

The Position of the North Wing within International M&A Networks



Research Report

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The Position of the North Wing within International M&A Networks

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Assignment carried out by:

Ronald Wall/WALL Research

Institute for Housing and Urban Studies/EUR

In cooperation with Martijn Burger

Applied Economics

Erasmus University Rotterdam

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Summary:

The importance of M&A for regional developments

The central question of this study is the relative significance of the North Wing within European and global investment networks. In view of the increasing importance of foreign direct investment (FDI) for the world economy, it is important for Dutch regions to be aware of this significance.

This study focuses specifically on mergers and acquisitions (M&A) because this kind of investment constitutes 78% of FDI. The 'greenfield' and 'brownfield' investments that make up the rest of FDI are not considered. The data relates to the period 2000-2009, which gives readers of the report insight into the evolving significance of the North Wing relative to other European regions.

The study shows how important M&A networks have become for the development of regions and, in this case, specifically for those of the North Wing. At a glance, the study reveals that the North Wing is both the primary international region of the Netherlands and one of the most important regions in Europe.

Network growth follows economic cycles

First, it is shown that Dutch investments, specifically those in the North Wing, follow the peaks and troughs of global investments (cycles). It can be seen, for example, that the collapse of the ICT sector from its peak in 2001 had an adverse impact on investments in the North Wing, resulting in a low point in around 2004. This drop was primarily caused by a decline in investments from the United States. The economy thereafter picked up again, driven mainly by a resurgent ICT sector, something that can be seen in the period 2005-2007. The effects of the current recession are clearly visible from 2008-2009, something reflected in a deterioration of the M&A network in terms of power and destinations.

In addition, the study shows that in periods of economic growth, the outward M&A network continues to expand across the world but that, when there is an economic downturn, the network contracts and investment relations focus more on Europe. Conversely, we show that, in the case of economic contraction, inward investments more frequently originate from other locations in the world, for example from locations in the United States. This is probably because it is cheaper to invest in Europe during these periods.¹

¹ Wall, R.S., Burger, M.J. and Van der Knaap, G.A. (2010), 'The Geography of Global Corporate Networks: The Poor, the Rich and the Happy Few', *Environment and Planning A* (forthcoming).

The position and investment relations of the North Wing

For the period 2000-2009 as a whole, the study reveals that outward investments by Dutch regions occurred primarily in locations outside Europe, followed by investments within Europe and, lastly, by investments within the Netherlands. In addition, the lion's share of inward investments in the Netherlands originated from European regions, followed by investments from the rest of the world.

Relative to all other European regions, the North Wing occupies sixth place with respect to outward M&A. This makes the North Wing one of the most important regions in Europe. In terms of inward investments, the North Wing occupies fifth place and is therefore one of the most attractive European regions for international investments. In addition, the North Wing and South Wing are second-order regions outdone only by the first-order regions of Inner London and Ile de France (Paris), which are both four and a half times as strong.

It also emerged that the North Wing invests most in the United States, followed by its own region and, in third place, Russia. Investments in Russia for the period 2000-2009 were consistent and made primarily in the financial sector, wholesale sector and food and transport sectors. Russia is attractive mainly because it is a large growth market in which production is also relatively cheap. The most important foreign investor in the North Wing is Ile de France (Paris), followed by the United States. Furthermore, of all Dutch regions, the North Wing has the greatest diversity in terms of connections with other locations and is therefore the region in the Netherlands that is the most strongly embedded in the world economy. Also of importance is that, in terms of outward and inward investments, the North Wing constitutes an essential part of the investment axis between Northwest Europe and Italy. In this respect, the North Wing is well placed to capitalise on its geographic position as an access point to the European market.

Sectoral power of the North Wing

In terms of outward investment, finance, insurance and real estate are the most important sectors of the North Wing, followed by the wholesale and transport sectors and business services. With respect to inward investments, business services constitutes the most attractive sector within the North Wing for foreign investors, followed by, in descending order, the financial services, insurance, real estate, wholesale and transport sectors. The importance of the North Wing as an investment destination in advanced producer services is mainly due to strategies of companies with respect to 'strategic market seeking' and 'asset seeking'.² The United States, Russia, Ile de France, Inner London, the Community of Madrid and the Brussels Region are important partners

² Dunning, J.H. (1998), 'Location and the Multinational Enterprise: A Neglected Factor?', *Journal of International Business Studies*, 29 (1), pp. 45-66.

also in these specific sectors. The study also revealed that the North Wing invests most in the insurance sector, the financial sector, business services, wholesale and the mining sector. The strongest competitors of the North Wing in these sectors are Inner London and the Community of Madrid. This means that these regions specialise in the same sectors and invest in the same regions.

In terms of inward investment, the study revealed that companies in the financial sector and the communications sector from other regions invested most in the North Wing, followed by companies in the real estate sector. Regarding attractiveness for inward investments, the North Wing's competitors in this case are Inner London, the Community of Madrid, Ile de France and Lombardy. These regions are large, and therefore make many investments, and are located relatively close to each other. Since distance is an important determining factor for investments,³ the regions have similar investment profiles. In addition, they are all major financial centres and focus on the same key areas as the North Wing.

Network competitors of the North Wing

The principal competitors of the North Wing were defined on the basis of sectoral equality and network overlap. In terms of outward investments, the network structure of Ile de France is closest to that of the North Wing, followed by, respectively, Inner London and the Community of Madrid. The North Wing and South Wing are not major competitors of each other in terms of outward investment. The North Wing, however, is connected with three times as many locations as the South Wing. This indicates the extent to which the North Wing is internationally integrated relative to the South Wing.

With respect to inward M&A, the North Wings competitors are Inner London and the South Wing, followed by Ile de France. Of note in this regard is that, in terms of regional attractiveness for investments, the South Wing is indeed a major competitor of the North Wing. This is mainly due to the physical and functional proximity of these two regions.

Regional trends and developments

The degree to which the power of the North Wing changed during the period 2000-2009 as a whole and is expected to change in the period 2010-2015 was also investigated. Research in this area revealed that the North Wing is positively and strongly developed with respect to outward and inward M&A and that its future prospects in this regard are equally favourable. The Brussels Region and Lombardy (Milan) are major network competitors. The trend for the South Wing as

³ Wall, R.S., Burger, M.J. and Van der Knaap, G.A. (2010), 'The Geography of Global Corporate Networks: The Poor, the Rich and the Happy Few', *Environment and Planning A* (forthcoming).

an international investment location is far more moderate and, without intervention, the expectation is that this region will decline in power in the near future. This means, for example, that this region must be made more attractive for foreign investments in social, economic and spatial terms.

The study also revealed that, due to the number of destination locations, the North Wing invests in other locations to a far greater degree than vice versa. This is partly due to the fact that the Netherlands is a small country and is extraordinarily dependent on production and trade in distant locations. Moreover, the North Wing is one of the few regions in Europe that exercises exceptional power and control over other regions. This is due to the fact that Amsterdam is both a major financial centre and fulfils a prominent 'head office' function in the world, Europe and the Netherlands (Wall 2009).

Strengthening regional attractiveness and relations

Since foreign investments between companies determine 90% of global FDI and 50% of world trade,⁴ it is important for the North Wing to strengthen its position. This can be achieved by conducting more in-depth research into its greatest competitors, namely Ile de France, Inner London and the Community of Madrid. Such research would identify the social and economic factors that make these stronger regions more attractive than the North Wing. Examples of factors in this regard include the number of airports/passenger volumes, larger markets, improved levels of education, larger numbers of companies active in financial and business services, R&D, advanced technologies, favourable tax systems, less legal and tax obligations and more flexible labour markets, and social and cultural capital.

It is also clear from the study that the North Wing is increasingly investing in locations outside the NUTS 2 regions, NUTS being Eurostat's Nomenclature of Territorial Units for Statistics. In addition, there was a gradual decline in investments in the North, Central and South American regions, while M&A from Asian countries and European regions other than the NUTS 2 regions are on the rise in those regions. Of note in this regard is that, due to market size and inexpensive production, Russia has become an important investment location for the North Wing, mainly in wholesale, the financial sector, food products (primarily beer breweries), the energy sector and the transport sector. Furthermore, investments within the Netherlands declined over the period as a whole. This was due to the fact that production abroad has become more efficient and cheaper. It is clear that the North Wing is developing an increasingly global reach. It may be germane in this regard to investigate how business relations with Russia and regions in Central and Eastern

⁴ Rugman, A. (2005), *The Regional Multinationals*, Cambridge University Press, Cambridge.

Europe can be strengthened, since these regions contain the most attractive locations for future head offices, production facilities and sales and marketing activities.⁵

The study also clearly revealed that the North Wing remained an attractive destination location over the period as a whole for M&A from the United States, particularly in the business services sector and the financial sector. The share of investments from Asia and European countries outside the NUTS 2 regions is increasing. This has to do with the current recession, which is making it cheaper for Asian countries like India and China to invest in Europe. Russia also has important M&A with companies in the North Wing, mainly in the wholesale, financial and transport sectors. Investments from the Middle East and Africa were also clearly a factor between 2005 and 2009. Also in this case, it will be interesting to see how relations with these new growth markets can be strengthened.

⁵ Ernst & Young (2010), 'Open vizier voor nieuwe kansen: Barometer Nederlands vestigingsklimaat 2010'.

Introduction

In recent literature, it is stated that the network society came into being as a result of developments in transport and communications technology, the creation of a common market, the individualisation of production and the spread of multinationals. These factors have a significant impact on the spatial and economic structure of cities,⁶ as a result of which cities acquired privileged positions within global flows of trade and investments.⁷ The previously monocentric city is consequently transforming into a polycentric urban network of socioeconomic processes taking place on an increasingly large geographic scale.⁸ Physical and administrative boundaries are no longer adequate to accommodate or manage these kinds of processes and, if we wish to get a grip on the competitive performance of cities and regions, we must improve our understanding of the relationship between network and location.⁹

The increased amount of foreign direct investment (FDI) by primarily multinationals constitutes one of the key features of the current network economy.¹⁰ Recent technological and social changes have made it possible for companies to use FDI as a means of securing greater control of the activities of other companies, for example with respect to market access, production processes and cost advantages, located far away. Since FDI grew much faster than trade after 1980 and now accounts for the lion's share of global GNP, this kind of investment has arguably become the primary mechanism of the world economy. In addition, various studies have shown that FDIs are made by a relatively small number of companies. In 2004, for example, the top 500 multinationals accounted for 90% of global FDI and controlled 50% of world trade.¹¹ It is also known that 78% of FDI consists of mergers and acquisitions (M&A), while the rest comprises

⁶ Anas, A., Arnott, A. and Small, K.A. (1998), 'Urban Spatial Structure', *Journal of Economic Literature*, 26, pp. 1426-1464.

⁷ Alderson, A.S. and Beckfield, J. (2004), 'Power and Position in the World City System', *American Journal of Sociology*, 109, pp. 811-851.

⁸ Wall, R.S. and Van der Knaap, G.A. (2010), 'Centrality and Structure within Contemporary Worldwide Corporate Networks', *Economic Geography* (forthcoming).

⁹ Derudder, B. and Witlox, F. (2008), 'World Integration Through Global City Networks: Specification, Measurement, and Analysis', paper presented at the Conference of the Regional Science Association International, Sao Paulo, Brazil, 17-19 March 2008.

¹⁰ Dicken, P. (2007), *Global Shift: Mapping the Changing Contours of the World Economy*, Sage Publications Limited, Los Angeles/London/New Delhi/Singapore/Washington DC.

¹¹ Rugman, A. (2005), *The Regional Multinationals*, Cambridge University Press, Cambridge.

'greenfield' investments.¹² M&A therefore constitute a reliable instrument to measure the bulk of FDI. The number of M&A of companies with different national origins increased sixfold in the 1990s¹³ and intercountry transactions now account for one third of all M&A, of which the lion's share occurs between European countries.¹⁴

An important feature of M&A activity in the years 1985-2005 (Figure 1) are the cyclical periods of growth and contraction. The graph clearly shows that the first significant M&A peak occurred around 2000 and was followed by the burst of the IT bubble. The largest peak occurred in the years 2007-2008 and was followed by a sharp drop that continued up to the present recession. These investment waves had a considerable impact on urban developments and were characterised by times of rapid growth followed by periods of contraction.¹⁵ It is also known that international investments increase more rapidly than national transactions in periods of growth, whereas the opposite tendency can be seen in periods of contraction.¹⁶ It has also been argued that the advent of foreign capital has caused cities to grow more rapidly than was the case in previous periods of industrialisation as a result of intercity competition.¹⁷

¹² Brakman, S., Garretsen, H. and Van Marrewijk, C. (2006), 'Comparative Advantage, Cross-Border Mergers and Merger Waves', *CESifo Forum* (1), pp. 22-26.

¹³ Kang, N-H. and Johansson, S. (2000), 'Cross-Border Mergers and Acquisitions: Their Role in Industrial Globalization', STI working paper 2000/1, Paris, OECD.

¹⁴ OECD (2003), *OECD Economic Outlook*, Volume 2003/1 No. 73, June (Paris: OECD).

¹⁵ Dicken, P. (2007), *Global Shift: Mapping the Changing Contours of the World Economy*, Sage Publications Limited, Los Angeles/London/New Delhi/Singapore/Washington DC.

¹⁶ Zademach, H-M. and Rodriguez-Pose, A. (2009), 'Cross-Border M&As and the Changing Economic Geography of Europe'.

¹⁷ Jessop, B. and Ngai-Ling, S. (2000), 'An Entrepreneurial City in Action: Hong Kong's Emerging Strategies in and for (Inter)Urban Competition', *Urban Studies*, 37 (12), pp. 2287-2313.

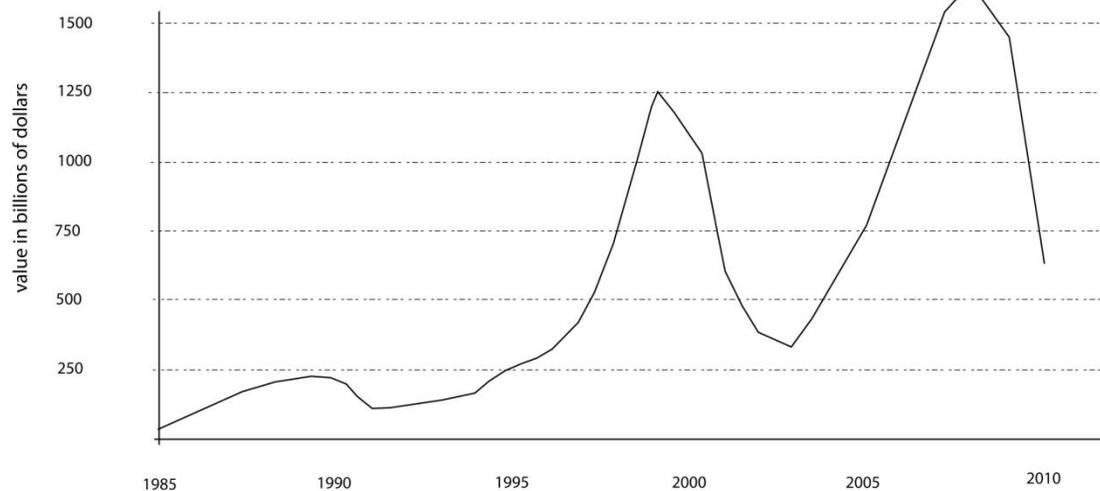


Figure 1: International M&A waves

Source: R. Wall (2010) – based on Brakman, Garretsen and Van Marrewijk (2006) and Dealogic (2009)

M&A represent drastic reorganisations of head offices and economic management as well as global movements of capital, technology, goods, services and the integration of subsidiaries in global networks, which in turn has major implications for the development of regional economies. The most essential aspect of M&A activity is the shift in economic power and the management of the company that is taken over to the company that is effecting the takeover.¹⁸ It is therefore important for urban regions to better understand these shifts in power and develop competitive advantages to attract this kind of mobile capital and anchor it in spatial terms.¹⁹ In this connection it is important to be aware that companies both influence the development of urban regions and are influenced by their respective territorial contexts in terms of the decisions they make.²⁰ The development of large-scale transport systems, for example, can lead to significant changes in the structure of companies.²¹ External locational factors like infrastructure,

¹⁸ Chapman, K. and Edmond, H. (2000), 'Mergers/acquisitions and restructuring in the EU chemical industry: patterns and implications', *Regional Studies*, 34(8), pp. 753-767.

¹⁹ Cox, K.R., A. Mair (1991), 'From localised social structures to localities as agents', *Environment and Planning A*, pp. 197-213.

²⁰ Wall R.S., Burger M.J. and Van der Knaap, G.A. (2010), 'The Geography of Global Corporate Networks: The Poor, the Rich and the Happy Few', *Environment and Planning A* (forthcoming).

²¹ Dunning, J.H. (1998) 'Location and the Multinational Enterprise: A Neglected Factor?', *Journal of International Business Studies*, 29 (1), pp. 45-66.

urbanisation, agglomeration economies, traditions, image and identity can determine the degree to which companies organise themselves in terms of local and global orientation.

Today it is rarely natural resources but, rather, created local assets such as human skills, technologies and institutional capacities through which regions distinguish themselves from each other and companies seek to secure competitive advantages.²² If a company lacks sufficient resources to be competitive, it can obtain these by means of M&A.²³ As soon as a company has accumulated a sufficient amount of these resources. However, networks are formed between companies, as a result of which different geographic areas are linked together.²⁴ In addition, the literature specifies market size, linguistic similarities, legal structures and geographic proximity as essential factors in the increase of M&A. These factors are essential to both the survival of companies and the level of development of regions. M&A affect the composition of products, production capacity and the different business functions of companies. The impact of these kinds of operational changes on regions is expressed in the degree to which employment is generated and in the type of employment generated. In addition, the EU's economic integration and introduction of the euro are viewed as important stimuli with respect to Europe's increasing number of M&As.²⁵ Policy reform and privatisation, particularly in the telecommunications and energy sectors, have also contributed significantly to the global increase in M&A.

There are two clear theoretical approaches with respect to the spatial implications of international M&A. On the one hand, it is argued that companies are less restricted to a particular area, as a result of which economic activities are increasingly less dependent on distance. This is sometimes referred to as the 'death of distance' or the 'end of geography'.²⁶ On the other, it is asserted that spatial proximity intensifies competition, because business interactions are reinforced by face-to-face contact.²⁷ In this perspective, proximity is seen as physical, social or cultural distance that, as a policy mechanism, lowers transaction costs and confirms common

²² Maskell, P. (2001), 'The Firm in Economic Geography', *Economic Geography*, 77(4), pp. 329-344.

²³ Kang, N-H. and Johansson, S. (2000), 'Cross-Border Mergers and Acquisitions: Their Role in Industrial Globalisation', STI working paper 2000/1, Paris, OECD.

²⁴ Zademach, H-M. and Rodriguez-Pose, A. (2009), 'Cross-Border M&As and the Changing Economic Geography of Europe'.

²⁵ Brenton, P., Di Mauro, F. and Lucke, M. (1999), 'Economic Integration and FDI: An Empirical Analysis of Foreign Investment in the EU and in Central and Eastern Europe', *Empirica*, 26(2), pp. 95-121.

²⁶ Cairncross, F. (1997), *The Death of Distance: How the Communications Revolution Will Change Our Lives*, Boston, MA: Harvard Business School Press.

²⁷ Storper, M. and Venables, A. J. (2004), 'Buzz: face-to-face contact and the urban economy', *Journal of Economic Geography*, 4(4), pp. 351-370.

codes.²⁸ In addition, it is said that an increase in international trade will entail higher transport costs and make the management of companies more difficult. During these kinds of periods, geographic, functional and cultural distance operates against corporate takeovers.²⁹ Young et al (1994)³⁰ stress that a better understanding of the centralisation and decentralisation of investments is required for the development of urban regions. A feature of this area of tension within Europe is that parties seeking to effect M&A prefer a limited number of urban regions in Northwest Europe.³¹

²⁸ Maskell, P., Bathelt, H. and Malberg, A. (2004), 'Temporary Clusters and Knowledge Creation: The Effects of International Trade Fairs, Conventions and Other Professional Gatherings', *Spaces 2004-04*, Marburg: Philipps-Universität.

