuipers (2018c, p. 268).

Table 9.4 presents a breakdown per sector in terms of contribution to added value for Hamburg, which amounted to a total of €105.9 bln for the year 2017 (Statistisches Amt für Hamburg und Schleswig-Holstein, 2019, p. 195) .

Table 9.4 Contribution cluster segments in % of total 2005 and 2017 Hamburg direct added value

Sector	% Added Value	% Added Value
	2005	2017
Agriculture and forestry	0.1%	0.1%
Manufacturing	14.2%	14.8%
Construction industry	2.3%	2.4%
Trade, transportation, storage	30.9%	31.9%
Finance, insurance, real estate	36.4%	32.1%
Public and private service providers, education, healthcare	16.2%	17.9%

Source: Statistisches Amt für Hamburg und Schleswig-Holstein, 2019

The port's contribution in terms of added value is not specified in Table 9.4.⁶⁹ The value added for the port is quite stable throughout the years, ranging from €11.7 bln in 2011 (Hamburg Port Authority, 2012) to €12.6 bln in 2016 (Hamburg Port Authority AöR, 2017), making a contribution of 11.9 % from the port itself (% of Hamburg's total added value). This must be a part of the 30.9% presented in Table 9.4 for the Trade, transportation, storage sector. This makes it a rather small figure within Hamburg's total added value. Despite the fact that Tables 9.4 and 9.5 cannot be exactly compared to those for Rotterdam and Antwerp, what these tables do say is that the prominence of the port of Hamburg, however important it is for the port city as an employer, as a center for activities, and as a node around which diverse activities are organized, in terms of added value plays a far less important role compared to Rotterdam and Antwerp.

Looking at the employment figures changes the picture based on added value. Now, the differences between the ports are less visible. It is difficult to compare figures because of definitions, but Table 9.5 shows some similarities and differences between the three ports.

⁶⁹ The NBB Planco study shows the three ports' direct port-related added value, but it covers only one year (2013).

Table 9.5 Employment structure in the regions of Rotterdam, Antwerp, and Hamburg 2012

	Rotterdam	Antwerp	Hamburg
Agriculture	0.9%	0.8%	0.1%
Manufacturing	8.8%	11.1%	13.1%
Construction	5.1%	5.5%	3.4%
Trade	16.6%	17.8%	16.3%
Transport and communication	7.6%	7.0%	9.0%
Hotels, restaurants, and catering	3.8%	4.9%	3.7%
Business and financial services	24.7%	21.8%	54.3%
Public and personal services	32.6%	31.0%	
Total	100%	100%	100%

Source: De Koning, Zandvliet, & Gelderblom, 2018

Although these figures are not as recent as the tables presented before, this overview is interesting because of the illustration of the manufacturing sector in Rotterdam, which is modest compared with the others, as Rotterdam does not have a steel industry as it is located near Amsterdam. This activity does take place in Hamburg (Arcelor Mittal). At the same time, although comparison is tricky as stated, the service sectors are more alike, with the three of them over 50% (Hamburg's 54.3% must include Public and personal services). This is something that was not to be expected given the more prominent position of MAPSs in Hamburg. One could conclude that, because of Hamburg's 54.3%, the Business and financial services category reflects a larger share compared with the other two ports.

9.4.4 Conclusion

If, as theory claims, diversity makes clusters more resilient in economically hard times, it is Hamburg that has the best credentials to overcome such circumstances. Rotterdam is a port/port city with diverse activities, but the base of its major activity is founded on the transshipment function. This puts the port city in a more unstable position in economically tough times. And looking ahead, if the need for oil and coal decreases because of the need for more sustainable sources of energy, these activities will be under pressure. The diverse complex in Antwerp, although very maritime based, is supported by the local demand for the logistics function, but the chemical sector accounts for a large share of Antwerp's added value, which is the product of a limited number of firms. For Hamburg, the presence of MAPSs makes it less vulnerable and, in addition, the presence of a variety of non-maritime-based activities makes this cluster strong and resilient. Hamburg's share of port activities is rather modest. So, the city of Antwerp and the city of Rotterdam are truly part of a port cluster; for the city of Hamburg, this is less the case. The presence of MAPSs in

Hamburg makes this city functionally entangled with the port – a sector that is very dominant, as seen in section 2.11. In terms of port business however, Hamburg has a very diversified economic base that is not directly related to the port.

9.5 EXPLORING FOREIGN OWNERSHIP

One of the dynamics influencing port–port city relationships has to do with the influence of globalization. A result of this dynamic is the concentration of companies in multinational firms and even conglomerates. This means that former domestic firms are taken over by larger companies that often are in foreign ownership. In the port industry, this is most prominently articulated by the container terminal industry and the liner industry. This has had an influence within the ports, as dealt with in the next section.

9.5.1 Rotterdam

“These are all passing travelers. Hired men.”⁷⁰

The attitude towards the taking over of home-based companies by international players like Maersk, Dubai Ports World, and Hutchison is quite mixed in Rotterdam. On the one hand, it is seen as the logical result of global developments and something that should not be mourned. It is appreciated, even welcomed, as something that brought Rotterdam more expertise, a more business-oriented attitude, a professionalization in doing business, but it is also seen as a loss in terms of losing more control and the fact that strategic decisions are taken in Singapore and Hong Kong instead of at the Weena (or Kralingen, if business was to be discussed at home). This has affected the speed and the effectiveness of the decision-making process, and also local managers. Like former directors of home-based companies, they did not really become members of the inner circle of port actors as one would expect for such large and very present entities. Having decisions taken abroad was not completely new. In the past, strategic issues concerning Exxon were taken in the US and not in The Hague. For that, the fact that Shell, one of the most important players in Rotterdam, has its headquarters in The Hague was a blessing, so the port could do business with the decision makers on a personal level, as one respondent remarked. This surely benefitted the investments undertaken in Rotterdam. For smaller port companies, doing business as a subcontractor with these foreign-based companies has not made life easier. There is less understanding of their cost structure, and

⁷⁰ *“Dit zijn allemaal passanten. Zetbazen.”*

the live-and-let-live concept is less practiced than in the past when everyone knew the one another's business; instead, companies try to squeeze out the last dime to achieve designated cost reduction goals. The acquisition of ECT by Hutchison apparently seemed to have been avoidable, as some well-known Rotterdam businessmen were willing to take action but were not supported by the bank, which wanted a financial partner and not a strategic partner. How strange that the result of all of this, Hutchison, was a strategic partner *pur sang*. It is, however, interesting that also in Rotterdam in those days, initially there was a group of men who were able to find one another and were likeminded about preventing the alienation of one of the most highly esteemed Rotterdam companies. In the end however, they were not able (or did not want) to raise the funds to realize this ambition, as the port authority itself did not really make an effort to find a 'Dutch solution'. Thus, the port of Rotterdam has more and more foreign owners in its portfolio of maritime-related companies – very often operational companies that are process oriented and therefore cost oriented. These companies are not marketing- or governance-oriented companies that are able to make decisions that go beyond their own operations. It is therefore harder to get them involved in policies that are directed towards the development of the cluster itself and that require decisions that do not have a direct effect on their own business. Nijdam (2010, p. 218) consequently concluded that foreign-owned companies exhibit less leader-firm behavior and thus have a negative effect on investments in local cluster infrastructure. Concerning the container terminal operators in particular, foreign ownership, besides bringing tougher competition, has had a negative effect on the former cooperation that existed between companies and the port authority. Because of this and the fact that some of these terminals are liner terminals, whose shipping company owners can play the game of choosing which port to call on because they have their terminals in multiple ports, the port authority's position is becoming less powerful regarding doing business with them.

9.5.2 Antwerp

*"And I think that you should not underestimate solidarity if you want to make progress. You observe it in another way if you defend the interests of your port as a port manager when you deal with companies, with people, in fact mercenaries. Managers who in fact businesswise, I mean, what, what... You get another kind of debate. Another kind of common endeavor."*⁷¹

⁷¹ "En ik denk dat je dat niet mag onderschatten, die, die verbondenheid als je vooruit wilt gaan. Je bekijkt het toch echt met andere ogen als havenbestuurder je de belangen van je haven verdedigt, en als je dan met mensen, in feite huurlingen hè. Managers die eigenlijk gewoon puur zakelijk, ik bedoel wat, wat... Je krijgt toch een ander soort debat. Een soort, eh, een ander soort gemeenschappelijk streven."

The common feeling in Antwerp concerning the change in ownership of the former companies (especially the *naties*) is one of losing the interconnectivity within the cluster. The change meant that the relationships became stricter and directed at the business. Common goals, in terms of port policies in favor of the whole port, no longer have the support enjoyed in former days, because the interests of these international companies are not always in line with Antwerp's interests. This was far less the case formerly when companies had a strong bond with the local community. After the crisis of 2008/2009, the headquarters of the container terminal companies became more and more centralized, and decisions were made more than ever in the international headquarters abroad. There is less control in Antwerp on what is happening in headquarters in Singapore, Hong Kong, and the Emirates. Doing business with these companies means that the Antwerp Port Authority has to keep in mind that their interests in Rotterdam, Hamburg, or wherever in their broader network, also play a role in their decision making, as in the case of the decision making concerning the Deurganck dock. There is a sense of regret that the original companies were not able to get the funding needed to make the necessary investments that the container terminals needed, and that foreign companies with deep pockets bought the infrastructure but also the knowledge, which is now no longer the intellectual property of the Antwerp community. This is regarded as a lost opportunity, an opportunity seized by Mr. Fernand Huts with his *Katoen Natie* by taking his company to 38 countries worldwide (and, as was suggested, as he could have done concerning the terminals). The fact that the owner of MSC, the Swiss Aponte family, is very rooted in the Antwerp community mitigates this phenomenon.

9.5.3 Hamburg

"And what always happens is that the headquarters of these companies vanish. They are not here. That is the difference. Hapag Lloyd⁷² would vanish and therefore we buy it."

Foreign ownership is a phenomenon that, when it comes to strategic companies, is just not allowed by the inner circle of businessmen in Hamburg. The above quote is a striking illustration of Hamburg's attitude. Hapag Lloyd, being metaphorically in stormy weather, needed funding. Foreign capital was available and prepared to step

⁷² The owners of Hapag-Lloyd, as of June 30, 2019, are CSAV (27.5%), Klaus Michael Kühne (incl. Kühne Holding AG and Kühne Maritime GmbH) (26.2%), HGV Hamburger Gesellschaft für Vermögens- und Beteiligungsmanagement mbH (13.9%), Qatar Investment Authority (14.5%), the Public Investment Fund on behalf of the Kingdom of Saudi Arabia (10.2%), plus a free float of 7.7 % (percentages have been rounded and the free float includes institutional shareholders with a shareholding of less than 5%). Source: <https://www.hapag-lloyd.com/en/home.html>. Retrieved: 7 October 2019

in but, to prevent loss of control and loss of the decision-making center, one of the most visible Hamburg entrepreneurs, Klaus Michael Kühne, invested together with the city of Hamburg. So, 40.1% of the shares are in German hands, placing them in a strong position. A Dutch firm wanted to buy a company in Hamburg that had gone bankrupt. Having been in the “waiting room” for several weeks, it was told that there needed to be a German solution, “if they understood what that meant for them”. This type of business culture is non-existent in the Rotterdam cluster but is common practice in Hamburg and favored by the city-state. If this policy is not exercised soon enough, then there is the labor force to contend with. When the shares in HHLA were on the brink of being sold to an Arab investor, the port workers went on strike. This lasted only three hours because the mayor of Hamburg, Otto von Beust, promised the workers that the company would not be sold. Feelings about this were mixed, as was proven by the stepping back of the chairman of the HHLA supervisory board who found it intolerable that the government intervened directly in the company’s business policy. So, the fact that there was a tendency to sell shares to make new investments possible in Hamburg’s largest container terminal operator shows that change was taking place. In the end however, the old structure still proved to be intact and prevented this.

9.5.4 Ownership, employment, and decision centers

In the interviews, a lot was said about foreign ownership, and different opinions were expressed about it. Tables 9.6a, 9.6b, and 9.6c and Tables 9.7a, 9.7b. and 9.7c give an overview of what this means for the three ports and port cities under study. They name the largest container terminal operators in the three ports and illustrate the employment situation in the top 10 companies in the port cities in combination with the location of each company’s head office. Ownership of the largest container terminal operators is shown in Tables 9.6a–9.6c.

Table 9.6a Deep sea container terminals Rotterdam 2019

Company	Terminal	Owner	Location head office
ECT	ECT Delta Terminal	Hutchison	Hong Kong
ECT	ECT Euromax Terminal	Hutchison/Cosco Shipping Ports	Hong Kong
APM	APM Terminal Maasvlakte	Möller Maersk	Copenhagen
APM	APM Terminals Rotterdam	Möller Maersk ^b	Copenhagen
RWG	Rotterdam World Gateway	APL, MOL, HMM, DP World ^c	Tokyo/Busan/Marseille/Dubai
Steinweg	Uniport ^a	C. Steinweg Group	Rotterdam
Steinweg	Rotterdam Shortsea Terminals	C. Steinweg Group	Rotterdam

Source: Company websites. Retrieved: February 2020.

Note: a: Uniport was closed on 31 March 2020; b: This was the situation in 2019; the situation in spring 2020 is that there are activities regarding a takeover by Hutchison; c: CMA CGM sold its shares to CM Port. Source: <https://www.nieuwsbladtransport.nl/havens/2019/12/23/derde-chinese-bedrijf-krijgt-belang-in-containeroverslag-op-maasvlakte/>. Retrieved: 14 April 2020.

Table 9.6b Deep sea container terminals Antwerp

Company	Terminal	Owner	Location head office
PSA	MSC PSA Terminal	PSA International	Singapore
PSA	Noordzee Terminal	PSA International	Singapore
	Europa Terminal	PSA International	Singapore
DP World	Antwerp Gateway	DP World	Dubai
Sea-Invest	Antwerp Container Terminal	Van de Vyvere	Antwerp

Source: Company websites. Retrieved: February 2020

The largest container terminal companies in Rotterdam are owned by companies located abroad. Only Steinweg is still Rotterdam based and also active in other countries with its maritime container handling and stevedoring business. Foreign ownership is clearly present in the most striking port-related activities. The situation regarding ownership in Antwerp is not different from that in Rotterdam. Here too, foreign companies dominate the terminal operations in the port, especially since the merging and takeover of the former Hessenatie and Noord Natie terminals by PSA.

The situation in the port of Hamburg is quite different. Here, regarding container handling, foreign companies are completely absent, and the business is dominated by one company, HHLA as discussed in section 8.4.5.

Table 9.6c Deep sea container terminals Hamburg

Company	Terminal	Owner	Location head office
HHLA	HHLA Altenwerder	City of Hamburg ^a	Hamburg
HHLA	HHLA Burchardkai	City of Hamburg	Hamburg
HHLA	HHLA Tollerort	City of Hamburg	Hamburg
Eurogate	Eurogate Hamburg	BLG Logistics/Eurokai	Hamburg/Bremen
Steinweg	Steinweg Hamburg	C. Steinweg Group	Rotterdam

Source: Company websites. Retrieved: February 2020.

Note: a: The Free and Hanseatic City of Hamburg owns 68.4% of the shares in the HHLA Port Logistics Group.

In terms of foreign ownership of container terminals, the difference between Rotterdam and Antwerp on the one hand and Hamburg on the other is quite clear. This situation does not really change if not only ownership of port companies, but also other activities are taken into account. The port cities are compared in terms of employment regardless of whether this was maritime based.

The next set of tables show the structure of employment in the three port cities. Tables 9.7a, 9.7b, and 9.7c show the names of large companies in the three cities and the location of these companies' head office. Size is defined in terms of number of employees located in the port city. Antwerp is also represented by the public sector, which is explicitly mentioned in the available databases.

Table 9.7a Top 10 companies Rotterdam and location of head office

Company	Industry	# employees	Location head office
Shell	Oil	3,355	The Hague/London
Nationale Nederlanden	Insurance	2,485	The Hague
ECT Delta Terminal B.V.	Logistics	1,961	Hongkong
Eneco	Energy	1,611	Tokyo
Bilfinger Industrial Services	Construction	1,305	Mannheim
Stedin	Energy	1,147	Rotterdam
Coolblue B.V.	Retail	1,098	Rotterdam
Deloitte	Finance	1,081	London
ISS Cleaning Services	Facility management	1,069	Utrecht
ABN Amro Bank NV	Finance	1,048	Amsterdam

Source: LISA database. Retrieved: February 2020. Note: Only the Rotterdam employment is shown.

Most of the largest companies in Rotterdam have their head office – and so their decision center – in another town, even in another country. When it is located in another country, one certainly can speak of foreign ownership. The situation in Antwerp is similar. Table 9.7b exaggerates Antwerp's position, because (semi) public entities like CEPA and the Port Authority of Antwerp are included.

Table 9.7b Top 10 companies Antwerp and location of head office

Company	Industry	# employees	Location head office
CEPA	Union	8,815	Antwerp
BASF	Chemicals	3,200	Ludwigshafen am Rhein
NMBS	Public transport	700	St. Gillis
MSC	Logistics	2600	Geneva
Katoen Natie	Logistics	3000	Antwerp
Total Refineries	Oil	4,900	Paris
Exon Mobil Petrochemicals	Oil and chemicals	2,200	Irving (Texas)
Evonik	Chemicals	1,000	Essen
Electrabel	Energy	418	Paris
Dredging International	Maritime	4,937	Antwerp

Source: websites companies; retrieved: February 2020. Note: Only the Antwerp employment is shown.

The largest companies in Hamburg mostly have their head offices in Hamburg. Here, the port does not play as important a role as in Rotterdam or Antwerp in terms of number of people employed. Other industries have a position in the top 10. The largest port employer, HHLA, employs about 3,800 people in Hamburg.

Table 9.7c Top 10 companies Hamburg and location of head office

Company	Industry	# employees	Location head office
Asklepios Kliniken GmbH	Healthcare	14,500	Hamburg
Airbus	Aviation	12,500	Toulouse
Universitäts Kliniken Eppendorf	Healthcare	11,340	Hamburg
Deutsche Bahn	Transport	9,500	Berlin
Lufthansa	Aviation	8,000	Frankfurt
Deutsche Post	Transport	6,500	Bonn
Elbkinder	Childcare	8,845	Hamburg
Edeka	Retail	5,520	Hamburg
Haspa	Banking	5,000	Hamburg
OTTO Group	Retail	4,900	Hamburg

Source: <https://zutun.de/hamburg/jobs/top-10-arbeitgeber>; websites firms. Retrieved: 13 February 2020

Table 9.8 Family companies located in Hamburg

Company	Industry	# employees	Location head office
Otto Group	Retail	4,900	Hamburg
Marquard & Bahls AG	Energy/logistics	1,600	Hamburg
Maxinvest AG ^a	Consumer products	2000	Hamburg
Helm AG	Manufacturing	627	Hamburg
Gebr. Heinemann SE & Co. KG	Retail (travel shops)	950	Hamburg
Jungheinrich AG	Manufacturing	N.A.	Hamburg
Asklepios Kliniken GmbH	Health care	14,500	Hamburg
Peter Cremer Holding GmbH	Manufacturing	1,721	Hamburg
Bauer Media Group	Media	1400	Hamburg
Neumann Group	Food & drinks	250	Hamburg

Source: <https://www.stern.de/wirtschaft/news/tchibo-stellenabbau-in-der-zentrale-in-hamburg-6456552.html>. Retrieved: 13 February 2020. Source: <https://www.famcap.com/top-500-german-family-businesses-the-economy-most-dependent-on-family-enterprises/>; websites; request for information via email or telephone. Only the Hamburg employment is shown.

