

NWO Vrije Competitie Geesteswetenschappen

1. Project information: Title and short description of the program

*Outport and Hinterland
Rotterdam Business and the Ruhr Industry, 1870-2000*

This proposed research project aims to explore the development of the economic links between Rotterdam, Rotterdam business and the Rhine mouth ports on the one hand, and the Ruhr district and Ruhr industry on the other in the course of the 1870-2000 period. The central research questions are: how and why economic interdependencies between Rotterdam and its hinterland evolved over these 130 years, in which way the main actors shaped the cross-border region, and what role networks or clusters played in this process. The project focuses on two main actors in the Lower Rhine economy, i.e. firms and governments. The guiding theory is based on ideas of agglomeration or clustering as used in economic geography. These theories have been developed further since the 1990s by economist like Michael Porter and Paul Krugman who have led a new discourse of regional competitiveness and both explored the connection between agglomeration (or clustering) and their view of (cross-border) regional competitiveness. The whole project will be divided into three sub-projects, which all have a case study approach. A final synthesis will be written by the two supervisors of the whole project.

2. Composition of the Research Team

- a. First applicant : Prof. dr. Hein A.M. Klemann
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- b. Second applicant: Dr. Ben Wubs
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- c. Three Ph.D. students. Like the applicants, they will work at the Faculty of History and Arts of Erasmus University Rotterdam. They will participate in the Ph.D. research program of the N.W. Posthumus Institute.
- d. Advisory Committee: an international committee of five experts, who will oversee the progress and intellectual output of the project during annual meetings with the Ph.D. students and the applicants.
- Prof. dr. Paul van de Laar, Professor Urban History, Erasmus University of Rotterdam. Specialist in the history of Rotterdam.
 - Prof. dr. Kees van Paridon, Chair of Economics, Faculty of Social Science, Erasmus University Rotterdam and specialist in Dutch-German economic relations.

- Prof. dr. Werner Plumpe, Chair of Economic and Social History, Goethe University Frankfurt. Editor-in-chief of *Zeitschrift für Unternehmensgeschichte*.
- Prof. dr. Peter Romijn, Professor in History of the 20th century, University of Amsterdam and Research Manager of the Netherlands Institute of War Documentation (NIOD).
- Prof. dr. Ray Stokes, Chair of International Industrial History in the Department of Economic and Social History, University of Glasgow. Director Centre for Business History. Specialist in German business history and history of technology.

They all have expressed their willingness to participate.

3. Structure of the proposed research

The research program consists of three sub-projects and a synthesis. The three sub-projects, which simultaneously form the basis of a certain periodization, have a clear economic and business historical approach. The three sub-projects will be put into effect by three Ph.D students. A final synthesis will be written by the two supervisors of the whole project. The projects will be done from the same research-perspective, however, the research questions will differ for each sub-project.

The title of the synthesis is the same as that of the whole project:

*Outport and Hinterland
Rotterdam Business and the Ruhr Industry, 1870-2000*

The titles of the sub-projects are:

- a *Coal, Iron Ore and Steel
Rotterdam Business and the German 'Montan' Industry, 1870-1940*
- b *Opting for Oil.
Rotterdam's Oil Harbour and the Move from Coal to Petrochemical Feedstock of the Rhine Industry, 1945-1970*
- c *The Box and Rotterdam's New Hinterland.
The Rise of Container Transport and Globalisation, 1970-2000*

4. Description of the proposed research

This proposed research project aims to explore the development of the economic links between Rotterdam, Rotterdam business and the Rhine mouth ports on the one hand, and the Ruhr district and Ruhr industry on the other in the course of the 1870-2000 period. The central research questions are how and why economic interdependencies between Rotterdam and its hinterland evolved over these 130 years, in which way the main actors shaped the cross-border region, and what role networks or clusters played in this process. Although hinterland is a much more complicated and dynamic concept, it is here briefly defined as the chief continental interior area of origin and destination of traffic flows through a port.¹ The project focuses on two main actors in the Lower Rhine economy, i.e. firms and governments. The geographical location and natural conditions made the development of Europe's most important cross-border economic region possible. It were entrepreneurs and firms, however, that

¹ In the project this aspects needs more attention and should be one of the research topics. See for example: J.G.W. Simons, *Een achterlandverkenning. Enkele beschouwingen over het begrip "achterland" aan de hand van literatuur, een factorenoverzicht, Rotterdamse promotiereizen en statistische gegevens met betrekking tot Rotterdam* (Rotterdam, s.n., 1984).

used the given possibilities and created the economic reality: small, medium sized and big international firms and (inter)national cartels shaped the Lower Rhine economy. Nevertheless, as regulator of economic activities, owner of public companies and provider of public goods, governments played a determinative role as well.

In the second half of the nineteenth century Germany's heavy industry became increasingly dependent on foreign raw materials, in particular iron ore and wood. As freight costs over water declined in comparison to freight costs by railway, this industry concentrated more and more in the Lower Rhine area. The Ruhr industry and mines also needed an outlet for its finished products and coal, and simultaneously, the growing population of workers needed cheap food from abroad. As a result, Rotterdam evolved into the most important outpost for its German hinterland and the Rhine River became the foremost commercial inland waterway of Europe.

Economic conditions in Germany, in particular in the Lower Rhineland, determined the Dutch economy to a large extent ever since the late nineteenth century. When around 1870 the German nation-state was founded, the Netherlands participated in the economic part of the accompanying integration process. This did not mean, however, that the smaller Netherlands was unilaterally dependent on its bigger neighbour. The German interests in the Netherlands were enormous, and its dependency on Dutch services was also significant. For more than a century there existed a close link between the growth rates of the German and Dutch economies. Since the 1990s, however, as a result of major structural changes in the Ruhr district this narrow link has become difficult to prove statistically.² A research project, funded by NWO, into the economic integration of Germany and the Netherlands and the political consequences has been set up at the Erasmus University by Prof. Dr. Hein A.M. Klemann *The Netherlands and Germany, 1870-2000: economic interdependence versus sovereignty*. The aim of his project is to analyse how, when around 1870 the German nation-state was founded, the Netherlands participated in the economic part of the accompanying integration process, but at the same time could preserve its sovereignty.

As Rotterdam has played a key role in the development of the economic Dutch-German dyad, a closer investigation into the specific role of Rotterdam business and its harbours seems opportune as well. In 2001 and 2002 the Center for Economic Studies (Catholic University of Leuven, Belgium) and the Center of Business History (Erasmus University Rotterdam) were involved in a project called *Rotterdam-Antwerp: a century and a half of port competition 1880-2000*, for which the Flemish Dutch Scientific Committee (VNC) provided research funds.³ The aim of this project was to investigate different variables that influenced competition between these ports and their overall effect on cargo flows. In order to be able to determine the importance of these variables a large database was constructed containing the flow of cargo in both ports. Although this research did not explore the reciprocal relationship between Rotterdam and the Ruhr region, its database can be used for a statistical analysis of Rotterdam and its hinterland.

This proposed research project is particularly significant because it deals with the origins, the growth and structural changes of the world's largest port, Rotterdam, and Western Europe's largest industrial complex, the Ruhr district, and their interrelations in terms of regional economic development. The three sub-themes of this new project are: the German *Montan* Industry – a combination of coal, iron and steel manufactures – and its relations to Rotterdam in the 1870-1940 period, the transformation from coal to oil in the German economy and the effects on the Rhine mouth ports after World War II, and last, the effects of globalization and containerization on the Lower Rhine economy during the last part of the twentieth century.

Theoretical framework

² Hein A.M. Klemann, *Waarom bestaat Nederland eigenlijk nog? Nederland-Duitsland: Economische Integratie en politieke consequenties 1860-2006* (Rotterdam, 2006).