²⁹ Bertrand, O., Mucchielli, J-L. and Zitouna, H. (2004), 'Location Choices Of Multinational Firms: The Case Of Mergers And Acquisitions', HWWA Discussion Paper 274, Hamburg, HWWA.

³⁰ Young, S., Hood, N. and Petters, E. (1994), 'Multinational enterprises and regional economic development', *Regional Studies*, 28, pp. 657-77.

³¹ Chapman, K. and Edmond, H. (2000), 'Mergers/acquisitions and restructuring in the EU chemical industry: patterns and implications', *Regional Studies*, 34(8), pp. 753-767.

Research questions

The theoretical framework indicates how important M&A are for the global economy and, above all, for the development of urban regions. In this context a number of research questions were formulated and used to investigate the significance of the North Wing within M&A networks.

Question 1: How are investment networks changing in their totality and what is the significance of the North Wing within this process?

The significance of the North Wing within European M&A networks is gauged on the basis of total investments (2000-2009). This concerns both a study of the period as a whole and three different periods, namely 2000-2003, 2004-2006 and 2007-2009. Of importance in this respect is the location (centrality) occupied by the North Wing on the ranking list of NUTS 2 regions and, in addition, the network structure inherent to these investments. These can be used to determine how attractive the North Wing is for investors and in which regions the North Wing itself invests. Additional attention is also paid to the relative importance of the North Wing in relation to the South Wing. Using a Geographic Information System (GIS), this study charts the regional strength and network structure of the NUTS 2 regions.

Question 2: Which networks play a part in the most important industrial sectors of the North Wing?

This study first identifies the most important industrial sectors (subnetworks) of the North Wing and South Wing, for example the communications or business services sector. The significance of the North Wing in terms of network position and network structure relative to other NUTS 2 regions is subsequently investigated. A comparison is also made with the significance of the South Wing within these investment networks.

Question 3: Which regions were the greatest network competitors of the North Wing in the period 2000-2009?

In this study network competition is defined on the basis of two aspects. First, the more similar urban regions are to each other in terms of industrial sectors, the more they are potential competitors of each other. Second, the more cities are connected with the same regions (network overlap), the more these cities are competitors of each other. Based on the results of this line of investigation, the European competitors of the North Wing and South Wing are determined by means of cluster analysis.

Question 4: What future does the North Wing's network have?

A forecast method is used to determine the estimated development of the North Wing and other important regions. This is followed by an in-depth consideration of inward and outward investments for each year of the period 2000-2009. This provides specific insight into the level

of M&A activity within the Netherlands, Europe and outside Europe and, above all, into how this M&A activity changes over time. This range of longitudinal analyses is used to estimate the expected future of the North Wing for the coming five years.

Method

Data

The data used concerned European M&A exceeding five million euros that took place in the period 2000-2009. Based on these parameters, the data encompassed a total of 20,908 deals between various companies. Furthermore, the data is based on the Zephyr database, in which all deals between acquiring and target companies are recorded. The acquiring company or acquiror is the one that merges with or takes over another company. The criterion applied to data selection was that either the acquiring or target company or both, had to be based in the EU. This means that data on companies located outside Europe was also included, if these companies had at least an M&A relationship with a company based in the EU. Such inclusion makes it possible to see what M&A relationships exist with non-EU countries as well. In addition, the respective deal values between the companies as well as their names, locations and the industrial sectors in which each of them operates are specified. Approximately 30% of the data is not contained in the Zephyr database, which meant that it had to be augmented by means of search engines. The Cartesian coordinates of all the companies were subsequently obtained and, using the GIS technique, these companies were then geocoded and classified within the different European NUTS 2 regions. This was done to enable a more consistent analysis of all recognised regional units to be performed. To obtain insight into the significance of the North Wing, the provinces of North Holland, Utrecht and Flevoland were treated as a single unit. The very specific standard industrial codes (SICs) of all companies were also aggregated in this study into more general industrial categories like the financial, transport, insurance and chemicals sectors, which made it possible to carry out subsidiary studies within the most important sectors of the North Wing.

Techniques

By means of network aggregation techniques, the 20,908 individual deals were added up to interregional M&A over four periods, namely 2000-2003, 2004-2006, 2007-2009 and 2000-2009. This made it possible to consider different stages of the M&A network and also shed light on the evolving significance of the different regions. The aggregated data was subsequently analysed using UCINET software for the analysis of networks and GIS software of MapInfo. The first of the aforesaid techniques provides somewhat more abstract insight into the rankings and connections of the NUTS regions, while the second technique reveals the geographic distribution of the networks. The first three research questions were answered through the use of these techniques. The last question concerns an estimate of potential network strengths in the coming five years. Forecast techniques were used to answer this question (Liner 1983). These techniques involve the removal of peaks and the application of a 'smoothing' function to arrive

at a more reliable estimate. Because the matter concerns a linear regression model, analysts recommend that one should not attempt to look too far into the future. A period of five years is therefore adhered to in this study.

Results

Research question 1: How are investment networks changing in their totality and what is the significance of the North Wing within this process?

The study first investigated the distribution of M&A in three geographic units, namely investments within the Netherlands, investments within Europe and investments outside Europe. This aspect was studied more closely to identify outward investments (acquiror) and inward investments (target) over three periods, namely 2000-2003, 2004-2006 and 2007-2009. The results are percentages of the total value of the deals. The left side of the table below shows that, over the period as a whole, the least outward investments occurred in the Netherlands (14%), followed by considerably more investments in European destinations (41%). The greatest number of investments, however, occurred outside Europe (44%). This underlines the argument of Zademach and Rodriguez-Pose³² that international investments grow more rapidly than national investments during periods of rapid growth. It also stresses again that Dutch companies have to engage in M&A with multinationals to benefit from such investments. In the relatively favourable period of 2000-2003 (see Figure 1 and Table 1), it can be seen that the Netherlands invested mainly on a global level and less on regional and local levels. In the less favourable period of 2004-2006 outward investments occurred mainly in Europe and far less on a global level. In the strongest growth period of 2007-2009, M&A clearly occurred mainly on a global level. The fact that the level of M&A activity was considerably less than in the period 2000-2003 was probably due to the current recession, which started during the later period referred to. These periods of network concentration and deconcentration also have a major impact on the contraction and growth trends of urban regions.³³ In the case of inward investments in the Netherlands, it can be seen that, over the period as a whole, most investments came from Europe (48%), followed by global investments (27%). In the more favourable period of 2000-2003, it can be seen that companies in other European countries concluded the most M&A with Dutch companies. In the period of economic downturn of 2004-2006, the Netherlands was mainly a location of interest for global companies (43%). In the most favourable period of 2007-2009 the connection with Europe clearly regained its primacy (60%). These initial results unequivocally

³² Zademach, H-M. and Rodriguez-Pose, A. (2009),), 'Cross-Border M&As and the Changing Economic Geography of Europe'.

³³ Dicken, P. (2007), *Global Shift: Mapping the Changing Contours of the World Economy*, Sage Publications Limited, Los Angeles/London/New Delhi/Singapore/Washington DC.

indicate that the spatial reach of M&A networks (growth and contraction) is influenced by cyclical investment waves.

M&A Shares with The Netherlands, Europe and Beyond Europe in Three Periods								
Acquiror M&As (percentage)					Target M&As (percentage)			
	NL to NL	NL to EU	NL to NON-EU		NL to NL	EU to NL	NON-EU to NL	
2000-2003	16,05	17,95	66,00	100,00	24,13	48,11	27,75	100,00
2004-2006	7,51	77,04	15,45	100,00	16,57	40,33	43,10	100,00
2007-2009	27,57	29,62	42,81	100,00	26,29	59,53	14,18	100,00
TOTAL	14,15	41,34	44,51	100,00	22,50	48,15	29,36	100,00

Table 1: M&A within the Netherlands, Europe and outside Europe

Source: R. Wall

Ranking

The results provided in Table 2 show the positions occupied by the most important NUTS 2 regions with respect to total M&A in the period 2000-2009. The upper part (the acquiror ranking) shows the outward investments from these regions in other regions, while the lower part of the table shows the number of incoming investments (the target ranking). The remaining columns specify the names of the regions, the main cities of these regions, the total values of the deals, the position in different phases and the percentage relative to Amsterdam (the North Wing). With respect to the acquiror regions (2000-2009) the top positions on the ranking list are occupied by, respectively, Inner London (first), Ile de France (second), Berkshire and Oxfordshire (third) and the Community of Madrid (fourth). The South Wing occupies fifth position, followed by the North Wing in sixth position. Given the many NUTS regions included in the analysis, the high scores of the North Wing and South Wing are impressive. The other Dutch regions occupy positions at the bottom of the table (grey), where it can be seen that the provinces of North Brabant (thirty-eighth) and Gelderland (sixty-seventh) are the second and third strongest regions of the Netherlands respectively. The fifth column specifies positions relative to the North Wing. Here it can be seen that Inner London and Ile de France invest approximately five times as much in other locations as the North Wing and South Wing almost one and a half times as much. It is clear, however, that regions like Dusseldorf and the Brussels Region invest less in other regions than the North Wing. The last columns show how the regional position changed over the three separate periods. In this connection the North Wing remained stable in terms of position in the course of time, whereas the South Wing declined in power. Of note is also the fact that regions at the top of the ranking list do not really change positions, whereas regions at the bottom of the list change positions more frequently. This means that the investment behaviour of the North Wing and South Wing is reasonably stable, whereas other Dutch regions fluctuate far more in this respect.

Ranking of European Regions 2000 - 2009

Ranking Acquiror

NUTS 2 Region	Main city	Investments	Rank	% Amsterdam	Investments	Rank	Investments	Rank	Investments	Rank
		2000-2009	2000-2009		2000-2003	2000-2003	2004-2006	2004-2006	2007-2009	2007-2009
Inner London	London	593074112	1	4,48	382405467	1	126861546	2	83807082	2
Île de France	Paris	588072320	2	4,44	365486452	2	134804135	1	87781759	1
Berkshire and Oxfordshire	Oxford	306235552	3	2,31	264511037	3	12637548	13	29086971	4
Comunidad de Madrid	Madrid	192539072	4	1,45	71673636	8	93845238	3	27020205	5
Zuidvleugel	Rotterdam-The Hague	157715200	5	1,19	69419842	9	79998523	4	8296828	15
Noordvleugel	Amsterdam-Utrecht-Almere	132435370	6	1,00	76104295	6	32355396	6	23975676	6
Lombardia	Milan	131028288	7	0,99	63255567	11	51862405	5	15910313	10
Oberbayern	Munich	106169544	8	0,80	78930946	5	15356365	10	11882232	12
Outer London	London	100826912	9	0,76	90684358	4	7739133	22	2403423	25
Düsseldorf	Düsseldorf	98357096	10	0,74	75813236	7	9808481	16	12735377	11
Lazio	Rome	93465280	11	0,71	47039292	13	23005449	7	23420541	7
Brussels Gewest	Brussels	81348408	12	0,61	30063967	16	15800662	9	35483781	3
Köln	Cologne	78250648	13	0,59	67131226	10	9852938	15	1266487	29
Stockholm	Stockholm	68838736	14	0,52	47664350	12	14990589	11	6183797	19
Darmstadt	Frankfurt am Main	64237416	15	0,49	27299726	18	17915054	8	19022635	9
Cataluña	Barcelona	57511408	16	0,43	26387453	19	9753080	17	21370873	8
Piemonte	Turin	50842176	17	0,38	43339743	14	4823795	27	2678639	24
Etelä-Suomi	Helsinki	47678016	18	0,36	34807186	15	6918899	23	5951933	20
Hovedstaden	Copenhagen	35284716	19	0,27	24165317	20	9380992	18	1738408	26
Surrey, East and West Sussex	Brighton	33813120	20	0,26	27676773	17	3110930	29	3025417	23
Luxembourg	Luxemburg	33379844	21	0,25	17615380	24	9296579	19	6467886	17
Hampshire and Isle of Wight	Southampton	32552412	22	0,25	15052002	26	13198857	12	4301554	22
Herefordshire and Warwickshire	Warwick	29238434	23	0,22	23594667	21	5448752	26	195015	33
Southern and Eastern	Dublin	28629876	24	0,22	17684569	23	6367244	25	4578062	21
Wien	Wenen	25629940	25	0,19	8961866	28	10371763	14	6296312	18
Eastern Scotland	Edinburgh	25555964	26	0,19	15484107	25	8787031	20	1284825	28
País Vasco	Bilbao	23541424	27	0,18	5850326	30	8066388	21	9624709	14
Gloucestershire-North Somerset	Bristol	20115800	28	0,15	18351846	22	1170096	32	593857	31
Attiki	Athens	19559000	29	0,15	5787592	31	6587015	24	7184392	16
Toscana	Florence	18994740	30	0,14	6212323	29	1516261	31	11266156	13
Noord-Brabant	Eindhoven	13710251	38	0,10	9639144	27	3206276	28	864831	30
Gelderland	Arnhem-Nijmegen	5735257	67	0,04	3839842	55	460409	111	1435006	27
Limburg	Maastricht	4955768	75	0,04	3093475	63	1745306	30	116987	133
Drenthe	Assen	664000	146	0,01	664000	105	0	216	0	210
Overijssel	Zwolle-Enschede	622370	152	0,00	18000	207	435083	113	169287	121
Zeeland	Vlissingen-Middelburg	299104	174	0,00	0	224	15259	194	283845	32
Groningen	Groningen	105898	202	0,00	14902	211	0	216	90996	141
Friesland	Leeuwarden	74863	217	0,00	32863	193	42000	167	0	210

Ranking Target

NUTS 2 Region	Main city	Investments	Rank	% Amsterdam	Investments	Rank	Investments	Rank	Investments	Rank
		2000-2009	2000-2009		2000-2003	2000-2003	2004-2006	2004-2006	2007-2009	2007-2009
Inner London	London	508000000	1	4,40	299000000	1	157000000	1	51200000	2
Île de France	Paris	293000000	2	2,54	172000000	3	79300000	2	41900000	3
Düsseldorf	Düsseldorf	288000000	3	2,49	265000000	2	146000000	11	8897032	11
Comunidad de Madrid	Madrid	169000000	4	1,46	54300000	8	55300000	3	58900000	1
Noordvleugel	Amsterdam-Utrecht-Almere	115493985	5	1,00	57037895	7	32651938	7	26201155	5
Lombardia	Milan	108000000	6	0,94	62700000	5	20400000	9	25300000	6
Outer London	London	106000000	7	0,92	94300000	4	8107121	19	3703751	19
Lazio	Rome	96700000	8	0,84	51900000	9	37100000	6	7776049	12
Berkshire and Oxfordshire	Oxford	77900000	9	0,67	31200000	12	40200000	5	6465502	15
Darmstadt	Frankfurt am Main	76500000	10	0,66	59100000	6	10800000	13	6518986	14
Piemonte	Turin	73700000	11	0,64	28500000	16	41700000	4	3491363	20
Brussels Gewest	Brussels	65100000	12	0,56	12100000	28	19800000	10	33100000	4
Zuidvleugel	Rotterdam-The Hague	55900000	13	0,48	38300000	11	10000000	16	7651124	13
Stockholm	Stockholm	55600000	14	0,48	30600000	14	10700000	14	14300000	8
Eastern Scotland	Edinburgh	54200000	15	0,47	31000000	13	3492402	28	19700000	7
Surrey, East and West Sussex	Brighton	51100000	16	0,44	40300000	10	8162531	18	2622490	22
Hovedstaden	Copenhagen	44800000	17	0,39	27200000	17	13400000	12	4158275	17
Oberbayern	Munich	41300000	18	0,36	29400000	15	7874048	20	4019901	18
Etelä-Suomi	Helsinki	34300000	19	0,30	24300000	19	5423552	25	4546930	16
Cataluña	Barcelona	33300000	20	0,29	12700000	26	10000000	17	10600000	9
Köln	Cologne	32500000	21	0,28	9144430	29	21000000	8	2374917	23
Gloucestershire-North Somerset	Bristol	28400000	22	0,25	24800000	18	2422179	31	1227311	30
Southern and Eastern	Dublin	27500000	24	0,24	20000000	21	6065029	23	1380285	28
Hamburg	Hamburg	27500000	23	0,24	18900000	23	7454042	21	1201238	32
Luxembourg	Luxemburg	26900000	25	0,23	22000000	20	3310768	29	1588145	27
Lisboa	Lisbon	25300000	26	0,22	12500000	27	10600000	15	2115089	24
East Anglia	Cambridge	23900000	27	0,21	19500000	22	3014783	30	1318188	29
Attiki	Athens	22400000	28	0,19	8053903	30	4994259	27	9302331	21
Shropshire and Staffordshire	Newcastle	22000000	29	0,19	13600000	24	5079667	26	3309649	10
Herefordshire and Warwickshire	Warwick	21800000	30	0,19	13100000	25	6658428	22	1997908	25
Noord-Brabant	Eindhoven	9295753	58	0,09	5508902	54	1948547	65	1838304	26

Table 2: Ranking list of European regions based on M&A in 2000-2009

Source: R. Wall and M. Burger 2010

The lower part of the table shows that, in the period 2000-2009, the North Wing occupied fifth position in terms of attractiveness for inward investment, while the South Wing occupied thirteenth position. In this period, Inner London (first), Ile de France (second) Dusseldorf (third) and the Community of Madrid (fourth) were more attractive than the North Wing. This can be seen more clearly in the fifth column, where Inner London, for example, is almost four and a half times as strong as the North Wing. It can also be seen that the provinces of North Brabant (fifty-eighth) and Groningen (seventy-third) are the second and third most attractive regions of the Netherlands respectively. The last columns show that the North Wing remained reasonably stable with respect to inward investments, whereas fluctuation was greater in other Dutch regions. Of note is that the province of North Brabant was on the rise, mainly in the last stage (2007-2009).

Furthermore, the table clearly shows that although the majority of M&A *de facto* take place within a limited number of urban regions, these investments are not only strongly represented in Northwest Europe but in southern regions as well.³⁴ A significant point to note is that, given the man NUTS 2 regions, the North Wing and South Wing are doing very well, especially, if the relatively small populations of both regions are taken into account. This is important because a region seems to be more stable the higher its position in the table. The expectation is that the regions at the top will in the near future have a greater chance of remaining strong.

Network structure

A correlation was applied to determine how stable the investments are in the course of time with respect to junctions and connections (Table 3). The upper part concerns the outward investments (acquiror) of all NUTS 2 regions over the three separate periods. The investments correlate highly in terms of the number of M&A, both in value and number of investments. The same is true with respect to the middle part of the table (target). In other words, over the period as a whole, the European regions remained reasonably stable. However, the lower part of the table shows low correlations over all three periods, which indicates that there is little cohesion between the interregional destinations of investments. In other words, it is meaningful within the context of this study to have a close look at the changing attractiveness of regions (the junctions), but not at the origin of the investments (the connections). This study therefore considers only the network structure over the period as a whole and addresses how regions develop as junctions in the course of time in question four.

³⁴ Chapman, K. and Edmond, H. (2000), 'Mergers/acquisitions and restructuring in the EU chemical industry: patterns and implications', *Regional Studies*, 34(8), pp. 753-767.