Note: a: Maxinvest is the Herz family's investment company that holds a majority share in the Tchibo and Beiersdorf companies. Figure shown is number of employees Tchibo in Hamburg Head Office.

Hamburg's economic structure in relation to ownership becomes even more interesting if the origin of ownership is taken into account. Local ownership in terms of families running and owning the business is evident in Hamburg. These companies belong to the top 500 family companies in Germany and are Hamburg based (see Table 9.8).

9.5.5 Conclusion

Foreign ownership influences port industry, although this global phenomenon is manifested in different ways when the three ports are compared. In Antwerp, it made doing business more formal and made the Port Authority of Antwerp aware that these companies could no longer be considered as representatives of the port but would, at a managerial level, take care only of their own interests. For Rotterdam, there was a mix of increasing competition in the container business combined with takeovers like ECT. This changed the social fabric of the port community. The former inner circle was composed of local decision-making businessmen. These are getting rare. The managers responsible for operations have taken over and do not belong to that same inner circle. They cannot be expected to participate in developing visions that go beyond their operating business. In the ports of Antwerp and Rotterdam, power balances between both the port authority and these large firms have changed, as local authorities have to deal with international conglomerates

that have interests in various ports and thus can play the game of choosing their favorite port.

In contrast, deeply rooted in the Hanseatic tradition, Hamburg tries to withstand the efforts of large international companies to take over Hamburg-based container terminal companies. Although international firms participate more frequently financially, to date they have not succeeded in getting full control. Hamburg, anxious to keep the headquarters where the decisions are made, locally based, is still able to cope with this trend by using its social fabric in combination with help from the government. The Hamburg firms are truly Hamburg based, as illustrated by the fact that some of the largest employers are family companies originating from Hamburg.

This shows clearly the attitude towards the ownership of companies in the three ports. For the top companies and for the container terminal operators, the situation in Germany is in line with the theory about the varieties of capitalism, as the most important actors in Hamburg are German companies (and many of them originate from Hamburg). For Rotterdam and Antwerp, quite the opposite is true. Summarizing these findings generates the evaluation in Table 9.9. Here, the high score on foreign ownership for Rotterdam and Antwerp – with both scoring “++” based on container terminals being in foreign hands and the decision centers of large companies in their cities being located elsewhere – contrasts highly with the “-” score for Hamburg, with its inclination to try to keep business “in local hands”, as illustrated in the interviews and accentuated by the overview of family-based companies with their head offices in Hamburg. In Rotterdam in particular, this foreign ownership is not found to be a problem or undesirable, but rather a result of the changing international economic landscape.

Table 9.9 Evaluation foreign ownership

	Rotterdam	Antwerp	Hamburg
Foreign ownership	++	++	-

9.6 EXPLORING COMPANY’S INVESTMENT IN SOCIETY

The company’s investment in society concept is defined in a way whereby investments of port companies, port authorities, but also individual businessmen should contribute to the economic, cultural, and/or social activities – and so to the welfare – of the city. It helps to explain how the relationship between port industry and port

city is forged. Although in all three ports there are examples of these activities, their nature differs.

9.6.1 Rotterdam

“...giving back to the city. Of course, in time that has become more difficult.”⁷³

When we look at the individual level, the city of Rotterdam has a history of beneficiaries of the town. The city owes a lot to the so-called port barons (*havenbaronnen*) of years gone by. Van Beuningen, Van Ommeren, and Kröller are illustrious names because of their contributions to society. Companies also contributed a lot. The Zoo, Boymans-Van Beuningen museum, the Oostelijk Zwembad (swimming pool), the Feyenoord stadium, and a lot of art bear witness to that. And companies still do so by funding activities such as the Children’s Cancer Fund and research at Erasmus University Rotterdam. There is a growing realization that, in a country where the split between the haves and the have-nots is too big, society is not balanced and harmonious. Company managements acknowledge personally that living as a private person in a country with such a divided economic structure is not a desirable situation. In Rotterdam, foundations like the Van der Vorm family’s Verre Bergen do a lot in a very professional, structured way (Depot Boijmans Van Beuningen museum), but there is also skepticism about how the companies are willing to contribute to Rotterdam society as long as their own position (license to operate) is not involved. The old way of taking care of a project when financing was a problem is no longer the case, and the companies are no longer beneficiaries of the city.

There have been other times, in the 1950s, 1960s, and 1970s, when deals were made about who-pays-for-what regarding city development. Private entities contributed financially to public goods, and government contributed to private investments. It was a mix of financial constructions but nobody cared about that because it favored the city and everybody profited from it. The directors of the companies in those days also had a seat on several committees concerning city government. It was *bon ton* to do so because it showed that one was one of Rotterdam’s ‘big guys’. But one should not romanticize these times. Companies also attracted labor from abroad because they did not want to pay the salaries that other sectors paid to Dutch employees. So, the labor shortage observed by Postuma might have been created by the port companies themselves by their unwillingness to pay a good salary. An interesting fact is that, as result of this labor shortage, the establishment of labor-intensive companies was rejected (Postuma, 1972, p. 54). This labor shortage as a factor shap-

73 “...wat teruggeven aan de stad. Ja, dat is steeds moeilijker aan het worden natuurlijk.”

ing the character of port business in Rotterdam was not so much an independent external factor but in fact one that was created by the employers' attitude towards cost reduction. So, with extensive labor, large areas demanding industrial activities located in Rotterdam expanded rapidly after the war and contributed to the spatial separation and drifting away from the needs of the town and its people.

As we see employment as a manifestation of a company's contribution to society, the Port Authority of Rotterdam has a history of being the intermediary in terms of balancing supply of, and demand for, labor: in quantitative and qualitative terms. It stresses its support in the search for young talent and education. Besides this role, the relationship with society, especially in terms of preserving the environment, was more and more emphasized in the years 2011 to 2013. In 2013, there was even a dedicated section in the annual report on responsibility for societal developments: "We want to contribute to an outstanding town for living leisure. The port has an indirect interest for this because it makes the town a more attractive place for companies to settle"⁷⁴ (Havenbedrijf Rotterdam, 2014). Two remarks need to be made regarding this quote. The first one is that this involvement derives not from the port authority's idea of license to operate, but from companies' business needs. The second is that the quote shows that the Port Authority of Rotterdam is emphasizing its attention on employment in the city regarding companies that are not directly involved in port business, but rather are supporting and related industries: MAPSs. Besides this attention on the environment from an attractive city perspective, attention is paid to art, culture, preserving natural environments, and recreation. However, the 2013 annual report is the last one to make these kinds of remarks. Annual reports 2014 and later do not mention anything about this. So, given these developments, it appears that individual contributions (on company level or individual level) still exist, but the actual getting together, and from that coming to a joint contribution from the perspective of what the town itself and the citizens need as a matter of course, seems to be absent in comparison to the past. In the top 10 priorities summed up in the 2016 annual report, the relationship with the city is not mentioned at all (Havenbedrijf Rotterdam N.V., 2017, p. 20). Activities enhancing the welfare of the city's population are more directed to the wellbeing of the port's economy. Even the update of the Port Vision 2030, *Port Compass* (Havenbedrijf Rotterdam, 2017) emphasizes only (but quite exhaustively) the need for the right education from the perspective of port employment as an exponent in its relationship with the city. New developments with a more holistic

⁷⁴ "wij willen hiermee bijdragen aan een hoogwaardig woon- en leefklimaat in de stad. De haven heeft hier een indirect belang bij omdat het de stad aantrekkelijker maakt als vestigingsplaats voor bedrijven."

approach might alter this again, as discussed in the concluding Chapter 10 about the port–port city relationship and where the relationship between cluster governance and triple helix policies is demonstrated and supported.

9.6.2 Antwerp

“...so, from that perspective, there is a contribution from the port community, but directly, I doubt that a little bit.”⁷⁵

In Antwerp, the activities for fostering welfare in the economic and cultural sphere focus specifically on the need for education in the city. Recently, the companies' contribution has been directed at that under the port authority's supervision by means of so-called talent houses. Here, the aim is to get highly educated people interested in a job in port business, as well as to get less educated people motivated to take a job. This, however, is stimulated by the local government and not so much by the port companies. The individual activities of the chairman of the board (and city alderman) are particularly responsible for that. He himself is more nuanced in this, stating that especially the petrochemical sector is involved in on-the-job training for young people, although he sees this as a rather recent phenomenon. These activities are also driven the notion that the port is not always visible to those who live in the city. Various events have been organized to bring the port back into the minds and hearts of the Antwerp people. The Museum aan de Stroom (MAS) is a striking example of how the port is being brought back into focus, partly by the permanent exhibition about the history of the port of Antwerp. In the researched annual reports of the port authority, there is a shift of attention from supporting cultural activities to supporting institutions with a social objective. This attention is absent in later editions of the reports. Throughout the years, attention is paid to getting the young into the port as employees, but it cannot be denied that these efforts are taken from an economic perspective given the emphasis on employment consequent to the needs of the port employers. The fact that in the annual reports there is constant reference to the license to operate confirms this. In the annual reports for different years, it can be observed that this attention too is diminishing and even absent in the 2016 annual report, even in the sense of a license to operate. There is no mention of individual companies taking care of special projects in the city.

⁷⁵ “...dus in die zin is er wel een bijdrage vanuit de havengemeenschap, maar op directe wijze twijfel ik een beetje.”

Antwerp-based businessmen play their part in contributing to society for their personal motives. One of the most striking examples (and, as he is the only one often mentioned in the Antwerp port city community, the most prominent one) is Fernand Huts, the CEO of Katoen Natie. He involves himself in the cultural assets of Flanders by buying objects that represent Flanders culture and makes them accessible to the general public by means of the Phoebus Foundation, which is supported financially by the Katoen Natie company and its subsidiaries. He knows that this cannot be expected from other companies, as they are under the control of foreign-based multinationals. So, even if local management would like to make a large contribution, this will always have to be approved in far distant foreign countries. This aspect of a lesser relationship of a company or its leadership with non-core business-driven activities is reflected in companies' investment in society.

9.6.3 Hamburg

"...and that is also the reason why we try to support the government concerning their voters. And that's... we are coming back to the story, eh, good relationships with the neighborhood that is also an entrance that the government can still govern the city in a way in which we are benefitting too."

Living together as port and city at such a short distance is reflected in the way in which port companies contribute to the city. The well-known Kühne family has created the University of Logistics that bears its name (Kühne Logistics University: KLU), not only because the company would benefit from it because of its need for highly educated future personnel, but also because something had to be done about people's education. Hapag Lloyd also donated to it financially. The University of Hamburg has received donations from a consortium of banks, the HSH (nowadays the Hamburg Commercial Bank). It was acknowledged that it is more common to have private investors in education in Germany than in The Netherlands. Besides these direct investments, a lot has been done to avoid the negative externalities that the port generates, but, as companies are driven by their own interests, this is of course also a way to secure the license to operate. The companies and the Hamburg Port Authority (HPA) contribute to society in different ways, for example, the annual Elbjazz Festival (Hamburg Port Authority, 2012). The HPA sponsors master's studies in IT Management and Consulting at Hamburg University (Hamburg Port Authority AöR, 2013). It especially addresses its contribution to society regarding preservation of the natural environment. The fact that the Grüne Fraktion presides over the city's council does help, but so does the role of the Elbe in that it is not only a waterway, but also hosts many leisure activities along its banks. So, this living together goes beyond the city's boundaries, and, as the owner, the port authority cleans the banks

daily to provide the people with clean beaches. This, too, can be seen from the perspective that the Elbe as a waterway is under pressure. The widening of the Elbe river, needed for so-called encountering boxes (where vessels can pass each other) is in fact having more impact on the environment than the deepening. Here, the port authority has been challenged for a long time by environmentally inspired groups who want to protect the banks. So, to win public sympathy, the port authority does as much as it can in terms of preserving the environment, to make this widening (and deepening) possible. So, a lot is also done as a license to operate. By organizing meetings with people living near the port area, it explains why things are happening and how it comes about that sometimes the port interferes with people's comfort. It is interesting that it emphasizes that providing technical knowledge to the people creates a greater understanding and acceptance of these negative externalities.

9.6.4 Conclusion

As in Antwerp, companies join in educational programs directed by the port authority, so governance mainly leads. Recently, some industries have been launching their own initiatives. This is driven by the idea of getting the right people for existing vacant jobs. Besides this, companies undertake activities to get people closer to the port, driven by their desire to protect their license to operate. On an individual level, initiatives taken for the wellbeing of the city are driven by prominent businessmen's personal interests. This is now under pressure, however, because owners of the large companies are less likely to be local. In Rotterdam in former days, companies were strongly involved in the social fabric of the city. Their owners felt a personal obligation to the city, as a kind of *noblesse oblige*, and they used their companies to do good, in collaboration with the city. This is far less the case nowadays. Some people still play that role in an institutionalized and less visible way. The Port Authority of Rotterdam is working on how it can contribute to the wellbeing of the city, based partly on getting people for jobs and getting jobs for people by investing in education (the latter being more altruistic and the former more economically based). The city is important for the port authority because an attractive city attracts interesting new business (MAPSs), so this is economically driven as well. However, a real getting together as in the past does not happen nowadays, and the port's mental position is not as it was in the years 1950–1980. Beneficiaries of (port) companies are still very present in Hamburg, personally based as well as at a company level. This is a consequence of the typical Hamburg situation whereby port activities produce negative externalities that are easily detected because of site and situation. So, the need to work on the license to operate is omnipresent, but there is a general feeling that the port and the city are stuck with each other and have to make the best of it. Hamburg people's pride proves that this is still a (more than) viable situation.

A summary of the company's investment in society concept reveals the picture as presented in Table 9.10. The scores for both Rotterdam and Antwerp are equal. Of course, it is difficult to attribute these kinds of scales to this subject, but both port cities have more or less experienced the same development, for example concerning the position of former port barons. This personal influence is still more present in Hamburg, besides the extensive contributions made by many companies, hence the “++” under this heading.

Table 9.10 Evaluation company's investment in society

	Rotterdam	Antwerp	Hamburg
Investment in society	+/-	+/-	++

9.7 EXPLORING ECONOMY OF TOUCH

A cluster is characterized by its internal relations. These relations are fostered by meeting one another as an expression of social proximity (see section 4.5.2). So, one needs to be able to ‘touch’ the other to really establish a personal relationship in which trust can be built. The way in which actors in the different port businesses and the port city establish these real personal contacts is the subject of section 9.7.

9.7.1 Rotterdam

“Together with the managing director of that time Gerrit Wormmeester of course. We, we were always dreaming about: ‘then we do this and we automate that’.”⁷⁶

In the 1950s and 1960s, the port of Rotterdam had a face. It was about people who knew one another very well and wanted to get things done. This was a logical result of the fact that Rotterdam had to recover from the destruction in the years 1940 and 1943. People like Van der Mandele and the mayors of the city joined forces, and on a personal basis worked together to create growth and prosperity for the port and the people of Rotterdam. In later times too, the managing directors and owners of companies and the city department responsible for running the port worked closely together. Wormmeester, director of ECT, and director of the Havenbedrijf, Molenaar, both engineers, spent a lot of time thinking of how to optimize the handling of the containerships. In the early 2000s, the director of the port authority was a member of the ECT board. A project at RDM Campus was decided rather quickly

⁷⁶ “Samen met de toenmalige directeur Gerrit Wormmeester natuurlijk. Wij, wij zaten altijd te fantaseren over: ‘dan gaan wij dit doen en automatiseren wij dat’.”

and smoothly because it was arranged by just a couple of influencers and decision makers. However, these relationships, like in Antwerp, have loosened. Increasing competition between container terminal operators and foreign ownership have disturbed these personal bonds. Another frequently made observation relates to the respondents' concern that agreements that reflected a too close relationship might be "food for legal actions". This does not mean that there is no cooperation in the port. Deltalinqs plays a prominent role, but this is a formalized structure and not the typical person-based structure that, with all its disadvantages of an old boys' network, has the capability to smooth processes and pave the way for a more communal approach to cluster development. If, however, that is not the aim of the individual elements of this cluster, there is less need for this economy of touch.

9.7.2 Antwerp

*"No, here that really is the case. Ehm..., very often you've those sectors, started as naties, as terminals, stevedores e.g., that are still united. And who see one another in that way."*⁷⁷

The Antwerp port community is still a rather strong group of people who have known one another for years. This guarantees stability and creates trust within the group. It is seen as a kind of biotope, as one respondent called it; and especially between the naties, originating from the 19th and the early 20th century, the bonds are rooted in history. The position of prominent and characteristic representatives was strong. Port CEOs like Delwaide or Bruyninckx had positions that could not be bypassed. They had very personal relationships with the shipping lines and the terminal operators. Today, there are still quarterly stakeholders' meetings for maritime, logistics, and industry to discuss relevant topics, chaired by the chairman of the port authority board. Alfaport, as a representative of the port companies, meets the former port authority CEO on a weekly basis. In Antwerp too, times are changing. This business management by using one's own personality is becoming rare. Accelerated by the presence of international companies and more strict European Law concerning competition, there is a tendency to make the relationships more formal, as they are careful not to be accused by the anti-trust agency of distorting competition, as noted in section 9.2.2. Furthermore, relations are more subject to legal frameworks that give less room for informal, personally based agreements.

9.7.3 Hamburg

"Hamburg is a village. And, of course, they all know one another."

⁷⁷ "Neen, bij ons is dat echt wel zo. Ehm..., heel vaak heb je ook van die sectoren die als naties gegroeid zijn, als terminalspelers, stouwers bijvoorbeeld, die nog altijd met elkaar verenigd zijn ook hè. En die op die manier elkaar zien."

Of the three cities researched on the economy of touch concept, Hamburg has the strongest representation of it. Existing family bonds ensure that companies are in close contact with one another and give it a dynamic that is not present in the other two port cities. This relates strongly to the fact that the main companies are family businesses. The owners form an elite who know one another personally. In these inner circles, tacit knowledge is very strong. As the business families always did business with English companies, their children very often studied in London, resulting in a close relationship between the London-based business world and the Hamburg-based business world. So, they have known one another since they were very young. Two of the important actors in Hamburg society, Thomas Eckelmann, chairman and major shareholder of the Eurokai Group, and Raetke Müller, CEO of J.F. Müller and member of the Eurokai board, went to study together in Switzerland. They are very close friends and can be found on different councils and at different occasions. If one is in need, the others are very willing to help, and the attitude of keeping this within the community is based upon these close relationships. Within these circles, the shipping circle is the most prominent, as these families are old and rooted in tradition. There is a strong feeling that this should be safeguarded against the outside world and should not disappear because of globalization, which can be seen as a threat to this social fabric.