³ The results of this project are published in two edited volumes: Reginald Loyen, Erik Buyst and Greta Devos (eds.) *Struggling for leadership: Antwerp-Rotterdam port competition between 1870 and 2000* (Heidelberg/New York: Physica Verlag, 2003); Ferry de Goey (ed.) *Comparative port history of Rotterdam and Antwerp 1880-2000. Competition, Cargo and Costs* (Amsterdam: Aksant, 2004).

Why do some nations prosper and others don't is one of the main questions of economists since the beginning of the discipline.⁴ During the 1980s, however, under influence of what is generally called globalization, economist and policymakers became concerned with the competitiveness of nations. The threat from new industrializing countries like India and China necessitated efficiency, flexibility and technological innovation. In particular, Michael Porter's study *The Competitive Advantage of Nations* has shaped national policy in many countries since its publication in 1990. According to Porter, the national environment affects the competitive position of firms. Analyzing this environment will bring fundamental insights how competitive advantage on the firm level is created and sustained.⁵ Furthermore, Porter introduced the concept of clusters, which he defined as groups of interrelated firms, suppliers, related industries and specialized institutions in particular fields that are present in particular locations.⁶ The most famous example is the high tech cluster of Silicon Valley in the United States. This agglomeration of firms has long been recognized in economic geography, but not in relation to national competitiveness. Porter aimed to explore the connection between agglomeration (or clustering) and his view of competition and strategy.

National competitiveness, however, is a contentious concept. On the firm level competitiveness is often taken to mean a firm's ability to create, retain and expand its market share, but on a national and aggregate level the concept is rather elusive and hard to measure.⁷ Some regions, nonetheless, perform better than others. Geography as a science has long researched spatial disparities, but have not thought of these disparities in terms of competitiveness.⁸ It has not been geographers, but economist like Michael Porter and Paul Krugman who have led a new discourse of regional competitiveness. In 2001 Porter even stated that the drivers of prosperity are based at the sub-national level and that therefore the locus of analysis should move from national to regional and local levels.⁹

Krugman identifies two primary interrelated sources of regional competitiveness: 'regional fundamentals' and 'regional external economies'. Regional fundamentals are rooted in key regionally-embedded characteristics such as level of education, culture of entrepreneurship, infrastructure, and an intentional public policy. Regional external economies are a result of a region's economic development – in Porter's terms 'environment' – which arise as a consequence of geographical concentrations of clusters. A close spatial agglomeration of similar and related firms enables firms to benefit from these locally embedded externalities, e.g. access to specialised labour, spill-overs of technology and knowledge and networks of trusts and shared business cultures and practices. Economist and geographers alike now argue that these regional externalities are to be recognised as an important basis of regional success.¹⁰

Also on a practical policy level the regional economy has become an important level of aggregation. In 2004 the European commission stated that the improvement of regional competitiveness across the Union 'will boost the growth potential of the EU economy as a whole'.¹¹ However, regional policy to reduce regional disparities by channelling public funds towards projects to lure firms from the core to the lagging region, appear to be rather ineffective according to some scholars. According to Brakman et al agglomeration advantages lock business activity in relatively prosperous core regions.¹²

⁴ Adam Smith, *An inquiry into the nature and causes of the wealth of nations* (Oxford: OUP, 1993). David S. Landes, *The wealth and poverty of nations: why some are so rich and some so poor* (New York: Northon, 1999).

⁵ Michael E. Porter *The Competitive Advantage of Nations* (New York: Free Press, 1990) xi-xii.

⁶ *Ibid.*, xii.

⁷ Paul Krugman, *Pop Internationalism* (Cambridge, MA: MIT Press, 1996) 6.

⁸ Ron Martin, 'Economic geography and the new discourse of regional competitiveness' in: Sharmistha Bagchi-Sen and Helen Lawton Smith, *Economic geography. Past, present and future* (Abingdon and New York: Routledge, 2006) 163.

⁹ Michael E. Porter, 'Regions and the new economics of competition', in :A.J. Scott (ed.) *Global City Regions* (Oxford: OUP 2001) pp.139-52.

¹⁰ Paul Krugman *Growth on the Periphery: Second Wind for Industrial Regions?* (Strathclyde: Fraser Allander Institute, 2003) pp. 23-24.

¹¹ European Commission, *A New Partnership for Cohesion: Convergence, Competiveness and Cooperation* (Brussels, 2004) vii-viii.

¹² Steven Brakman, Harry Garretsen, Joeri Gorter, Albert van der Horst, Marc Schramm 'New Economic Geography, Empirics, and Regional Policy' in: *CPB Netherlands Bureau for Economic Policy Analysis*, 27th May 2005.

By viewing regional competitiveness as an evolutionary (i.e. historical) process, considerable leeway is also opened up for the application of two key concepts from evolutionary economics, i.e. path dependence and adaptation. Economic choices are always to some extent depended on past institutional and technological developments.¹³ Regional economies inherit the legacy of their past developments, which can have negative as well as positive effects. On the other hand, a region's successful development depends on its adaptive capability: the capacity of firms, clusters, and state institutions in an economic region to adapt to new market, technological and organisational opportunities.¹⁴ This historical research project explores both aspects of long-term economic development of the Lower Rhine clusters.

Transnational turn

The Ruhr industry would not have developed on such a scale as it did without such a favourably located outpost, and conversely, Rotterdam would not have become the greatest port in the world without Europe's largest industrial centre as its hinterland. One could not have developed without the other. Still, the development of Rotterdam's port and its business, as well as the development of the Lower Rhine industry have been studied mostly in isolation of each other until now.¹⁵ A cross-border regional and therefore genuine transnational approach is badly needed.

In 2007 Johan Schot and Jan Pieter Smit called for a *transnational turn* in history. They argue that the globalization literature provided historians with a new transnational research agenda which focuses on the study of cross-border flows, people and organisations involved, new spaces constructed, and on the influence of these flows on national and local histories.¹⁶ The transnational space evolved through a circulation and interaction of people, goods, information, etc. The nation state plays a role as well, but not a dominant one. According to Patricia Clavin, who aimed to define transnationalism as a historical concept, it is 'best understood not as fostering bounded networks, but as creating honeycombs, a structure that sustains and gives shapes to the identities of nation-states, international and local institutions, and particular social and geographic spaces.'¹⁷ This research focuses on the transnational aspects of the Lower Rhine economy which enables us to break free from the national oriented economic historiography.

A case study approach

Quantitative data on the Lower Rhine economy to test the validity our theoretical framework developed in the theoretical part are lacking for the greater part, except for figures on Rhine shipping based on Central Commission for Navigation on the Rhine in Strasbourg.¹⁸ Therefore, a case study approach is more appropriate. Quantitative data are used in the separate case studies, however. The case studies can be regarded as experiments to test the usefulness of our cluster framework. According to Yin, multiple-case studies increase the robustness of the results, compared to the single case designs.¹⁹ The goal of case studies is analytical generalization: (provisional) acceptance, rejection or moderation of theories, not empirical generalization.²⁰ Even though all selected cases are just a part of the whole Lower Rhine cluster, an analytical generalization of the Lower Rhine economy in the course of time can be made. The results can also be fruitful for further research. With regard to the comparison between the selected cases, this research is explorative. Differences between the cases are analyzed, but no theoretical explanations are suggested beforehand.

¹³ Douglas North, *Institutions, institutional change and economic performance* (Cambridge: CUP, 1990) passim.

¹⁴ Ron Martin 'Economic geography and the new discourse of regional competitiveness', pp. 168-170.