Spearman Rank Correlations for Acquiror, Target and Linkage M&As

Acquiror						
	number of M&As (2000-2003)	number of M&As (2004-2006)	number of M&As (2007-2009)	value of M&As (2000-2003)	value of M&As (2004-2006)	value of M&As (2007-2009)
number of M&As (2000-2003)	1					
number of M&As (2004-2006)	0,85	1				
number of M&As (2007-2009)	0,8	0,83	1			
value of M&As (2000-2003)	0,93	0,76	0,71	1		
value of M&As (2004-2006)	0,78	0,92	0,79	0,72	1	
value of M&As (2007-2009)	0,78	0,79	0,93	0,69	0,77	1

Target						
	number of M&As (2000-2003)	number of M&As (2004-2006)	number of M&As (2007-2009)	value of M&As (2000-2003)	value of M&As (2004-2006)	value of M&As (2007-2009)
number of M&As (2000-2003)	1					
number of M&As (2004-2006)	0,87	1				
number of M&As (2007-2009)	0,84	0,83	1			
value of M&As (2000-2003)	0,92	0,81	0,79	1		
value of M&As (2004-2006)	0,79	0,91	0,76	0,76	1	
value of M&As (2007-2009)	0,77	0,74	0,9	0,74	0,68	1

Linkages						
	number of M&As (2000-2003)	number of M&As (2004-2006)	number of M&As (2007-2009)	value of M&As (2000-2003)	value of M&As (2004-2006)	value of M&As (2007-2009)
number of M&As (2000-2003)	1					
number of M&As (2004-2006)	-0,56	1				
number of M&As (2007-2009)	-0,49	-0,39	1			
value of M&As (2000-2003)	0,96	-0,55	-0,48	1		
value of M&As (2004-2006)	-0,55	0,98	-0,38	-0,54	1	
value of M&As (2007-2009)	-0,49	-0,38	0,98	-0,48	-0,38	1

Table 3: Correlation table

Source: R. Wall and M. Burger 2010

Table 4 shows the strongest investment relations of the North Wing and South Wing in the period 2000-2009. At the top left it can be seen that the North Wing invests mainly in the United States (30%), followed by investments in the North Wing itself (16%) and in Russia (9.5%). The South Wing invests mainly in London (49%), followed by the United States (30%) and Japan (9%). In the period under review the South Wing invested more in other places than the North Wing but the North Wing had much greater diversity in terms of investment locations. In this respect, the North Wing is significantly more integrated in the world economy than the South Wing. At the top right, it can be seen that the North Wing is the most attractive in terms of inward investments (28%), followed by Ile de France (18%) and the United States (9.8%). In the case of the South Wing, the largest foreign investments come from Australia (14%), the United States (13%) and Sardegna (13%). It is also striking that the lion's share of outward and inward investments concern faraway locations and that investments between Dutch regions themselves are quite low. This raises the question as to how Dutch policymakers will develop these regions in the future and whether it is just as important to make interregional relations part of future policy strategies.

Strongest Linkages of Noordvleugel and Zuidvleugel 2000-2009

<u>NV and ZV as Acquiror</u>					<u>NV and ZV as Target</u>				
Rank	NUTS 2 Region Acquiror	NUTS 2 Region Target	Investment	%	Rank	NUTS 2 Region Acquiror	NUTS 2 Region Target	Investment	%
1	Noordvleugel	United States	32499524	30,0	1	Noordvleugel	Noordvleugel	36086404	28,7
2	Noordvleugel	Noordvleugel	17422918	16,1	2	Île de France	Noordvleugel	22823823	18,2
3	Noordvleugel	Russian Federation	10269909	9,5	3	United States	Noordvleugel	12281341	9,8
4	Noordvleugel	Zuidvleugel	5291695	4,9	4	Inner London	Noordvleugel	8210580	6,5
5	Noordvleugel	Praha	3890529	3,6	5	Brussels Gewest	Noordvleugel	7794064	6,2
6	Noordvleugel	Veneto	3877246	3,6	6	Comunidad de Madrid	Noordvleugel	6199392	4,9
7	Noordvleugel	Inner London	3736976	3,4	7	Canada	Noordvleugel	3990718	3,2
8	Noordvleugel	Piemonte	3059600	2,8	8	Russian Federation	Noordvleugel	3257389	2,6
9	Noordvleugel	Turkey	2931997	2,7	9	Lazio	Noordvleugel	2937500	2,3
10	Noordvleugel	Australia	2864425	2,6	10	Kuwait	Noordvleugel	2539016	2,0
11	Noordvleugel	Midi-Pyrénées	2822000	2,6	11	Wolfsburg	Noordvleugel	2000000	1,6
12	Noordvleugel	Île de France	1924682	1,8	12	Bonn	Noordvleugel	1850807	1,5
13	Noordvleugel	Attiki	1799340	1,7	13	Région lémanique	Noordvleugel	1729418	1,4
14	Noordvleugel	Kazakhstan	1739970	1,6	14	Leicestershire	Noordvleugel	1480000	1,2
15	Noordvleugel	Brazil	1573135	1,5	15	Zuidvleugel	Noordvleugel	1478209	1,2
16	Noordvleugel	Mexico	1501525	1,4	16	Hovedstaden	Noordvleugel	1476873	1,2
17	Noordvleugel	Luxembourg	1306658	1,2	17	Luxembourg	Noordvleugel	1407166	1,1
18	Noordvleugel	Andalucía	1256600	1,2	18	Etelä-Suomi	Noordvleugel	1362000	1,1
19	Noordvleugel	Hovedstaden	1213011	1,1	19	Hong Kong	Noordvleugel	1300000	1,0
20	Noordvleugel	Nordwestschweiz	1193617	1,1	20	Arnhem-Nijmegen	Noordvleugel	1227890	1,0
21	Noordvleugel	Gelderland	1165000	1,1	21	China	Noordvleugel	1166326	0,9
22	Noordvleugel	Gloucestershire	862183	0,8	22	Noordoost-Noord-Brabant	Noordvleugel	810000	0,6
23	Noordvleugel	Mazowieckie	660883	0,6	23	Alpes-Maritimes	Noordvleugel	648178	0,5
24	Noordvleugel	Lisboa	510000	0,5	24	Veluwe	Noordvleugel	240000	0,2
25	Noordvleugel	Israel	446470	0,4	25	Stockholm	Noordvleugel	215000	0,2
26	Noordvleugel	Canada	399697	0,4	26	Paris	Noordvleugel	164000	0,1
27	Noordvleugel	Bermuda	357469	0,3	27	Linz-Wels	Noordvleugel	127000	0,1
28	Noordvleugel	Noord-Brabant	295000	0,3	28	Starnberg	Noordvleugel	110000	0,1
29	Noordvleugel	Sjeverozapadna Hrvatska	201414	0,2	29	Frankfurt	Noordvleugel	104000	0,1
30	Noordvleugel	Southern and Eastern	165000	0,2	30	Edinburgh, City of	Noordvleugel	75653	0,1
31	Noordvleugel	Rhône-Alpes	150000	0,1	31	Hauts-de-Seine	Noordvleugel	60000	0,0
32	Noordvleugel	Norte	146400	0,1	32	Pirkanmaa	Noordvleugel	60000	0,0
33	Noordvleugel	Västserige	132229	0,1	33	Vaud	Noordvleugel	49406	0,0
34	Noordvleugel	Overijssel	106933	0,1	34	Het Gooi en Vechtstreek	Noordvleugel	45378	0,0
35	Noordvleugel	Cataluña	102599	0,1	35	Trieste	Noordvleugel	39227	0,0
36	Noordvleugel	Kozep-Magyarország	69828	0,1	36	Dorset	Noordvleugel	39000	0,0
37	Noordvleugel	Prov. Antwerpen	66640	0,1	37	Zuidwest-Gelderland	Noordvleugel	36600	0,0

1	Zuidvleugel	Inner London	72928806	49	1	Zuidvleugel	Zuidvleugel	9623188	21
2	Zuidvleugel	United States	44182089	30	2	Australia	Zuidvleugel	6420031	14
3	Zuidvleugel	Japan	13573789	9	3	United States	Zuidvleugel	6028110	13
4	Zuidvleugel	Zuidvleugel	9623188	6	4	Sardegna	Zuidvleugel	5900000	13
5	Zuidvleugel	Düsseldorf	3837000	3	5	Japan	Zuidvleugel	5000000	11
6	Zuidvleugel	Noordvleugel	945734	3	6	Inner London	Zuidvleugel	4402828	9
7	Zuidvleugel	Hamburg	1372950	1	7	Noordvleugel	Zuidvleugel	3452263	8
8	Zuidvleugel	Mexico	1215284	0	8	Brussels Gewest	Zuidvleugel	3310000	7
9	Zuidvleugel	China	890237	0	9	Hovedstaden	Zuidvleugel	2300000	5

Table 4: The strongest connections of the North Wing and South Wing in the period 2000-2009 Source: R. Wall and M. Burger 2010

Figure 2 shows the network structure of the strongest M&A in the period 2000-2009. The diagram is bipartite, which means that locations are displayed twice, namely as acquiror junctions and target junctions. This makes it possible to compare the connections of the North Wing and South Wing with other locations. The calculated connections of these two regions were discussed earlier in Table 3. In addition, it can be seen that the stronger competitors of the North Wing and South Wing, for example London, Ile de France and the Community of Madrid, have connections that are both much stronger and have a higher level of diversity. It is also clear that the United States plays an important part within the European investment networks. In

addition, it was verified that the majority of investments do indeed occur between European countries (OECD, 2003).

The geography of M&A within European regions

This section identifies both the regions that make the largest outward investments in other regions in geographic terms and the regions that are the most attractive for inward investments. The first map (Map 1) indicates the largest investments over the period 2000-2009, descending in magnitude from dark grey to light grey. The largest investments clearly occur along the axis between Northwest Europe and Italy. Other key locations are in France, Finland, Ireland and Spain. The ranking of these regions is given in Table 1, which shows that the North Wing and South Wing occupy sixth and fifth positions respectively. It is also clear that, in terms of outward investments, Western Europe is still far stronger than Eastern Europe. Map 2 shows inward investments according to region for the period 2000-2009. Compared with the preceding map, it is evident that there are far more attractive investment locations than locations from which investments are made. This shows the balance of power between a small number of regions that have economic control over a larger number of other locations that are managed from a distance. Since M&A have a significant impact on regional developments, questions arise as to the relationship between administrative borders and policy.³⁵ The differences between Western and Eastern Europe are also smaller than they are on the preceding map, something which clearly shows the attractiveness of Eastern European regions as a 'target'. The ranking of these regions is shown in the lower part of Table 1, which also indicates that the North Wing and South Wing occupy fifth and thirteenth positions respectively. Map 3 clearly shows the most important investment connections between regions for the period 2000-2009. It is clear that the United Kingdom, primarily Inner London, is the kingpin in the web, followed by Ile de France, the Community of Madrid and Lombardy (Milan). The greatest diversity in interregional investments is found in Northwest Europe. It is also clear that Eastern Europe has fewer connections than the rest of Europe. Map 4 is a three-dimensional combination of the acquiror region and the network map. The level and size of the regional nodes determine the strength of the regions. A three-dimensional film of this map is located at <http://vimeo.com/16208007>. Map 5 shows all investments within the North Wing and South Wing for the period 2000-2009. The upper part of this map shows the outward investments in these two regions, while the lower part shows that the North Wing is the most attractive for inward investments. Both maps also clearly show that the province of North Holland accounts for most of the investments in the North Wing.

³⁵ Derudder, B. and Witlox, F. (2008), 'World Integration Through Global City Networks: Specification, Measurement, and Analysis', paper presented at the Conference of the Regional Science Association International, Sao Paulo, Brazil, 17-19 March 2008.

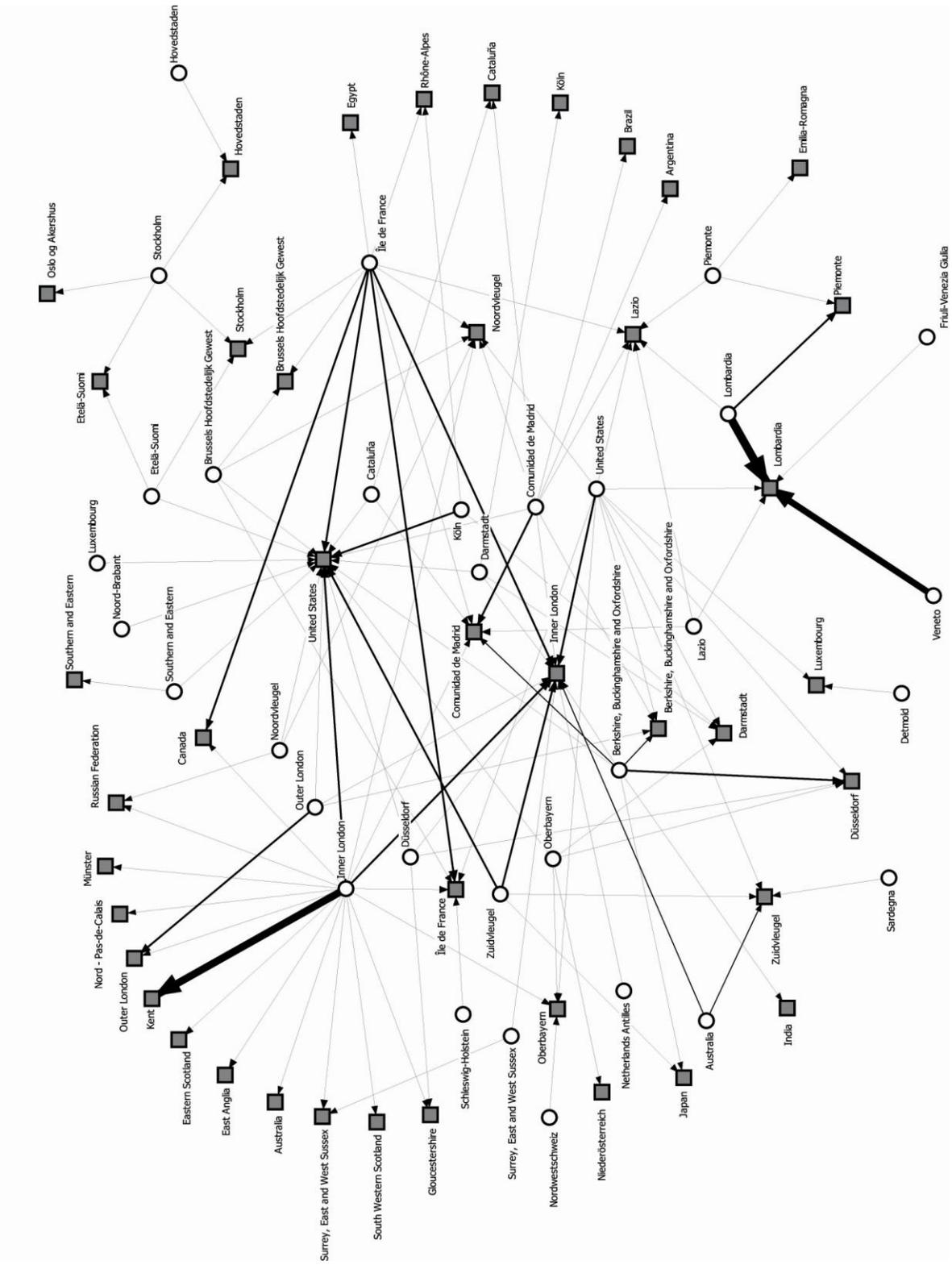
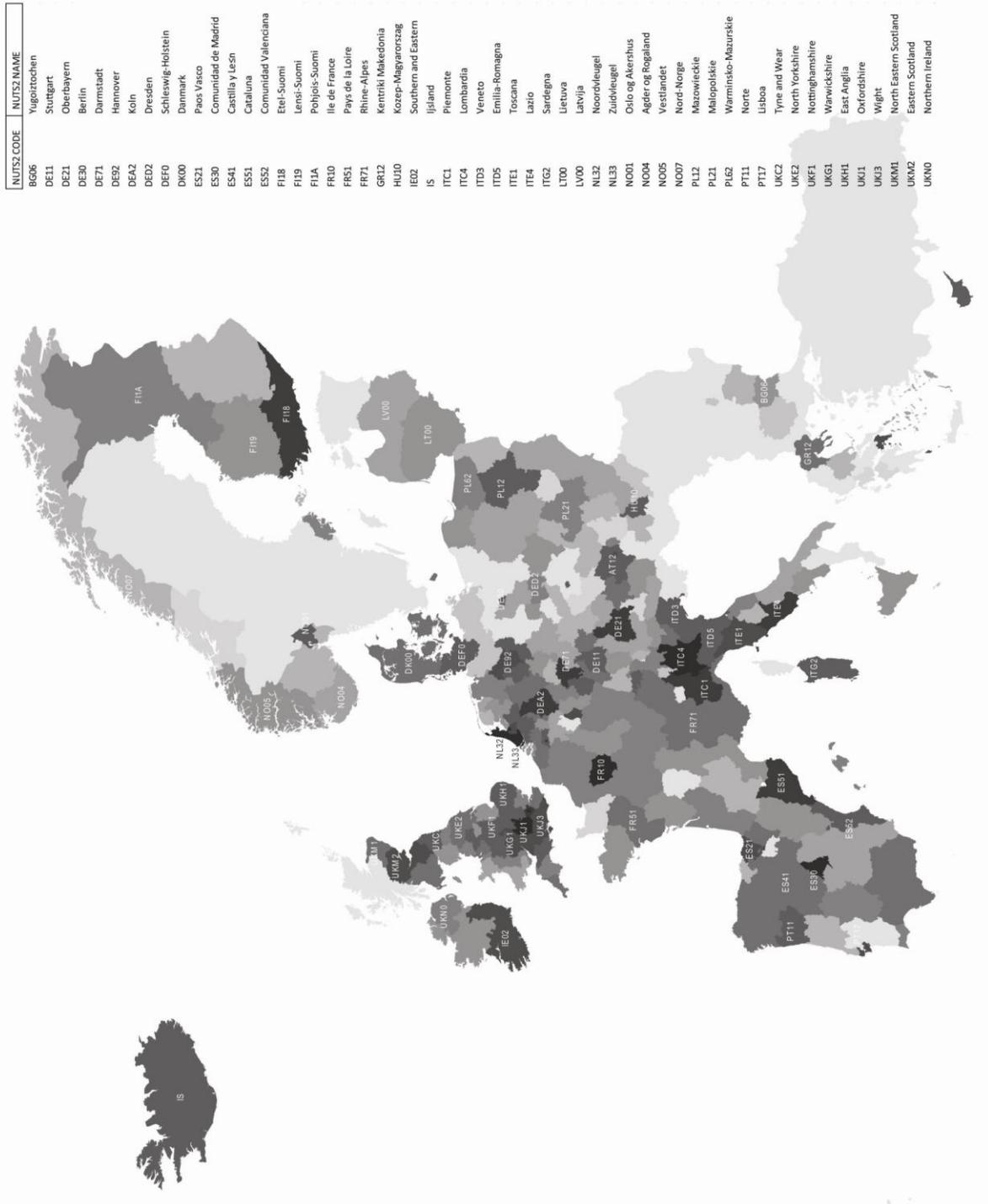