9.7.4 Conclusion

In Antwerp, meeting one another on a personal basis in networks that have their origin in the past is still the case. Personalities that dominated the Antwerp port business community were also responsible for bringing people together to realize common goals. However, the more business-oriented approach is changing the character of the meetings in such a way that they are becoming more formalized. It is within the nities that a personalized-based community still exists. The same has happened in Rotterdam. In former days, strong personalities, who behaved as if they were personally representing the port, built close contacts with the aim of getting the development of the port as a whole to a higher level. In Rotterdam too, this has changed over the years. A fading economy of touch does not mean that there are no longer contacts between port representatives. It means that the character of the personal ambitions for developing port business has changed – more competition, less getting together around a common goal. Proximity, as a prerequisite of economy of touch, is a condition *sine qua non* for building real trust, the concept dealt with in section 9.9. So, this idea of being physically close together in a community that meets frequently is seen as important for smoothing relationships and making business easier. The fact that this is decreasing as a result of internationalization where a check with the international level needs constantly to be made, and where there

is a fear of being accused of illegal agreements, is regretted by many respondents. The evaluation of the differences regarding this concept is depicted in Table 9.11. As Rotterdam scores rather low, it is Antwerp and Hamburg that still have those person-based relationships, the former because of old structures such as naties, the latter because of family ties. Hence, the “++” for both cities.

Table 9.11 Evaluation economy of touch

	Rotterdam	Antwerp	Hamburg
Economy of touch	-	++	++

9.8 EXPLORING CLOSED COMMUNITY

As presented in section 7.3.3, the concept of closed community arose during the analysis of the Hamburg interviews. The original sensitizing concept of social networks was so dominated by this that it became the perfect example to use as a descriptive and expanding concept. Although there are latent manifestations of a closed community in Antwerp and Rotterdam as well (the latter less than the former), this phenomenon was so omnipresent in Hamburg that it was necessary to elaborate on it because it supports the final conclusion of the characteristics of Hamburg’s port–port city relationships. This is not done for Antwerp and Rotterdam, as neither of them had such strong indications as Hamburg did.

9.8.1 Hamburg

“Our weapon”⁷⁸ has, I don’t know if you know, has a port of a castle with a closed door.”

The Hamburg people find themselves special within the German Umfeld when it comes to characterizing their identity. It starts by being a Protestant enclave in Catholic surroundings – 100% protestant, as one respondent remarked – and very focused on their own business and community. It even means that people like to stay within this ecosystem, and going abroad is going very far away. There are even people within the port authority’s community who hardly speak English. The business language in Hamburg is German; this is rather strange as there is a trend for leading business families to have their children study in London to get an international feeling. However, this closed shop attitude is reflected in many aspects. In doing business and the corresponding business relations, the actions to keep firms in German hands, and the way the Hamburg people socialize with one another, as dealt with in sections 9.2.3, 9.4.3, and 9.6.3, are very much based on a tacit knowl-

⁷⁸ The respondent meant the city’s coat of arms.

edge that is very strong. The important decision makers know what is going on but will not speak too much to the outside world about it. They know when to act and know how the others will respond to that. Besides this tacit knowledge within this group, there is another tacit knowledge from which port business benefits strongly. They rely on the empathy of the Hamburg people who have 800 years of port history to reflect on and which they can see and experience daily. It is therefore difficult to make rational decisions about the port of Hamburg.

9.9 EXPLORING TRUST

As stated in section 3.3, trust is an important coordinating mechanism in networks. So, to research the cluster as a network, this mechanism needs to be addressed. It is a concept that was hard for the respondents to grasp, as it is something that they see as rather obvious in relationships. That there are varieties in this obviousness is the subject of this section. The most obvious one is the difference between business-oriented reliability and personal trust, as discussed in the theoretical part in section 3.3.1 and 3.3.2. Reliability is the concept that is most often recognized. It can be described in terms of quality and business agreements. Personal trust is much harder to identify, because then emotions, experiences, and expectations based on personal perceptions come into play.

9.9.1 Rotterdam

“...because of the spirit of the age and due to all kinds of society developments, the connections between people have loosened. So, I don't think there was a moment of distrust, but people have..., in the end the context has, has become like that; and they have anticipated that, and even collaborated, in that you had less and less to do with one another.”⁷⁹

There is the element of trust between businessmen: once accepted, a given word is trusted. This is based on personal trust but, as shown in sections 9.2.1. and 9.5.1, this is shifting. Because of global developments, people are experiencing more distance between one another. That was not always because of distrust, but these developments made the community less connected and, as a result, relationships became more rational. This meant that making agreements with one another became more legally based. In fact, there is a shift from personal relations to more expedient rela-

⁷⁹ “...nou dat is door de tijdgeest en door allerlei maatschappelijke en wereldwijde ontwikkelingen, is men steeds meer los van elkaar komen te staan. Dus ik denk niet dat er een moment was van wantrouwen, maar men heeft..., uiteindelijk is die context is, is zo geworden; en daar heeft men ook op geanticipeerd, en zelfs aan meegewerkt, dat je steeds minder met elkaar te maken had.”

tions, as discussed in section 3.3.1. This does not enhance trust in a community. The basis of trust changed: from personal trust to business-oriented reliability, partly because fewer projects and activities were shared as being everyone's responsibility; on the other hand, this was caused by the more legalized nature of business relationships. Furthermore, global dynamics have also had an influence. Like Antwerp, when foreign companies settled in the port, the relationships between port companies, but also between settled port companies and the port authority, changed dramatically. As a respondent remarked, representing the port abroad as a joint effort between port company and port authority was no longer possible. The fact that this has since then been restricted to the company itself weakens the port's position. The company will 'sell' itself abroad and will not 'sell' the port as an integrated cluster (why should it, as the relationship between the company, being part of a larger unit, and the port has changed in nature?). In particular, the situation concerning ECT and its position on the Maasvlakte amidst other container terminal operators has damaged the degree of trust to this day. A second element in the port community concerning trust is the attitude of the port authority as experienced by companies: because it is a monopolist, it can behave as it pleases. That does not really stimulate trust. On the other hand, this port authority is valued for the way in which it interacts with neighboring municipalities that are upfront in the underdog position in terms of power and influence. The port authority has regular contacts and makes its ideas and plans clear a long time before any implementation takes place. This creates trust with these local governments, and furthermore it supports small local projects to enhance goodwill. However, to call this real (personal) trust is to give it too much credit, as it is an example of creating a license to operate. This growing apart from personal trust to reliability has to do with a professionalization of society, where relationships are formalized into roles played by people in their professional relations with their own individual, role-based responsibilities and interests. This is in contrast to the more shared responsibilities of the past.

9.9.2 Antwerp

*"Eh..., I think there are a number of objective reasons why the Left Bank is somewhat suspicious towards the opposite of the river. For the reality is of course that in the past, a couple of times the right bank did not address the Left Bank in a very friendly way by saying 'this and this belongs to us'."*⁸⁰

⁸⁰ "Eh, ik vind, er zijn een aantal objectieve redenen waarom de Linkerscheldeover ietwat argwanend is ten opzichte van de overzijde van het water. Want de realiteit is natuurlijk dat in het verleden een aantal keren de rechteroever tegen de linkeroever in af en toe niet zo vriendelijke bewoordingen zegt: 'Dit komt, dit komt bij ons'."

As section 9.7.2 stated, trust, knowing one another, can only be achieved by a high degree of proximity. When the foreign container companies settled in the port, consequent to the taking over of the Noordnatie/Hessenatie combination, the trust among the companies disappeared to a great extent, because these new companies operated from their own perspective and had no inclination to work together to enhance the port. This created an individualistic and fragmented transshipment sector, despite the (successful) efforts of the port authority to have the different sectors (transshipment, logistics, and industry) work together. However, once the home base of the container terminal operators was located abroad, the element of proximity disappeared completely, and with that, the trust between them, and the trust towards the other entities in the port. Moreover, the concept of trust, or to be more precise, the absence of trust, is a central theme in the relationship between the right bank of the Scheldt where the city is located and the Left Bank where the largest part of the port is situated. This is also grounded in the fact that these are also culture-wise two worlds: Antwerp versus East Flanders: in fact, an urban versus a rural community. The Left Bank felt that it had been taken over by the right bank and had to give up land destined for agriculture. Thus, the Left Bank experienced the negative externalities, and the positive effects (port rights and so on) accrued mainly to Antwerp. It took a special law (Chabert's Law) to regulate the cooperation between the two. For that, the Left Bank Company, Maatschappij Linker Schelde Oever, was created in which representatives of the city and the Left Bank communities tried to share the benefits on more equal terms. As mentioned before, this must be called particularism, as it is in the fragmentation of opposite interests that this cooperation is forced, because of legislation. A third issue where trust was under pressure was the issue between the public and the private sector concerning the appointment of the members of the board of directors. Here, the fact that many political representatives needed to have a seat was not very appreciated by the private sector. The former port authority considered that as meddling with the prerogatives of the port authority, and it took some time before it acknowledged the positive side of having a more mixed (non-political) board. For the port community however, this was a blessing, as the more business-oriented reliability approach of the present board is more stable than the former personal relations-based political approach of the city's council representatives who could change during election time. So, in Antwerp, trust is mostly provided by institutionalized mechanisms.

9.9.3 Hamburg

"...and that is something that is usually completely overlooked. Because it has something to do with business ethics.it means that you can trust if you sit and talk, yes, that's agreed. No piece of paper. No signature, we can rely on it."

As previously discussed, reliability is an issue that is most recognizable for the respondents. And certainly, reliability is an issue that plays a role in the Hamburg relationships, but especially for the Hamburg case, personal trust is a very prominent phenomenon, as it is also the logical outcome of the other aspects discussed above in the elaboration on foreign companies, economy of touch, and closed community. Starting with reliability, there is a perfect example illustrating this aspect in the extreme. The Hamburg logistics companies are considered to be very reliable because of their close relationships with Deutsche Bahn. How else can one explain that frozen rabbits from Australia are first shipped to Hamburg before they are transported to Kazakhstan? It is because the shipper knows that this is a very reliable connection; and it is these connections built over decennia, even centuries, that create this belief in the reliability of the job done by Hamburg (German) actors. Or even more strikingly, Eurogate has a stake in a container terminal in the port of Gioia Tauro. It owns it together with AP Möller. Containers destined for Rome are not dropped off there, but sent to Hamburg and then by rail to Rome because that is more reliable. So, the concept of the system's reliability is very strongly perceived for Hamburg. Besides this reliability, trust, personal trust, was very strong in the past between all the actors, and also between unions and employers. This has suffered in the port because of how HHLA was managed in the past. It was putting moneymaking first by selling off a lot of assets. Nowadays, the new management is doing its utmost to regain and re-establish this personal trust by putting the port's business first and seeking connections with the labor unions. Apart from this breach in how trust was created within the port and which was valued for many years, trust within Hamburg's inner circles has hardly ever had a downturn, because, as elaborated on section 8.3 (history of the port), section 9.2.3 (business relations), and section 9.5.3 (foreign ownership), the largest companies with a lot of influence are family companies. They are rooted in tradition. There is a general understanding, a real tacit knowledge, amongst company owners and CEOs that what the family owns now has to be more than what the family owned in the past. So, nothing can be spent that does not create value. This informs employees that decisions by the management are taken for the good of the company, and that creates trust, although even family businesses can go wrong. When the next generation wants to monetize the company's assets for their own benefit, the business suffers; Hamburg Süd is an example of that when it was sold by the Oetker children.⁸¹

81 Respondent who is well acquainted with the families on a personal basis.

9.9.4 Conclusion

In line with the decline in economy of touch and the closed community, trust has changed from personal trust, based on more or less friendly relationships, into reliability, knowing that the other will deliver, based on a business-oriented attitude. This is the case in Antwerp and in Rotterdam. In both cities, companies' changing ownership and their likewise changed objectives have influenced the character of trust between business people. For Antwerp, the absence of trust on governmental level is a pivotal element concerning the Left Bank development, finding its origin in differences between Antwerp and East Flanders based on urban/rural conflicting interests. In addition, the East Flanders cities had negative experiences in the past with Antwerp's expansive attitude towards developing new port areas. Within the port community, it is striking that the decreasing influence of politics on the Port Authority of Antwerp's board has increased port businesses' trust in the port authority's professional attitude. Rotterdam's port was extended carefully by keeping good relationships with neighboring local councils, so trust was created. Within the port community, the port authority is distrusted from time to time as it is seen as a monopolist, acting as a company, but able to have a policy that can hardly be influenced, thereby risking its reliability. Hamburg has the reputation of being able to deliver thanks to the quality of its services and connections. Reliability is high, as the examples given illustrate. Personal trust is very much alive between the inner circle of family companies because of tacit knowledge. No surprises, one knows what can be expected. This was breached by the way in which HHLA, a company owned by the city, was managed for some years when the financial output seemed to be more important than how business operated. New management is trying to restore this, as trust is an important element between Hamburg port and port city members. The relationship between the port community and the HafenCity project is therefore a rather uncommon development in terms of trust. De Langen conducted an analysis of the strengths and weaknesses of the Rotterdam port cluster in which the ports of Rotterdam, Antwerp, and Hamburg were compared regarding their culture of trust (De Langen, 2004, p. 180). In his study, Rotterdam scores the lowest and Antwerp almost the same as Hamburg, but De Langen does not differentiate strongly between trust as reliability and trust based on personal relations (he does mention intentional trust). So, making this difference clear, the result of the analysis for this thesis is summarized in Table 9.12, where the lower score for Antwerp compared to Rotterdam on trust as reliability can be attributed to the political climate and the need for legislation. In Rotterdam, trust defined as reliability (business oriented) scores higher compared to Antwerp, but on trust based on personal relations scores lower (confirming De Langen's findings). Hamburg's high score on both manifestations of trust can surely be attributed to the presence of the inner circle of important

families who have strong ties with politics and have been doing business with one another for a very long time.

Table 9.12 Evaluation trust

	Rotterdam	Antwerp	Hamburg
Trust as reliability	++	+	++
Trust as personal trust	-	+/-	++

9.10 EXPLORING SHARED VALUES

Shared values constitute the embracing concept in which the elements discussed in sections 9.1 to 9.8 are embedded. This embeddedness is not a direct causal relationship. One cannot say, because of this shared value, business relations will be like that. However, as was more or less the case with some of the elements above where the elements influenced one another, shared values provide a foundation under, for example, business relations and the way they might develop in time. And vice versa, if these business relations alter consequent to external dynamics, this will influence shared values. The nature of the shared values of the three ports is the subject of this section in which indeed one can again see differences between the ports. Coding the text fragments revealed that a distinction needed to be made in shared values from an economic perspective and from a cultural perspective. So, in the representation of the degree of shared values within the port city communities, this distinction is made.

9.10.1 Rotterdam

*“Our only test is, there is not much discussion about that with certain projects that can affect some individual companies, ‘does it enhance the efficiency and attractiveness of the port as a whole?’ That is the only standard.”*⁸²

The “no words but action” slogan has long been the leitmotiv not only for the supporters of FC Feijenoord, but also for the workers in the port, their employers, and politics. Developing the port equaled developing the city. Government, industry, and university worked together to create the largest port in the world, which would be the motor of the national economy and the source of welfare for Rotterdam. There was a general attitude of showing the world that business had to be done on a global scale with a town of just half a million citizens. This was a real shared value

⁸² “En onze enige toets is, en daar hebben wij weinig discussie over bij bepaalde projecten die bijvoorbeeld individuele bedrijven kunnen hinderen, ‘Verhoogt het de efficiency en aantrekkelijkheid van de haven als geheel?’ Dat is de enige norm.”

in everyone's hearts and minds. There was a pride in having industries that were leading the world. City and port were together. As is the theme of this dissertation however, the separation of the port and the city was not only spatially articulated. Of course, the process of port and city growing apart has been going on for decades, but Rotterdam's attitude has also changed in the last two decades. The idea that a large part of industry is in foreign hands, especially concerning container terminals, is viewed by Rotterdam politics as a given situation that should not bother people too much. The presence of foreign companies affects shared values, however, because of differences in culture; and the way of doing business makes it more complex to align actions that need to be taken jointly. As there is no shared culture, it is harder to develop a shared vision based on shared values. Section 4.2 discussed the influence of culture on behavior; this is the basis of this mismatch when it comes to aligning the interests of companies for the greater good, especially when it is not specifically business oriented but oriented towards the city or the region. There was a general feeling among the respondents that this willingness to go further together has changed, and not for the better. The Rotterdam community has changed as well. The influx of people from other countries, who in many cases belong to a weaker socioeconomic class, do not have a mental relationship with the port at all, but there is still a feeling of "don't touch our port" within the port worker community, because, like in Antwerp, this community realizes the importance of the port for The Netherlands.⁸³ However, many respondents notice that the general feeling of creating something greater than just Rotterdam is not shared by all of Rotterdam's stakeholders, and this is regretted by many. For the Port Authority of Rotterdam, the concept of shared values, like for Antwerp, is restricted to economic issues. It mentions the Havenvisie 2030 as a result of a joint effort of the port authority, the city, and Deltalinqs, in which it reclaims the position of the port for the national economy. It does so for two years in a row but, for the years following, there is hardly any mention of sharing visions or values again. Antwerp more or less uses the concept to frame the collaboration of the three sectors, but such a translation of shared interests cannot be observed in the Rotterdam reports.

9.10.2 Antwerp

*"...what does the common citizen of Antwerp think about this, then you feel.... they are conscious of the history, of a port, of the fact that it creates a lot of wealth."*⁸⁴

⁸³ The Port of Rotterdam, but not Schiphol Airport, is one of the 50 topics of the National Canon.

⁸⁴ "...wat denkt de gewone Antwerpenaar daarvan, dan voel je wel van..., die zijn zich wel bewust van de geschiedenis, van een haven, van het feit dat die veel welvaart creëert."

Shared values in the port of Antwerp are based in Antwerp city. They reflect the common attitude of the Antwerp community, citizens, port employees, port employers, and Antwerp politicians towards port business. The fact that Antwerp port hosts these, as they call them, three-pronged activities – maritime based, industry based, and logistics based – creates welfare for the people who work and live there, and they are very aware of that. From the perspective of the common laborer, this can even go beyond the direct relationship between employer and employee. Dockers in one company are willing to help dockers in another company when they cannot finish their job in time. This has partly to do with the fact that they feel united because of the labor pool; on the other hand, it is also the can-do mentality that is typical of Antwerp port culture, as some respondents remarked. Another deeply rooted understanding of a value that is shared by everyone and also rooted in the past is the awareness of the importance of an open Scheldt, which creates a position for the port that is irreplaceable. The Antwerp workers are aware (a collective notion) that they have a unique position in the Flemish economy. Not all Antwerp people work in the port, but the idea of having the motor of the economy within the city's boundaries is a widely held notion. It is also typical of the Antwerp situation that this general feeling does not exist at all among the workers on the Left Bank, who live in the Waasland area. Half of the population of the city of Beveren is employed in the port, but their involvement with it is rather small. This has to do with the controversy between the urban (chauvinistically experienced) Antwerp citizen who has seen the port increasing from generation to generation and the (originally agriculture-based) Waasland people, who see the port as an intruder. This sympathy for the port is not supported by the Flemish politicians either, who never “dared to stand up for the port in parliament”. This was already discussed in section 9.2.2, regarding business relations. Outside Antwerp, the development of the port is seen as important for Antwerp, and Antwerp alone; this is a rather curious situation for Europe's second port. The Port Authority of Antwerp in its annual reports hardly promotes the concept of an idea or something to be valued. For the port authority, there is a shared vision, acknowledged by everyone and strongly characterizing the port (as discussed in the section on business relations), that it is the optimization of the logistics chain that is most important. Over the years, this emphasis on collaboration has been seen as the way to share the objectives of the various stakeholders (in accordance with their customers) to be able to fulfill the can-do mentality “encapsulated in the slogan ‘Everything is possible at the port of Antwerp’” (Antwerp Port Authority, 2014, p. 11). So, for the port of Antwerp, the concept of shared values (in terms of shared vision) is strongly related to the economic development of the port itself.