¹⁵ Renate Laspeyres' study published in 1969 is the most recent study and forms an excellent exception. Renate Laspeyres, *Rotterdam und das Ruhrgebiet* (Marburg: Marburger geographische Schriften, 1969). Another, though much older study is P.J. Bouman, *Rotterdam en het Duitse achterland 1831-1851* (Amsterdam: H.J. Paris, 1931).

¹⁶ Johan Schot and Jan-Pieter Smits 'Introductie: Globalisering en Geschiedenis' in: *TSEG*, jaargang 4, 2007, no 3, pp. 4-13.

¹⁷ Patricia Clavin 'Defining Transnationalism' in: *Contemporary History*, 14, 4 (2005) pp. 421-439.

¹⁸ See also data base of the Rotterdam-Antwerp project: 'Rotterdam-Antwerp: a century and a half of port competition 1880 - 2000': <http://oldwww.fhk.eur.nl/ws/ra/intro.html>

¹⁹ Robert K. Yin, *Case study research: design and methods* (Thousand Oaks, CA: Sage, 3rd ed. 2003) pp. 46.

²⁰ *Ibid.*, pp.10-11.

Originality and innovativeness

New research into Rotterdam Business and the Ruhr Industry is innovative for various reasons:

1. Its multidisciplinary approach: this research combines economic history, economic geography with methods of business history.
2. Its transnational approach: until now this economic region has usually been studied from a national perspective.
3. It will be done on the basis of primary archival material, maintained in company and state archives, which for the greater part have not been used for the history of this cross-border economic region until now.
4. A study of these companies in the Rhine region in relation with various (local) government agencies in Germany and the Netherlands enlarges our historical understanding of the development of government-business relations in the very long-run.
5. It provides a new historical perspective to the development of the Dutch-German dyad and its economic interdependency.

Project 1:

Coal, Iron Ore and Steel

Rotterdam Business and the German ‘Montan’ Industry, 1870-1940

Raw materials constituted the most important class of commodities transported in the Lower Rhine region. Downstream traffic of coal, and other products from Westphalia, chiefly for foreign markets, somewhat surpassed the upstream movement of iron ore, grain, and other imports.²¹ During the 1930s, for example, coal constituted about 70 percent of the total downstream traffic and came almost entirely from the Westphalian coal fields. Westphalia, however, was not only the greatest coal-producing part of Germany, it also contained the most important iron and steel industries of the just united country. The steel industry required the import of ore that helped to assure a return cargo for the coal barges at Rotterdam. As a result, Rotterdam became an important part of the Lower Rhine economy. Rotterdam port forwarded 80 percent of the iron ore upstream of the Rhine before the beginning of World War II. In the same period 80 percent of all Ruhr coal was shipped downstream to Rotterdam.

In 1893 the German coal producers joined forces, changed their marketing tactics, and founded a distribution and price cartel, i.e. *Rheinisch-Westfälische Kohlen Syndikat* (RWKS). In 1896 the *Steenkolen Handelsvereniging* (SHV) in Utrecht started its business and got the sole selling and distribution rights of RWKS. In 1901 D.G. van Beuningen, one of the partners of SHV, decided to set up an extremely successful coal business in Rotterdam as it turned out that it was much cheaper to transport and unload coal from Rhine barges than from rail wagons. As a result, Rotterdam became the leading coal transshipment port of the Netherlands.²² In addition, in the course of time SHV acquired hundreds of Rhine barges and the Dutch company developed into the biggest inland shipping company at the time.

As the Ruhr industry needed ore with a higher content of iron than the domestic mining-companies could deliver, the bulk of iron ore came from abroad. In the beginning transport by rail road was significant, however, after the Swedish mines were connected to ice-free ports in Norway, the Rhine became the dominant mode of transport. By 1903 Rotterdam had become the major transshipment port of iron towards the German hinterland.²³ As early as 1878 the German firm *Wm. H. Müller & Co.* had moved its headquarters from Düsseldorf to Rotterdam to become one of the leading shipping and trading companies of the Netherlands, which made its money mainly in iron ore. In

²¹ Edna E. Essen, ‘The Structure of Rhine Traffic’ in: *Economic Geography*, Vol 10, No. 3 (Jul. 1934), pp. 254-267.

²² Paul Th. Van de Laar, ‘Port traffic in Rotterdam: the competitive edge of a Rhine-port (1880-1914)’ in: Reginald Loyer, Erik Buyst and Greta Devos (eds.) *Struggling for leadership: Antwerp-Rotterdam port competition between 1870 and 2000* (Heidelberg/New York: Physica Verlag, 2003) 78.

²³ H.H.P. Nusteling, *De Rijnvaart in het tijdperk van stoom en steenkool 1831-1914* (Amsterdam: Holland University Press, 1974) pp. 295-305.

particular, Anthony Kröller would play a major role in the luxuriant growth of the firm before the first World War.²⁴ In 1905 the German steel firm *Thyssen* opened an agency in Rotterdam. The aim of the company was to organise the transshipment of coal and iron ore, and to act as a shipping company for Thyssen's Rhine barges. Five years later the *Handels- en Transport Mij.* became a company under Dutch law, which also administered Thyssen's sea shipping activities. In Vlaardingen it established one of the largest harbour terrains in the Rotterdam port area. After the first World War the harbour activities were put in the *Firma Havenbedrijf 'Vlaardingen Oost'*. After the sequestration of German seagoing vessels by the Allies Thyssen's sea shipping activities were administered by a new Dutch company *Reederei Halcyon Lijn* set up in 1920. Two years earlier the German steel firm had established *N.V. Bank voor Handel en Scheepvaart* in Rotterdam to remain access to the international money and capital market.²⁵

The overall research theme of this first project relates to the question how important the Dutch-German clusters were for the development of the Lower Rhine economy. What was the Ruhr industry's role in the development of Rotterdam's ports? How big were the German direct investments in Rotterdam, its ports, and the transport sector? What was the significance of German entrepreneurs and migrants for Rotterdam? And the other way around, what was the significance of Rotterdam's entrepreneurs for the Ruhr district? Why, where and when did these companies invest exactly in their neighbouring countries? What motives did these companies have for their initial investments? What was their strategy? Did the companies have specific competitive advantages which might explain their investments abroad? Last, what were the results of their investments?

Primary Sources

This study will be done on the basis of corporate and (local) government archives. Most important documents are to be found in historical archives of the Steenkolen Handelsvereniging (SHV) in Utrecht, ThyssenKrupp in Duisburg, Krupp in Essen, Thyssen-Bornemisza in Rotterdam, Wm. H. Müller & Co. in Rotterdam, Rheinisch-Westfälische Kohlen Syndikat (in the *Wirtschaftsarchive*) in Essen. In addition, government reports and correspondence can be found in the public archives: *Nationaal Archief* in The Hague, *Archief van Buitenlandse Zaken* in The Hague, *Politisches Archiv des Auswärtigen Amtes* and *Bundesarchiv* in Berlin.

Project 2:

Opting for Oil.

Rotterdam's Oil Harbour and the Move from Coal to Petrochemical Feedstock of the Rhine Industry, 1945-1970

Before the Second World War petroleum transports via Rotterdam constituted about one third of the total imports of mineral oil in Germany. Compared to other bulk cargo-flows, however, the shipment of crude oil and oil products to the German hinterland lagged far behind. The presence of major oil companies, for example *Standard Oil Company* and *Royal Dutch Shell*, and cheap storage and transshipment facilities, had strengthened Rotterdam's position towards the German hinterland before Second World War. Before the war, nonetheless, 92 per cent of Germany's energy needs were supplied by coal. After the war, like in other industrial nations, oil became a major energy source in Germany.²⁶ With demand for oil products growing at increasing rates it became feasible for the international oil companies to build new refineries in Rotterdam and the Ruhr district. The Ruhr was the best site, since it was Germany's most populated and largest industrial region. Moreover, the industrial centres in southern Germany could be supplied better from the Ruhr than from the Northern harbours of Hamburg and Bremen. The main problem, however, was that the supply of crude oil could not be handled sufficiently by river barges. As a consequence, between 1956 and 1958 two pipelines were built, one originated in Wilhelmshaven and the other in Rotterdam. At the same time Rotterdam

²⁴ Bram Oosterwijk, *Haven-Adel aan de Maas* (Rotterdam: Ad Donker, 1997) pp. 59-74.