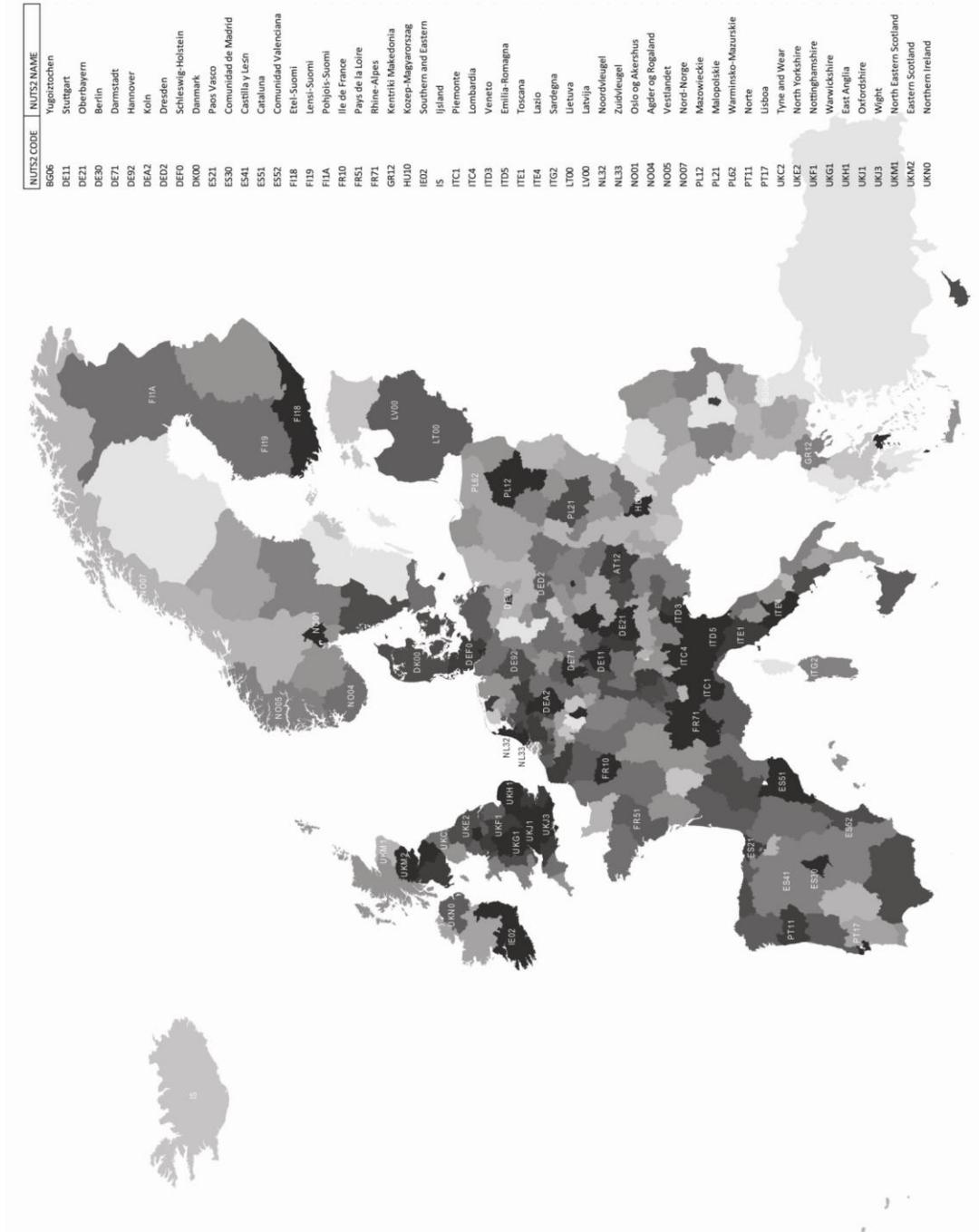
Figure 2: The strongest M&A connections in the period 2000-2009

Source: R. Wall 2010



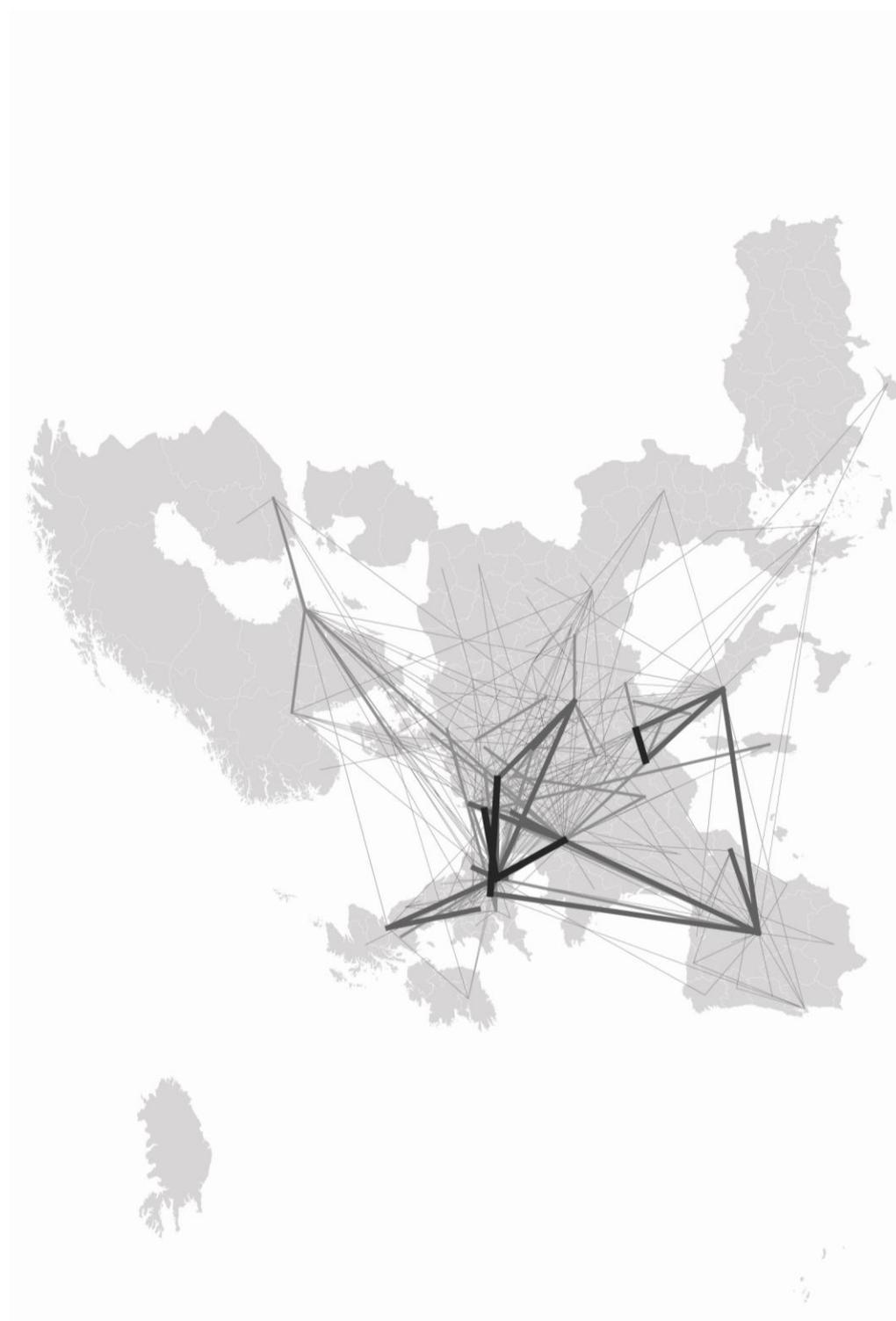
Map 1: Outward investments (acquiror) in NUTS 2 regions in the period 2000-2009

Source: R. Wall 2010



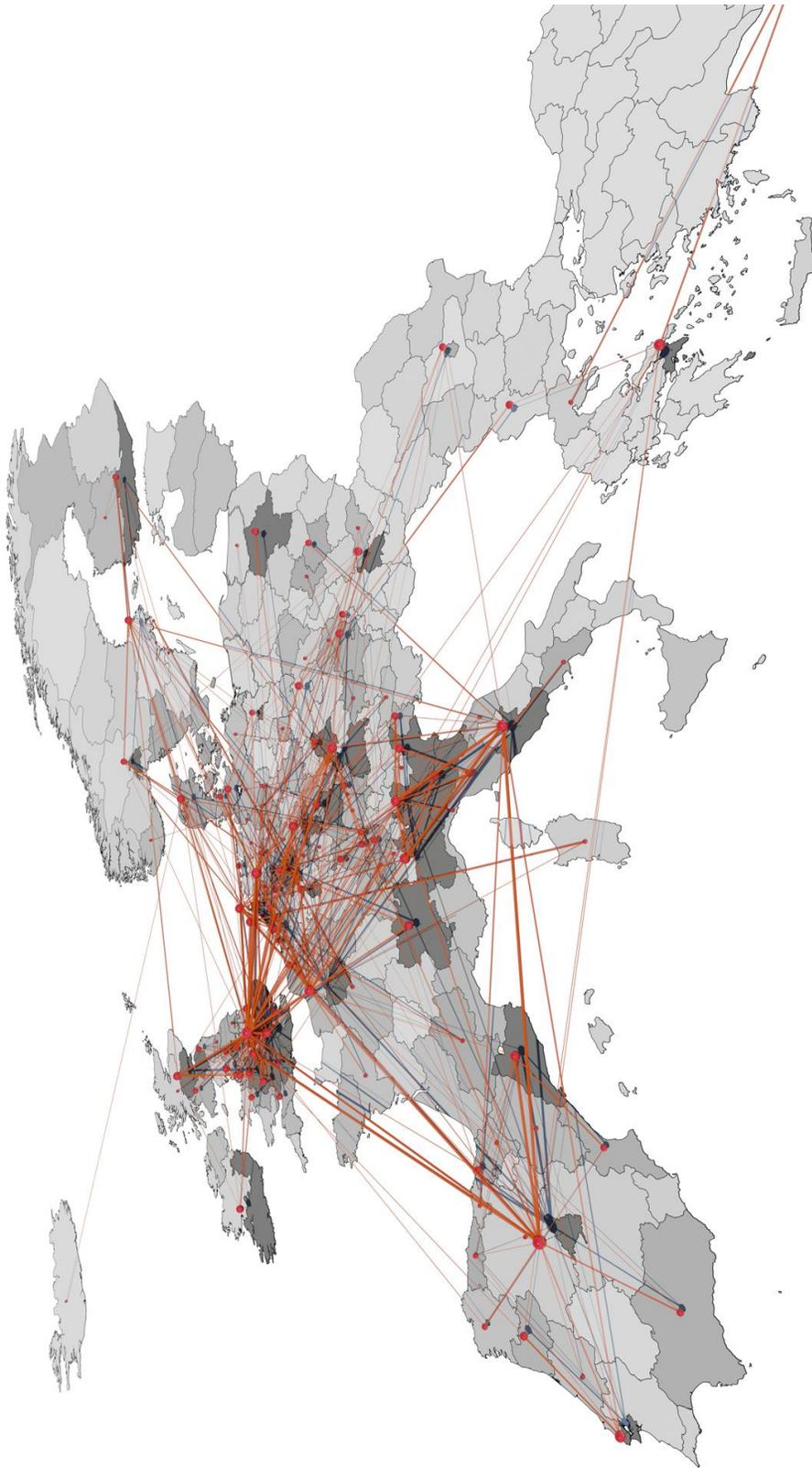
Map 2: Inward investments (target) in NUTS 2 regions in the period 2000-2009

Source: R. Wall 2010



Map 3: The M&A network in the period 2000-2009

Source: R. Wall 2010



Map 4: The three-dimensional M&A network and associated NUTS 2 regions in the period 2000-2009

Source: R. Wall 2010



Map 5: M&A clusters in the North Wing and South Wing in the period 2000-2009; the upper map shows outward investments, while the lower map shows inward investments

Source: R. Wall 2010

Research question 2: Which networks play a part in the most important industrial sectors of the North Wing?

Ranking

Until now the focus has been on the total M&A of all industrial sectors. This section looks at the significance of the North Wing within the networks of its most important industrial sectors. Since all companies are coded according to sector, it was possible to identify the strongest sectors of the North Wing and South Wing based on the values of the deals, which are specified in Table 5. The left part shows the industrial sectors that make outward investments in other regions, while the right part shows which industrial sectors invest most in companies in the two Dutch regions. The top left part of the table clearly shows that the finance, insurance and real estate (FIRE) sector is the strongest outward investment sector of the North Wing. 59% of all M&A of the North Wing occur in this sector and almost 26% of the combined investments of the North Wing and South Wing are made in it. The investment percentages of this sector are considerably lower in the South Wing (5.9%). In second and third places are wholesale and transport (WTS) and advanced producer services (APS). The other sectors play a somewhat more modest role in terms of outward investments. In the South Wing outward investments from the mining and oil sectors account for almost 50% of all sector investments in this region and 28% of the investments from the two regions together. In second position is the food sector (19%), followed by advanced producer services (13%). Of note in this respect is that the South Wing accounts for almost 55% of all outward investments by the combined regions.

The top right of the table shows that advanced producer services (APS) is the most attractive sector of the North Wing for foreign investors (30%). In addition, this sector also accounts for 19% of the combined inward investments in both regions. This sector is followed by the finance, insurance and real estate (FIRE) sector in second position and, in third, the wholesale and transport (WTS) sector. The strength of the North Wing in these sectors is probably due to the level of highly qualified workers, the proximity of Schiphol, the good image and identity of this region (Dunning 1998) and the physical, social and cultural proximity and density of the area.³⁶ In this respect, these three sectors are essential to the North Wing in terms of outward and inward investments. The following section therefore explores the networks of these three sectors. The bottom right shows that, with respect to regional attractiveness, the South Wing also performs well in the area of advanced producer services (37%), followed by the finance, insurance and real estate sector (30%). In terms of total investments by both regions, the North Wing accounts

³⁶ Storper, M. and Venables, A. J. (2004), 'Buzz: face-to-face contact and the urban economy', *Journal of Economic Geography*, 4(4), pp. 351-370.

for 66% of all inward investments. From this perspective the South Wing invests more strongly in other locations, whereas the North Wing far and away attracts most investments.

In view of the strongest industrial sectors of the North Wing, the question is which NUTS 2 regions are the strongest. Table 6 shows the positions occupied by the regions in each industrial sector. The left side shows outward investments, while the right side shows inward investments. The North Wing occupies third position with respect to the finance, insurance and real estate sector, while the South Wing occupies sixteenth position. The fifth column also shows that Inner London, for example, is almost four times as strong as the North Wing. On the right it can clearly be seen that the North Wing is the fourth most attractive location in terms of inward investments and that Inner London is almost three times as attractive. The South Wing is also doing very well in this sector. The North Wing occupies an excellent third position in the wholesale and transport sector, while the South Wing occupies tenth position in this sector. In terms of inward investments in this sector, the North Wing occupies third position, while the South Wing occupies a mediocre twenty-fourth position. The bottom part of the table shows that the South Wing and the North Wing are more or less equal with respect to outward investments within advanced producer services (tenth and eleventh). The right side shows more or less the same pattern (seventh and tenth).

M&As of the Noordvleugel and Zuidvleugel by Industrial Sector Shares (2000 - 2009)

Noordvleugel's Industrial Sectors (Acquiror)				Noordvleugel's Industrial Sectors (Target)			
	Deal values	Deal values % NV	Deal values % NV & ZV		Deal values	Deal values % NV	Deal values % NV & ZV
Finance, insurance and real estate (FIRE)	67600386	59,02	25,64	Advanced producer services (APS)	28835283	30,49	19,37
Wholesale trade and transportation services (WTS)	13422472	11,45	4,91	Finance, insurance and real estate (FIRE)	23634321	22,33	15,93
Advanced producer services (APS)	13375928	11,44	4,86	Wholesale trade and transportation services (WTS)	12648307	12,31	8,21
Food products	8097872	7,10	2,94	Mining and oil	12159303	10,86	7,77
Transportation equipment	3014467	2,57	2,20	Chemicals	5426511	5,22	3,33
Electronic equipment	2814868	2,40	1,02	Electricity, gas and sanitary	4022922	3,83	2,45
Electricity, gas and sanitary	2450682	2,21	0,84	Food products	3841678	3,65	2,39
Metal products	2289408	1,00	0,82	Transportation equipment	3486262	3,31	2,20
Chemicals	972266	0,82	0,34	Petroleum refining	3200000	3,12	2,02
Wood and paper products	645268	0,49	0,22	Electronic equipment	2164546	2,10	1,37
Retail trade	498870	0,43	0,17	Retail trade	1311784	1,29	0,83
Machinery and computers	408862	0,35	0,14	Machinery and computers	475708	0,45	0,30
Analytical and medical equipment	276702	0,24	0,98	Analytical and medical equipment	474130	0,44	0,30
Mining and oil	220693	0,17	0,08	Wood and paper products	450185	0,42	0,28
Rubber and plastics	195746	0,11	0,07	Rubber and plastics	81237	0,06	0,05
Petroleum refining	120781	0,10	0,03	Construction	49745	0,04	0,03
Agriculture	118541	0,10	0,03	Concrete and glass	39503	0,04	0,02
				Metal products	31720	0,03	0,02
				Agriculture	7258	0,01	0,00
Share		100,00	45,29	Share		100,00	66,89

Zuidvleugel's Industrial Sectors (Acquiror)				Zuidvleugel's Industrial Sectors (Target)			
	Deal values	Deal values % ZV	Deal values % NV & ZV		Deal values	Deal values % ZV	Deal values % NV & ZV
Mining and oil	78636279	49,86	28,67	Advanced producer services (APS)	20942630	37,44	13,23
Food products	30506803	19,34	11,12	Finance, insurance and real estate (FIRE)	17206790	30,76	10,87
Advanced producer services (APS)	21849840	13,85	7,97	Food products	4005000	7,16	2,53
Finance, insurance and real estate (FIRE)	16299885	10,34	5,94	Wholesale trade and transportation services (WTS)	3437228	6,14	2,17
Metal products	5173957	3,28	1,89	Concrete and glass	3078306	5,50	1,94
Electricity, gas and sanitary	2475397	1,57	0,90	Electricity, gas and sanitary	3072081	5,49	1,94
Wholesale trade and transportation services (WTS)	1163314	0,74	0,42	Chemicals	1452041	2,60	0,92
Chemicals	517018	0,33	0,19	Construction	1241177	2,22	0,78
Concrete and glass	445209	0,28	0,16	Analytical and medical equipment	413540	0,74	0,26
Petroleum refining	397757	0,25	0,15	Metal products	362000	0,65	0,23
Construction	101539	0,06	0,04	Electronic equipment	326548	0,58	0,21
Transportation equipment	57042	0,04	0,02	Machinery and computers	181072	0,32	0,11
Analytical and medical equipment	44556	0,03	0,02	Mining and oil	155515	0,28	0,10
Wood and paper products	24552	0,02	0,01	Rubber and plastics	27000	0,05	0,02
Rubber and plastics	15063	0,01	0,01	Transportation equipment	22400	0,04	0,01
Electronic equipment	6980	0,00	0,00	Wood and paper products	19000	0,03	0,01
Share		100,00	54,71	Share		100,00	33,11

Table 5: The strongest industrial sectors of The North Wing and South Wing in the period 2000-2009

Source: R. Wall and M. Burger

Ranking of Regions by Noordvleugel's Strongest Sectors 2000 - 2009

FIRE Acquiror

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Inner London	London	307000000	1	3,85
Île de France	Paris	204000000	2	2,56
Noordvleugel	Amsterdam Utrecht Almere	79830000	3	1,00
Lombardia	Milan	76900000	4	0,96
Comunidad de Madrid	Madrid	71300000	5	0,89
Oberbayern	Munich	63500000	6	0,80
Darmstadt	Frankfurt am Main	58000000	7	0,73
Brussels Gewest	Brussels	44700000	8	0,56
Stockholm	Stockholm	28500000	9	0,36
Lazio	Rome	21100000	10	0,26
Berkshire and Oxfordshire	Oxford	20900000	11	0,25
Herefordshire and Warwickshire	Warwick	19700000	12	0,25
Cataluña	Barcelona	19400000	13	0,24
Piemonte	Turin	17400000	14	0,22
Toscana	Florence	16500000	15	0,21
Zuidvleugel	Rotterdam-The Hague	16300000	16	0,20
Eastern Scotland	Edinburgh	15500000	17	0,19
Luxembourg	Luxembourg	15100000	18	0,19
Wien	Wenen	13900000	19	0,17
Friuli-Venezia Giulia	Triest	13000000	20	0,16
Hampshire and Isle of Wight	Southampton	11800000	21	0,15
Etelä-Suomi	Helsinki	11500000	22	0,14
Outer London	London	3644532	23	0,05
Noord-Brabant	Eindhoven	1897047	24	0,02
Limburg	Maastricht	1185867	25	0,01
Overijssel	Zwolle-Enschede	232313	26	0,00
Gelderland	Arnhem-Nijmegen	169896	27	0,00
Friesland	Leeuwarden	74863	28	0,00
Groningen	Groningen	41633	29	0,00