9.10.3 Hamburg

“And representing a port means, you represent the values of free trade, of openness, of welfare, of safe workplaces.” “Our mission as a port authority is to ensure the creation of jobs and add value for the city.”

The idea of togetherness and sharing values is most directly evident in the port of Hamburg if one considers shared values from the perspective of port authority, port companies, and port city. The citation above makes that very clear. Neither in Antwerp nor in Rotterdam is the formulation of the importance of the port for the city expressed so clearly. The mentioning of openness in the first part may be peculiar, but it should not be forgotten that everything that has to do with trade and that enhances prosperity encounters an open attitude. The thing that protects the interests created by this free trade is the closeness of the community that benefits from this free trade, as seen in section 9.2. All the Hamburg respondents started by rephrasing the Hanseatic tradition so omnipresent in the Free and Hanseatic City of Hamburg – this idea of trading, building long-term relations, which is based on a long-term perspective, combined with realizing that this is an 800-year-old port city. This idea is woven into the city’s social fabric in all its manifestations. Fairness in doing trade was translated as an understanding that the opposite party also needed a living and that one would be pennywise pound-foolish not to recognize this. In Hamburg, the fact that the whole is more than the sum of its parts is appreciated by the businessmen. When there were indications that the CEOs of some companies did not know one another well enough, their entrepreneurs’ organization, Unternehmensverband Hafen Hamburg E.V., decided that the logistics cluster should become more acquainted with the aviation cluster, so actions were taken to collaborate on some issues to have a more strongly balanced situation, in which opposing decisions were not appreciated. Not only the employers were involved, but also the unions and company branches. A value strongly shared by both unions and employers is the general understanding that Hamburg (German) labor relations are not characterized by hire and fire. Lasting relationships are seen as more important than quick wins. The location of the port in the city also enforces another shared value (to guarantee the license to operate). In the annual reports of the Port Authority of Hamburg, three components that need to be balanced out and the values that need to be taken seriously are mentioned almost every year: the environment, the economy, and social sustainability. The port authority works closely together with the city’s governmental entities to realize this, for example, in the use of port energy. These collaborations cannot prevent some severe clashes between environmental groups and the port city regarding the widening and the deepening of the Elbe. If shared values are absent in Hamburg, this is the most hotly debated subject.

9.10.4 Conclusion

Shared values certainly exist among the citizens of Antwerp, and they are directly related to the acknowledgement that the wellbeing of the city depends on them. In Rotterdam, this is less the case, although there is a certain pride among the Rotterdam people, also rooted in Rotterdam's history and based on Rotterdam's presumed position in the national economy. The Antwerp dockers are more aware of a shared value, which might be enhanced by the institutional framework of the labor pool. For the port community in both cities, Rotterdam and Antwerp, shared values manifest themselves in an economic way as a shared vision, although in Rotterdam this is rapidly decreasing, as the annual reports show. For Hamburg, shared values are expressed in an economic as well as a cultural sense. The Hanseatic idea, although not crystallized in written documents or organizations or other touchable entities, is the basis for this. It is present within the city community as well as in the business community and directs its actions towards how businesses should be run as well as how to cope with developments from outside. The evaluation of this concept is summarized in Table 9.13. Cultural shared values mirror the concept of personal trust. This is rather predictable, as trust and these types of shared values have a close resemblance. The scores for the three ports overlap. For economic shared values, there is an aberration whereby the higher score for Rotterdam is explained by its position within the national economy, and the somewhat moderate score for Hamburg is based on the controversy about environmental issues.

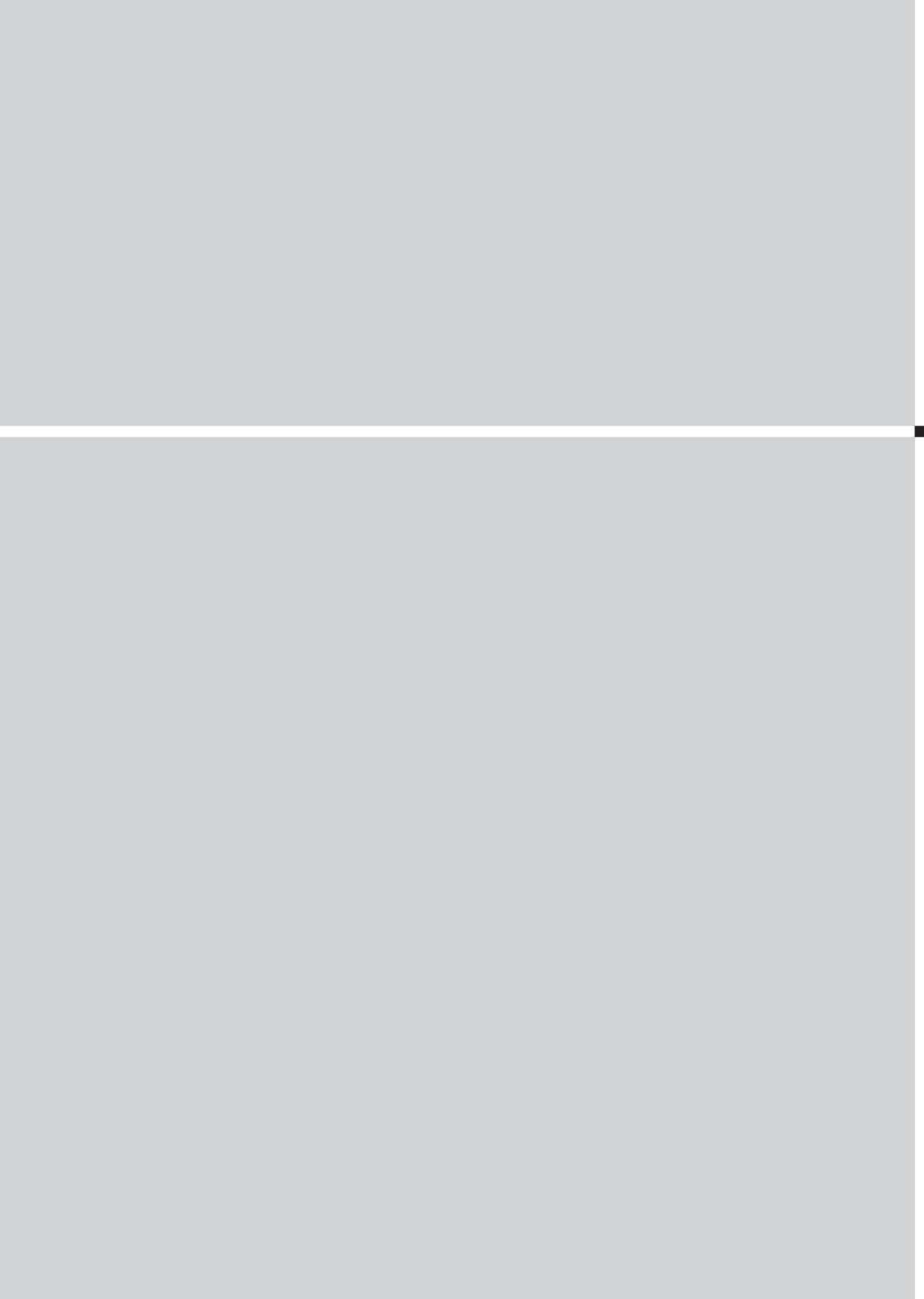
Table 9.13 Evaluation shared values

	Rotterdam	Antwerp	Hamburg
Shared values cultural	-	+/-	++
Shared values economic	+/-	+	+

9.11 Evaluating the empirical findings

Evaluating the concepts individually might not reveal much difference at first glance. Because of historical developments, it is logical that there is a variation in the composition and developments of the three port/port city clusters, but the differences are in the details. As stated, comparisons between the ports in the Le Havre–Gdansk range very often relate to measurable variables. For this analysis of Rotterdam, Antwerp, and Hamburg, data have also been used to illustrate complementarities and diversity, as these are concepts that help to define the differences in the composition of clusters. However, the composition of the port city clusters is not a static situation. The external influences in terms of the global dynamics discussed in Chapter 1 need to be addressed. The way in which this has been done

is influenced by forces for which the other concepts were chosen, and it is there that differences between Rotterdam, Antwerp, and Hamburg become even more apparent. Even then, when one looks at the concepts individually, the outcome in differences might be seen as modest. It is in their combination that these factors are reinforced. It is in this integration that the different outcomes of the influence of the same global dynamics become clear. Chapter 10 deals with this integration.



Chapter 10

Conclusions. Political-economic systems shaping port-port city relationships

10.1 INTRODUCTION

The three port/port city clusters having been described and analyzed, a more integrative approach is needed by establishing a bridge between theory and observations. Briefly, from a political-economic perspective, we describe three different port clusters: Rotterdam as a very opportunistic and economically (but frequently corporate-based) driven port cluster, Antwerp as a political-relations-based port cluster, and Hamburg as a culture-driven port cluster. From the perspective of the nature of the ports, Rotterdam and Antwerp are typical industrial and petrochemical port clusters, with a huge container function as well; Hamburg's description can be limited to that of a container port. The detailed theories presented in this thesis covering the subjects of clusters, governance, and institutional arrangements were needed to define cluster characteristics and sensitizing concepts. In Chapter 9, they were used to discuss the tangible and intangible forces behind the outcome of the current port–port city relationships in the three ports. This chapter establishes a theory concerning the port–port city relationship by showing that the absorption of the general dynamics has not resulted from location and economic developments only, but that the underling social fabric deriving from the political-economic system was also crucial for the position of each port in relation to its city.

Section 10.2 restates the research questions that guided the exploration of the theoretical and empirical research. The answers to these questions make up the first part of this chapter. The outcomes, based on the various research questions, are the subject of sections 10.3 to 10.7. In sections 10.8 to 10.10, the thesis is evaluated from various perspectives. Section 10.8 looks at the future, with remarks on what could be done to restore port–port city relationships. Final remarks are made about port policies in relation to political-economic systems. The scientific and societal relevance of the thesis is discussed in section 10.9. The thesis concludes with the epilogue in the final section, 10.10.

10.2 BACK TO THE QUESTIONS

The overarching research question formulated for this thesis was designed to explore the relationship between port and port city:

How can we understand the relationship between port and port city in response to international, port business-related, developments?

This question was operationalized with five subsidiary questions:

1. What are the dynamics that play a role in the shaping of spatial and port-port city relationships?
2. What are the differences between various port cities in response to these dynamics influencing port-port city relationships and how can this be explained?
3. Which concepts can be of any support to explain the responses to the dynamics influencing port port-city relationships?
4. What different political economic structures can be distinguished that influence the port city communities in Rotterdam, Antwerp and Hamburg?
5. How do these political economic structures manifest themselves in port-port city relationships?

Questions 1 and (partially) 2 were dealt with in the introduction part of this thesis. Question 1 laid the foundation for the problem of a drifting apart of the port and the city, but formulated it as a phenomenon resulting from general, globally occurring dynamics. Question 3 was answered in Chapter 2,3 and 4 which discussed different theoretical concepts concerning clusters, governance, and institutional arrangements. These theoretical chapters established the sensitizing concepts used for the interviews and for the analysis of the annual reports as presented in the framework in Chapter 6. The answers to questions 2 and 5 are the subject of this chapter. The sensitizing concepts provide us with insights that help to answer these questions. Section 10.3 discusses the differences in response to the dynamics by summarizing the articulation of the sensitizing concepts per port city cluster. Chapter 9 provided the main findings for this overview. Section 10.4 relates the findings to theoretical notions as discussed in Chapters 2,3 and 4. It shows that these concepts enhance or mitigate each other. The fourth research question, about political-economic cultures and how they are manifested in Rotterdam, Antwerp, and Hamburg (question 5), is discussed in section 10.5. Because of the nature of the findings, some methodological remarks are made there. Section 10.6 elaborates on Easton's theory as introduced in Chapter 5. By doing so, the research interprets grounded theory in the Strauss variant in a very liberal way, not only using concepts to conduct field research, but also adapting existing theory to structure the results. The fifth research question needed to be answered for each port/port city by constructing a narrative to create a consistent picture. The narratives in section 10.7 make a connection between the theoretical approaches of clusters, governance, and institutional arrangements and thus address the last subsidiary question.

10.3 THE MANIFESTATIONS OF THE SENSITIZING CONCEPTS WITHIN THE THREE PORTS

Table 10.1 summarizes and evaluates the sensitizing concepts as input for constructing a narrative relating each port's developments to its current position, as researched with interviews.

Table 10.1 Evaluation of the manifestation of the sensitizing concepts in port cities

Concept	Rotterdam	Antwerp	Hamburg
Business relations (section 9.2)	Business based and competitive. Internationally oriented, entrepreneurial attitudes. Considered as a national asset.	Institutionalized and politically influenced. More formalized and subject to legalization and particularism.	Locally based. Old trade structures dominant in networks. Close relationship between business and politics.
Complementarities (section 9.3)	Aligned. No active policy to enhance the cluster by integrating the entities through a main-port policy.	Integrated and therefore an enhancement of the entities within the cluster.	Between the marine-based activities and the strongly present maritime advanced producer services in the city. Port as the gateway for importing resources and exporting products.
Diversity (section 9.4)	A very diversified port. Strong maritime-based industry, especially transshipment and fuel based. Logistical value-adding activities also more related to inland ports near Rotterdam.	A less diversified marine-based industry. Logistics adding value within the port of Antwerp. Chemicals as a prominent sector.	Strong marine and non-marine based. Marine industry is only one of the industries. High-tech, high-value-adding activities: chemistry, Airbus, education.
Foreign ownership (section 9.5)	Is viewed as a natural outcome of economics. Like in Antwerp, it is slowly becoming an issue.	Seen as a 'natural' result of lack of finance to develop modern infrastructure. Is viewed as being problematic.	Strong aversion, therefore a protectionist environment. Hardly any opportunity for outsiders to acquire full control in Hamburg companies.

Table 10.1 Evaluation of the manifestation of the sensitizing concepts in port cities (continued)

Concept	Rotterdam	Antwerp	Hamburg
Investment in society (section 9.6)	Recognition of an attractive city where investments need to be made from an economic point of view. Hardly any individual contributions (except Verre Bergen).	Under direction of port authority. License to operate is a motive. Individual entrepreneurs play a modest role.	Companies invest from a license to operate perspective. Besides this, individual businessmen and their companies contribute significantly to the city.
Economy of touch Section 9.7)	Less present.	Especially present between the naties.	Highly omnipresent but invisible.
Closed community (section 9.8)	N.A.	N.A.	Very closed community.
Trust (section 9.9)	Strongly based on reliability.	Institutionalized trust and reliability.	Personalized trust and reliability.
Shared values (section 9.10)	Economic.	Slightly cultural and more strongly economic.	Cultural and economic.

The differences between the three port cities are (more or less) apparent, as was made clear in Chapter 9 by analyzing these sensitizing concepts inductively by using the interviews and the annual reports of the port authorities. As stated regularly in Chapter 9 however, dealing with the concepts one by one is rather artificial. Therefore, it was difficult to stay on course discussing and explaining them in Chapter 9. The concepts need to be seen within their interrelationships. As social networks articulated in political economic structures. Existing theory and newly developed theory can help to do so.

10.4 COMBINING THE CONCEPTS THAT MAKE UP THE PORT–PORT CITY RELATIONSHIP

The thesis started with an exploration of the problems that set the scene: the dynamics that influence the development of port cities around the globe. Thus they are quite independent and difficult for individual ports and their owners, the port cities, to influence. In the port cities under study, the port authorities are still owned by local authorities. The three monographs in Chapter 8 describe the effects of the general dynamics that have shaped the spatial arrangements. The drifting apart of port and city is apparent in the three cities but has led to – even spatially – different

outcomes. The butterfly model in Chapter 1 is clearly apparent in Rotterdam and Antwerp and much less in Hamburg. Of course, location plays a role: for example, the possibility for Rotterdam to expand westward and eastward, and for Antwerp to expand northward and westward. The development of the right wing of the butterfly can partly be attributed to the modalities used in The Netherlands and Belgium whereby waterways and inland ports are used to reach the hinterland where additional value-adding activities can be carried out. In Germany, the excellent north–south railway system connects the port of Hamburg directly to its hinterland in Southern Germany, and, besides the railways, the Elbe Lateral Canal and the Mittellandkanal connect Hamburg to Hannover, Dortmund, Braunschweig, and ports abroad. The dispersion of activities in The Netherlands is more prominent however. This was stimulated very much by the national government (the need for a national intermodal infrastructure), the provinces and local politicians, and entrepreneurs in cities like Venlo (located close to the German hinterland). Initially, (the 1980s) this was not supported at all by the Port Authority of Rotterdam, but planning policies and industrial development policies overruled Rotterdam.⁸⁵

10.4.1 Cluster theory

The theories used from the various scientific perspectives have helped to elucidate the developments in the three port cities. The perspective from cluster theory was a powerful tool. We have seen that Porter's (1990a) theory about cluster development must be researched by looking at the past as well as at the present. Two of the characteristics of cluster theory, complementarities and heterogeneity or diversity, clearly showed remarkable differences between the three ports. Of all the elements in Porter's diamond, (local) government as an influencing factor clearly plays a dominant role in its omnipresence (the Antwerp case) or in its (local) distance (the Rotterdam case). Diversity, as a concept to illustrate the heterogeneity and the vitality of a cluster, was useful for differentiating between a port city that was strongly based on maritime activities and one for which a port was one of the pillars of its economic system, but not necessarily the most important one. Hamburg is an example of that. Therefore, Hamburg can certainly be seen as a city that is not locked in as Chapman (2005) described, although the port is very locked up spatially.

10.4.2 Governance

Regarding the governance perspective, a sharp distinction can be made between the three ports. Port devolution is an exponent of this. If one talked about the hollowing

⁸⁵ Henk Molenaar, in particular, was very much in favor of creating added value instead of moving TEUs on the Maasvlakte (Kuipers, 2018d).

out of the state (Rhodes, 1996, 1997), it would be more applicable to the situation in Rotterdam than to that in Antwerp or Hamburg. New Public Management was at the base of the port devolution activities that distanced the Rotterdam port authority from local governance. Although formally in the hands of local and national government, in time this port authority has developed a very autonomous position. This is less the case in Antwerp with its board members from local politics. The situation in Hamburg is even more different, as the Free and Hanseatic City of Hamburg treats the port authority as a department of the city 'at a distance', but every move is discussed in the town hall. This issue brings up the next sensitizing concept of governance, ownership. This concept is manifested in differences in attitudes towards governance. The rather casual attitude in Rotterdam towards the fact that main-port actors are owned by foreign companies with their own agenda regarding long-term policies is incomparable with Hamburg's – perhaps convulsive – attitude about keeping things at least in German, but preferably Hamburg, hands. The sensitizing concept of trust is strongly related to these two concepts. The relationships between port actors must be based on trust. As discussed in Chapter 3 (see Table 3.3), trust is analyzed on the basis of personal relations. In Rotterdam, this is articulated in a different way than in the other two ports. For Rotterdam, it is strongly based on reliability. Such trust is economically based. For Antwerp, as arrangements need to be more codified, it is more about institutionalized trust. For Hamburg, the presence of the family companies and their networks provides an example of personal trust, as this is the sensitizing concept of companies' involvement in the city's community. For Rotterdam and (less) for Antwerp, the case is very much one of license to operate and of benefitting employers by creating an educated labor pool. In Hamburg, the business elite is still involved in, and actively supports, the city's wellbeing because of the strong bonds between the Hamburg business environment and the Hamburg politicians.