²⁵ Carl Friedrich Baumann, *Schloss Landsberg und Thyssen* (Duisburg/Essen: ThyssenKrupp AG, 2003) 24-25.

²⁶ Peter P. Waller and Harry S. Swain, 'Changing patterns of oil transportation and refining in West Germany' in: *Economic Geography*, Vol. 43, No. 2. (Apr., 1967), pp. 143-156.

built an immense new port, called Europort, capable of receiving super tankers from all over the world.²⁷ The spectacular development of the post-war oil industry in the German hinterland made Rotterdam into *the* oil harbour of Western Europe.

After the war, Rotterdam's municipal government stimulated the expansion and the industrialisation of the port. Attracting industrial investments was essential to create employment and strengthen the position of the port. The experience of the 1930s had made clear that Rotterdam had been too dependent on its industrial hinterland in the Lower Rhine area. Transport, storage and transshipment had been the main activities, and traffic with Germany amounted to almost three quarters of the port's annual transport. During the 1950s and 1960s, the city created new opportunities for big business and Rotterdam attracted investors from all over the world. After 1970, however, the attitude of the local government changed dramatically after environmental protests. The rejection of the *Hoogovens-Hoechst* project for the establishment of a steelworks at the enlarged Maasvlakte in 1971, was a turning point in the city's attitude towards further industrialisation of Rotterdam.²⁸

In the meanwhile, during the 1950s and 1960s, the German chemical industry had changed its raw materials basis completely.²⁹ *IG Farben* had been replaced by three major successors, *Hoechst*, *Bayer* and *BASF*.³⁰ During the 1950s these three dominant firms in the West German chemical industry had moved from a policy of autarky to dependence.³¹ Political and economic pressure of the Allies had forced Germany and its industry to a complete rejection of the pre-war ideas of autarky. However, competition from American chemical companies in particular had forced IG's successors to move from coal based to petroleum-based chemistry. The big three and many other smaller chemical firms in Germany had become dependent from overseas oil, supplied by American, British and Anglo-Dutch companies, like *Esso*, *BP* and *Royal Dutch Shell*. The greater part of the oil, crude or refined, was delivered through Rotterdam. As a result, by the 1970s the Rotterdam port area had developed into one of the world's largest petrochemical complexes.

The overall research question of the second project relates to the effects of the growing German demand for oil and oil products for the development of the Rotterdam port. What was the effect of the changing raw materials basis of the chemical industry in the Lower Rhine area for the development of Rotterdam's industry? What were the results of the city's attempts to make Rotterdam less dependent of the Ruhr district? Were there German direct investments after the war as a result of the industrialisation policy of the Dutch government? Where there significant investments of Rotterdam based firms in the Ruhr district? Is there continuity in regional clusters or can we observe new networks and new business strategies after the war? Last, did Dutch or German companies have specific competitive advantages which might explain their investments in their neighbouring country?

Primary Sources

This study will be done on the basis of corporate and (local) government archives. Most important documents are to be found in historical archives of Royal Dutch/Shell in The Hague, ThyssenKrupp in Duisburg, Bayer in Leverkusen, BASF in Ludwigshaven, Hoechst in Frankfurt. In addition, (local) government files on the companies can be found in the public archives: Rotterdam Port Authority (*Gemeentelijk Haven Bedrijf*) in Rotterdam, *Nationaal Archief*, *Bundesarchiv* in Berlin, *Rheinisch-Westfälisches Wirtschaftsarchiv* in Cologne, *Hessischen Wirtschaftsarchiv* in Darmstadt.

²⁷ Jolke U. Brolsma, *Havens, kranen, dokken en veren. De Gemeentelijke Haveninrichtingen en het Havenbedrijf der gemeente Rotterdam, 1882-2006* (Utrecht: Uitgeverij Stichting Matrijs, 2007) 233.

²⁸ Ferry de Goey, *Ruimte voor industrie : Rotterdam en de vestiging van industrie in de haven 1945-1975* (Rotterdam: Historische werken over Rotterdam, 1990) pp. 278-279.

²⁹ Ray Stokes, *Opting for Oil: The Political Economy of Technological Change in the West German Chemical Industry, 1945-1961* (Cambridge: CUP, 1994).

³⁰ Ray Stokes, *Divide and Prosper. The Heirs of I.G. Farben under Allied Authority, 1945-1951* (Berkeley: University of California Press, 1988) pp. 202-203.

³¹ Rainer Karlsch and Ray Stokes, "*Faktor Öl*" : *die Mineralölwirtschaft in Deutschland, 1859-1974* (München: Beck, 2003) pp. 303-324.

Project 3:

The Box and Rotterdam's New Hinterland.

The Rise of Container Transport and Globalisation, 1970-2000

The radical decline in freight rates during the nineteenth century, which had been the result of technological change, in particular the introduction of the steamship, encouraged a huge increase in world trade and added to the birth of the first global economy. A similar effect came from the piecemeal introduction of container shipping in the second part of the twentieth century. According to Marc Levinson the introduction of the container (the box) revolutionized trade patterns and industrial locations.³² The more container shipping was used the more costs fell and the cheaper container transportation became. As transportation costs extremely declined relative to other costs, manufactures began to relocate nationally and internationally. Globalization, here defined as a diffusion of economic activity without regard for national borders, was a logical result of this process.

The first containers in the port of Rotterdam were handled by *Quick Dispatch* on the Müller Progress Terminal in 1966. In that year the Rotterdam port handled about 60.000 TEU.³³ Containerization boomed to about 1 million TEU in 1971 and had doubled by 1980. At the end of the twentieth century Rotterdam had become the biggest container port in Europe with more than 6.3 million TEU, which amounted to more than 60 per cent market share in the Hamburg-Le Harve range.³⁴ In 2003 Rotterdam ranked seventh in the list of the world's largest container ports.³⁵

The founding of *ECT* (Europe Combined Terminals) in 1966 was crucial for the development of a specialized container business in Rotterdam. The company was set up by *NS* (Dutch Railways) and five stevedoring companies, *Quick Dispatch*, *Thomson*, *Müller Progress*, *Cornelis Swarttouw* and *Pakhuismeesteren*. In 1967 ECT opened its first full container terminal in the Eemshaven.³⁶ The persistent growth of container throughput in Rotterdam led to the construction of new container terminals on the Maasvlakte. In 1984 the Delta Multi-User (DMU) for the first time unloaded a container vessel. However, at the end of the 1990s ECT's shareholders decided to sell their shares. The new shareholders *HPH* (Hutchison Port Holding), a group based in Hong Kong, and the Rotterdam Port Authority reached an agreement in 1999 with the Danish shipping company *Maersk* to dedicate part of the DMU terminal to Maersk's container vessels. In 2004 ECT and *P&O Nedlloyd* opened the Euromax terminal at the Maasvlakte, which primarily accommodated P&O Nedlloyd vessels and partners of the *Grand Alliance*. The port of Rotterdam has meanwhile developed ambitious plans to build a second Maasvlakte to meet the further growth of container transport.³⁷ However, the influx of overseas capital in Rotterdam, also meant that international stevedoring companies have acquired strategic positions to decide over the future of the Rotterdam port.