FIRE Target

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Inner London	London	171000000	1	2,67
Île de France	Paris	157000000	2	2,45
Comunidad de Madrid	Madrid	68000000	3	1,06
Noordvleugel	Amsterdam Utrecht Almere	64097442	4	1,00
Lombardia	Milan	60200000	5	0,94
Piemonte	Turin	50600000	6	0,79
Darmstadt	Frankfurt am Main	47600000	7	0,74
Eastern Scotland	Edinburgh	43600000	8	0,68
Lazio	Rome	38500000	9	0,60
Zuidvleugel	Rotterdam-The Hague	29100000	10	0,45
Düsseldorf	Düsseldorf	28000000	11	0,44
Brussels Gewest	Brussels	21400000	12	0,33
Cologne	Cologne	19000000	13	0,30
Veneto	Venetie	17800000	14	0,28
East Anglia	Cambridge	17800000	15	0,28
Stockholm	Stockholm	17600000	16	0,27
Hovedstaden	Copenhagen	17300000	17	0,27
Berkshire and Oxfordshire	Oxford	16900000	18	0,26
Cataluña	Barcelona	16500000	19	0,26
Emilia-Romagna	Bologna	15300000	20	0,24
Oberbayern	Munich	14300000	21	0,22
Outer London	London	11400000	22	0,18
Groningen	Groningen	6000000	23	0,09
Gelderland	Arhem-Nijmegen	1294234	24	0,02
Noord-Brabant	Eindhoven	1240062	25	0,02
Limburg	Maastricht	826331	26	0,01
Overijssel	Zwolle-Enschede	317874	27	0,00
Zeeland	Vlissingen-Middelburg	272500	28	0,00
Drenthe	Assen	60000	29	0,00

WTS Acquiror

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Inner London	London	70600000	1	4,31
Île de France	Paris	45500000	2	2,77
Noordvleugel	Amsterdam Utrecht Almere	16399233	3	1,00
Comunidad de Madrid	Madrid	12500000	4	0,76
Berkshire and Oxfordshire	Oxford	9419036	5	0,57
Düsseldorf	Düsseldorf	7706621	6	0,47
West Yorkshire	Leeds	7149586	7	0,44
Brussels Gewest	Brussels	6243684	8	0,38
Bedfordshire and Hertfordshire	Luton	5920835	9	0,36
Zuidvleugel	Rotterdam-The Hague	5766585	10	0,35
Lombardia	Milan	4360435	11	0,27
Cologne	Cologne	4020670	12	0,25
Stockholm	Stockholm	3421644	13	0,21
Berlin	Berlin	3418390	14	0,21
Darmstadt	Frankfurt am Main	3413345	15	0,21
Provence-Alpes-Côte d'Azur	Marseille	3259952	16	0,20
Merseyside	Liverpool	3097183	17	0,19
Greater Manchester	Manchester	3013633	18	0,18
Emilia-Romagna	Bologna	2514989	19	0,15
Leicestershire, Rutland and Northamptonshire	Nottingham	2210997	20	0,13
Wien	Wenen	2154467	21	0,13
Cataluña	Barcelona	2130118	22	0,13
Surrey, East and West Sussex	Brighton	2040289	23	0,12
Etelä-Suomi	Helsinki	1906722	24	0,12
Southern and Eastern	Dublin	1894569	25	0,12
Outer London	London	494587	26	0,03
Noord-Brabant	Eindhoven	188837	27	0,01
Limburg	Maastricht	140000	28	0,01
Overijssel	Zwolle-Enschede	23580	29	0,00

WTS Target

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Inner London	London	36900000	1	2,38
Surrey, East and West Sussex	Brighton	23300000	2	1,50
Noordvleugel	Amsterdam Utrecht Almere	15509107	3	1,00
Île de France	Paris	12300000	4	0,79
Comunidad de Madrid	Madrid	11100000	5	0,72
Outer London	London	10400000	6	0,67
Lombardia	Milan	7685945	7	0,50
Berkshire and Oxfordshire	Oxford	6787722	8	0,44
Koep-Magyarország	Budapest	6075090	9	0,39
Shropshire and Staffordshire	Newcastle-under-Lyme	5625477	10	0,36
Nord-Pas-de-Calais	Calais	5323417	11	0,34
Düsseldorf	Düsseldorf	5267679	12	0,34
Brussels Gewest	Brussels	4618876	13	0,30
Cologne	Cologne	4447309	14	0,29
Cataluña	Barcelona	4047026	15	0,26
Hovedstaden	Copenhagen	3865526	16	0,25
Greater Manchester	Manchester	3104838	17	0,20
Stockholm	Stockholm	2346291	18	0,15
Merseyside	Liverpool	2343085	19	0,15
Lazio	Aarhus	2285095	20	0,15
Darmstadt	Rome	2199704	21	0,14
Lazio	Frankfurt am Main	2065525	22	0,13
Noord-Brabant	Eindhoven	1046438	23	0,07
Zuidvleugel	Rotterdam-The Hague	697732	24	0,04
Zeeland	Vlissingen-Middelburg	260000	25	0,02
Gelderland	Arhem-Nijmegen	155430	26	0,01
Drenthe	Assen	140000	27	0,01
Limburg	Maastricht	119244	28	0,01
Friesland	Leeuwarden	20900	29	0,00

APS Acquiror

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Berkshire and Oxfordshire	Oxford	269000000	1	11,13
Île de France	Paris	260000000	2	10,76
Inner London	London	186000000	3	7,70
Comunidad de Madrid	Madrid	77200000	4	3,19
Cologne	Cologne	60300000	5	2,50
Lazio	Rome	31900000	6	1,32
Piemonte	Turin	28000000	7	1,16
Lombardia	Milan	27600000	8	1,14
Stockholm	Stockholm	24600000	9	1,02
Noordvleugel	Amsterdam Utrecht Almere	24163426	10	1,00
Zuidvleugel	Rotterdam-The Hague	23900000	11	0,99
Cataluña	Barcelona	19000000	12	0,79
Luxembourg	Luxembourg	19000000	13	0,79
Darmstadt	Frankfurt am Main	17700000	14	0,73
Hampshire and Isle of Wight	Southampton	17300000	15	0,72
Oberbayern	Munich	16300000	16	0,67
Surrey, East and West Sussex	Brighton	13500000	17	0,56
Outer London	London	13000000	18	0,54
Hovedstaden	Copenhagen	8921299	19	0,37
Eastern Scotland	Edinburgh	8243229	20	0,34
Southern and Eastern	Dublin	7972019	21	0,33
Sardegna	Cagliari	7294717	22	0,30
Lisboa	Lissabon	7023971	23	0,29
Attiki	Athene	6722467	24	0,28
Detmold	Detmold	6631687	25	0,27
Brussels Gewest	Brussels	6282873	26	0,26
Noord-Brabant	Eindhoven	2544953	27	0,11
Limburg	Maastricht	1240874	28	0,05
Gelderland	Arhem-Nijmegen	1056436	29	0,04
Friesland	Leeuwarden	42000	30	0,00
Groningen	Groningen	15000	31	0,00

APS Target

NUTS 2 Region	Main City	Investments 2000-2009	Rank 2000-2009	% Noordvleugel
Düsseldorf	Düsseldorf	210000000	1	6,69
Inner London	London	159000000	2	5,07
Île de France	Paris	101000000	3	3,22
Lazio	Rome	51500000	4	1,64
Berkshire and Oxfordshire	Oxford	51300000	5	1,63
Comunidad de Madrid	Madrid	45700000	6	1,46
Noordvleugel	Amsterdam Utrecht Almere	31390089	7	1,00
Lombardia	Milan	24300000	8	0,77
Oberbayern	Munich	22700000	9	0,72
Zuidvleugel	Rotterdam-The Hague	21400000	10	0,68
Eastern Scotland	Edinburgh	21100000	11	0,67
Piemonte	Turin	17400000	12	0,55
Luxembourg	Luxembourg	15600000	13	0,50
Darmstadt	Frankfurt am Main	15000000	14	0,48
Southern and Eastern	Dublin	14400000	15	0,46
Cologne	Cologne	14300000	16	0,46
Hovedstaden	Copenhagen	13900000	17	0,44
Stockholm	Stockholm	13100000	18	0,42
Outer London	London	12500000	19	0,40
Etelä-Suomi	Helsinki	11800000	20	0,38
Surrey, East and West Sussex	Brighton	11100000	21	0,35
Hampshire and Isle of Wight	Southampton	8881593	22	0,28
Bedfordshire and Hertfordshire	Luton	8577284	23	0,27
Attiki	Prague	8071664	24	0,26
Cataluña	Barcelona	7987928	25	0,25
Groningen	Groningen	6368000	26	0,20
Noord-Brabant	Eindhoven	3367825	27	0,11
Gelderland	Arhem-Nijmegen	2273736	28	0,07
Limburg	Maastricht	675591	29	0,02
Drenthe	Assen	60000	30	0,00
Overijssel	Zwolle-Enschede	33100	31	0,00

Network structure

Table 7 shows the strongest outward and inward investment connections of the North Wing and South Wing within the combined APS, WTS and FIRE sectors. On the left in Table 7 it can be seen that companies of the North Wing within these three sectors invest mainly in companies (all sectors) in the United States. This can also be seen in the bipartite network diagram (Figure 3). Intraregional investments are in second position and investments in Russia in third. In addition, it can be seen that Ile de France invests the most in the North Wing in all industrial sectors with respect to these three primary sectors, followed by Inner London and the Brussels Region. This can also be seen in the bipartite network diagram (Figure 3). In the case of the South Wing within the three sectors, the matter concerns strong relations with Japan in all sectors. Intraregional investments are in second position, followed by investments in the United States and so forth. In addition, with respect to the three sectors, Inner London invests the most in the South Wing in all sectors, followed by the Brussels Region and the North Wing. These findings are also shown in the bipartite network diagram (Figure 3), in which the importance of Inner London, the United States, Ile de France and the Community of Madrid within the European investment network (as acquiror and target) can also clearly be seen.

The right side of Table 7 shows that investments of the North Wing with respect to all sectors are in the first place intraregional in the three primary sectors, followed by investments in Inner London and, in third place, investments in the South Wing. This can also be seen in the bipartite network diagram (Figure 4). In addition, with respect to all sectors, Ile de France invests the most in the three primary sectors of the North Wing, followed by Inner London and the Community of Madrid. At the bottom right it can be seen that, with respect to all its sectors, the South Wing invests the most in the South Wing in the three sectors, followed by investments in Dusseldorf. It can also be seen that, with respect to all sectors, Australia invests the most in the region of the South Wing in the three sectors, followed by investments in Sardegna and Japan. This can also be seen in the bipartite network diagram (Figure 4), which also shows the relative importance of Inner London, the United States, Ile de France and the Community of Madrid.

Important Sectoral Linkages of Noordvleugel and Zuidvleugel 2000 - 2009

APS FIRE WTS acquiror regions and their linkages to all sectors in target regions				All sectors in acquiror regions and their linkages to APS FIRE WTS in target regions			
Rank	Acquiror region (APS FIRE WTS)	Target region (all sectors)	Investment	Rank	Acquiror region (all sectors)	Target region (APS FIRE WTS)	Investment
<i>Noordvleugel related linkages</i>				<i>Noordvleugel related linkages</i>			
1	Noordvleugel	United States	28,3	1	Noordvleugel	Noordvleugel	10,67
2	Noordvleugel	Noordvleugel	14,2	2	Noordvleugel	Inner London	6,02
3	Noordvleugel	Russian Federation	5,2	3	Noordvleugel	Zuidvleugel	4,28
4	Noordvleugel	Praha	3,1	4	Noordvleugel	Île de France	2,12
5	Noordvleugel	Veneto	3,0	1	Île de France	Noordvleugel	31,34
6	Noordvleugel	Piemonte	2,3	2	Inner London	Noordvleugel	8,79
7	Noordvleugel	Australia	2,1	3	Comunidad de Madrid	Noordvleugel	7,21
8	Noordvleugel	Zuidvleugel	1,0	4	Noordvleugel	Noordvleugel	9,00
9	Noordvleugel	Inner London	2,0	5	Brussels Gewest	Noordvleugel	5,88
10	Noordvleugel	Kazakhstan	1,3	6	United States	Noordvleugel	3,35
11	Noordvleugel	Île de France	1,2	7	Kuwait	Noordvleugel	3,53
12	Noordvleugel	Mexico	1,1	8	Russian Federation	Noordvleugel	2,10
13	Noordvleugel	Brazil	1,0	9	Utrecht	Noordvleugel	1,74
14	Noordvleugel	Andalucía	0,8	10	Leicestershire	Noordvleugel	1,06
15	Noordvleugel	Nordwestschweiz	0,9	11	Hovedstaden	Noordvleugel	1,05
16	Noordvleugel	Brussels Gewest	0,7	12	Luxembourg	Noordvleugel	1,96
17	Noordvleugel	Thailand	0,6	13	Etelä-Suomi	Noordvleugel	0,89
18	Noordvleugel	Utrecht	0,6	14	Australia	Noordvleugel	0,06
19	Noordvleugel	Nigeria	0,6				
1	Île de France	Noordvleugel	12,9				
2	Inner London	Noordvleugel	5,7				
3	Brussels Gewest	Noordvleugel	5,4				
4	Comunidad de Madrid	Noordvleugel	4,5				
5	Lazio	Noordvleugel	1,1				
6	Zuidvleugel	Noordvleugel	0,6				
<i>Zuidvleugel related linkages</i>				<i>Zuidvleugel related linkages</i>			
1	Zuidvleugel	Japan	30,70	1	Zuidvleugel	Zuidvleugel	12,83
2	Zuidvleugel	Zuidvleugel	15,67	2	Zuidvleugel	Düsseldorf	8,92
3	Zuidvleugel	United States	13,58	1	Australia	Zuidvleugel	13,88
4	Zuidvleugel	Düsseldorf	8,68	2	Sardegna	Zuidvleugel	13,71
5	Zuidvleugel	India	1,85	3	Japan	Zuidvleugel	11,62
6	Zuidvleugel	Noordvleugel	1,84	4	United States	Zuidvleugel	10,08
1	Inner London	Zuidvleugel	9,90	5	Brussels Gewest	Zuidvleugel	7,67
2	Brussels Gewest	Zuidvleugel	7,46	6	Noordvleugel	Zuidvleugel	9,32
3	Noordvleugel	Zuidvleugel	6,23	7	Hovedstaden	Zuidvleugel	5,35
4	Köln	Zuidvleugel	2,40	8	Inner London	Zuidvleugel	4,07
5	Île de France	Zuidvleugel	1,70	9	Köln	Zuidvleugel	1,47
			0,00	10	Île de France	Zuidvleugel	1,76

Table 7: The most important sectoral connections of The North Wing and South Wing in the period 2000-2009

Source: R. Wall 2010

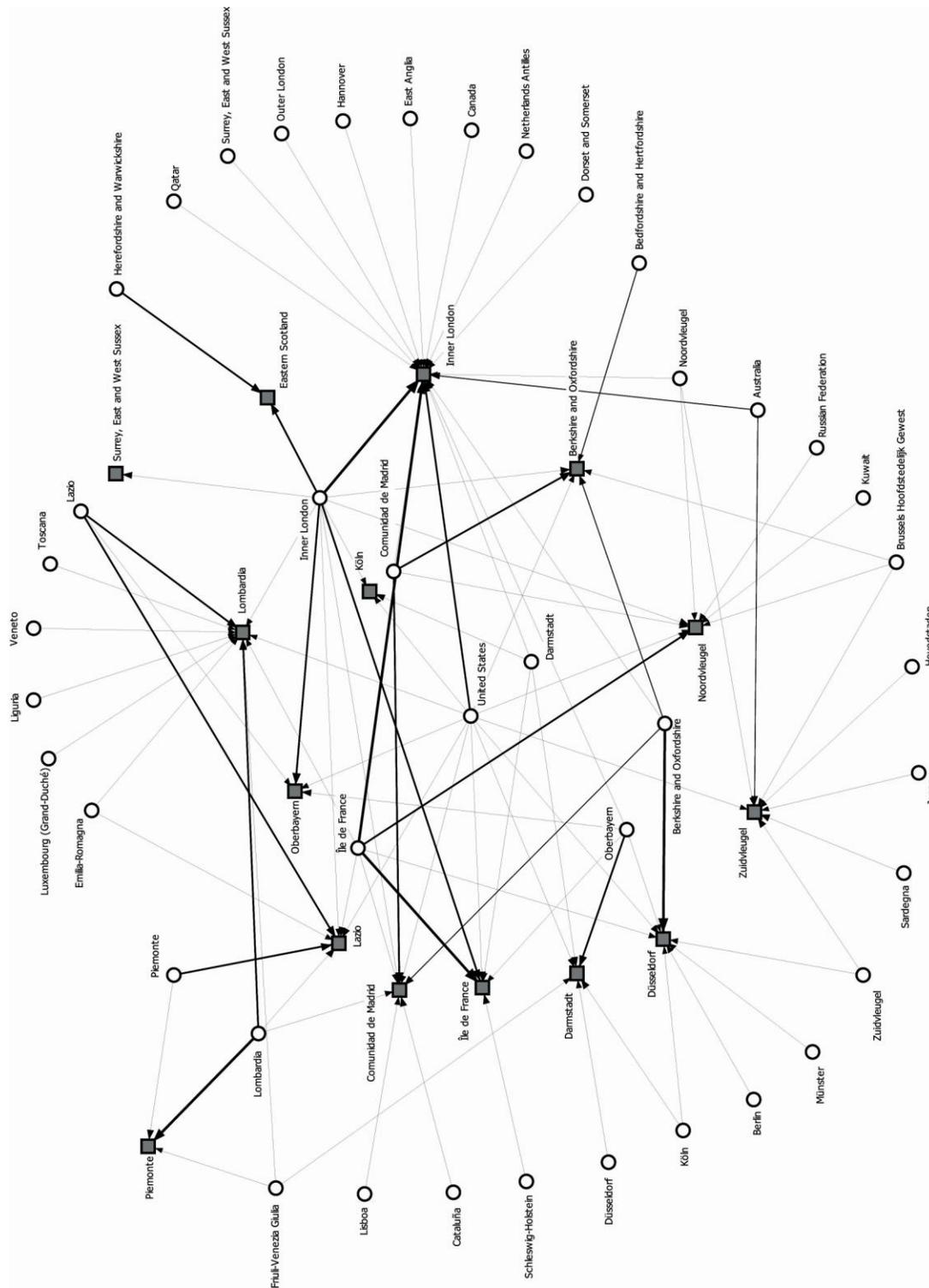


Figure 4: Investments from all sectors in regions to APS, FIRE and WTS sectors in regions in the period 2000-2009 (bipartite network)

Source: R. Wall 2010

The top left of Table 8 shows the APS, FIRE and WTS investments from the North Wing to its most important sectors in the period 2000-2009. This is the number of M&A that occurred in companies in other sectors in all regions from the three primary sectors of the North Wing. This data shows that the largest investments occur in the insurance sector (27%), followed by investments in the financial sector (17%), the business services sector (12%), wholesale (10%) and the mining sector (10%). The fifth column shows the relative investments of the North Wing and South Wing. The North Wing invests almost 20% in the insurance sector and 13% in the financial sector, while the corresponding figures for the South Wing are only 3% and 0.6%. The table also shows that, from the three primary sectors, the North Wing accounts for 73% of the combined investments of both regions. The largest investments from the South Wing occur in the communications (47%), wholesale (12%) and insurance (11%) sectors.