10.4.3 Institutional arrangements

The institutional arrangements perspective led to the concepts of tacit knowledge, based on an economy of touch, power, and social networks. These concepts are very intangible, as previously discussed. They exemplify the culture behind the social fabric that forms the supra-structure of the ports. Here, the differences between the three port clusters are most prominently manifested. They help to explain why governance is as it is. The Hamburg actors' attitude is based on networks, so with strong ties, a deeply rooted (for decades) tacit knowledge. It is a stable social environment, hardly touched by foreign influence. The Hamburg situation is therefore incomparable with the situation in Rotterdam. In Rotterdam, there is an inner circle too, but business driven, and the old structure of people knowing one another very

well has been eroding over the last years. In Antwerp, there is more an in-between situation, but, there too, the influence of foreign companies in the most prominent port actors (especially the container terminal operators) has led to other relationships that are more rational and business oriented. These outcomes are, as said in section 8.4.3, what Tönnies would define as *Gemeinschaft* and *Gesellschaft* (Tönnies, 1887). These two terms, although related to culture, find their origins in political-economic structures. Hamburg can truly be seen as the typical *Gemeinschaft*, and the port city benefits from that. As illustrated in Chapter 8, this is a rich city that benefits from the we-belong-together attitude. This aspect was present in Rotterdam in the 1950s, 1960s, and 1970s, but it decreased with the advent of the neo-liberal approach as articulated by New Public Management. The port/city separation is a clear manifestation of this. In Antwerp, traditionally, politics still determine the speed of port development, as the situation on the Left Bank shows. Here too however, globalization has been prominent and has changed the power relations, and not for the best for public service. Both ports have turned to the *Gesellschaft* model, where business comes first, with Rotterdam in the lead on this. Sections 10.7.1 to 10.7.3 elaborate on that within the framework of narratives for the three ports. First however, the relationships between the political-economic systems and the sensitizing concepts must be made.

10.5 POLITICAL-ECONOMIC STRUCTURES AND PORT–PORT CITY RELATIONSHIPS

Differentiating political-economic structures using the system of the expression of various spheres can be compared to the findings of the research conducted (Hall & Soskice, 2001). By using Hall and Soskice's classification as described in Chapter 5, some of the concepts in Table 10.1 can be compared. For the classification in different varieties of political-economic systems, it is about an economy of touch. It is about the character of the interactions between firms and people, where the basis can be different types of trust. It is about whether joint activities are undertaken to create positive conditions for port firms to act and create opportunities for the city to implement benefits for society. It is about how ownership of prominent companies is organized. For that, one might expect the situation as presented in Table 10.2. It should be noted that this is an assumed model. It is a translation of the characteristics of the political-economic models, as described in Chapter 5, in terms of the sensitizing concepts.

Table 10.2 An assumed model of the manifestations of the sensitizing concepts in various political-economic systems

	Liberal Market Economy	Latin Market Economy	Coordinated Market Economy
Foreign ownership	++	+	-
Investment in society	-	+/-	++
Economy of touch	-	++	++
Closed community	-	-	++
Trust as reliability	++	+	+
Trust as personal trust	-	+	++
Shared values	-	+/-	++

The intangible sensitizing concepts used in this research indicate the presence of a type of political-economic structure. In Table 10.3, the appearance of these concepts within the ports is indicated. Complementarities and diversity are not included, as they are concepts that describe the composition of the cluster in its economic structure. Neither is business relations included, as that is a derivative of the concepts. These are extensively dealt with in Chapter 9. Their conclusions are used in the

Table 10.3 The presence of the sensitizing concepts and the political-economic structure in the three ports

	Rotterdam	Antwerp	Hamburg
Foreign ownership	++	++	-
Investment in society	+/-	+/-	++
Economy of touch	-	++	++
Closed community	-	-	++
Trust as reliability	++	+	++
Trust as personal trust	-	+/-	++
Shared values cultural	-	+/-	++
Shared values economic	+/-	+	+

Source: Interviews and annual reports as discussed in Chapter 9

three narratives of the ports in section 10.7. Table 10.3 focuses on the social fabric that underlies this social structure. The evaluation is based upon an interpretation of the strength of the presence of the concept based as it is on the remarks made in Table 10.1. It must therefore be interpreted as a plausible outcome as discussed in Chapter 7 regarding the essence of the grounded theory method. Table 10.3 is based on interpretation, a plausible one, as it is made up of coded segments of the

interviews with the respondents in the port city. Table 10.4 provides some insights to link this directly to the coding process. During the analysis of the interviews, a corresponding code was attributed when the subject was discussed. The interviews per port city were then grouped together and a frequency table of the codes was compiled. The frequency⁸⁶ of the codes that represent the sensitizing concepts provides us with the overview in Table 10.4.

Table 10.4 Groundedness of codes per cluster of interviews for Port of Rotterdam (POR), Port of Antwerp (POA), and Port of Hamburg (POH)

Codes	POR	POA	POH	Totals
Closed community	0	0	22	22
Company's investment in society	19	12	5	36
Economy of touch	21	42	28	91
Family company	4	11	22	37
Foreign ownership	48	45	13	106
Institutional trust	4	1	0	5
Local ownership	4	6	24	34
Personal trust	19	11	17	47
Shared value cultural	25	14	37	76
Shared value economic	25	11	26	62
Totals	169	153	194	516

Source: Author (Output Atlas Ti: Groundedness codes per cluster interviews)

This exercise was not performed for the annual reports, as the codes from the sensitizing concepts were less directly applicable, as discussed in the methodology. Although the figures in Table 10.4 suggest an exactness that seduces the researcher to say that the appearance, or at least the mentioning of a code – in the interviews, for example, for family company – is twice as strong in Hamburg as it is in Antwerp, this cannot be the outcome for this table. What it does suggest is that some concepts are more strongly present in one particular port than in the others. Again, as discussed in the methodology section, this analysis of the interviews and the annual reports provides the material on which, with a certain plausibility, conclusions can be drawn that make up a narrative or theory. However, what the numbers say must be evaluated by taking a closer look at the content of the remarks coded in that way. And then some observations must be made. Most of codes correspond with the evaluation as presented in Table 10.3, based on Table 10.1, which was a condensation of the findings presented in Chapter 9. In Table 10.4 however, a concept like

⁸⁶ Groundedness based on Atlas Ti frequency table

company's investment in society deviates. In numbers, the port of Hamburg scores 5, which is the lowest. This is not reflected in Table 10.3 where the concepts are ranked almost equally. Here, a judgement needed to be made between high-impact personal contributions – as in Hamburg with the Kühne University of Logistics as a perfect example – and more frequent and structured contributions from port authorities in Antwerp and Rotterdam in, for example, traineeships. A similar deviation can be made for personal trust. The high score for Hamburg and the low score for Rotterdam on the concepts in Table 10.3 are based on the current situation. In the coding of the interviews, which resulted in Table 10.4, the Rotterdam respondents reflected on this concept by telling stories about the past. So, in numbers, for Rotterdam this code occurred frequently, although the current situation shows a change, where this has decreased. The same applies for shared values, where the concept is divided into an economic and a cultural aspect. Although in numbers the economic shared values concept was the same for Rotterdam and Hamburg, the content of the coded fragments showed that, in Hamburg, the economic shared values element reflects the problems between the city intruding into port areas, whereby an economic shared value is eroded. However, this groundedness of codes was very a useful aid for providing a structure to make up the narrative concerning port–port city relationships, as the codes' groundedness was a tool for selecting which codes to use and which codes to relate to them.

Tables 10.2 and 10.3 relate to each other. The three ports, in terms of these concepts, resemble these types of political-economic systems. It was not the intention of this thesis to prove a case that port A resembles political system B, and port C resembles system D. The systems were needed to provide the framework and using that provides this outcome. What it does show is that these sensitizing concepts were well chosen. They helped to describe and explain the developments in the ports in a political-economic context.

10.6 ABOUT INPUTS, BLACK BOXES, AND OUTPUTS: ESTABLISHING RELATIONSHIPS

As this chapter started with the research questions, it now comes to the last one: Can the different outcomes of the general dynamics as articulated in port–port city relationships be attributed to differences in the supra-structure⁸⁷ of the three ports

⁸⁷ As remarked in footnote 1 in Chapter 1, in this thesis, the supra-structure is the broader societal construct about how things are done.

under study? The former sections helped to answer this question with the observation that the supra-structure is very distinctive in the three port/port city clusters and can be deemed responsible for how the general dynamics are dealt with. Supra-structure matters and should not be taken out of the equation in port studies.

The model adapted from Baltazar and Brooks (2007) about strategic fits of involves port actors – port firms, port authorities, and port cities (Figure 3.3) – shows that it is the fine-tuning between the individual fits that leads to different outcomes. The strategic fits are an outcome of structure, strategy, and environment. Based on Figure 3.3, each actor's strategic fit is influenced by the other actors' search for a strategic fit. The search for the optimal fit is influenced by the general dynamics, as presented in Figure 1.2 describing the relationship between governance, general dynamics, and the relationship between the actors. Furthermore, this process of responding to external influences and taking into account existing but changing responsibilities, relationships, and strategies, takes place within a socio-political-economic context. This context was to be considered a black box. This thesis has opened up the black box by regarding it as a transformational system shaped by political-economic systems. Figure 10.1 synthesizes these outcomes as an adaption of Easton's (1957) model of a political system as presented in Chapter 5.

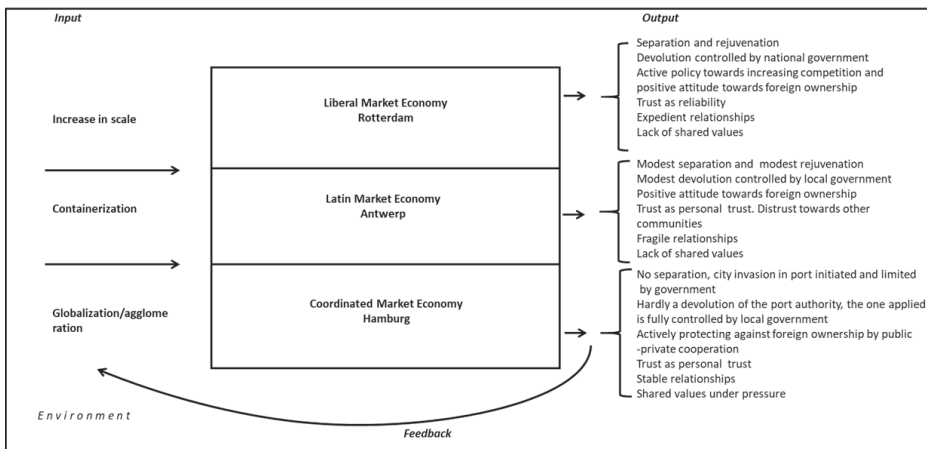


Figure 10.1 A model for approaching the outcomes of political systems given the same environmental inputs (adapted from Easton, 1957)

It is the environment as shaped by political-economic structures that this thesis has applied to study the ports of Rotterdam, Antwerp, and Hamburg. As input variables, the general dynamics were used that, molded by the characteristics of these political-economic systems, were responsible for outcomes that in turn might

affect the input variables, as illustrated in Figure 10.1. This system has a feedback. The role that the city wants to play in influencing the input to the system, the general dynamics, is one of the challenges for the future. How much power can or will a governance structure exert to achieve an outcome that favors the whole port city community? As remarked, power increases when local structures are backed up at national level. To illustrate the outcomes of this model, three narratives are constructed, based on the outputs modeled in Figure 10.1.

10.7 THREE NARRATIVES FOR THREE PORTS IN VARIOUS POLITICAL-ECONOMIC SYSTEMS

Up to now, various concepts guided the descriptions of the developments in the ports. They were the level of analysis. Now, it is time to describe the developments from the perspective of the port–port city relationship as the level of analysis, where the history, the present situation, and possible future developments are discussed. For that, for each port, schedules were constructed with the codes that most prominently describe the developments on which the narrative can be constructed and conclusions can be drawn. The relevant political-economic system framework is used for each port. The narrative is not just a story, it is a construct in which the various elements are combined to provide meaning to the observations made.

10.7.1 Rotterdam, a Liberal Market Economy

Rotterdam is a very large port, especially when measured in cargo handling volumes (tonnage). However, when expressed in added value, the port is not as large as one would expect from a complex that is so huge compared to its two competitors. It is highly esteemed for its contribution to national welfare and therefore supported by the national government when needed; but it is a port characterized primarily by flows of oil, other basic products, and containers. In this, it is responding to international developments that are beyond its sphere of influence. Although oil will be a necessary product for years to come, a time will come when it will be a business in decline. In cluster terms, this port will have to reinvent itself over and over again. To date, it has succeeded in that by dedicating itself to new developments such as hydrogen, biomass, and other sustainable energy sources, in addition to sophisticated IT solutions in maritime communications and data processing. The port has clearly chosen free entrepreneurship where competition within the port is highly stimulated. From Porter's idea that competition within the cluster enhances the competitive power of the cluster itself, this could also make the port vulnerable. Although 'ships still follow cargo', the decision does not always have to be rational

for the distant decision makers of liner or terminal operators to put port authorities under pressure. Because of these operators' possibilities in other nearby ports, they can try to enforce decisions that may be favorable for them, but not always for the port. The impact of the dynamics relating to scale increase, containerization, and globalization are expressed most strongly in this port. That this could be the case is due partly to its location: containers are handled rather easily, as there is enough space. A national government strongly supported these developments and realized the extensions on the Maasvlakte I; and, since the end of the 1980s, there has been a liberalized climate in The Netherlands, enthusiastically adopted by (historically based) entrepreneurial Rotterdam to make the most of it. This westward movement out of the city was accompanied by a more eastwardly directed movement of other logistics activities along the rivers where inland ports were developing, supported by the Port Authority of Rotterdam in close collaboration with the national government and regional governments. This stretched out the maritime activities spatially, in such a way that these inland ports benefit. So, their value-adding activities do not benefit the city of Rotterdam itself, but rather the other regions.

Synthesizing Rotterdam's scores on the sensitizing concepts and comparing them with the assumed scores of the Liberal Market Economy socio-political structure results in the picture presented in Table 10.5.

Table 10.5 Rotterdam, a Liberal Market Economy

	Rotterdam	Liberal Market Economy
Foreign ownership	++	++
Investment in society	+/-	-
Economy of touch	-	-
Closed community	-	--
Trust as reliability	++	++
Trust as personal trust	-	--
Shared values cultural	-	--
Shared values economic	+/-	--

Note: A distinction was made between cultural and economic values for the three port cities and not for the political-economic system. Therefore, the system's shared values score included both types of values.

Globalization as a dynamic entered Rotterdam unimpeded, and therefore it was one of the first ports in which foreign ownership could flourish, unlike other ports in Western Europe. However, other ports soon opened up, with the exception of

Hamburg. Rotterdam is also a port characterized as having a problematic city. It has the central problem experienced in many port cities of economic development lagging behind in parts of the city. It is a port city whose ties with the port have been loosening – a process enhanced by the presence of these large powerful global players, especially in the cargo sector: the container business. Companies' investments in the city have been decreasing compared to the past. This separation between city and port is further stimulated by the port authority, which has been gaining a large degree of autonomy thanks to the entrepreneurial character of its past and present directors and the strong entrepreneurial attitude of politics and businessmen in Rotterdam. Trust between actors transformed into reliability (because of a stronger business-oriented relationship). This entrepreneurial character shows itself nowadays more and more in the port authority's explorative attitude. The port therefore scores more on economic shared values than on cultural shared values. Thus, the Rotterdam port cluster is typically an example of a *Gesellschaft*, but this cluster also has a city that is less interested in the port as it has to deal with its own urban problems – a city that has the burden of a less educated community and where many higher income level employees have moved out of the city, although the tide is turning thanks to new urban developments. There is, however, a gap that still needs to be filled. For that, the Rotterdam Maritime Capital project may be the instrument to bring the port closer to the city again.

The results in Table 10.5 may suggest that this had to be the conclusion. It is striking, although the researcher was constantly aware of possible bias when evaluating the concepts and attributing scores. In the end however, this is the plausible result for Rotterdam, which indeed very much approaches the score for the political-economic system connected with it. Some remarks are made on this methodological issue in section 10.9.1.

In the meantime, Figure 10.2 depicts a model expressing Rotterdam's port–port city relationships in a Liberal Market Economy context.

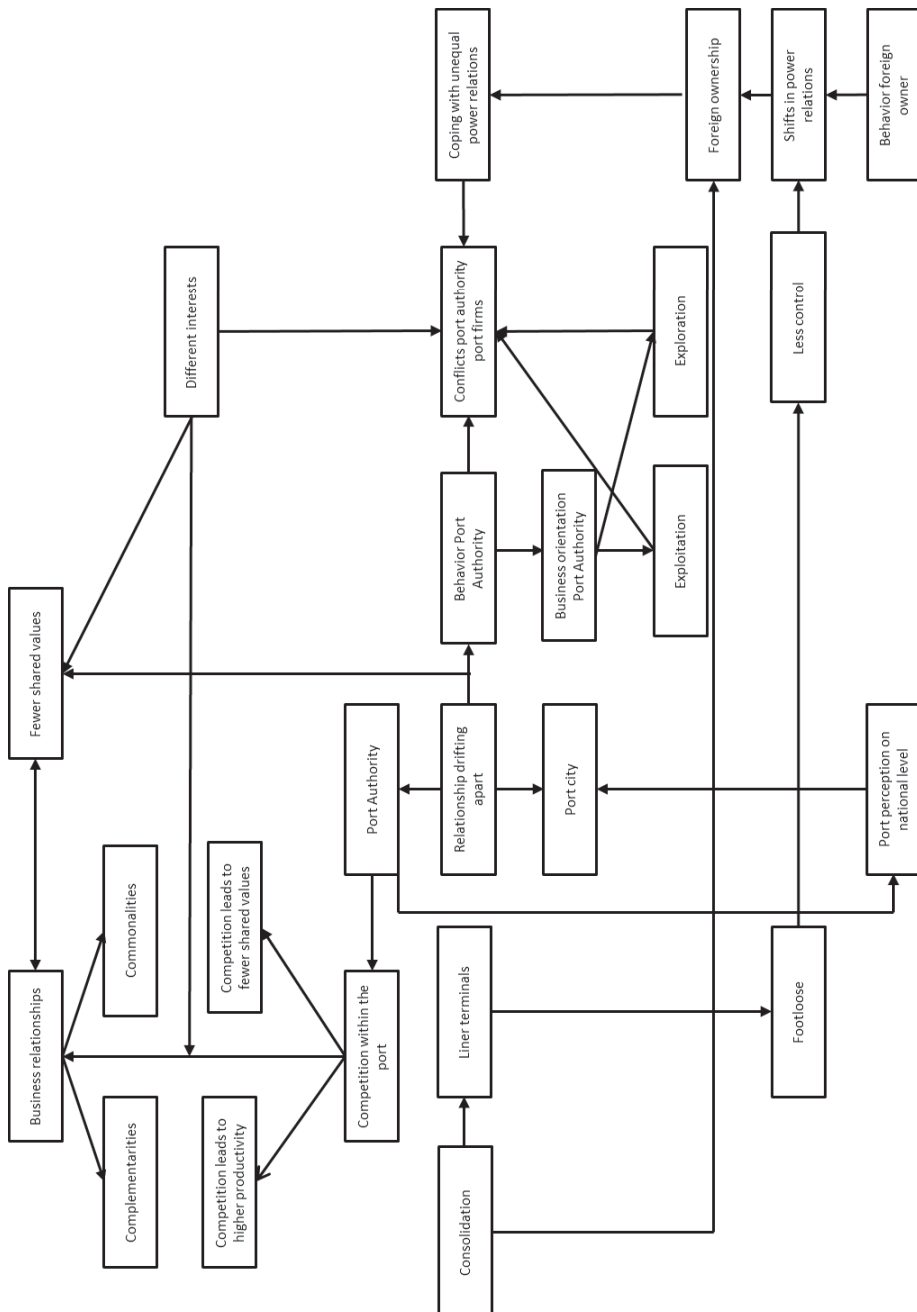


Figure 10.2 A model expressing Rotterdam port–port city relationships in a Liberal Market Economy context

10.7.2 Antwerp, a Latin Market Economy

Antwerp is a port with a typical, value-adding logistics sector that has its roots in early days and has been capable of retaining this activity until now – a port that not only depends on transit and therefore is influenced by short- or medium-term economic trends, but also has its own industrial structure with a certain independence. This is the strength of the port of Antwerp, thanks to the presence of some family-owned companies, organized around the *naties*. However, Antwerp is also a port that has to maneuver within politically determined goals, because of its strong bonds with the city council and its special relationship with the political forces as expressed by the municipalities on the Left Bank on whose territories it has expanded and wants to grow in future. These elements are reflected in the scores synthesized in Table 10.6.