In the early years of containerization inland waterway transport only played a modest role. In the mid 1970s container services by specialised container barges began to develop gradually, as well as a whole new range of inland terminals along the Rhine. Around 2000 the growing realisation of the potential offered by container barges led to an investment wave in new terminals in the Lower Rhine area. By 2003 this region had more than 60 container terminals. Also in the German hinterland overseas capital began to expand. For example, *Imperial Logistics International*, a subsidiary of *Imperial Holdings Limited* based in South African, now owns the Rhine-Ruhr Terminal in Duisburg, the biggest inland port of the world, but also an entire network of other container terminals on the Rhine.³⁸

³² Marc Levinson, *The Box. How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton and Oxford: Princeton University Press, 2006) passim.

³³ TEU = Twenty-foot equivalent unit, a measure used in intermodal transport.

³⁴ Theo Notteboom, 'Thirty-five years of containerization in Antwerp and Rotterdam: structural changes in the container handling market' in: Reginald Loyen, Erik Buyst and Greta Devos (eds.) *Struggling for leadership: Antwerp-Rotterdam port competition between 1870 and 2000* (Heidelberg/New York: Physica Verlag, 2003) pp. 118-119.

³⁵ *Containerization International Yearbook*, 2003.

³⁶ Rotterdam Port Authority, *Container Yearbook 1996* (Rotterdam 1996).

³⁷ Notteboom, 'Thirty-five years of containerization in Antwerp and Rotterdam', pp.123-127.

³⁸ <http://www.imperial.co.za/>

The overall research question of the third project relates to the effects of containerization and globalisation on Rotterdam, its hinterland, and business clusters in the Lower Rhine area. How did the city, port authorities, and its industry react to the containerization of the port? Did they develop a new hinterland orientation as a result of this major technological shift in the port? Which role did the German hinterland play as point of transshipment in the intercontinental logistic chains? How important did Rotterdam remain for the industry in the Lower Rhine area? Were there still German investments in Rotterdam, and what about Dutch investments in the hinterland? Next to discontinuities, were there continuities in regional clustering as well? Last, what was the effect of overseas investors entering this cross-border economic region?

Primary Sources

This study will be done on the basis of corporate and (local) government archives. Most important documents are to be found in historical archives of Rotterdam Port Authority (*Gemeentelijk Haven Bedrijf*), Quick Dispatch, Thomson, Müller Progress, Cornelis Swarttouw, Pakhuismeesteren, Pakhoed, Internatio-Müller, Dutch Railways, ECT, Maersk, P&O Nedloyd, Imperial Logistics International, and Duisburger Hafen AG. In addition, government files can be found in public archives, Ministry of Economic Affairs in The Hague, *Rheinisch-Westfälisches Wirtschaftsarchiv* in Cologne, and *Hessischen Wirtschaftsarchiv* in Darmstadt.

5. Work Program

June 2009: Three Ph.D. students start working on their thesis

Program of the PH.D. students (in a four year programme):

June 2009-June 2010:

- | | |
|----------|---|
| 10 weeks | Courses for Ph.D.-students of the N.W. Posthumus Institute. During this program a paper will be written about the theory behind their thesis, as well as a major paper about the central question of the thesis, which can be a first draft of the introduction to their theses. |
| 10 weeks | As an introduction the candidate begins to study the relevant literature on German-Dutch economic relations, business history, as well as European history. (During the whole Ph.D. period the candidate is supposed to read all necessary literature.) |
| 5 weeks | Study of the theoretical literature on economic geography, business history and economic theory on international relations. The three will have some discussion meetings about the literature and which ideas can be used. |
| 5 weeks | Writing a summarizing paper: As far as possible, all papers of the Ph.D.-students will be used as first drafts of chapters of their thesis. If this is not for one reason or the other not possible or when a chapter is a paper in itself, it will be published. Every paper will be discussed in a meeting with at least the applicants and the other Ph.D. students, if necessary complemented with specialists from the Advisory Committee. |
| 5 weeks | Preliminary research in the Dutch and German public archives. |
| 5 weeks | Preliminary research in the relevant company archives. |
| 5 weeks | Analysis of the available statistics on cross-border flows for the relevant period. With this information and the information from the research of the previous period, the first conference papers will be written on one theme of the sub-project. |

June 2010-June 2011:

- | | |
|----------|---|
| 5 weeks | Courses for Ph.D.-students of the N.W. Posthumus Institute. |
| 5 weeks | Research in the archives of the Port Authority of Rotterdam. |
| 10 weeks | Research in research in the Dutch public archives. |
| 10 weeks | Research in the relevant company archives in the Netherlands and Germany. |
| 5 weeks | Writing a paper on a relevant Dutch-German cluster. |

- 5 weeks Research of contemporary German economic journals on German international economic relations and of contemporary German public magazines, papers and diaries of politicians and businessmen about German foreign policy and the Netherlands.
- 5 weeks Research of published Dutch documents, diaries of politicians and businessmen about Dutch foreign policy and Germany.

June 2011-June 2012:

- 15 weeks Research in the German archives in Berlin and the Ruhr district.
- 10 weeks Research in the archives in the Netherlands.
- 10 weeks Writing a paper as a preparation for an international conference organised at the Erasmus University Rotterdam in the summer of 2012. This conference will be organised in close collaboration with various universities in Germany (Frankfurt and Cologne), France (Strasbourg), Switzerland (Zürich), Belgium (Leuven) and Denmark (Copenhagen). In this period also synopses of the theses will be written, which contains the title, sub-question and summary of every chapter. Furthermore, the planning of the writing will be revised.
- 10 weeks Writing the first drafts of Ph.D. theses based on the synopses, the previous papers and additional research. Every chapter will be discussed in a meeting with at least the applicants and the other Ph.D.-students, if necessary complemented with specialists from the Advisory Committee or the complete Committee.

June 2012-June 2013

- 20 weeks Continuation writing theses.
- 20 weeks Revision theses.
- 5 weeks Preparation publication and academic promotions.

June 2013-December 2013

Academic promotions.

September 2012-September 2014

Both applicants will do additional research and write a synthesis to be published with an international academic publisher, e.g. Routledge.

6. Planned deliverables

1. The results of the whole project will be presented at an international conference organised at Erasmus University Rotterdam in the early summer of 2012. This conference will be organised in close collaboration with various universities in Germany (Frankfurt and Cologne), France (Strasbourg), Switzerland (Zürich), Belgium (Leuven), Denmark (Copenhagen). These institutions have recently formed a collaborative Rhine network, which aims to study the long-term development of the transnational Rhine economy in the 1850-2000 period.
2. Conference papers. The Ph.D. students as well as the applicants will present papers at international conferences, e.g. the annual conference of the European Business History Conference (EBHA).
3. Articles containing reports on work-in-progress will be published in national and international economic historical and business historical journals such as the *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden (BMGN)*, the *Tijdschrift voor Geschiedenis*, the *Vierteljahresheft für Sozial- und Wirtschaftsgeschichte*, *Business History*, *Zeitschrift für Unternehmensgeschichte*, and *Enterprise and Society*.
4. Three Ph.D. theses published in English.
5. A synthesis published with an academic publisher in Britain, e.g. Routledge.

7. Summary for non-specialists

Voorhaven en Achterland. Het Rotterdamse bedrijfsleven en de Ruhrindustrie, 1870-2000.