The network diagram (Figure 5) also shows the most important sectoral connections of the North Wing and South Wing. In addition, it can also be seen that the insurance sector, financial sector and the business services, communications services and real estate sectors are Europe's most attractive sectors. The North Wing's strongest competitors are also in the network. It is striking that Inner London and the Community of Madrid invest in the same sectors as the North Wing and that their investments are larger than those of the North Wing. Ile de France is less prominent in this respect. The right of Table 8 shows investments from different industrial sectors to APS, FIRE and WTS companies in the North Wing and South Wing. This means that M&A occurred between companies in these different sectors and the APS, FIRE and WTS companies in the two Dutch regions. It is apparent that companies in the finance and communications sectors of different regions invested the most in the North Wing (26% and 23%). Third position is occupied by the real estate sector (15%). Compared with the South Wing, the North Wing has a larger share in these relations (see last column). These regional, sectoral relations are shown in the network diagram (Figure 6). It is also apparent that Inner London, the Community of Madrid, Ile de France and Lombardy are attractive investment locations and that business services, insurance, real estate, finance and communications are the most essential sectors within the European M&A network. The large investments in the communications sector were probably due to EU integration and the associated policy reforms and privatisations that took place in various countries.³⁷

³⁷ Brenton, P., Di Mauro, F. and Lucke, M. (1999), 'Economic Integration and FDI: An Empirical Analysis of Foreign Investment in the EU and in Central and Eastern Europe', *Empirica*, 26(2), pp. 95-121.

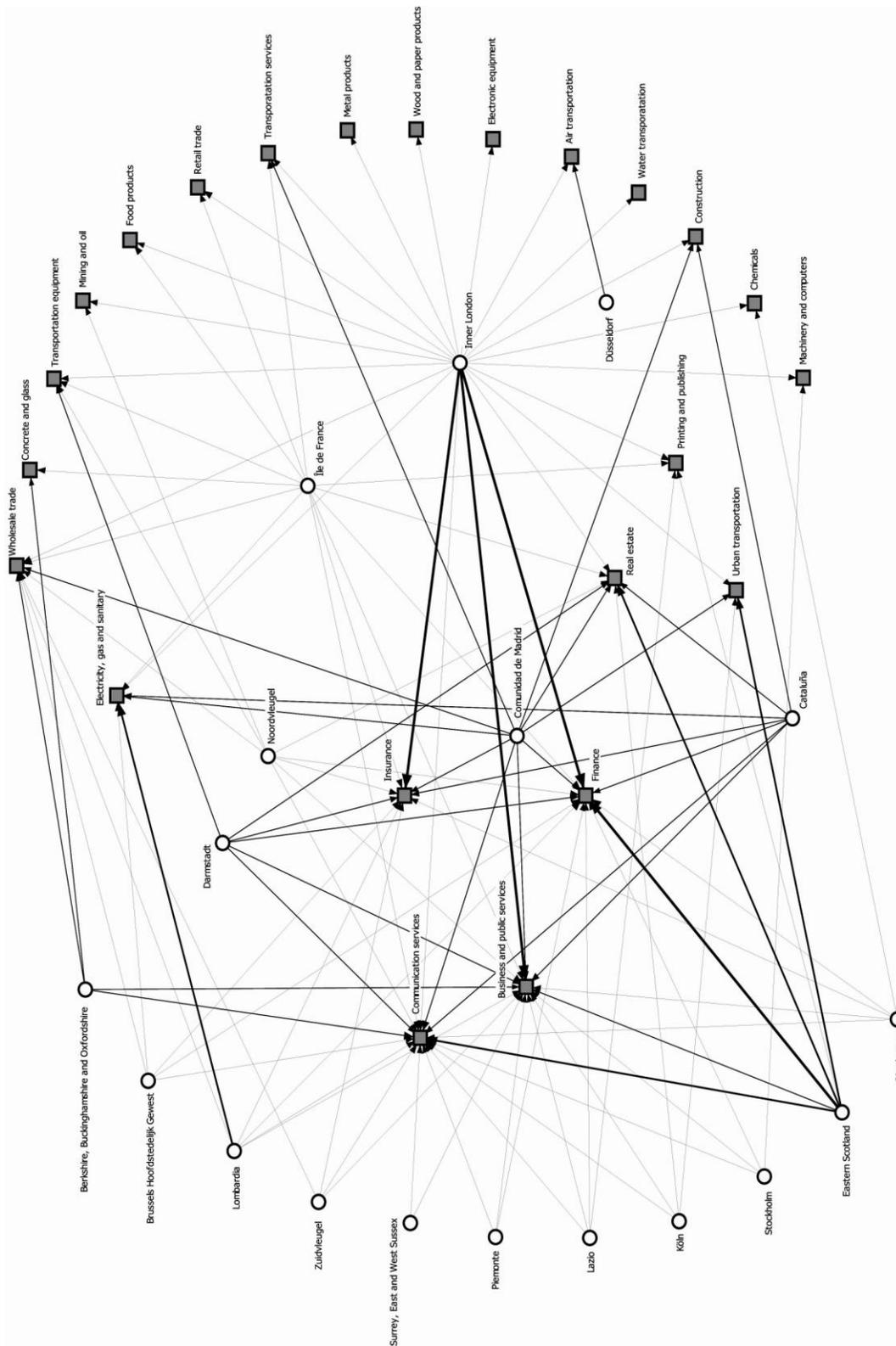


Figure 5: APS, FIRE and WTS investments from regions to all sectors in the period 2000-2009

Source: R. Wall 2010

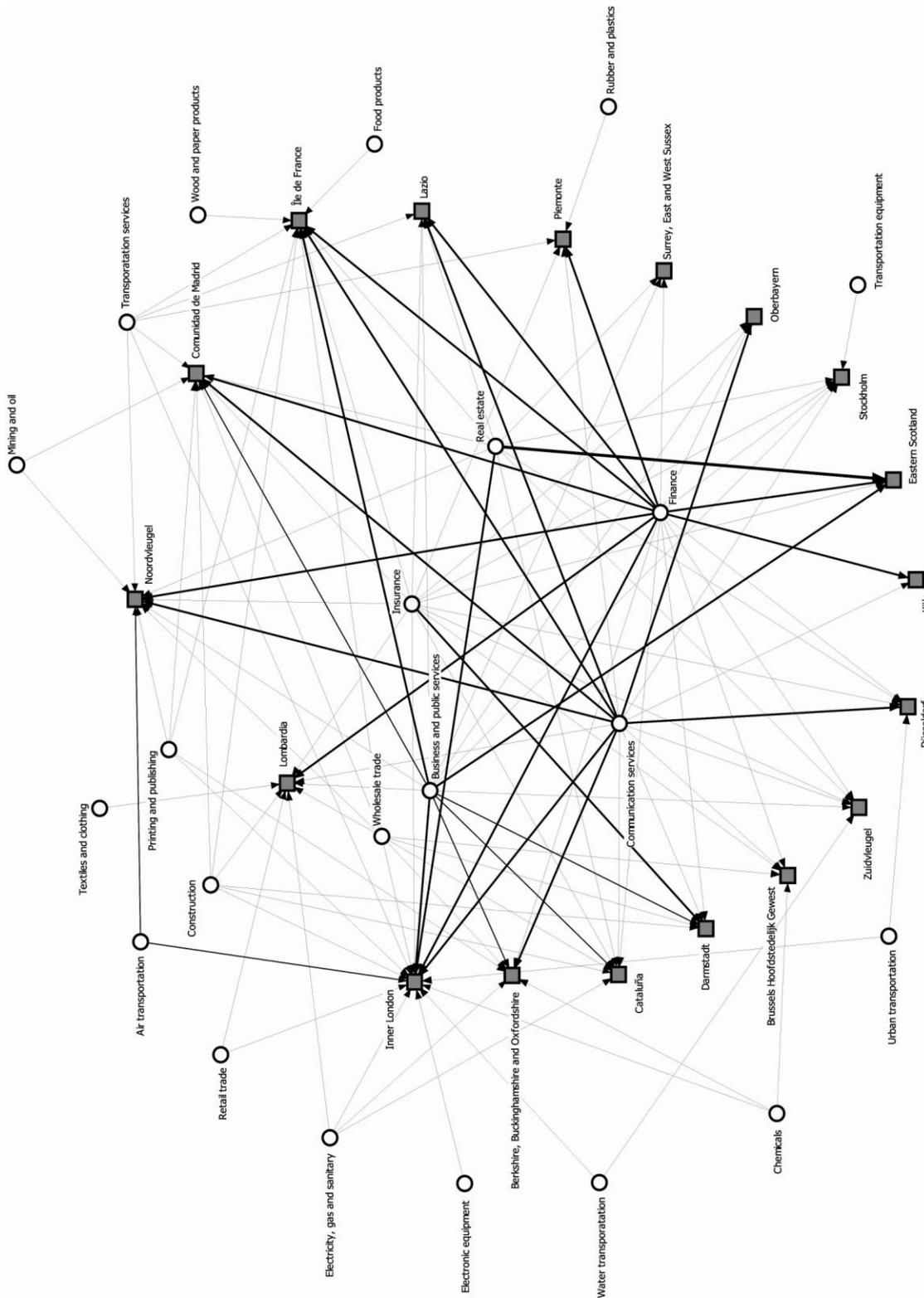


Figure 6: Investments from all sectors to APS, FIRE and WTS sectors in regions in the period 2000-2009

Source: R. Wall 2010

Research question 3: Which regions were the greatest network competitors of the North Wing in the period 2000-2009?

This section deals with the network competitors of the North Wing and South Wing. In the present consideration, competition is defined as the degree of network similarity (network overlap) of different regions. This means that if two regions have equal investment (M&A) magnitudes in exactly the same set of other regions, network overlap is identical and these two regions are 100% competitors of each other. If network overlap is only half, the regions in question are only 50% of each other. Furthermore, the focus was restricted exclusively to APS, FIRE and WTS networks to ensure that only the network competitors within the primary sectors of the North Wing were selected. The network competitors of the North Wing and South Wing were identified by means of cluster analysis and are presented in Table 8. The upper part concerns investments from the North Wing in other regions (acquiror), while the lower part shows investments of other regions in the North Wing (target). The upper part shows that Ile de France has eleven connections of similarity to those of the North Wing, which has a maximum of eighteen. In other words, Ile de France is approximately a 60% competitor of the North Wing. The corresponding figure for Inner London is approximately 50% and around 30% for the Community of Madrid.

The South Wing only has 15% network overlap with the North Wing. In addition, the table shows which regions or countries are of importance. Regarding investments from the South Wing in other regions, Inner London has 100% similarity, followed by Ile de France with an overlap of almost 70%. In this case, too, the overlap between the North Wing and South Wing is 15%. In this respect the two regions are not really competitors of each other. Another important observation to make is that, in terms of outward investments, the North Wing is connected with approximately three times as many locations as the South Wing. The table must be read differently with respect to the lower part. In the upper part, the number of connections can be read from top to bottom in the second column, whereas the lower part must be read from left to right. There are a total of fourteen locations that invest (M&A) in the North Wing. Seven of these locations also invest in Inner London and the South Wing (50% overlap) and six in Ile de France (40% overlap). In this case the South Wing is indeed a competitor of the North Wing with respect to inward investments and therefore also in terms of regional attractiveness for companies. Eleven locations in the South Wing invest. Seven of these locations invest in the North Wing, six in Ile de France and five in Inner London.

Regional Competitvity by Investment Simlarity

Acquiror	Andalucia	Australia	Brazil	France	Inner London	Kazakhstan	Mexico	Nigeria	Noordvleugel	Nordwestschwarz	Piemonte	Praha	Russian	Scotland	Oberbayern	Piemonte	Investments from Noordvleugel into other Regions
Noordvleugel	18	15	14	14	15	14	14	14	16	14	15	15	16	14	14	17	15
Ile de France	0	0	15	19	18	0	14	0	17	17	14	14	15	15	18	18	0
Inner London	0	14	14	17	19	0	14	0	16	16	14	14	15	15	18	18	0
Comunidad de Madrid	14	0	16	0	16	0	0	0	16	16	13	0	0	0	18	18	0
Brussels Gewest	0	14	0	15	16	0	0	0	16	16	0	0	16	16	19	19	0
Zuidvleugel	0	0	0	15	15	0	0	0	0	0	0	0	0	0	19	19	0
Jersey	4	0	0	15	16	0	0	0	0	0	0	0	0	0	19	19	0
North East and Oxfordshire	3	0	0	17	17	0	14	0	0	0	0	0	14	0	19	19	0
Oppeyren	3	0	0	14	14	0	0	0	0	0	0	0	0	0	19	19	0
Cataluna	3	0	0	14	14	0	0	0	0	0	0	0	0	0	19	19	0
Köln	3	0	0	14	14	0	0	0	0	0	17	0	0	0	19	19	0
Lombardia	3	0	0	14	14	0	0	0	14	14	0	0	0	0	19	19	0
Zuidvleugel	3	0	0	14	14	0	0	0	0	0	0	0	0	0	19	19	0
Lazio	2	0	0	14	14	0	0	0	0	0	0	0	0	0	19	19	0
Piemonte	2	0	0	14	14	0	0	0	0	0	0	0	0	0	19	19	0
Stockholm	1	0	0	14	14	0	0	0	0	0	16	0	0	0	19	19	0
Investments from Zuidvleugel into other Regions	18	15	14	14	15	14	14	14	16	14	15	15	16	14	14	17	15
Noordvleugel	6	15	14	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Inner London	6	15	14	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Ile de France	4	15	14	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Berkshire and Oxfordshire	3	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Noordvleugel	3	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Brussels Gewest	3	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Köln	3	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Darmstadt	3	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Comunidad de Madrid	2	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Oppeyren	2	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Lazio	2	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Cataluna	2	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Stockholm	1	0	0	16	16	16	16	16	16	16	16	16	16	16	16	16	16
Target	17	18	19	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Investments from other Regions into Noordvleugel	17	18	19	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Ile de France	16	19	14	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Inner London	15	17	15	16	15	14	13	12	11	10	9	8	7	6	5	4	3
United States	16	16	0	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Comunidad de Madrid	14	0	0	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Luxembourg	14	0	0	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Brussels Gewest	15	0	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Noordvleugel	15	0	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Australia	14	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Hovedstaden	14	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Russian Federation	15	0	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Etelä-Suomi	14	0	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Leicestershire	14	0	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Number of Similar Linkages	14	7	7	6	4	4	4	4	3	3	2	2	2	2	2	2	1
Investments from other Regions into Zuidvleugel	14	17	19	18	15	14	13	12	11	10	9	8	7	6	5	4	3
Ile de France	14	17	19	18	15	14	13	12	11	10	9	8	7	6	5	4	3
Inner London	14	16	17	19	16	15	14	13	12	11	10	9	8	7	6	5	4
United States	15	15	16	17	16	15	14	13	12	11	10	9	8	7	6	5	4
Köln	14	0	0	15	14	13	12	11	10	9	8	7	6	5	4	3	2
Brussels Gewest	15	15	14	0	15	14	13	12	11	10	9	8	7	6	5	4	3
Zuidvleugel	16	0	0	15	14	13	12	11	10	9	8	7	6	5	4	3	2
Australia	16	14	0	16	15	14	13	12	11	10	9	8	7	6	5	4	3
Noordvleugel	15	15	14	15	14	13	12	11	10	9	8	7	6	5	4	3	2
Sardegna	15	14	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Hovedstaden	15	14	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Japan	15	14	0	14	15	14	13	12	11	10	9	8	7	6	5	4	3
Number of Similar Linkages	17	7	7	6	4	4	4	4	3	3	2	2	2	2	2	2	1

Research question 4: What future does the North Wing's network have?

The investment trends of the North Wing's largest competitors were investigated using the 'yield forecast' technique. Inner London and Ile de France were excluded from this investigation, because these regions are far stronger than the others in terms of value of investments and their inclusion would therefore have made the graph (Figure 7) difficult to read. The upper part of the graph shows the outward investments, while the lower part shows the inward investments. In addition, both graphs indicate the estimated trend from 2010 up to and including 2015. The top graph shows that the North Wing has a strong, positive development and future expectation with respect to outward investments. The same applies to the Brussels Region and Lombardy (Milan). The other regions exhibit a declining trend and the expectation is that the South Wing will invest less in other locations. The bottom graph shows that Lombardy, the North Wing and the Brussels Region will in the course of time become more attractive for investments from other locations. The estimate is therefore that these regions will remain attractive. In the case of the South Wing and the other regions the analysis showed that, without intervention in terms of strengthening regional qualities, attractiveness will gradually decline.

Table 4 provides an overview of the largest inward and outward investments of the North Wing over the period 2000-2009 as a whole and is followed by an analysis through which we attempt to obtain greater insight into the changes of inward and outward investments for each year. Three aspects are explained in the two rankings (Tables 10 and 11). First, the strongest M&A activity outside the NUTS 2 regions is shown in colour. Second, the Dutch provinces are indicated by black outlining and, third, the other NUTS 2 regions are specified. When comparing the two tables, the first thing to emerge is that there are almost twice as many outward investments to different locations than inward investments. These results indicate that the North Wing is far more dependent on M&A in foreign countries than vice versa. This is due in part to the fact that the Netherlands is a small country that is exceptionally dependent on production and trade in faraway locations. The bottom of the table provides confirmation that the percentage of North Wing investments abroad is considerable. In addition, as already indicated in Map 1, the North Wing is one of the few regions in Europe that exercises exceptional power and managerial control over other regions. This is, among other things, due to the fact that Amsterdam has a prominent 'head office' function in the Netherlands, Europe and the world. The fact that far fewer locations have M&A in the North Wing than vice versa (Tables 10 and 11) apparently has to do with the fact that there are far more options in the rest of Europe. This is reflected in Map 2, where the range of attractive locations where companies can acquire other companies is considerable. In addition, the two tables show that the number of investment locations is greater in times of economic growth (certainty) than it is in times of economic contraction (uncertainty).

From left to right, Table 10 shows that the North Wing increasingly invested in locations outside the NUTS 2 regions. In 2000, only 19% of M&A occurred in locations outside the NUTS 2 regions, whereas the corresponding figure for 2008 is 49%. This clearly indicates that the North

Wing has become increasingly dependent on locations throughout the world. In addition, it can be seen that interest in the North, Central and South American regions is decreasing, while M&A activity with Asian countries and European regions outside the NUTS 2 regions is increasing. Of note in this respect is that Russia has become an important investment location for the North Wing. These investments are specified in Table 12, which shows that the chief interest is in the wholesale sector, the financial sector, food products (mainly beer breweries), the energy sector and the transport sector. The following table (Table 11) shows inward investments in the North Wing. Also here it can be seen that the number of M&A in locations outside the NUTS 2 regions increased in the course of time. While the preceding table shows that the importance of the United States for the North Wing has decreased, it can be seen here that the North Wing remains consistently attractive for M&A from the United States. It is also apparent that the share of investments from Asia and European countries outside the NUTS 2 regions is increasing. Furthermore, the table shows that Russia has important M&A with companies in the North Wing, mainly in the North Wing's wholesale, finance and transport sectors. It is also clear that South America, Central America, Africa and the Middle East have only a limited interest in the North Wing.

The graphs of Figure 8 make the investment trends in the North Wing more transparent. The top graph shows that the outward investments of the North Wing follow the economic cycle (see Figure 1). The collapse of the ICT sector from its high point in 2001, for example, adversely affected investments in the North Wing, which reached a low point in around 2004. This drop was caused mainly by a decline in investments from the United States. The economy thereafter picked up again, driven mainly by a resurgent ICT sector, something that can be seen in the period 2005-2007. The effects of the current recession are clearly visible from 2008-2009, something reflected in a deterioration of the M&A network in terms of power and destinations. The different trend lines indicate that investments in North America, South America and Central America are decreasing, while investments in Asia and European countries outside the NUTS 2 regions are increasing. Investments within the Netherlands are evidently also decreasing. The bottom graph of Figure 8 provides a slightly more fickle image of inward investments from different locations. In general terms, there is a declining trend with respect to inward investments from North America, Central America and South America also in this case, while locations in Asia and Europe outside the NUTS 2 regions are increasingly investing in Amsterdam. It is also clear that investments from the Middle East and Africa became a factor between 2005 and 2009.