Table 10.6. Antwerp, a Latin Market Economy

	Antwerp	Latin Market Economy
Foreign ownership	++	+
Investment in society	+/-	+/-
Economy of touch	++	++
Closed community	-	-
Trust as reliability	+	+
Trust as personal trust	+/-	+
Shared values cultural	+/-	+/-
Shared values economic	+	+/-

It is a city that lacks support at national level and therefore has to compete with other ports in Flanders for funds. This lack of national-level support derives from a situation typical of the federal state of Belgium where particularism fragments policies in order to satisfy the different needs of smaller entities. This is a property of the socio-political structure of the country, and particularly this region. This obstructs port performance. The development of the Left Bank is an example of how fragmented interests slow down the development of the port and shows the effect when a port is not considered as of a national interest. Conversely, there is a lack of trust to create conditions to foster the development of the port and of the smaller neighboring cities. This is why Antwerp, regarding personal trust, scores (slightly) less than expected according to the political model. This fragmentation is also reflected in the composition of the port authority, where elections can change its composition and therefore its impact – an unenviable situation with the prospect of having to make deals with large liner terminals and other global players, especially because politics favor personal relations as a basis for doing business – relations that are not easily built with these international players. The question is whether these

companies are open to doing business with an institution that is heavily influenced by local political players with their own political agenda. To date, institutionalized actions such as Major's Law and Chabert's Law have been able to cope with problems in the port. It is typical for a Latin Market Economy to reach for legislation when communications and business-like negotiations fail. These 'solutions' are, however, under pressure, not only because, as in the case of Major's Law, the employers find them outdated and not applicable to modern employer/employee relationships, but also because international EU legislation obstructs this.

Antwerp will have to find a way to reach its goals not only because it has to try to satisfy the interests of the actors involved, but also because a modern port city needs to be flexible to adjust to rapidly changing international developments and to be attractive for outsiders to live and work in a modern vibrant city. The relationships between the actors and the processes that constitute the port-port city relationships are depicted in Figure 10.3, where Antwerp is placed within the Latin Market Economy as the political-economic context. Like Rotterdam (and Hamburg as will be shown), the scores on these concepts very much resemble the political-economic context.

10.7.3 Hamburg, a Coordinated Market Economy

Hamburg is a port under pressure: spatially, because there are literally limits to its capacity to expand; metaphorically, because city development in terms of water-front development puts pressure on existing areas of the port. Moreover, for a long time already, the port has been profiting less from spin-offs; but this city is much more than its port, although in terms of visibility the port is very evident. Thus, Hamburg “breathes the port” and its function, despite the more than noticeable negative externalities, is very much appreciated. This is enhanced by the blossoming cruise industry that brings its own dynamics to the town. As a cluster, the core of port business risks being locked in. This situation may be enhanced by the culture of its community. This community is composed of many family-owned companies with their own tacit structure that, thanks to an economy of touch, operate beyond the official structures, try to keep things under control, and are willing to help one another on the basis of old personal relationships whereby they trust one another. They are the architects (or components) of a social fabric that really determines what happens within the port. They are the owners of locally based companies that do not allow foreign companies to get a foothold in the port, or try to prevent them from doing so. On the one hand, this gives the port of Hamburg a certain autonomous position because it is more in control; on the other hand, it could mean that it will eventually lose contact with international developments as business globalizes. Viewed from the city’s perspective, as stated, the city is more than its port. The port is just one of Hamburg’s businesses, because such businesses “...ranging from automobiles, to electrical products to manufacturing chemicals did not need coalfield locations. They thus grew up in the established cities where the medieval crafts had been” (Hall, 2014, p. 92). To elaborate on that, Hamburg not only did not have coalfields, but also did not need huge coal imports to power economic activities, because the existing activities are of a different nature. These other activities (pharmaceuticals, education, aviation) are strong, future oriented, and expressed in the level of research and development and added value. Those industries contribute to the very wealthy city of Hamburg, based on high level employment. Even there however, Hamburg tries to be in control by preferring to own community needs like energy or taking stakes in companies if the city thinks that they are important for the city’s wellbeing. Thus, Hamburg is a *Gemeinschaft pur sang*: it is about the members, and not just the stakes involved; but the *Gemeinschaft* is under pressure because city developments like rejuvenation of former port areas is pushing the port to its limits spatially. These concepts are synthesized in Table 10.7 and compared to the political-economic model of the Coordinated Market Economy.

From a national perspective, Hamburg is in the same position as Antwerp. It is just one of Germany's ports without national support favoring the port with a focused port policy. The rather city-state-oriented attitude will not contribute to a stronger relationship; but, like Belgium, the federal state organization delegates responsibility to the various more or less autonomous regions. That favors internal competition between the German ports, and the question is whether this gives global players too much power that will have an effect on port fees and decision making.

Table 10.7 Hamburg, a Coordinated Market Economy

	Hamburg	Coordinated Market Economy
Foreign ownership	–	–
Investment in society	++	++
Economy of touch	++	++
Closed community	++	++
Trust as reliability	++	+
Trust as personal trust	++	++
Shared values cultural	++	++
Shared values economic	+	+

Again, the scores in Table 10.7 indicate a very strong relationship between the outcomes evaluating the scores for the sensitizing concepts and the assumed scores for the political-economic system. However, this system in itself is very much related to the German economy, and the Hamburg situation, given its background as a most prominent Hanse city, can therefore be seen as an extreme example of it. Figure 10.4 depicts a model representing Hamburg's port–port city relationships in a Coordinated Market Economy context.

10.8. REMARKS ON PORT–PORT CITY POLICIES

The three port/port city clusters having been described within the context of their respective political-economic systems, comments can be made on their policies. The next two sections are an attempt to do so, first, by evaluating the cluster within the scope of the relevant political-economic system (section 10.8.1); second, by making concrete suggestions (section 10.8.2).

10.8.1 Political-economic contexts and port–port city relationships

Positive externalities in the hinterland and negative externalities in the port region as a result of port activities are more profoundly evident in structures where the butterfly model mostly prevails (see Chapter 1, section 1.8). In Rotterdam, this is especially the case. Stimulating more value-adding activities within the port region would generate more positive externalities from which the city's population could benefit. On the other hand, the presence of a strong elite that wants to be influential and have a strong bond with the city and its existing political and economic structures might favor the city more than economic activities that feel less engaged with the city. So, a more closed community in Rotterdam that really feels related to the city could foster this process. For that, Rotterdam's city government should take more control of the port's future developments. The Rotterdam Maritime Capital project could be the vehicle through which to do so. This could foster an integrative approach where companies, private investments, and governance are more aligned within a framework that in the end is established by politics. This means stepping down from the Anglo-Saxon (rather neo-liberal) approach of a completely independent port authority. It is interesting to see that current developments in other aspects of society are moving in a direction of more governmental/political influence. This in fact means returning to the more Coordinated Market Economy that prevailed in the 1950s, 1960s, and 1970s.

It helps to be a main-port; it creates scale and generates influence. In Antwerp and Hamburg, it would be beneficial for national governments to be more involved in the development of the ports' functions. For that, the local governments should do more to force national governments to take a stand in favor of their position. In Antwerp, this means more centralized policies at national level that are able to listen to local interests, but from the perspective of the larger opportunities that go beyond the local communities. So, the Latin model with its policies determined by political local interests should shift to a more rational model where the interests of the economy are balanced out with the interests of other stakeholders.

National governments taking a stand for port policy means taking more advantage of the Coordinated Market Economy in Hamburg's case, but at a higher political level. Closed communities like Hamburg run the risk of failing to capitalize on the international developments regarding changing ownerships and the integration of liners and terminals. Opening up might unlock chances for more cooperation with other ports and thereby a reshuffling of port businesses that best suit the city and activities that are better placed in ports that have the upscaling possibilities to adapt to changes in demands from port users.

10.8.2 Looking forward, what is to be done?

This thesis is not about what has been done wrong or right by the three port/port city clusters. They responded in their own way to challenges that are basically the same. The outcomes were determined by various factors, one of which is the political-economic system and which is highlighted as an explanatory tool; but one might discover advantages and disadvantages of the different systems. So, the next remarks can be seen as mindsets whereby the three ports might learn from one another.

For the port of Rotterdam, in the past the mechanism of adapting to a changing environment has been at work, but primarily for port industry. As one respondent remarked, the position of the city has been weakened by the port devolution. The alderman responsible for the port has hardly any influence, and this is seen as a lack of countervailing power against the Rotterdam port authority. The position of the port companies is one whereby there should be more control on how the Rotterdam port authority acts. The Rotterdam port authority has the advantage of having good relationships with the national government in The Hague. If Rotterdam port authority does not favor developments because of the city's policies, putting pressure via The Hague has always been a 'brake in the toolbox'. This process must be viewed more in terms of the port's structure, which is more than the area west of the city. To date, the port has looked upstream but has also tended to overlook the in-between: the city. The Rotterdam Maritime City project, as well as the update of the Port Strategy 2020, aim to adjust this perspective. If support from the national government, which certainly was an asset in the past, can be assured, Rotterdam city can benefit fully from the developments to come, as will the port itself. This will require not only actions, but also a changed attitude, so that values will be truly shared.

Antwerp has to make a leap across a 'second Rubicon'. Not only must the river Scheldt be crossed, but also the idea must be implanted that formalization of in-

terests in legal structures is an answer to the distrust that exists in the Left Bank communities regarding decisions about port activities and the negative externalities that result from that. The appointment of the mayor of Beveren to the Port Authority of Antwerp board is a step forward in trying to establish more trust; but the balance of power is fragile, as the composition of the board is still partly determined by the presence of political factions. This divides the power of the Left Bank communities to influence the input variables affecting the port community.

Hamburg's closed community faces two pressures – one from outside, as a result of global dynamics (the input for Figure 10.1), and one from inside, as the port community faces the demands of city rejuvenation that needs space for new developments. The possibilities for the port community to expand further are limited. The question arises as to whether this expansion is needed in this port. Of course, one cannot abandon investments made in Hamburg, but a closer look at what should be allowed, guided by the principle of whether this really contributes to the welfare of the port city (as the cruise industry currently does), might lead to more opening up towards regions nearby. Hamburg is characterized by high trust inside but low trust towards the outer world. However, internal ties that are too strong might lock firms into their relationships. Furthermore, there is the dynamic of increased concentration in the container industry. In the future, the balance of power could swing to a side that does not favor Hamburg's interests. Adapting to this by allowing foreign investments is a strategy not chosen by Hamburg, relying on its own strengths as the port for the industrial hinterland with which it has its contacts. This, however, might change as a consequence of the activities of the other northern ports, which might require a more interstate approach by northern German ports. If Hamburg led such a process, it would be in the driving seat of such a development. The extent to which the Free and Hanseatic City of Hamburg, with its inward-looking policies, is inclined to do so is questionable. In addition, it is facing intercity tensions between the port and Hafencity. The government's position is ambivalent, as it is responsible for both entities: the port authority and Hafencity. A more distant relationship towards the port authority might make this tension more visible and thus more debatable. That might loosen up its port-city relationship to a certain extent.

10.9 SCIENTIFIC AND SOCIETAL RELEVANCE

What scientific and societal contribution has this thesis achieved? Within the maritime economy, there has been interest in the supra-structure in which developments have taken place, and, as stated in Chapter 1, attention has been paid to port-port

city relationships. No approach, however, has tried to view these relationships by taking a rather tacit, undefined supra-structure as an explanatory variable to describe and explain differences between port clusters. A lot of the research on port management does not approach the subject from this more holistic and integrative perspective. Port management studies are often rational and quantitative, whereas many important aspects are intangible but do exert influence and have not been examined. This thesis has done so by espousing insights from different disciplines: economy, sociology, and geography. This interdisciplinary approach gives this thesis its own stance in the maritime scientific world. Much research is done by looking at outcomes of processes, but less by looking at the underlying invisible forces and structures that influence these processes. This thesis contributes by researching influential forces like economy of touch, closed communities, and trust. When possible, arguments are illustrated with empirical literature and data. That could not be done in every case. Then, a greater appeal had to be made to a grounded theory characteristic: the argument of plausibility. By combining and creating a narrative as consistently as possible, reality has been explained.

10.9.1 On methodology

Some remarks need to be made regarding methodology. The use of sensitizing concepts is an effective approach to operationalize rather intangible phenomena, but the harsh method of letting the findings meld into these concepts is a method that could lead the researcher into a labyrinth of findings. Structuring the process by defining these concepts in terms of existing theoretical constructs helps to develop a systematically useful tool. That is why in this thesis there has been quite an extensive elaboration of the theories used. It was a quest to achieve a tool to research sometimes intangible phenomena. The results have to be interpreted as plausible outcomes,⁸⁸ and, as stated in evaluating the situation in Tables 10.5 to 10.7, there is the risk of ‘writing to an outcome’. That is why so much theory as dealt with in Chapters 2, 3 4 and 5 had to be discussed. These theories are the backbone on which concepts were chosen and are the tools for the interpretations made. The evaluation of the concepts used a coarse meshed system on a 5-point scale using plus/minus grading, but this also demanded clearer statements on difficult-to-measure outcomes. The application of a numerical scale (with outcomes like 6.4, etc.) would have resulted only in apparent accuracy. The comparison of resemblances to political-economic systems was carried out on the basis of assumed scores on political-economic models. Therefore, the argument can also be reversed: evaluating the three tables creates the scores on the political-economic model. One

⁸⁸ For the discussion on precognition, see section 3.3.9.

should not forget that it was not the aim of this thesis to prove that a port cluster resembles a certain political-economic system. These scores only help to explain the plausible causes of variations in outcomes under the influence of more or less the same inputs.

10.9.2 On policies and interests

Economic developments are not intended to be for the sake of companies. They are not intended to be for the sake of shareholders. Economic developments are crystallized around nodes of activities, the clusters. Therefore, many stakeholders need to be taken into account – stakeholders that all have their own interests. This study shows how various political-economic systems absorb global developments. That is not to say that one system is better than another. What it does say is that systems proffer solutions that foster economic development in ways whereby they can have different outcomes for different stakeholders. This research shows that paying attention to local interests rather than merely taking care of just the economic interests of companies can help to benefit more stakeholders. That is certainly not a plea for a step back from internationalization and globalization; rather, having an eye for the risks of these developments and an acknowledgement that a society should be able to stay in control of key assets is a lesson to keep in mind. Politics do play a role in so-called rational decisions, but, as the motto of this thesis reads, “Reason is a slave of the passions” (Hume, 1986). The starting point is that which is believed in and that which is felt, before rational outcomes become apparent. Therefore, policymakers should be aware that what they think as a rational decision-making process in reality started in the heart with all its biases and preferences.

10.10 EPILOGUE

This thesis started with the remark that port cities are attractive places. The Menon Report (Menon Business Economics, 2012) on maritime capitals, which researches this, claims that the winners in the race for attractiveness will be the leading maritime centers of the world (Jacobsen et al., 2019, p. 4). The Menon Report predicts, in the assessment of industry experts, that Hamburg will be in the vanguard of maritime centers, given the comparison between the three port cities researched in this thesis. This thesis has shown different outcomes of the transformation of the port cities. Attractiveness does not always have to be directly connected to maritime activities, but it certainly was spurred by it. The most attractive cities are the ones that are able to have a diversified economy. Various political-economic systems have been trying to influence this, with different outcomes. There is no favored model;

each has its advantages and its flaws. However, the three systems researched in this thesis have characteristics whereby each entity can learn and implement changes in its own port city environment. For Rotterdam, it means that the bond between port and port city needs to be strengthened by active participation in the Maritime Capital narrative and even taking the lead in it. It should also stimulate locally bound initiatives in which the national government should participate. Take initiatives in container handling activities could be one option. For Antwerp, it means that the Left Bank must acknowledge that, for the greater good, one cannot stick to one's own small-scale interests but realize that the development of activities of large-scale industries need to be governed by strong entities that can act as one. The Antwerp political community sitting on the port authority board must therefore rise above its political interests and realize that taking care of national interests requires a national approach. For Hamburg, it means that it should open up cautiously, otherwise there is the risk that developments in days to come will pass it by and choose other nearby German ports. A national port policy could be devised to choose what kind of future there is for these ports on Germany's north coast. What these three cities show is that old structures, stemming from the past, are sometimes very alive – Hamburg, and to a lesser degree Antwerp – or almost gone because of an attitude that in fact does not really fit the structure of its society: Rotterdam. The latter might be changing, as is visible in the discussions about business relations and companies' responsibilities towards society (stakeholders instead of shareholders), gaining trust, ownership, and shared values.

This study contributes to a better understanding among ports of one another's position. It would be worthwhile if this work could contribute to a better understanding of each tradition, presenting the DNA structure and the actual political-institutional context. It starts from an ex-post orientation, but, more than ever, we need to have knowledge of this complexity in order to be able to read the future (ex-ante). Being aware of these insights should lead to more and better cooperation between ports and cities, to be prepared for the common challenges that need to be addressed in the near future – challenges with which these regions especially are confronted: climate change, energy transition, changing economic points of gravity, a changing geopolitical landscape. These challenges ask for public and corporate policies that are not primarily interested in financial benefits in the short term. These topics need investments for the (very) long term. In view of this it can be argued that neo-liberalism as the outcome of the Liberal Market Economy in essence can be viewed as a conservative way of thinking, and in fact delayed responding to these challenges. A new approach might be needed. The developments in 2020 as a result of the Covid-19 crisis seems a catalyst, a turning point if one takes a closer look

at the statements of Dutch politicians. Time will tell if this translates itself into a business perspective that views ports as constructs that are inseparable from their cities with all the responsibilities both have for each other.