Sinds enige jaren valt een nauwe economische band tussen Nederland en Duitsland niet langer statistisch aan te tonen. Bijna anderhalve eeuw is er evenwel zo'n band geweest. Dat deze in de jaren negentig van de afgelopen eeuw verdween, had te maken met de grote veranderingen in het Ruhrgebied. Vanaf de jaren 1870 tot de jaren 1990 was Nederland economisch van het grootste belang voor het binnen Europa dominante Duitsland. Dit hing direct samen met het feit dat het belangrijkste industriële centrum van Europa, het Ruhrgebied, zich vlak over de grens bevond en Rotterdam en de havens aan de Rijnmond zich – zo leek het wel – min of meer vanzelf ontwikkelden tot voorhavens van dit machtige industriegebied. Aangezien Duitsland al in de late negentiende eeuw enerzijds onvoldoende grondstoffen voor zijn industrie en voedsel voor zijn arbeiders produceerde en anderzijds te veel steenkool en zware industrieproducten om zelf te gebruiken, nam dit transport niet alleen enorme vormen aan, maar werd bovendien een soepel verlopen van die handelsstromen voor Duitsland een levensvoorwaarde. Andersom waren de economische ontwikkelingen in Duitsland veelal bepalend voor die in Nederland.

Gezien de belangrijke rol die Rotterdam heeft gespeeld in de bijzondere economische band met Duitsland is nader onderzoek naar de ontwikkeling van de relatie tussen Rotterdam, het Rotterdamse bedrijfsleven en de Rijnmondhavens enerzijds en het Ruhrgebied en het Duitse bedrijfsleven anderzijds in de verschillende periodes van de twintigste eeuw gewenst. Het is juist voor Rotterdam, de havens in en om Rotterdam en de bedrijven daarin werkzaam van belang een studie te laten verrichten naar het ontstaan, de groei en de gevolgen van het mogelijk verdwijnen van de nauwe economische relatie met het Duitse achterland. Het project heeft een economisch- en bedrijfshistorisch karakter en is gebaseerd op agglomeratie (clustering) theorieën uit de economische geografie. Deze theorieën zijn vanaf de jaren 1990 verder ontwikkeld door economen zoals Michael Porter and Paul Krugman, die het debat over de relatie tussen economische clustering en (grensoverschrijdende) regionale concurrentie vorm gaven.

De centrale vragen van het overkoepelend project luiden hoe en waarom de economische interdependentie tussen Rotterdam en zijn achterland zich in de periode 1870-2000 zich ontwikkelde, op welke manier de belangrijkste actoren vorm gaven aan die grensoverschrijdende regio, en welke rol netwerken speelden in dit proces. Hoewel het begrip *hinterland* een gecompliceerd en dynamisch begrip is, wordt het hier gedefinieerd als het belangrijkste continentale oorsprong- of doelgebied van handelsstromen van of voor een zeehaven. Het project richt zich op twee actoren in het Neder-Rijngebied: bedrijven en overheden. De geografische locatie en de natuurlijke omstandigheden maakten de ontwikkeling van Europa's belangrijkste grensoverschrijdende regio mogelijk. Toch waren het ondernemers en bedrijven die de gegeven omstandigheden gebruikten en de economische realiteit creëerden; klein-, midden- en grootbedrijf, alsmede kartels, schiepen uiteindelijk deze economische regio. Daarnaast speelden overheden, als regelgever van economische activiteiten, eigenaar van overheidsbedrijven en verschaffer van (semi-)collectieve goederen, eveneens een bepalende rol.

Het gehele onderzoeksproject bestaat uit een drietal als promotieonderzoek uitgevoerde deelstudies, en een afsluitende overzichtsstudie, waartoe in de jaren dat de promotieonderzoeken lopen aanvullende studies worden verricht. Het eerste deelproject getiteld *Coal, Iron Ore and Steel. Rotterdam Business and the German 'Montan' Industry, 1870-1940*, richt zich op de relatie tussen Rotterdam en de Duitse Montanindustrie – een combinatie van kolen- en staalproducenten en de ontwikkeling van dit cluster in de periode 1870-1940. Het tweede deelproject getiteld *Opting for Oil. Rotterdam's Oil Harbour and the Move from Coal to Petrochemical Feedstock of the Rhine Industry, 1945-1970* houdt zich voornamelijk bezig met de vraag wat de gevolgen waren voor Rotterdam van de omschakeling van de Duitse chemische industrie van steenkool op aardolie in de periode 1945-1970. Een derde deelproject met de titel *The Box and Rotterdam's New Hinterland. The Rise of Container Transport and Globalisation, 1970-2000*, richt zich op de vraag wat de gevolgen zijn voor Rotterdam en zijn Duitse achterland van het toenemende gebruik van de container in de wereldhandel in de periode 1970-2000. Tot slot zal een synthese worden geschreven op basis van de verschillende *case studies* uit de drie deelprojecten. Deze laatste studie zal de uitkomsten van de drie deelprojecten in een ruimer kader plaatsen en gehele periode van 1870-2000 beslaan.

Literature References:

- Adelmann, G. 'Ausländische Kapitalbeteiligungen und Direct-investitionen in der deutsche Wirtschaft 1914-1986 aus der gesamtstatistischer Sicht' in: H. Pohl, (ed.), *Der Einfluss ausländischer Unternehmen auf die Deutsche Wirtschaft vom Spätmittelalter zum Gegenwart* (Stuttgart: Franz Steiner Verlag, 1992) pp. 17-37.
- Bagchi-Sen, S and Lawton Smith, H., *Economic geography : past, present and future* (Abingdon/ New York: Routledge, 2006).
- Baumann, C.F., *Schloss Landsberg und Thyssen* (Duisburg/Essen: ThyssenKrupp AG, 2003) pp. 24-25.
- Barbieri, K., 'Economic Interdependence: A Path to Peace or a Source of Interstate Conflict?' in: *Journal of Peace Research*, Vol. 33, No.1 (Feb., 1996) pp. 29-49.
- Beening, A., *Onder de vleugels van de adelaar. De Duitse buitenlandse politiek ten aanzien van Nederland in de periode 1890-1914* (PhD Amsterdam, 1994).
- Berghahn, V.R., *The Americanisation of West German Industry 1945-1973* (Leamington Spa: Berg, 1986).
- Beyen, J.W., *Het spel en de knickers. Een kroniek van vijftig jaren* (Rotterdam: Donker, 1968).
- Bläsing, J.F.B., 'Der Einfluss Niederländische und Belgischer Unternehmen auf die Deutsche Wirtschaft' in: H. Pohl, (ed.), *Der Einfluss ausländischer Unternehmen auf die Deutsche Wirtschaft vom Spätmittelalter zum Gegenwart* (Stuttgart: Franz Steiner Verlag, 1992) pp. 65-80.
- Bloemers, J.H.F. *De financiële verhouding tussen Nederland en Duitsland mede in verband met de Nederlandsche beleggingen in Duitsland* (Amsterdam: Buijten & Schipperheijn, 1951).
- Bouman, P.J., *Rotterdam en het Duitse achterland 1831-1851* (Amsterdam: H.J. Paris, 1931).
- Bos, R.W.J.M., 'Van periferie naar centrum; enige kanttekeningen bij de Nederlandse industriële ontwikkeling in de negentiende eeuw' in: P.A.M. Geurts en F.A.M. Messing, *Economische Ontwikkeling en Sociale Emancipatie* (Den Haag: Martinus Nijhoff, 1977) pp. 68-92.
- Chandler A.D., *Scale and Scope. The Dynamics of Industrial Capitalism* (Cambridge MA: Harvard University Press, 1990).
- Cheape, Ch., 'Not Politicians But Sound Businessmen: Northon and Company and the Third Reich' in: *Business History Review*, 62, no.3 (1988) pp. 444-466.
- Clavin, P., 'Defining Transnationalism' in: *Contemporary History*, 14, 4 (2005) pp. 421-439.
- Coase, R.H., *The Nature of the Firm: origins, evolution and development* (Oxford: OUP, 1991).
- Coe, N.M., Kelly, P.F. and Yeung, H.W., *Economic Geography. A Contemporary Introduction* (Oxford: Blackwell Publishing 2007).
- Dunning, J.H., 'Changes in the level and structure of international production: the last hundred years', in: M. Casson (ed) *The Growth of International Business* (London: Allen & Unwin, 1983).
- Dunning, J.H., *Explaining International Production* (London: Unwin Hyman, 1988).
- Essen, E.E., 'The Structure of Rhine Traffic' in: *Economic Geography*, Vol 10, No. 3 (Jul. 1934), pp. 254-267
- Fear, J.R., *Organizing Control. August Thyssen and the Construction of German Corporate Management* (Cambridge MA: Harvard University Press, 2005).
- Feldman, G.D., 'Foreign penetration of German enterprises after the First World War: the problem of Überfremdung' in: A. Teichova, M. Lévy-Leboyer, H. Nussbaum, (eds), *Historical studies in international corporate business* (Cambridge: Cambridge University Press, 1989).
- Forbes, N., *Doing business with the Nazis: Britain's Economic and Financial Relations with Germany, 1933-1939* (London: Frank Cass, 2000).
- Forbes, N., 'Managing Risk in the Third Reich: British Business with Germany in the 1930s' in: C. Kobrak and P.H. Hansen (eds.) *European Business, Dictatorship and Political Risk, 1920-1945* (New York, 2004) pp. 194-205.
- Forbes, N., 'Multinational Enterprise "Corporate Responsibility" and the Nazi Dictatorship: The Case of Unilever and Germany in the 1930s' in: *Contemporary European History*, 16, 2 (2007) pp. 149-167.
- Fujita, M., Krugman, P. and Venables, A.J., *The spatial economy : cities, regions and international trade* (Cambridge, MA: MIT Press, 1999).
- Gall, L., Feldman, G.D., James, H., Holtfrerich, C.L., and Büschgen, H.E., *The Deutsche Bank, 1870-1995* (London: Weidenfeld & Nicolson, 1995).
- Gartzke, E., Li, Q. and Boehmer, Ch., 'Investing in Peace: Economic Interdependence and International Conflict' in: *International Organisation*, 55, 2 (Spring 2001) pp. 391-438.
- Goey, F.M.M. de, *Ruimte voor industrie : Rotterdam en de vestiging van industrie in de haven 1945-1975* (Rotterdam: Historische werken over Rotterdam, 1990).
- Goey, F.M.M. de (ed.), *Comparative port history of Rotterdam and Antwerp (1880-2000) : competition, cargo and costs* (Amsterdam: Aksant 2004).

- Griffiths, R., *Fellow Travellers of the Right: British enthusiasts for Nazi Germany, 1933-1939* (Oxford: OUP, 1983).
- Hellema, D., *Neutraliteit en vrijhandel. De geschiedenis van de Nederlandse buitenlandse betrekkingen* (Utrecht: Het Spectrum, 2001).
- Hirschfeld, G., *Bezetting en collaboratie. Nederland tijdens de oorlogsjaren 1940-1945* (Haarlem: Becht, 1991).
- Hirschfeld, H.M., *Herinneringen uit de jaren 1933-1939* (Amsterdam: Elsevier, 1959).
- Hirschfeld, H.M., *Herinneringen uit de bezettingstijd* (Amsterdam: Elsevier, 1960).
- Hoesel, R. van and Narula, R. (eds.), *Multinational Enterprises from the Netherlands* (London, New York: Routledge, 1999).
- Howarth, S. and Jonker, J., *Powering the Hydrocarbon Revolution A history of Royal Dutch Shell. Vol. 2* (Oxford: Oxford University Press, 2007).
- Houwink ten Cate, J., *'De mannen van de daad' en Duitsland, 1919-1939. Het Hollandse zakenleven en de vooroorlogse buitenlandse politiek* (Den Haag: SDU Uitgevers, 1995).
- James, H., *The Nazi Dictatorship and the Deutsche Bank* (Cambridge: Cambridge University Press, 2004).
- Jones, G. and Schröter, H.G.(eds.) *The Rise of Multinationals In Continental Europe* (Aldershot: Edward Elgar Publishing, 1993).
- Jones, G., *Multinationals and Global Capitalism: From the Nineteenth to Twenty First Century* (Oxford: Oxford University Press, 2005).
- Jonker, J. and Zanden, J.L. van *From Challenger to Joint Industry Leader, 1890-1939. A history of Royal Dutch Shell. Volume 1* (Oxford: Oxford University Press, 2007).
- Karlsch, R. and Stokes, R.G., *Faktor Öl. Die Mineralölwirtschaft in Deutschland 1859-1974* (München: Verlag C.H. Beck, 2003).
- Keizer, M. de, *Appeasement en aanpassing. Het Nederlandse bedrijfsleven en de Deutsch-Niederländische Gesellschaft 1936-1942* (Den Haag: Staatsuitgeverij, 1984).
- Kershaw, I., *Making Friends with Hitler. Lord Londonderry and Britain's road to war* (London: Penguin Books, 2004).
- Klemann, H.A.M., *Tussen reich en empire. De economische betrekkingen van Nederland met zijn belangrijkste handelspartners: Duitsland, Groot-Brittannië en België en de Nederlandse handelspolitiek* (Amsterdam: PhD thesis, 1990).
- Klemann, H.A.M., *Nederland 1938-1948. Economie en maatschappij in jaren van oorlog en bezetting* (Amsterdam: Boom, 2002).
- Klemann, H.A.M. *Waarom bestaat Nederland eigenlijk nog? Nederland-Duitsland: Economische integratie en politieke consequenties 1860-2000* (Rotterdam, 2006).
- Kobrak, C. and Hansen, P.H. (eds), *European Business, Dictatorship and Political Risk, 1920-1945* (New York: Berghahn Books, 2004).
- Kobrak, C. and Wüstenhagen, J., 'International Investment and Nazi Politics: The Cloaking of German Assets Abroad, 1936-1945' in: *Business History*, Vol 48, No. 3, July 2006, pp. 399-427.
- Kuske, B., *Grundzüge der Entwicklung des deutschen und besonders des rheinisch-westfälischen Industrieraumes* (Essen: Essen Verlagsanstalt 1941).
- Kuske, B., *Wirtschaftsentwicklung Westfalens in Leistung und Verflechtung mit den Nachbarländern bis zum 18. Jahrhundert : mit einem Ausblick auf die Entwicklung bis zur Gegenwart und dem wirtschaftsgeschichtlichen Schrifttum* (Münster: s.n., 1943).
- Laar, P.Th. van der, *Stad van Formaat. Geschiedenis van Rotterdam in de negentiende en twintigste eeuw* (Zwolle: Waanders, 2000).
- Laar, P.Th. van der, 'Port traffic in Rotterdam: the competitive edge of a Rhine-port (1880-1914)' in: Loyen, R., Buyst, E., Devos, G.(eds.), *Struggling for leadership: Antwerp-Rotterdam port competition between 1870-2000* (Heidelberg and New York: Physica Verlag 2003) pp. 63-86.
- Lademacher, H., 'Die wirtschaftlichen Beziehungen zwischen Deutschland und den Niederlanden in den dreißiger und vierziger Jahren des 20. Jahrhunderts' in: J.C. Heß and H. Schissler (eds.), *Nachbarn zwischen Nähe und Distanz. Deutschland und die Niederlande* (Frankfurt-am-Main: Moritz Diesterweg, 1988) pp. 52-66.
- Lademacher, H., *Zwei ungleiche Nachbarn. Wege und Wandlungen der deutsch-niederländischen Beziehungen im 19. und 20. Jahrhundert* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1990).
- Laspeyres, R., *Rotterdam und das Ruhrgebiet* (Marburg: Marburger geographische Schriften, 1969).
- Lindner, S.H., *Das Reichskommissariat für die Behandlung feindlichen Vermögens im Zweiten Weltkrieg* (Stuttgart: Steiner, 1991).
- Levinson, M., *The Box. How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton and Oxford: Princeton University Press, 2006).
- Loyen, R., Buyst, E., Devos, G.(eds.), *Struggling for leadership: Antwerp-Rotterdam port competition between 1870-2000* (Heidelberg and New York: Physica Verlag 2003).