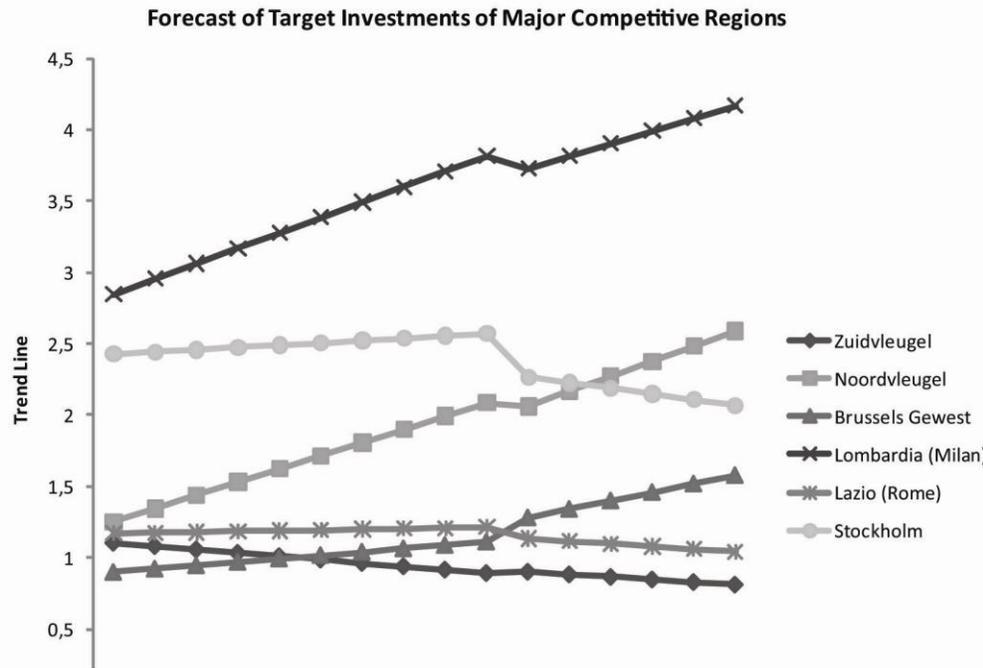
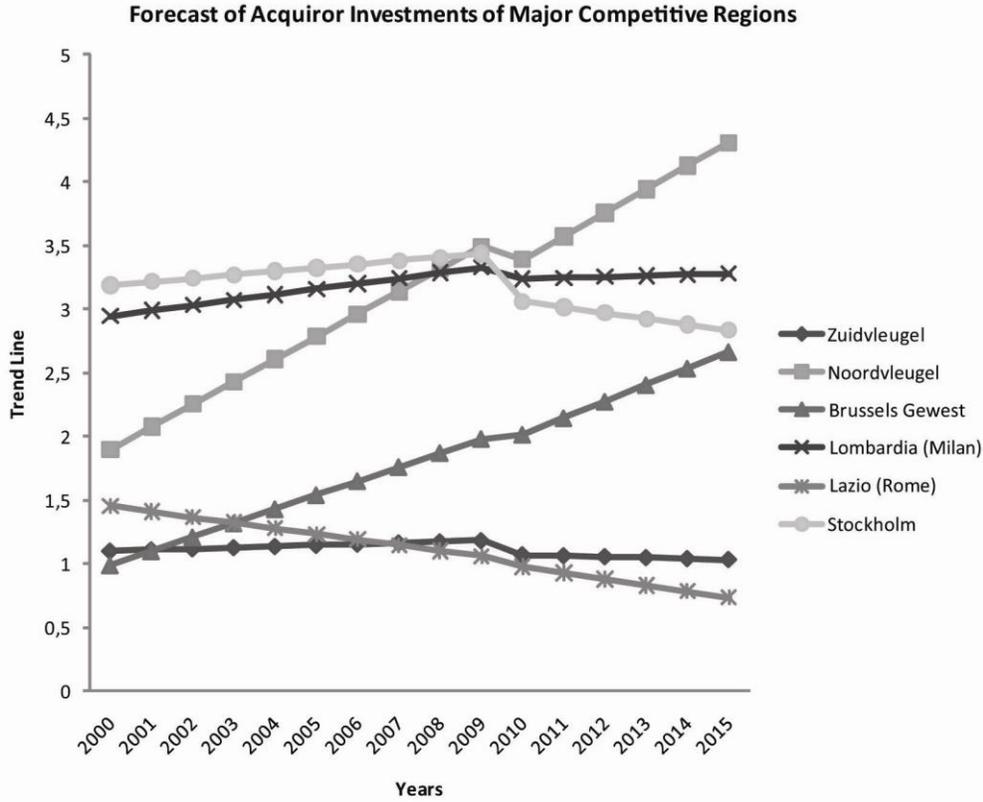


Figure 7: M&A trend of NUTS 2 regions in the period 2000-2015

Source: R. Wall en M. Burger 2010

Outward M&As from Noordvleugel (acquirer) to countries and regions

Rank	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009
1	United States 58,34	Athli 15,51	Zuidvleugel 23,42	Brazil 19,64	Noordvleugel 25,59	Piemonte 19,81	Russian Federation 33,24	Russian Federation 22,92	United States 15,33	Kazakhstan 60,82	2009
2	Noordvleugel 23,33	United States 10,77	Australia 21,00	Noordvleugel 18,11	Mazowieckie 17,77	Turkey 14,38	Mid-Pyrénées 19,88	Praha 22,84	Russian Federation 14,66	Noordvleugel 9,18	2009
3	Andalucia 2,58	Switzerland 10,20	Noordvleugel 6,81	Oberosterreich 13,83	Lisboa 10,85	Veneto 14,02	Veneto 7,63	Noordvleugel 12,25	Ile de France 10,71	Turkey 6,48	2009
4	Zuidvleugel 2,50	Inner London 8,30	South Africa 5,00	Lazio 9,98	Inner London 9,51	Hovedstaden 7,96	Gelderland 6,20	Inner London 7,81	Philippines 8,21	Russian Federation 4,40	2009
5	Gloucestershire 1,76	Mexico 8,06	Argentina 4,76	United States 6,83	Oxfordshire 7,01	Luxemburg 7,40	Nigeria 5,70	Prov. Antwerpen 5,88	Oberbayern 7,46	Zuidvleugel 1,92	2009
6	Inner London 1,65	Noordvleugel 7,03	Brussels Gewest 4,74	Niederösterreich 4,86	Brazil 6,84	United States 4,54	United States 4,54	Thailand 5,41	Japan 5,38	West-Vlaanderen 1,75	2009
7	Sydsverige 1,39	Veneto 6,03	Russian Federation 4,22	Japan 4,82	Vojvodina 3,57	Noordvleugel 4,13	Noordvleugel 4,21	Turkey 2,90	Noordvleugel 4,72	Noord-Brabant 1,52	2009
8	Mexico 1,17	Zuidvleugel 4,33	Vlaams-Brabant 3,66	Indonesia 3,37	Venezuela 2,71	Russian Federation 4,13	Ile de France 3,25	Canada 2,48	Australia 4,27	Canada 1,45	2009
9	Sud-Est 0,94	Outer London 4,30	Norte 2,93	Norte 2,63	Uzbekistan 1,76	Zuidvleugel 3,62	Zuidvleugel 2,78	Australia 2,47	Sjevezoepatina 3,85	Somerset 1,41	2009
10	Noord-Brabant 0,92	Comunidad de Madrid 3,68	Canada 2,48	Toscana 2,12	Etelä 1,68	Lisboa 3,37	Inner London 1,98	Bermuda 2,25	Prov. Oost-Vlaanderen 3,58	Inner London 1,18	2009
11	Groningen 0,76	Slaskie 3,40	United States 2,39	Hrvatska 2,08	Russian Federation 1,56	Israel 3,03	West Midlands 1,48	United States 1,54	South Korea 3,55	Singapore 1,15	2009
12	Gelderland 0,66	Oxfordshire 1,84	Brazil 2,34	Darmstadt 1,98	Praha 1,47	Lombardia 2,64	Iceland 1,37	Hong Kong 1,33	Brussels Gewest 2,71	Macedonia 0,80	2009
13	Switzerland 0,64	Praha 1,72	Ile de France 2,32	Noordvleugel 1,80	Limburg 1,46	Gelderland 1,96	Jordan 1,05	Norte 1,28	Turkey 1,47	Norway 0,80	2009
14	Ile de France 0,46	Dolnosaskie 1,67	Egypt 2,14	Brussels Gewest 1,66	Noord-Brabant 1,39	Indonesia 1,84	South Korea 0,90	Ile de France 1,23	Kyros 1,47	Vlaams-Brabant 0,77	2009
15	Canada 0,34	Ile de France 1,66	Southern and Eastern 1,74	Compania 1,35	Piemonte 1,37	China 1,77	Norte 0,88	Japan 1,18	Bermuda 1,47	Ile de France 0,70	2009
16	Luxemburg 0,34	Southern and Eastern 1,42	Oberbayern 1,58	Cataluña 0,99	Zuidvleugel 1,33	Bucuresti-Ilfov 1,67	Israel 0,85	Vstsvverige 1,04	Region Île de France 1,37	Overijssel 0,70	2009
17	Rhône-Alpes 0,31	Stockholm 1,41	Etelä 1,17	Chile 0,83	Brussels Gewest 0,89	Inner London 0,68	Philippines 0,68	Taiwan 0,93	Sydsverige 1,05	Malopolskie 0,69	2009
18	Leicestershire 0,30	Hong Kong 1,38	Athli 1,07	Noordvleugel 0,78	Malaysia 0,57	Madagascar 0,54	Noordvleugel 0,73	Panama 0,78	Overijssel 1,03	Israel 0,68	2009
19	Northern Ireland 0,29	Marche 1,21	Cataluña 0,96	Canada 0,44	Cataluña 0,40	Koep-Magyarország 0,46	Leicestershire 0,40	Ghana 0,51	Etelä 0,76	Malopolskie 0,66	2009
20	Comunidad de Madrid 0,29	Brussels Gewest 1,15	Mazowieckie 0,86	Thailand 0,39	Malaysia 0,44	Brussels Gewest 0,33	Prov. Antwerpen 0,34	Berlin 0,49	Gelderland 0,75	Philippines 0,65	2009
21	Prov. Antwerpen 0,23	Emilia-Romagna 1,14	Israel 0,74	Noordvleugel 0,31	Isle of Wight 0,27	Darmstadt 0,31	Malaysia 0,29	Mid-Pyrénées 0,45	Peru 0,70	Malta 0,43	2009
22	Holstein 0,15	Vstsvverige 1,04	India 0,67	Noord-Brabant 0,31	Stuttgart 0,26	Ile de France 0,25	Vlaams-Brabant 0,23	Darmstadt 0,45	Canada 0,69	Brussels Gewest 0,42	2009
23	Koep-Magyarország 0,13	Greater Manchester 0,48	Darmstadt 0,56	Comunidad de Madrid 0,18	United States 0,23	Düsseldorf 0,24	Peru 0,21	Lombardia 0,44	Prov. Hainaut 0,61	Centro Portugal 0,39	2009
24	Mazowieckie 0,11	Zeeland 0,42	Switzerland 0,38	Norway 0,17	Comunidad de Madrid 0,22	Bratislavský kraj 0,23	Tunisia 0,20	West Sussex 0,32	Comunidad de Madrid 0,58	Kassel 0,34	2009
25	Kassel 0,06	Rhône-Alpes 0,38	Groningen 0,33	Lombardia 0,15	Oberbayern 0,15	Philippines 0,21	Overijssel 0,17	Hovedstaden 0,28	South Africa 0,55	Switzerland 0,31	2009
26	India 0,05	Etelä 0,36	China 0,32	China 0,15	Zapadne Slovensko 0,15	Malopolskie 0,20	Norway 0,15	Iceland 0,17	China 0,51	Yugoslavië 0,22	2009
27	Lazio 0,05	Smland med-harna 0,25	Sud-Est 0,28	Serbia 0,10	Minster 0,15	Iceland 0,16	Lombardia 0,15	South Africa 0,11	Luxemburg 0,46	United States 0,19	2009
28	Southern and Eastern 0,04	Canada 0,22	Pais Vasco 0,26	Noord-Brabant 0,19	India 0,15	Prov. Oost-Vlaanderen 0,05	Somerset 0,10	Comunidad de Madrid 0,09	India 0,30	2009	
29	Bedfordshire 0,04	Vlaams-Brabant 0,18	Noord-Brabant 0,19	Stockholm 0,15	India 0,15	West-Vlaanderen 0,03	Australia 0,09	Vojvodina 0,07	Praha 0,25	2009	
30	Outer London 0,03	India 0,12	Stockholm 0,15	Comunidad de Madrid 0,12	India 0,15	West-Vlaanderen 0,03	Oberbayern 0,09	Gloucestershire 0,07	Noord-Brabant 0,21	2009	
31	Mellansverige 0,03	SW Scotland 0,09	Comunidad de Madrid 0,12	Moldova 0,10	Moldova 0,10	West-Vlaanderen 0,03	China 0,08	Piemonte 0,05	Switzerland 0,20	2009	
32	Sjælland 0,03	Mazowieckie 0,08	Moldova 0,10	Del-Albid 0,10	Del-Albid 0,10	West-Vlaanderen 0,03	China 0,08	Piemonte 0,05	Zuidvleugel 0,15	2009	
33	Russian Federation 0,02	Andalucia 0,06	Del-Albid 0,10	Wallon 0,08	Limburg 0,08	West-Vlaanderen 0,03	China 0,08	Piemonte 0,05	Centro Portugal 0,13	2009	
34	Vstsvverige 0,02	Wallon 0,04	Overijssel 0,08	Limburg 0,08	Oxfordshire 0,05	West-Vlaanderen 0,03	China 0,08	Piemonte 0,05	Lietuva 0,12	2009	
35	Israel 0,02	South Africa 0,04	Limburg 0,08	Oxfordshire 0,05	Oxfordshire 0,05	West-Vlaanderen 0,03	China 0,08	Piemonte 0,05	Piemonte 0,10	2009	
36	Côte d'Azur 0,01										2009
	Total M&A	100	Total M&A	100	Total M&A	100	Total M&A	100	Total M&A	100	Total M&A
	North America 58,68	North America 10,99	North America 4,88	North America 7,27	North America 0,23	North America 4,54	North America 4,62	North America 6,27	North America 17,49	North America 1,64	2009
	South & Central America 1,17	South & Central America 8,06	South & Central America 7,10	South & Central America 20,47	South & Central America 10,33	South & Central America 0,00	South & Central America 0,21	South & Central America 0,78	South & Central America 0,70	South & Central America 0,00	2009
	Asia 0,05	Asia 1,51	Asia 21,99	Asia 8,73	Asia 3,86	Asia 3,86	Asia 2,04	Asia 11,31	Asia 22,22	Asia 1,80	2009
	Europe beyond NUTS 2 0,02	Europe beyond NUTS 2 10,20	Europe beyond NUTS 2 4,70	Europe beyond NUTS 2 6,35	Europe beyond NUTS 2 3,32	Europe beyond NUTS 2 18,67	Europe beyond NUTS 2 34,76	Europe beyond NUTS 2 25,99	Europe beyond NUTS 2 22,31	Europe beyond NUTS 2 73,62	2009
	Middle East & Africa 0,00	Middle East & Africa 0,04	Middle East & Africa 7,88	Middle East & Africa 0,00	Middle East & Africa 0,00	Middle East & Africa 3,57	Middle East & Africa 7,80	Middle East & Africa 0,63	Middle East & Africa 0,55	Middle East & Africa 0,68	2009
	Total beyond NUTS 2 59,92	30,80	46,55	38,83	14,45	30,64	49,42	44,97	63,27	77,74	2009
	The Netherlands 28,17	The Netherlands 11,78	The Netherlands 30,91	The Netherlands 21,44	The Netherlands 29,76	The Netherlands 5,57	The Netherlands 14,09	The Netherlands 12,25	The Netherlands 6,86	The Netherlands 13,32	2009
	NUTS 2 Regions 11,90	NUTS 2 Regions 57,41	NUTS 2 Regions 22,54	NUTS 2 Regions 39,73	NUTS 2 Regions 55,79	NUTS 2 Regions 63,79	NUTS 2 Regions 36,48	NUTS 2 Regions 42,78	NUTS 2 Regions 29,87	NUTS 2 Regions 8,94	2009

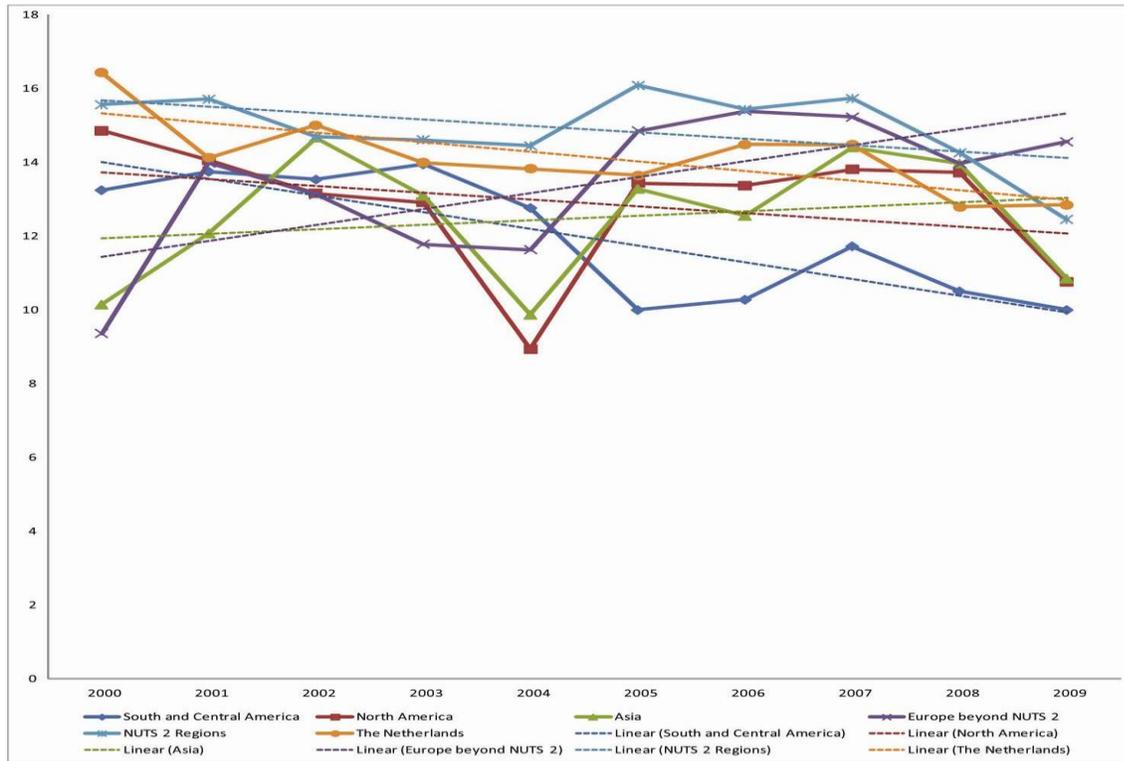
Inward M&As into Noordvleugel (target) from countries and regions