The first sentences of this thesis in the problem analysis in section 1.1 made a kind of promise: “This thesis is about the untold. The presence of the invisible but clearly present. It is about knowledge that is not clearly expressed but omnipresent. It is about relational structures that are articulated formally and informally. It is about embeddedness in an environment that sets constraints or opportunities. It is about an infrastructure and a deeply ingrained supra-structure, the ‘fluid’ that flows within a port’s society, that influences one of the most massive, heavyweight artificial structures ever made by man: it is about ports and their port cities.” A lot has been said and so it is time to end. As this thesis has opened up the black box and tried to give voice to the untold, a view on the invisible, and an explanation of the unexpressed, differences between the three port city clusters in their response to the same general dynamics have become clear and the reasons for these differences have been explained.

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APPENDIX1: LIST OF INTERVIEWEES

Name	Date of interview (jjjj-mm-dd)	Function	Company
Rotterdam			
Rob Baghus	2018-06-29	Chief Public Affairs & Public Relations Officer	ECT
Ulco Bottema	2018-05-24	Senior Commercial Executive	ECT
Carel van den Driest	2018-05-31	Former CEO	ECT
Ben Vree	2018-07-06	Former Managing Director	PSA
Wim van Sluis	2018-06-07	Former Alderman	City of Rotterdam
Hans Vervat	2018-07-05	Former Alderman/ Director; owner	City of Rotterdam/ Matrans Holding
Dominic Schrijer	2018-06-28	Former Alderman/Mayor	City of Rotterdam/ Zwijndrecht
Menno Huijs	2019-06-20	Managing director Rotterdam Maritime Board	City of Rotterdam
Wio Schaap	2018-06-22	Senior Policy Advisor	City of Rotterdam
Henk de Bruijn	2018-05-31	Manager Social & Labour Affairs	Port of Rotterdam
Henk Molenaar	2018-07-04	Former CEO	Port of Rotterdam
Victor Schoenmakers	2019-03-14 2019-08-20	Director Corporate Strategy	Port of Rotterdam
Allard Castelein	2020-03-16	CEO	Port of Rotterdam
Hans Smits	2018-07-11	Former CEO	Port of Rotterdam
Steven Lak	2018-08-13	Chairman	Deltalinqs
Antwerp			
Marc van Peel	2017-11-22	Alderman, chairman	City of Antwerp/Port of Antwerp
Guy Janssens	2018-01-12	Chief Corporate Affairs Officer	Port of Antwerp
Eddy Bruyninckx	2018-01-11	Former CEO	Port of Antwerp

Name	Date of interview (jjjj-mm-dd)	Function	Company
Roger Roels	2017-12-07	Former managing director	P&O Ports/DP World
Fernand Huts	2017-11-30	CEO	Katoen Natie
Jan Blomme	2017-11-16	Regional Port Commissioner	Government of Flanders
Peter van de Putte	2017-11-17	General manager	Maatschappij Linker Scheldeoever
Thierry Vanelslander	2017-09-18	Associate professor	University of Antwerp (Transport & Logistics)
Stephan Vanfraechem	2018-01-15	Managing director	Alphaports/VOKA Antwerpen
Marc van de Vijver	2018-02-09	Mayor	City of Beveren
Hamburg			
Jens Meier*	2019-07-11	CEO	Port of Hamburg
Bernhard Zampolin*	2019-07-11	Ass. to the CEO	Port of Hamburg
Bjoern Pistol	2018-10-25	Head of Port Strategy	Port of Hamburg
Phanthian Zuesongdham	2015-11-12	Officer Process Management Innovation	Port of Hamburg
Gunther Bonz	2018-10-24	Former State Secretary/ Executive Director	City of Hamburg/Eurogate
Anjes Tjarkes	2019-02-27	Chairman faction Green Party	City of Hamburg
Jürgen Bruns-Berentelg	2018-12-13	CEO	HafenCity Hamburg
Jürgen Sorgenfrei	2018-10-25	Former CEO/Managing Director	Port of Hamburg Marketing /IHS Markit
Hans-Ulrich Wolff	2019-02-28	Consultant	W&P marine
Jens Froese	2019-02-28	Professor em./ Consultant Maritime Logistics	Hamburg University of Technology
Michele Acciaro	2019-02-01	Associate professor	Kühne Logistics University

*Information via questionnaire

APPENDIX 2: DISCIPLINES, APPROACHES, AND INDICATORS

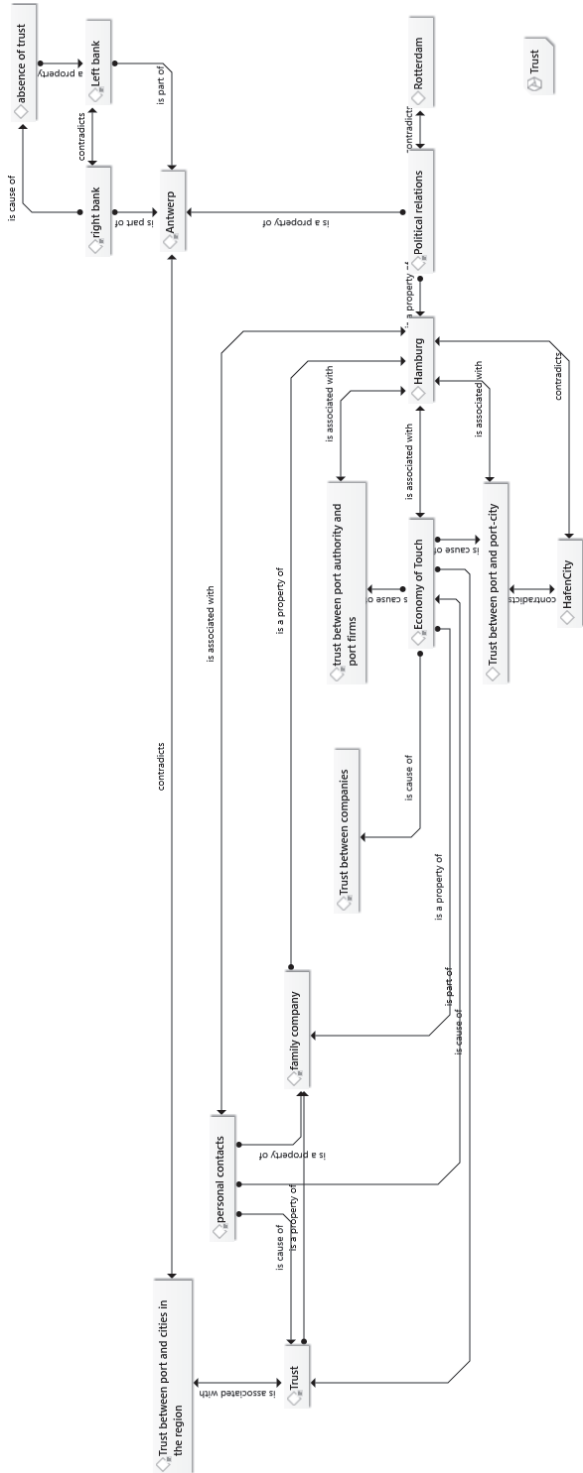
Discipline	Scholars	Model	Fields of interest	Indicators	Comment
Neo-classical economy <i>A Theory of Location of Industries</i> (1929)	Weber, (Isard, Moses)	Industrial Complex	Stable relations among firms; relations are trading links; concerning the relationship between optimal location of the firm, transport costs, and the price of factors of production (labour)	Level, pattern, and temporal stability of the input–output linkages for local tradeable and factor inputs	Static, only ‘hard’ economic drivers
Neo-classical economy <i>Principles of Economics</i> (1920)	Marshall	Industrial District: pure agglomeration based on a certain industry	Local pool of specialized labour; local non-traded input; maximum flow of information and ideas. Based on geographical proximity.	Estimation of aggregate production functions (labour force, capital)	Still hard economic drivers but an eye for relationships. Pays attention to path dependency and history.
Management and business studies <i>The Competitive Advantage of Nations</i> (1990)	Porter	The Diamond: an elaboration on non-traded inputs. Businesses benefit from availability and efficiency of local services.	Factor conditions: demand conditions (local); firm’s strategy, structure, and rivalry; related and supporting industries. Relation with customers and suppliers.	Human capital, knowledge resources, demand size, pattern of growth, number of competitive suppliers, number of rivals. Commonalities and complementarities.	All about relationships in the perspective of competitive advantage. Historical perspective (path dependency). Describes a situation, not a model for future developments.
Management and business studies <i>Creating Shared Value</i> (2011)	Porter & Kramer	Stakeholder model	Attractive clusters as a driver for supply and demand Relationships between firms and their environment	Stakeholders; supply and demand within the region	Acknowledging positive and negative externalities; role of public governance emphasized

Discipline	Scholars	Model	Fields of interest	Indicators	Comment
Neo-classical New economic geography <i>Geography of Trade (1991)</i>	Krugman	Geographic Concentration	Interaction of demand, increasing returns, and transportation costs; centripetal and centrifugal forces. Role for history and accident.	Aggregate production functions (labour force, capital). Costs.	In fact, a Marshallian approach based in a spatial context. Hard economics. Sees conflicts of interest in the dynamics of the spatial concentration.
Sociology <i>The Strength of Weak Ties (1973)</i>	Granovetter	Social Network	Strong (interpersonal) interfirm social interactions are stronger than intrafirm interactions; strong and weak ties; interpersonal trust and routine practice	Involvement in joint- ventures, lobbying activity, mutual-support networks, means of controlling membership of the network	Not a real spatial dimension although it is about a linked network placed in space. Has profound ideas of the boundaries of space and the impact on the network. Very usable.
Economic geography <i>Places and Flows: Situating International Investment (2009)</i>	Dicken	Trans-national corporations	Social embeddedness: inter- and intra-firm relationships; firm-place and place-place relationships	Customer-supplier transactions; positive regional spill overs; power of local firm towards the other international sister companies	Place and geography are important determinants of firms' behaviour; there are place-specific contexts. Comparative international analyses are required to 'understand the nature and characteristics of the persistently varied and divergent forms of capitalism.'
Geography <i>From 'Growth Center' to 'Cluster' (2005)</i>	Chapman	Life cycle	Locked-in regions; cluster life cycle		Brings in the development of the cluster. A frame to describe the historical events that led to the current situation. Important for evaluation of the future of clusters.

Discipline	Scholars	Model	Fields of interest	Indicators	Comment
Economics <i>Skill Relatedness and Firm Diversification</i> (2013)	Neffke & Henning	Skill-relatedness	Related diversification	Job migration	Strong link to Chapman. In combination, this provides the researcher with a great tool. Strong emphasis on HRM, perhaps too much. If other factors were included, perhaps other judgments could have been possible.
Geography <i>Cluster Life Cycles – Dimensions and Rationales of Cluster Evolution</i> (2009)	Menzel & Hornahl	Life cycle	Dynamics: heterogeneity and absorptive capacity; Dimensions: direct and systemic effects, quantitative and qualitative dimensions	Size, capacity for collective action; diversity utilization; localized learning, spatial and thematic boundaries	Elaboration of Chapman. Here everything comes together. What is lacking is Porter's ideas about the diamond factors and the personal dimension provided by Granovetter
Geography <i>Conceptualizing Cluster Evolution: Beyond the Life Cycle Model?</i> (2011)	Martin & Sunley	Adaptive (life) cycles; Clusters as complex adaptive systems	Life cycle model not capable of providing a general theory of cluster evolution. In need of a model that does not have the episodic discrete systems at temporal scales but has more flexibility to allow more different possible sequential trajectories.	Full adaptive cluster cycle: reorganization, exploitation, conservation, release + cluster (constant) mutation, stabilization, reorientation, failure, disappearance	More interest in the interaction of the cluster with external factors, capable of disrupting cluster developments.

Appendix based on Gordon & McCann (2000)

APPENDIX 3: EXAMPLE OF SCHEDULES OF SENSITIZING CONCEPTS



APPENDIX 4: OUTPUT ATLAS TI

Output Atlas Ti frequency groundedness per port city per sensitizing concept.

	Repondents Port of Antwerp Gr=2346; GS=10	Respondents Port of Hamburg Gr=2182; GS=10	Respondents Port of Rotterdam Gr=3309; GS=14	Totals
◦ closed community Gr=22	0	22	0	22
◦ Company's Investment in society Gr=36	12	5	19	36
◦ Economy of Touch Gr=91	42	28	21	91
◦ family company Gr=37	11	22	4	37
◦ Foreign ownership Gr=106	45	13	48	106
◦ institutional trust Gr=5	1	0	4	5
◦ Local ownership Gr=34	6	24	4	34
◦ personal trust Gr=47	11	17	19	47
◦ Shared value cultural Gr=76	14	37	25	76
◦ Shared value economic Gr=62	11	26	25	62
Totals	153	194	169	516

English summary

Living Apart Together

Rotterdam, Antwerp and Hamburg: relationships between port and city under pressure

INTRODUCTION

Port performances are often studied from an economic or geographical perspective. In these studies, a lot of attention is paid to the achievements of ports in various domains, varying from historic happenings to innovative capacities. The relationship between a port and the city in which it was originally located, if reviewed at all, is examined by accepting the spatial situation as a starting point to explain its development. This has formed the basis for a certain fascination for the separation of functions and effects in terms of studying the labour market, the economic and the environmental effects for the city, and, in later years, its rejuvenation by waterfront development.

Not many studies consider the port and the city as an organic structure with mutual interdependencies; a handful of studies focus on the cluster perspective, but these are exceptions. This thesis combines the two approaches and places port cluster and city interdependence as an outcome of a socio-economic fabric. The study aims to unravel the underlying structure that influences, and more or less determines, the responses to global developments that have an impact on ports in their relationship with their port city. The outcomes of these developments differ between ports, and this thesis analyses the underlying structures for three ports and their effect on the port–port city relationship. The ports in question are the three largest ports in north-western Europe: Rotterdam, Antwerp, and Hamburg.

The thesis is structured in three parts. In the first part, the problem is stated and the research questions are presented. The second part, the theoretical framework, delves into various disciplines to develop a research framework in which so-called sensitizing concepts are presented. These concepts are applied in the third part, the empirical (case)study.

The problem analysis

From the 1960s onwards, many maritime studies have focused on three global developments for which models were constructed. These developments were the effects of a) increase in scale; b) containerization, and c) globalization/agglomeration. In this study, these three developments are characterized as the general dynamics that influence port–port city relationships. Their effects influence the growth and location of ports and have led to a separation between the ports and their cities. This forms the inspiration for this study. Based on this, the main research question of this thesis is:

How can we understand the relationship between port and port city in response to international, port business-related, developments?

The three port clusters – Rotterdam, Antwerp, and Hamburg – are all affected by the same developments but have responded to them in different ways. The study uses the perspective that three different social political-economic systems form the embeddedness for different outcomes.

The theoretical part

To get a better understanding of the dynamics that determine these different outcomes, a framework is developed. This framework results from studying insights from economics, research on clusters, governance, and social sciences. From the insights, an interdisciplinary tool is constructed to conduct the empirical part. As it is about an underlying, not directly apparent fabric, the grounded theory method was chosen as the scientific approach for conducting the research. Following an interpretation of this methodology, sensitizing concepts were needed to conduct the research. These sensitizing concepts are derived from the theoretical overview of the disciplines mentioned above.

Cluster theory describes clusters in terms of their historic development, their composition, their resilience to change, and the degree of public involvement by government. Thus, the cluster approach provides a framework for describing the port–port city cluster in terms of commonalities and complementarities, heterogeneity (differentiation), and locked-in situations. The governance approach provides sensitizing concepts such as business relations, trust, ownership, and companies' contributions to society. Finally, social sciences provide the sensitizing concepts of economy of touch and tacit knowledge. As an integrating concept, provided by cluster theorists and re-formed in this thesis for use as a concept in which the other concepts could manifest themselves, the concept of shared values is a central notion.

Governance scholars study how control, communication, and learning processes can be used as instruments of governance. In the last three decades in particular, the emerging New Public Management has made efficient and effective governance a central theme – hence the role played by governance in this research in view of the devolution of port governance that took place in the last two decades. Social sciences contribute to the development of the framework in the form of institutional arrangements that provide the sensitizing concepts to get a better understanding of the role of behaviour and culture. Political-economic contexts are formulated in three appearances: a Liberal Market Economy, a Coordinated Market Economy,

and a Latin Market Economy. The thesis assumes that manifestations of these three varieties of economic models can help to explain the different outcomes of the port–port city relationships as a response to the general dynamics as described in the problem analysis.

The empirical part

The empirical part is divided into two sections. The first section is comprised of three monographs of Rotterdam, Antwerp, and Hamburg, respectively. It shows that the seeds are sown in history for today's outcomes. Of course, geographic conditions make certain developments more likely than others. It makes a difference if the port is near the seashore or positioned 80 kilometres inland. However, historical bonds across Europe also determined the economic position and configuration of the cities, and still do even today. Rotterdam's position, recognized in the national policy of The Netherlands as a generator of economic development, is still reflected in the economic structure of the port and the city. In Antwerp, the country's political structure and context determined and still determines the development of the port and the relationship between port and city. This is not restricted to influences at national level only, but also includes the political relationships between provinces or between cities and villages near Antwerp. These multi-level issues have a direct effect on the port and the city of Antwerp. In Hamburg, being one of the most important Hansa cities, a caste of merchants/businessmen with strong governmental relations developed over the centuries as a very internationally oriented but also closed network. This has led to a structure that can still be found nowadays with its own mores and behaviour.

The second section is based on interviews with 36 key port actors, active or formerly active in business, port authorities, or city government. The sensitizing concepts distinguished in the theoretical part are the topics to be explored in these interviews. Besides the interviews, the annual reports (2011–2016) of the port authorities of the three ports are analysed by using a selection of the sensitizing concepts to conduct a text analysis. In addition to the analysis, statistical data are used to underline or illustrate the conclusions.

Relationships between ports and their cities

The findings from the analysis of the concepts for the three ports/port cities show that the differences in outcomes within these regions can be explained by differences in political-economic systems; this argument is a plausible one. The narratives created for each port–port city relationship make it clear that actors' responses can be traced back to their respective supra-structure: their socio-cultural embedded-

ness. The differences between the three ports become clear, as summarized in Table S1.

For Rotterdam, starting from its reconstruction just after World War 2, a shift can be observed from a strong entrepreneurship for the good of society to reconstruct the national economy rooted in the city of Rotterdam towards a more stand-alone port with its own economic goals located outside the city. This shift was not only physical but also mental and culminated in a changing governance style from the 1990s onwards, inspired by the New Public Management concept to adopt the concept of New Public Governance. For example, the port authority operated more and more independently, and the port and the city drifted away from each other. This move was not only spatially to the west, but also mentally in terms of belonging to each other and striving for a common purpose. Because of its employment structure, the city had a hard time economically speaking. Large areas, especially in the south of the city, lagged behind in economic development. This was exacerbated by an influx of non-Western immigrants whose economic prospects were poor. The separation of port functions that had traditionally been located in the city Rotterdam was increased by leading companies like the container terminal operators. The consolidation of these companies resulted in a trend towards influential and internationally oriented entities, less based in Rotterdam's business society (see score on foreign ownership). Social structures became less personal, and economic drivers became more dominant (see scores on economy of touch and both types of shared values). This more Liberal Market Economy model is nowadays in question and the call to create stronger ties with the city is getting louder.