- Lülsdorf, J.L., *Die Bedeutung Rotterdams für die rheinische Wirtschaft, insbesondere für die deutsche Rheinschiffahrt* (Köln: s.n., 1940).
- Lüthgen, H., *Das Rheinisch-Westfälische Kohlensyndikat in der Vorkriegs-, Kriegs- und Nachkriegszeit und seine Hauptprobleme* (Leipzig: Wirtschafts- und Verwaltungsstudien mit besonderer Berücksichtigung Bayerns, 1926).
- Maier Ch. S.(ed), *The Marshall Plan and Germany. West German Development within the Framework of the European Recovery Programme* (New York/Oxford: Berg, 1991).
- March, D., *The Bundesbank. The Bank that Rules Europe* (London: Heinemann, 1992).
- McMillan, S.M., 'Interdependence and conflict' in: *Mershon International Studies Review*, Vol.41, No.1 (May 1997) 33-58.
- Morgan, G., Kristensen, P.H. and Whitley, R. (eds.), *The Multinational Firm. Organising Across Institutional and National Divides* (Oxford: Oxford University Press, 2001).
- Newton, S. *Profits of peace: the political economy of Anglo-German appeasement* (Oxford: Clarendon Press, 1996).
- North, M., *Deutsche Wirtschaftsgeschichte. Ein Jahrtausend im Überblick* (München: C.H. Beck, 2000).
- Notteboom, T., 'Thirty-five years of containerization in Antwerp and Rotterdam: structural changes in the container handling market' in: Loyen, R., Buyst, E., Devos, G.(eds.), *Struggling for leadership: Antwerp-Rotterdam port competition between 1870-2000* (Heidelberg and New York: Physica Verlag 2003) 117-140.
- Nusteling, H.P.H., *De Rijnvaart in het tijdperk van stoom en steenkool, 1831-1914* (Amsterdam : Holland Universiteits Pers, 1974).
- Oosterwijk, B., *Haven-Adel aan de Maas* (Rotterdam: Ad Donker, 1997).
- Overlack, A.F., *Die Ruhrkolenschiffahrt auf dem Rhein* (Duisburg: "Rhein" Verlagsgesellschaft m.b.H, 1934).
- Paridon, C.W.A.M. van, Greup, E.K., Ketting, A., *De handelsbetrekkingen tussen Nederland en de Bondsrepubliek Duitsland* (Den Haag: Staatsuitgeverij, 1982).
- Paridon, C.W.A.M. van, *Profijtelijke relatie of knellende band? Over economische ontwikkelingen in Duitsland en de invloed op Nederland* (Amsterdam, 1993).
- Pellenburg, P. and Wever, E., *International business geography : case studies of corporate firms* (Abingdon and New York: Routledge 2008).
- Pohl, H.(ed.), *Der Einfluss ausländischer Unternehmen auf die Deutsche Wirtschaft vom Spätmittelalter zum Gegenwart* (Stuttgart: Franz Steiner Verlag, 1992).
- Pohl, H.(ed.), *Transnational investment from the 19th century to the present* (Stuttgart: Franz Steiner Verlag, 1994).
- Priemel, K.Ch., *Flick. Eine Konzerngeschichte vom Kaiserreich bis zur Bundesrepublik* (Göttingen: Wallstein Verlag, 2007).
- Reckendrees, A., *Das "Stahltrust"-Projekt. Die Gründung der Vereinigte Stahlwerke A.G. und ihre Unternehmungsentwicklung 1926-1933/34* (München: Beck Verlag 2000).
- Schot J. and Smits, J.P., 'Introductie: Globalisering en Geschiedenis' in: *TSEG*, jaargang 4, 2007, no 3, pp. 4-13.
- Schröter, H.G., *Aufstieg der Kleine. Multinationale Unternehmen aus fünf kleinen Staaten vor 1914* (Berlin: Duncker & Humblot, 1993).
- Simons, J.G.W., *Een achterlandverkenning : enkele beschouwingen over het begrip "achterland" aan de hand van literatuur, een factorenoverzicht, Rotterdamse promotiereizen en statistische gegevens met betrekking tot Rotterdam* (Rotterdam s.n., 1984)
- Sluyterman, K.E., *Dutch Enterprise in the Twentieth Century. Business strategies in a small open economy* (London/New York: Routledge, 2005).
- Stokes, R., *Divide and Prosper: The Heirs of I.G. Farben under Allied Authority, 1945-1951*, (Berkeley: University of California Press, 1988).
- Stokes, R., *Opting for Oil: The Political Economy of Technological Change in the West German Chemical Industry, 1945-1961* (Cambridge: CUP, 1994).
- Storper, M., *The Regional World. Territorial Development in a Global Economy* (New York and London: The Guilford Press, 1997).
- Vries, Joh. de, 'De problematiek der Duits-Nederlandse economische betrekkingen in de negentiende eeuw' in: *Tijdschrift voor Geschiedenis*, 78, 1 (1965) pp. 23-48.
- Waller P.P. and Swain H.S. 'Changing patterns of oil transportation and refining in West Germany' in: *Economic Geography*, Vol. 43, No. 2. (Apr., 1967), pp. 143-156.
- Wemelsfelder, J. *Het herstel van de Duits-Nederlandse economische betrekkingen na de Tweede Wereldoorlog* (Leiden: Stenfert Kroese, 1954).
- Wielenga, F., *West-Duitsland: Partner uit noodzaak. Nederland en de Bondsrepubliek 1949-1955* (Utrecht: Het Spectrum, 1989).

- Wielenga, F., *Van vijand tot bondgenoot. Nederland en Duitsland na 1945* (Amsterdam: Boom, 1999).
- Wiesen, S.J., *West German Industry and the Challenge of the Nazi Past, 1945-1955* (Chapel Hill: The University of North Carolina Press, 2001).
- Wilkins, M., 'Hosts to Transnational Investments – A Comparative Analysis' in: H. Pohl (ed.), *Transnational Investment from the 19th Century to the Present* (Stuttgart: Steiner Verlag, 1994) 25-69.
- Wubs, B., 'Unilever's Struggle for Control. An Anglo-Dutch Multinational under German Occupation' in: *Zeitschrift für Unternehmensgeschichte*, 1 (2007) 57-84.
- Wubs, B., *International Business and National War Interests. Unilever between Reich and Empire* (Abingdon and New York: Routledge, 2008).
- Yin, R.K., *Case Study Research. Design and Methods* (Thousand Oaks, CA: Sage, 3rd ed. 2003).
- Zanden J.L. van *Een klein land in de 20ste eeuw. Economische geschiedenis van Nederland 1914-1995* (Utrecht: Het Spectrum, 1997).
- Zanden J.L. van and Riel, A. van, *Nederland 1780-1914: staat, instituties en economische ontwikkeling* (Amsterdam: Balans 2000).