Rank	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2009
1	Noordvleugel 33,99	Brussels Gewest 35,60	Hong Kong 25,86	Ile de France 30,36	Lazio 28,91	United States 33,03	Région Iémanique 18,53	Ile de France 70,50	Brussels Gewest 62,62	Russian Federation 46,20	
2	Comunidad de Madrid 16,70	Ile de France 15,25	Köln 20,45	Geleerland 11,92	Inner London 25,92	Canada 28,81	Leicestershire 15,74	Noordvleugel 11,10	Geleerland 8,46	Inner London 20,30	
3	Ile de France 15,93	United States 13,24	Noordvleugel 14,43	Noordvleugel 11,31	Braunschweig 19,69	Kuwait 18,67	Moore-Brabant 13,34	Noordvleugel 6,26	United States 7,14	Noordvleugel 10,88	
4	United States 11,04	Etelä 11,20	Inner London 8,36	China 10,74	United States 11,12	Kazakhstan 5,16	Russian Federation 10,23	Russian Federation 5,67	Ile de France 5,92	Ile de France 6,63	
5	Inner London 8,10	Luemborg 9,67	Côte d'Azur 7,96	Australië 8,53	Noordvleugel 8,52	Noordvleugel 4,60	United States 7,75	United States 1,50	Comunidad de Madrid 4,70	Vlaams-Brabant 5,39	
6	Hovedstaden 3,59	Noordvleugel 7,49	United States 5,17	Comunidad de Madrid 1,88	Côte d'Azur 1,05	Cataluña 1,89	United States 6,19	China 1,20	Noordvleugel 3,95	United States 2,87	
7	Noordvleugel 2,73	Hovedstaden 2,60	Malaysia 4,32	Lombardia 3,76	New Zealand 1,05	United Arab Emirates 5,91	United Arab Emirates 5,91	Turkey 0,80	Inner London 2,27	Zuidvleugel 2,08	
8	Köln 2,53	Inner London 2,42	Stockholm 4,28	United States 3,74	Cataluña 0,85	Ile de France 4,89	Ile de France 4,89	Oberbayern 0,77	Russian Federation 1,18	Japan 2,01	
9	Düsseldorf 1,64	Oberösterreich 1,17	Lisboa 3,98	Lombardia 3,54	Turkey 0,80	Inner London 4,43	Inner London 4,43	Noord-Brabant 0,69	Côte d'Azur 0,91	Israel 0,87	
10	Poitou-Charentes 1,54	Stockholm 0,98	Switzerland 1,68	Darmstadt 2,02	Venezia Giulia 0,39	Switzerland 3,24	Switzerland 3,24	Oxfordshire 0,39	Somerset 0,74	Oberbayern 0,65	
11	Switzerland 0,77	Sardegna 0,15	Russian Federation 1,47	Luemborg 1,91	Venezia Giulia 0,36	Niederösterreich 0,83	Geleerland 2,94	Australië 0,23	Mazowieckie 0,74	Prov. Antwerpen 0,54	
12	Luemborg 0,55	Russian Federation 0,10	Mazowieckie 0,57	Zuidvleugel 1,49	Cheshire 0,33	Inner London 0,36	Zuidvleugel 2,16	Israel 0,20	Switzerland 0,37	Aquitaine 0,35	
13	Geleerland 0,45	Prov. Antwerpen 0,10	West Midlands 0,42	Noordvleugel 1,12	Canada 0,12	Ile de France 0,33	Darmstadt 1,11	Canada 0,17	India 0,36	Aquitaine 0,35	
14	Darmstadt 0,14	Southern and Eastern 0,05	Oxfordshire 0,37	Comunidad de Madrid 1,06	Oberbayern 0,06	South Africa 0,30	Lombardia 0,83	Geleerland 0,09	Canada 0,34	Hamburg 0,25	
15	Stockholm 0,08	Gießen 0,20	Geleerland 0,20	Suomi 0,67		Australië 0,18	Iceland 0,80	Groningen 0,09	Vlaams-Brabant 0,29		
16	Oberbayern 0,07	Friesland 0,18	Russian Federation 0,18	Russian Federation 0,29		Yuzhentsentralen 0,17	Eastern Scotland 0,70	West Sussex 0,06			
17	Liguria 0,05	Outer London 0,16	Malaysia 0,16	Noordvleugel 0,28		Israel 0,11	Eastern Scotland 0,63	Eastern Scotland 0,06			
18	Mellansverige 0,05	Wallon 0,14	Wallon 0,14	Outer London 0,22		Geleerland 0,05	West Sussex 0,57	Lietuva 0,05			
19	Oxfordshire 0,03			Noord-Brabant 0,18		Mazowieckie 0,05	SW Scotland 0,31	Indonesia 0,04			
20				Greater Manchester 0,11			Somerset 0,26	Switzerland 0,04			
21				Canada 0,11			West-Vlaanderen 0,19	Zuidvleugel 0,04			
22				Stockholm 0,11			Bermuda 0,12	Zuidvleugel 0,04			
23				Noord-Brabant 0,09			Friesland 0,07	Lombardia 0,03			
24				Inner London 0,07			Prov. Antwerpen 0,06	Braunschweig 0,03			
	Total M&A 100										
	North America 11,04	North America 13,24	North America 5,31	North America 3,84	North America 11,24	North America 61,84	North America 7,75	North America 1,67	North America 7,48	North America 3,08	North America 3,08
	South & Central America 0,00	South & Central America 0,63	South & Central America 0,00								
	Asia 0,00	Asia 0,00	Asia 30,18	Asia 19,27	Asia 1,05	Asia 5,34	Asia 0,00	Asia 1,47	Asia 0,36	Asia 2,01	Asia 2,01
	Europe beyond NUTS 2 0,77	Europe beyond NUTS 2 0,10	Europe beyond NUTS 2 3,15	Europe beyond NUTS 2 0,29	Europe beyond NUTS 2 0,80	Europe beyond NUTS 2 0,00	Europe beyond NUTS 2 14,27	Europe beyond NUTS 2 6,52	Europe beyond NUTS 2 1,55	Europe beyond NUTS 2 46,20	Europe beyond NUTS 2 46,20
	Middle East & Africa 0,00	Middle East & Africa 19,08	Middle East & Africa 5,91	Middle East & Africa 0,20	Middle East & Africa 0,00	Middle East & Africa 0,87	Middle East & Africa 0,87				
	Total beyond NUTS 2 11,82	Total beyond NUTS 2 13,34	Total beyond NUTS 2 38,64	Total beyond NUTS 2 23,41	Total beyond NUTS 2 13,09	Total beyond NUTS 2 86,27	Total beyond NUTS 2 28,55	Total beyond NUTS 2 9,85	Total beyond NUTS 2 9,39	Total beyond NUTS 2 52,16	Total beyond NUTS 2 52,16
	The Netherlands 37,18	The Netherlands 7,49	The Netherlands 14,61	The Netherlands 36,30	The Netherlands 8,88	The Netherlands 5,82	The Netherlands 23,71	The Netherlands 12,00	The Netherlands 12,41	The Netherlands 13,74	The Netherlands 13,74
	NUTS 2 Regions 51,00	NUTS 2 Regions 79,17	NUTS 2 Regions 46,75	NUTS 2 Regions 40,29	NUTS 2 Regions 78,03	NUTS 2 Regions 7,91	NUTS 2 Regions 47,74	NUTS 2 Regions 78,15	NUTS 2 Regions 78,20	NUTS 2 Regions 34,10	NUTS 2 Regions 34,10

Table 11: Inward M&A investments in the North Wing from various locations in the period 2000-2009

Source: R. Wall 2010

Outward M&As from Noordvleugel (Acquiror)



Inward M&As into Noordvleugel (Target)

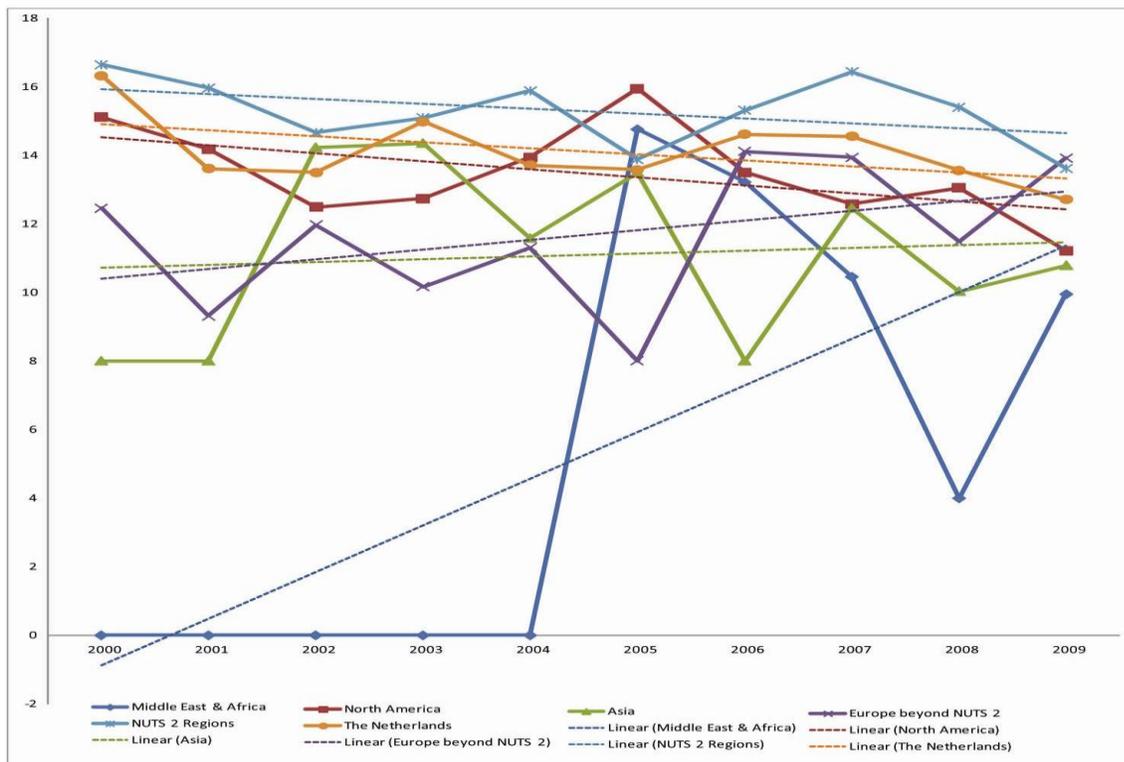


Figure 8: Trend lines of outward and inward M&A in the period 2000-2009

Source: R. Wall 2010

Outward and inward M&As between Noordvleugel and the Russian Federation

Noordvleugel to Russia

Rank	Deal Date	Deal values (thousand EU)	Acquiror name	Acquiror more detailed sectors	Target name	Target more detailed sectors
1	2006	4209300	X5 Retail Group NV	Wholesale trade	Metronom OOO	Wholesale trade
2	2007	1269924	Fortum Russia BV	Finance	Territorialnaya Generiruyushchaya Kompaniya N 10 OAO	Electricity, gas and sanitary
3	2007	1129013	ENEL Investment Holding BV	Electricity, gas and sanitary	Pyataya Generiruyushchaya Kompaniya Optovogo Rynka Elektroenergii OAO	Electricity, gas and sanitary
4	2007	967964	ENEL Investment Holding BV	Electricity, gas and sanitary	Pyataya Generiruyushchaya Kompaniya Optovogo Rynka Elektroenergii OAO	Electricity, gas and sanitary
5	2005	452872	Heineken NV	Food products	Pivovarni Ivana Taranova	Food products
6	2002	449840	Heineken NV	Food products	Bravo International	Food products
7	2008	387372	Fortum Russia BV	Finance	Territorialnaya Generiruyushchaya Kompaniya N 10 OAO	Electricity, gas and sanitary
8	2006	298457	Efes Breweries International NV	Food products	Pivovarennaya Kompaniya Krasnyi Vostok OAO	Food products
9	2008	187713	Universal Cargo Logistics Holding BV	Finance	Tuapsinskii Morskoi Torgovyi Port OAO	Water transportation
10	2008	127912	Polyprom Holdings BV	Mining and oil	Nomos Bank OAO	Finance
11	2009	125885	X5 Retail Group NV	Wholesale trade	Paterson-Invest OOO	Real estate
12	2007	113530	Promsvyaz Capital BV	Finance	Promsvyazbank AKB OAO	Finance
13	2007	94101	Barclays Global Investors	Finance	Surgutneftegaz OAO	Mining and oil
14	2006	83474	Mirabridge International BV	Finance	Pronto-Moskva OOO	Printing and publishing
15	2005	75996	Pyaterochka Holding NV	Wholesale trade	Set Roznichnoi Torgovli OOO	Retail trade
16	2007	66433	Credit Europe Bank NV	Finance	Kredit Yevropa Bank ZAO	Finance
17	2005	54421	EADS NV	Transportation equipment	Nauchno-Proizvodstvennaya Korporatsiya Irkut OAO	Transportation equipment
18	2004	52654	Heineken NV	Food products	Sobol Beer LLC	Food products
19	2005	41320	Heineken NV	Food products	Patra Brewery	Food products
20	2008	38098	Russia Finance Corporation BV	Finance	Nomos Bank OAO	Finance
21	2008	25838	Credit Europe Bank NV	Finance	Kredit Yevropa Bank ZAO	Finance
22	2006	6183	TBIH Financial Services Group NV	Insurance	Regionalnyi Kredit KB OAO	Finance

Russia to Noordvleugel

1	2009	1115202	Neftyanaya Kompaniya LUKoil OAO	Mining and oil	LUKarco BV	Wholesale trade
2	2006	761666	Alfa Group	Finance	Pyaterochka Holding NV	Wholesale trade
3	2006	165040	Alfa Group	Finance	Pyaterochka Holding NV	Wholesale trade
4	2008	73986	Sitroniks OAO	Machinery and computers	Kvazar-Micro Corporation	Wholesale trade
5	2003	26000	Alfa-Bank Holdings Ltd	Finance	Amsterdam Trade Bank NV	Finance
6	2001	11165	Alfa-Bank Holdings Ltd	Finance	Amsterdam Trade Bank NV	Finance
7	2007	994787	Gosudarstvennaya Korporatsiya Bank	Finance	EADS NV	Transportation equipment
8	2006	35527	Vneshtorgbank OAO	Finance	EADS NV	Transportation equipment
9	2002	74016	Karavai Plus	Food products	United Food Company	Food products

Table 12: Outward M&A investments from the North Wing in Russia

Source: R. Wall 2010

Conclusions

This report discusses the increasing importance of M&A within the world economy, because this kind of investment accounts for the lion's share of FDI. In addition, it is clearly shown that these investment networks have a considerable relationship with urban regional developments. The study revealed that, over the period 2000-2009 as a whole, outward M&A of Dutch regions occurred primarily outside Europe, followed by investments in Europe and, lastly, investments within the Netherlands. The study also showed that Dutch investments, especially those of the North Wing, follow the peaks and troughs of global investments (cycles). It was shown how the collapse of the ICT sector affected the investment network of the North Wing, resulting in a low point in around 2004. The economy thereafter picked up again in the period 2005-2007 and was followed by the current recession. In periods of economic growth, the number of destination locations and reach of the outward M&A network become increasingly global, whereas a downturn in the economy causes the network to contract and concentrates relations more on Europe. This is probably due to the fact that, as trade increases, the management of these networks becomes more difficult, as a result of which a preference arises for the geographic, functional and cultural proximity of companies.³⁸ In addition, it can be seen that in periods of

³⁸ Young, S., Hood, N. and Petters, E. (1994), 'Multinational enterprises and regional economic development', *Regional Studies*, 28, pp. 657-77.

economic growth, inward investments in the North Wing originate more from Europe, whereas in periods of economic contraction, inward investments tend to originate from locations elsewhere in the world. A weakening of the European economy causes turbulence in the business world, which makes it easier for firms outside European territories to invest in European companies.

In the period 2000-2009 as a whole, the North Wing occupied seventh position among all other European regions with respect to outward M&A. This shows that the North Wing is one of Europe's most important regions, with a strong potential to invest in other regions. As an investment destination, the North Wing is also one of the most attractive areas for M&A from the rest of the world. Although the South Wing occupied a lower position, its performance was likewise good in relative terms. The results show that the North Wing and South Wing are second-order regions outdone in terms of number of investments only by the first-order regions of Inner London and Ile de France. It is also clear that the North Wing invests most in the United States, followed by its own region and, thirdly, in Russia. Inward investments in the North Wing are primarily intraregional, followed by investments from Ile de France and, thirdly, investments from the United States. In addition to strong investments, the North Wing also has the highest level of diversity in terms of connections with other locations, which shows that it is the Dutch region most strongly embedded in the world economy. This gives rise to the question as to the way in which this region should develop in the future and as to whether the interregional connections can be strengthened and expanded to improve the North Wing's already international character. Of note is also that the North Wing is part of an investment axis that stretches from Northwest Europe to Italy with respect to both outward and inward M&A.

The study also identified and considered the North Wing's strongest industrial sectors. In terms of outward investments, the finance, insurance and real estate (FIRE) cluster constitutes the North Wing's most important sector, followed by the wholesale and transport (WTS) sector and advanced producer services (APS). In terms of inward investments, APS is the most attractive sector for foreign investors, followed by the FIRE and WTS sectors. The North Wing's score within these sectors, which is followed by that of the South Wing, is also very high relative to the other regions. The United States, Russia, Ile de France, Inner London and the Brussels Region are important partners also in these specific sectors. It was also shown that over the period 2000-2009 as a whole, the North Wing invested most in the insurance sector, financial sector, business services, the wholesale sector and the mining sector. The North Wing's strongest competitors in these sectors are Inner London and the Community of Madrid. In terms of inward investments, the companies that invested most in the North Wing were based in other regions and active in the finance and communications sectors, followed by the real estate sector. The

North Wing's competitors in this case are Inner London, the Community of Madrid, Ile de France and Lombardy with respect to attractiveness for inward investments.

The North Wing's largest competitors were defined on the basis of sectoral equality and network overlap. In terms of outward investments, Ile de France resembles the North Wing most closely, followed by Inner London and the Community of Madrid. The North Wing and South Wing are not major competitors of each other in terms of outward investments. Furthermore, the North Wing is connected with three times as many locations as the South Wing. With respect to inward M&A, the North Wing's competitors are Inner London and the South Wing, followed by Ile de France. Of note in this respect is that the South Wing is indeed a competitor of the North Wing in terms of attractiveness for investments.

Finally, the study gauged the strength of the North Wing over the period 2000-2009 as a whole and estimated how it will change in the period 2010-2015. Research in this area revealed that the North Wing developed positively and strongly with respect to outward and inward M&A and that its future prospects are likewise favourable. Emerging competitors are the Brussels Region and Lombardy (Milan). The trend for the South Wing, both inward and outward, was far more moderate and, without intervention, the expectation is that this region will further decline in power in the near future.

The study also revealed that, owing to the number destination locations, the North Wing invests far more in other locations than vice versa. This is due in part to the fact that the Netherlands is a small country and is extraordinarily dependent on production and trade in faraway locations. Moreover, the North Wing is one of the few regions in Europe that exercises exceptional power and control over other regions. This is due to the fact that Amsterdam is both a major financial centre and fulfils a prominent 'head office' function in the Netherlands, Europe and the world.³⁹

Furthermore, the study showed that the North Wing is increasingly investing in locations outside the NUTS 2 regions. The North Wing's reach is becoming increasingly global. Investments in North, Central and South American regions are gradually decreasing, while M&A in those regions are increasing due to Asian countries and European regions other than the NUTS 2 regions. Of note is that Russia has become an important investment location for the North Wing because of market size and cheap production, primarily in wholesale, the financial sector, food products (mainly beer breweries), the energy sector and the transport sector. In addition, investments within the Netherlands decreased over the period as a whole. This was due to the fact that production abroad has become more efficient and cheaper.

³⁹ Wall R.S. (2009), 'NETSCAPE: Cities and Global Corporate Networks', Haveka, Rotterdam.

The study also clearly revealed that, over the period as a whole, the North Wing remained an attractive destination location for M&A from the United States, especially in the business services sector and the financial sector. It can also be seen that the share of investments from Asia and European countries outside the NUTS 2 regions is increasing. This is due to both the current recession, which makes it cheaper to invest in Europe and the growth of economies like those of India and China. Russia also has important M&A with companies in the North Wing, mainly in the North Wing's wholesale, finance and transport sectors. It is also clear that investments from the Middle East and Africa became a factor between 2005 and 2009.

This descriptive study has mapped out the North Wing's structure. It would be interesting in the future to study the causal link of these M&A networks with locational factors like technology, institutional capacities, employment, education and innovation. Such a study would identify the factors that contribute most to national and international M&A investments. For this reason such a study is an essential follow-up step required for the formulation of policy concerning these important aspects.

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