Table S1: The presence of the sensitizing concepts and the political-economic structure

	Rotterdam	Antwerp	Hamburg
Foreign ownership	++	++	-
Investment in society	+/-	+/-	++
Economy of touch	-	++	++
Closed community	-	-	++
Trust as reliability	++	+	++
Trust as personal trust	-	+/-	++
Shared values cultural	-	+/-	++
Shared values economic	+/-	+	+

For Antwerp, the globalization dynamic is equally expressed in foreign ownership, like in Rotterdam. Differences can be found in interpersonal relationships, partly

stimulated by the port authority and ties between the port actors and the city that are stronger and more aligned. The political influence manifested in the presence of politicians on the Port Authority of Antwerp's board should not be underestimated, and it certainly contributes to this. That does not mean that there is a widely shared common sense and agreement on the direction of port development. A certain distrust can be observed between, on the one hand, the port and the city of Antwerp and, on the other hand, the surrounding smaller communities and municipalities. That is the arena in which the port and the city strive for their own interests. Politics still play a role in the port–port city community, and therefore the situation in Antwerp indeed reflects the Latin Market Economy.

Rotterdam and Antwerp differ slightly from each other, but the situation in Hamburg is completely different. Its glorious past is still very much present in Hamburg, economically, socially, and culturally. The socio-economic order has a heritage that should not be overlooked. The indicators score high on manifestations of a closed society with strong inner bonds. That influences internationalization and globalization trends, as well as foreign ownership; to date, this social structure has prevented foreign companies from entering Hamburg society. Social structures, controlled by Hamburg's most important actors, try to keep Hamburg's assets in Hamburg hands. Therefore, Hamburg is a real exponent of the Coordinated Market Economy. Hamburg represents a very diversified economy, of which the maritime industry is just part. Negative economic effects with the potential to hurt maritime activities are thus mitigated by the Hamburg employment structure.

So, the study shows that dynamics that are universal for ports in Europe are absorbed in different ways and have led to different outcomes in terms of port–port city relationships. The variations result from the various political-economic systems embedded in different cultures, as operationalized by the sensitizing concepts. There is no such thing as 'the best system'. The research indicates that there are advantages and disadvantages to having a particular political-economic system. Port regions can still learn from one another. An overarching issue is the position of the port within national policy. Rotterdam has benefitted from the formal main-port policy of The Netherlands. This 'favourite' position was not bestowed on Antwerp and Hamburg. In retrospect, Antwerp could have benefitted from such a position in its relationship with surrounding municipalities. For Hamburg, this is less the case, because Hamburg as a city and autonomous city-state has much more to benefit from than only the port. What Hamburg teaches the other two cities is that heterogeneity pays off in terms of welfare for the city. Besides this economic perspective, there is the cultural attitude, articulated by the realization that a community that

has critical assets in its own hands might to be able to play its own role in port developments from which the city might benefit.

And so, this thesis has attempted to clarify port–port city relationships that are often shaped by intangible, tacit forces. This was done by generating topics (the sensitizing concepts) that are considered as expressions of these forces. The black boxes – societies that processed the incoming general dynamics and generated the outcomes – have been opened a little. This opening up contributes to a better understanding of the different outcomes in the three port–port city relationships and provides new insights for a framework that not only explains the past (ex-post), but also has the potential to deal with the future threats and challenges (ex-ante) that all European north-western ports and port cities have in common.

Dutch summary

Living Apart Together

Rotterdam, Antwerpen en Hamburg: Relaties tussen haven en stad onder druk

INTRODUCTIE

Havenactiviteiten zijn vaak het studieobject geweest vanuit een economisch of geografisch perspectief. In deze studies is veel aandacht besteed aan de resultaten van de havens vanuit verschillende disciplines, variërend van de ontwikkeling van havens in een historisch perspectief tot en met het bestuderen van de innovatieve mogelijkheden van de havens. Bij het onderzoek naar de relaties tussen de haven en de stad waarin deze van oorsprong is gesitueerd, voor zover bestudeerd, was de ruimtelijke situatie een gegeven. Dat was dan de basis voor de interesse van de functiescheiding in die haven-stadrelatie, de aanwezige arbeidsmarkt, de ruimtelijke effecten voor de stad en, in latere jaren, voor de stadsvernieuwing via de oude haventerreinen.

Niet veel studies zien de haven en de stad als een organische structuur met wederzijdse afhankelijkheden. Een aantal studies doen dat vanuit het cluster-theoretische perspectief, maar dat zijn uitzonderingen. Dit proefschrift plaatst de wederzijdse afhankelijkheid van het havencluster en de stad als een resultante van een sociaal economisch weefsel. Ze beoogt de onderliggende structuur van dit weefsel te ontrafelen, een weefsel dat mede bepaalt hoe er gereageerd wordt op mondiale ontwikkelingen die invloed hebben op de relatie tussen haven en stad. De uitkomsten hiervan verschillen per haven. De bestudeerde havens zijn de grootste van Noordwest-Europa: Rotterdam, Antwerpen en Hamburg.

Het proefschrift bestaat uit drie delen. In het eerste deel wordt de probleemstelling gedefinieerd met de bijbehorende onderzoeksvragen. In het tweede deel, de theoretische onderbouwing, wordt met behulp van verschillende wetenschappelijke disciplines een onderzoeks raamwerk gebouwd, waarmee zogenaamde 'sensitizing concepts' (richting gevende begrippen) worden ontwikkeld. Deze concepten worden in het derde, empirische, deel toegepast in de case studies.

De probleemanalyse

Vanaf de jaren '60 hebben maritieme studies zich beziggehouden met drie mondiale ontwikkelingen die in verschillende modellen werden weergegeven. Deze ontwikkelingen waren het gevolg van a) schaalvergroting; b) containerisatie, en c) globalisering en agglomeratievorming. In deze studie worden deze drie ontwikkelingen als de algemene dynamieken gezien die de relaties tussen de haven en de stad hebben beïnvloed. Zij beïnvloedden de groei en de situering van de haven en dit leidde tot een scheiding tussen haven en stad. Dit fenomeen vormde de inspiratie voor deze studie. Vanuit deze wetenschap volgt de volgende centrale vraag:

Hoe kunnen we de relatie tussen haven en stad begrijpen als reactie op internationale haven gerelateerde ontwikkelingen?

De drie havenclusters – Rotterdam, Antwerpen en Hamburg- zijn alle drie door dezelfde ontwikkelingen beïnvloed maar zijn daarmee op verschillende wijzen omgegaan. Deze studie plaatst dit binnen drie verschillende sociaalpolitiek-economische systemen die mede verantwoordelijk zijn voor die verschillende uitkomsten.

Het theoretische deel

Om een beter begrip te krijgen van de dynamieken die tot die verschillende uitkomsten leidden, is een onderzoeksmodel ontwikkeld. Dit model is het resultaat van inzichten uit de ruimtelijke economie (het onderzoek naar clusters), de bestuurskunde en de sociale wetenschappen. Vanuit die inzichten is een interdisciplinair instrument ontwikkeld om de het empirisch onderzoek te structureren. Omdat het object van studie een onderliggend, niet direct herkenbaar weefsel betreft, is de methode van grounded theory gekozen als de wetenschappelijke aanpak. Een interpretatie van deze methode volgend, betekent dat dat er 'sensitizing concepts' nodig zijn. Die concepten zijn afgeleid van de theoretische inzichten zoals hierboven genoemd.

Clustertheorie beschrijft clusters vanuit hun historische ontwikkeling, hun samenstelling, hun veerkracht met betrekking tot veranderingen van buitenaf en (hoewel onderbelicht) de mate waarin de overheid invloed heeft. Op deze wijze verschaft clustertheorie een raamwerk om de haven-stad relatie te beschrijven in termen van complementariteiten en gemeenschappelijkheden, heterogeniteit en 'locked-in' situaties. De bestuurskundige benadering verschaft sensitizing concepts als zakelijke relaties, vertrouwen, eigenaarschap, en het bijdragen van bedrijven aan de gemeenschap. Tot slot dragen de sociale wetenschappen bij met de sensitizing concepts 'economie van de het persoonlijk contact', en 'stilzwijgende kennis'. Als een samenbindend concept dat is gebruikt door cluster theoretici maar voor deze studie is geherformuleerd, zodat het als een fenomeen kon dienen waarbinnen de genoemde concepten zich manifesteren, dient het begrip 'gedeelde waarden'.

Bestuurskundigen bestuderen hoe aansturing, communicatie en het leerproces kunnen worden gebruikt als instrumenten voor het besturen. Met name in de laatste drie decennia heeft New Public Management grote aandacht gegeven aan de efficiëntie en effectiviteit van besturen. Bestuurskunde krijgt aandacht in deze studie vanwege de invloed die deze benadering de laatste twee decennia heeft gehad op de verzelfstandiging van havenbedrijven.

De sociale wetenschappen dragen bij aan de ontwikkeling van het raamwerk institutionele arrangementen van waaruit de sensitizing concepts zijn afgeleid die voor een beter begrip zorgen van de rol van gedrag en cultuur.

Politiek economische structuren belichten de mogelijke aanwezigheid van politiek-economische contexten: de Liberale Markt Economie, de Gecoördineerde Markt Economie, en een Latijnse Markt Economie. Dit proefschrift gaat ervan uit dat deze drie variaties van economische modellen bijdragen aan de verklaring van de verschillende uitkomsten in de haven-stad relaties die ontstonden als gevolg van de algemene dynamieken zoals geformuleerd in de probleemanalyse.

Het empirische deel

De empirie bestaat uit twee delen. Het eerste deel wordt gevormd door drie monografieën van Rotterdam, Antwerpen en Hamburg. Deze laten zien hoe het verleden een stempel heeft gedrukt op de situatie van nu en de ontwikkelingen die nog steeds plaatsvinden. Natuurlijk heeft geografie in de zin van locatie ervoor gezorgd dat bepaalde ontwikkelingen in de ene havenstad meer voor de hand lagen dan de andere. Het maakt nogal een verschil of de haven aan zee is gelegen of 80 kilometers landinwaarts. Maar historische verbintenissen binnen Europa bepaalden mede de economische positie en samenstelling van de steden, tot op de dag van vandaag. Het feit dat Rotterdam, door de overheid werd beschouwd als economische motor van Nederland, heeft haar effect gehad op de economische structuur van de haven en de stad. De ontwikkeling van de haven van Antwerpen en de relatie tussen haven en stad, werd en wordt bepaald door de politieke structuur en context van het land. Dat beperkt zich niet tot de invloed van de nationale overheid maar behelst ook de politieke relaties tussen gewesten, provincies, steden en dorpen in de buurt van Antwerpen. Deze multi-level issues hebben een direct effect op de haven en de stad Antwerpen. In Hamburg, een van de meest belangrijke Hanzesteden, ontwikkelde zich gedurende eeuwen een kaste van handelaren en andere zakenmensen, gekenmerkt door een sterke onderlinge band, een zeer internationale oriëntatie, en relaties met de (plaatselijke) overheid. Dit leidde tot een sociale structuur die nog steeds aanwezig is met een eigen mores en gedrag.

Het tweede deel is de resultante van interviews met 36 vertegenwoordigers, actief of voorheen actief, uit de havenwereld, het havenbedrijf, en de politiek. De sensitizing concepts welke werden onderscheiden in het theoretische deel, geven structuur aan deze interviews. Naast de interviews vormen de jaarverslagen van de drie havenbedrijven een bron van analyse waarbij een selectie van de sensitizing concepts de tekstanalyse stuurt. Statistische gegevens uit diverse bronnen zijn aanvullend aan

de analyse van interviews en jaarverslagen en illustreren of onderbouwen de conclusies.

Relaties tussen havens en havensteden

De bevindingen van de analyse, gebaseerd op de toegepaste concepten, ondersteunen de plausibele argumentatie dat de verschillen tussen de drie havenregio's kunnen worden verklaard vanuit hun inbedding in verschillende politiek economische systemen. De geconstrueerde narratieven voor elke haven-stad relatie verduidelijken dat de wijze waarop haven reageerde op ontwikkelingen kan worden teruggevoerd tot de aard van de eigen supra structuur, hun sociaal-culturele inbedding. Er bestaan verschillen tussen de drie havens zoals weergegeven in tabel S1.

Na de Tweede Wereld oorlog, kan een verschuiving worden gezien van een sterk ondernemerschap, geworteld in Rotterdam, ten gunste van de gemeenschap om de nationale economie op te bouwen, naar een meer op zichzelf staande haven met zijn eigen economische belangen, welke buiten de stad is gelegen. Die verschuiving was niet alleen ruimtelijk, maar ook mentaal en vond vanaf 1990 haar beslag in een veranderende bestuursstijl, geïnspireerd door New Public Management. Het havenbedrijf werd onafhankelijker en de scheiding tussen haven en stad werd groter. Die scheiding was ruimtelijk richting het Westen, maar mentaal in termen van een vermindering van het gevoel bij elkaar te horen en naar gezamenlijke doelen te streven. Sociaaleconomisch gezien maakte, de stad, mede door de structuur van de arbeidsmarkt, een zware tijd door. De ontwikkeling in het zuiden van de stad bleef achter. Dit werd nog versterkt door de influx van niet-westerse immigranten met slechte economische vooruitzichten. De scheiding van de verschillende functies van de haven, van oudsher gelegen in de stad, werd versterkt door toonaangevende bedrijven zoals in de container terminal sector. De consolidatie in deze sector leidde tot invloedrijke en internationaal georiënteerde entiteiten die minder binding hebben met de Rotterdamse havenwereld (zie de score op 'foreign ownership'). De sociale structuur werd minder op persoonlijke relaties gebaseerd en economische belangen werden meer dominant (zie de scores op 'economy of touch' en beide typen van 'shared values'). Deze meer Liberale markt Economie staat nu meer ter discussie en de roep om een sterkere binding met de stad te krijgen, wordt luider.

Table S1: The presence of the sensitizing concepts and the political-economic structure

	Rotterdam	Antwerp	Hamburg
Foreign ownership	++	++	-
Investment in society	+/-	+/-	++
Economy of touch	-	++	++
Closed community	-	-	++
Trust as reliability	++	+	++
Trust as personal trust	-	+/-	++
Shared values cultural	-	+/-	++
Shared values economic	+/-	+	+

In Antwerpen is de dynamiek van globalisering op zelfde wijze gearticuleerd als in Rotterdam. Verschillen kunnen worden gevonden in persoonlijke relaties, deels geëntameerd door het havenbedrijf, en de banden tussen de havenactoren en de stad zijn sterker en meer op elkaar afgestemd. De politieke invloed, wat zich laat kennen in de aanwezigheid van politici in het college van toezichthouders van het havenbedrijf, moet niet worden onderschat en draagt bij aan de band tussen haven en stad. Dat betekent niet dat er een algemeen gedeelde opvatting met betrekking tot de richting van de havenontwikkeling. Er is een zekere mate van wantrouwen tussen aan de ene kant de haven en de stad Antwerpen en aan de andere kant de omliggende kleinere gemeenten. Dat is het strijdperk waarbinnen de haven en de stad opkomen voor hun eigen belangen. Politiek speelt nog steeds een rol in de haven-stad gemeenschap en daarop is de situatie van Antwerpen een afspiegeling van de Latijnse Markt Economie.

Verschillen Rotterdam en Antwerpen in zekere mate van elkaar, de situatie in Hamburg is compleet anders. Economisch, sociaal en cultureel is het glorieuze verleden van Hamburg nog steeds nadrukkelijk aanwezig. De sociaaleconomische structuur is een niet te missen erfenis. De onderscheiden indicatoren scoren hoog op de aanwezigheid van een 'closed society' met sterke onderlinge banden. Dit beïnvloedt zowel de trends internationalisering en globalisering, als 'foreign ownership'. Tot de dag van vandaag heeft deze sociale structuur voorkomen dat buitenlandse bedrijven toegang krijgen tot de Hamburgse gemeenschap. Sociale structuren, beheerst door Hamburgse prominenten, proberen de belangrijkste bezittingen in Hamburgse handen te houden. Zodoende is Hamburg een echte exponent van de Gecoördineerde Markt Economie. Hamburg heeft een sterk gediversifieerde economie waarvan het maritieme gedeelte 'slechts' een onderdeel is. Negatieve effecten die in principe de

maritieme activiteiten zouden kunnen schaden, worden aldus gemitigeerd door de Hamburgse werkgelegenheidsstructuur.

Het onderzoek toont aldus dat de universele krachten die van invloed zijn op Europese havens op verschillende wijzen zijn geabsorbeerd, hetgeen leidde tot verschillende uitkomsten in termen van de haven-stad relatie. De verschillen zijn mede te herleiden tot de variaties in politiek-economische systemen welke zijn ingebed in verschillende culturen zoals geoperationaliseerd met behulp van de 'sensitizing concepts'. Er is niet zoiets als 'het beste systeem'. Het onderzoek geeft aan dat er voor- en nadelen zijn met betrekking tot de aanwezigheid van een bepaald politiek-economisch systeem. De havenregio's kunnen van elkaar leren. Een overkoepelend issue is de positie van de haven binnen het nationale beleid. Rotterdam heeft voordeel gehad van de positie van het nationale main-port beleid. Deze bevoorrechte positie kenden Antwerpen en Hamburg niet. Terugkijken zou Antwerpen daar een voordeel aan kunnen hebben gehad in haar relatie tot de omliggende gemeenten. Voor Hamburg geldt dat minder, daar Hamburg, als een stad en autonome stadsstaat, van meer activiteiten de vruchten plukt dan alleen de haven. Wat Hamburg de andere steden kan leren is dat heterogeniteit in de economische structuur zich uit in het welzijn van de stad. Naast dit economisch perspectief is er de door de cultuur bepaalde opvattingen leidend tot het besef dat een gemeenschap die de belangrijkste activiteiten in eigen handen houdt wellicht haar eigen rol kan spelen in havenontwikkelingen waar de stad van kan profiteren.

Op deze wijze heeft dit proefschrift getracht de relaties tussen haven en stad te verduidelijken. Relaties die vaak zijn gevormd door ontastbare, stilzwijgende krachten. Dit is gedaan door concepten te genereren die kunnen worden gezien als uitingen van deze krachten. De zwarte dozen, gemeenschappen die op hen afkomende generiek voorkomende krachten moesten verwerken hetgeen tot bepaalde uitkomsten leidde, zijn wat geopend. Dit openen van deze zwarte dozen draagt bij tot een beter begrip van de verschillende uitkomsten van de haven-stad relaties en geeft nieuwe inzichten voor een raamwerk dat niet alleen het verleden verklaart (ex-post) maar ook de mogelijkheid in zich draagt met toekomstige bedreigingen en uitdagingen (ex-ante) waarmee alle Europese havens en steden worden geconfronteerd, om te gaan.

About the author

Jos Vroomans (1955) studied educational and political geography at the Vrije Universiteit of Amsterdam. After graduating in 1983, for over 25 years he worked in marketing and sales departments of PTT Post (TNT Post, Post NL) and SelektMail (Deutsche Post). Since 2004, he was active in teaching Marketing and Sales at the Faculty of Business, Finance and Marketing at The Hague University of Applied Sciences. For the department International Business Studies, he was involved in workshops teaching an international group of students how to assess business problems and business opportunities.

Since September 2020 he is retired and will find new ways of conducting his energy.