

47th Congress of the European Regional Science Association
Paris, August 29th to September 2nd 2007

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A spatial economic and institutional
comparison between
Amsterdam Airport Schiphol (AMS) and
Munich Airport International (MUC)

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Abstract

Contemporary airports are dynamic nodes, where the space of places and space of flows meet. This makes airports complex entities because global and local interests collide with each other. Although the global and the local are complete opposites, they may be regarded as two sides of the same coin. Therefore Roland Robertson introduced the term glocalisation to better understand a place and its dual nature. In this paper we will compare two glocal places: Amsterdam Airport Schiphol (AMS) and Munich Airport International (MUC). While differing in size, both airports have something in common: They are hub airports. Schiphol is a major hub and the dominant airport in the Netherlands; Munich is a secondary hub in the multi airport system of Germany and a corner stone of the three-legged Lufthansa hub-strategy. In addition, Munich's role is increasing with growing capacity bottlenecks of Germany's main hub in Frankfurt. The question is how the concerned (governmental) actors deal with the high importance of the hub airports. Is there a clear policy to secure the hub airport development or is the government policy indecisive, when it comes to dealing with different local and global interests? Indecisiveness hampers future developments and makes the planning of aviation infrastructure a difficult and defiant process. The case study of Munich shows how difficult it is to promote local airport development processes if there is no overarching national hub development policy. This gap becomes obvious with the Munich case study that looks closer at the ongoing planning process for a third runway. The case study of Schiphol illustrates how excessive governance leads to consensualism. The recent decision of the Dutch government to allow Schiphol to expand in the future is analyzed to underpin our conclusions. By analysing both airports as well from a spatio-economic as from an institutional viewpoint, we will clarify how local and global interests come together and how public and economic actors concerned with airport planning deal with these colliding interests. First, a theoretical framework is created in order to understand the glocal context. Second, we ask ourselves whether institutional learning is bound to take place. If yes, which institutional changes are required to handle both the requirements for global aviation infrastructure and local needs for sustainable spatial development?

Keywords: Amsterdam Airport Schiphol; Munich Airport International; airports; airport development; aviation infrastructure; urban planning; institutionalism; governance; glocalisation

1 Introduction

Without any doubt one can say that our world is changing. Individualization, technological innovations and globalization have changed the face of the planet the last hundred years (Wissink 2000: 43). These developments triggered changing notions of space and time. Slowly but steadily the traditional focus on space and time, as unitary and linear conceptions, is being rejected. Places become articulated moments in networks of social or economic relations and understandings, rather than areas with specific boundaries (Graham & Healey, 1999: 11). To understand the shifting conception of time and space the concept of network society, introduced by Manuel Castells proves useful (1996). This network society is organized around the space of flows and the space of places. The former can be seen as *the material organization of time-sharing practices that work through flows* while the latter is *the historically rooted spatial organization of our common experience* (Castells, 1996: 378, 412). This means that next to the traditional space of places a space exists that consists of capital, information, technology and organizational flows that are able to circulate the world in just a few seconds. As airports can be seen as dynamic nodes where the space of flows and the space of places meet, they have to deal with these partly parallel, partly intersecting universes (Huys et al 2005: 6).

So, the traditional linear space concept has to be replaced with a dual space concept. In the same time the traditional space of places gains more attention. Because of the strong growing number of flights more and more people in the vicinity of airports suffer under aircraft and traffic noise. The resistance against growing aircraft movements rises and is better organised.

It then becomes clear that organizing the decision making process concerning future developments becomes an intricate process. Therefore we ask ourselves: *Can governments handle both the requirements for global aviation infrastructure and local needs for sustainable spatial development?* We try to answer this question by analyzing two European airports, Amsterdam Airport Schiphol and Munich Airport International, and clarify how concerned actors deal with local and global interests when it comes to airport planning.

Before we give a further in-depth analysis of both airports, a theoretical framework will be developed. In this theoretical framework the global local paradox and a new notion of space-time will be highlighted, together with recent developments and trends in the aviation industry. Then, the airports will be analyzed in a spatial economic and institutional way. After this analysis both airports will be discussed further by highlighting two certain developments, namely operating the fifth runway at Schiphol and planning the third runway at Munich. Thus, a more practical twist is given to the spatial economic and institutional analysis. The case studies will exemplify if the airports succeed in handling the global and local context or if institutional changes are required. Furthermore, we ask ourselves whether institutional

learning is bound to take place between Germany and the Netherlands. Eventually our paper tries to help policy makers to deal with the global-local paradox in a network world.

2 Theoretical framework

A new articulation of global and local dynamics

Space and time are traditionally treated as consisting of three dimensions: length-width-height or yesterday-today-tomorrow. However, in a globalising world, space and time are effectively produced and created through social actions within and between places: *cultures, economies, social worlds, politics and environments all become driven by logics of increasingly intense interconnections and flows, over larger and larger geographical scales* (Graham & Healey, 1999: 11). Places become articulated moments in networks of social relations.

Still, a globalising world does not mean that place no longer matters. Robertson (1995: 25) believes that the general myth of globalisation is that it is a rather casual way as referring to very large-scale phenomena and to believe that locality is neglected. Although the global and the local seem complete opposites, they may be regarded as two sides of the same coin. To better understand a place and its dual nature Robertson (1995: 30) introduces the term *glocalisation*. The term was originally founded in Japan, a country where - according to Robertson (1995: 31) - *the general issue of the relationship between the particular and the universal has historically received almost obsessive attention*. Later, glocalisation became an aspect of business jargon, referring to micro marketing. Robertson (1995: 32) uses the notion of glocalisation in a more sociological manner to explain how the polarity between the global and the local (or the universal and the particular) is inaccurate. The global does not exclude the local; globalization involves the linking of localities. In other words: regions and localities become integrated in international networks that link their most dynamic sectors (Castells, 1996: 412, Robertson, 1995: 27). Castells (1996: 5) states that the forces of globalization have triggered a technological revolution centred on information technology that is reforming our society into a network society. This network society is characterized by an increasing worldwide and at the same time paradoxical interdependency, blurring and redefined boundaries and flows of people, products, services, capital and information that gain independence. This means that traditionally fixed and geographical regularities become less and less relevant. Spatial contiguity is no longer a precondition for social and economic interaction. Activities become footloose and are no longer bound to specific places. But it is wrong to think that we live in a borderless world. Instead we live in a world of increasing complexity, interconnectedness and volatility, where boundaries are permeable. The space of places and the space of flows co-exist in harmony as well as disharmony (Castells, 1996: 424, Dicken 2004: 20-21, Hakfoort & Schaafsma 2000: 79, van Boxtel & Huys 2005: 21, Boelens 2005: 11).

Next to rejecting the traditional focus on space and time, the emerged network society has major consequences for governments and spatial planning. Next to the government a growing number of public and private actors exists that try to influence the spatial planning to their advantage. The rise of the network society has made the process of policy making much more difficult. Decision-making was once the domain of the governments, but nowadays it takes place in more informal, network type configurations (van Boxtel & Huys 2005: 6, Wissink et al 2003: 80). The government appears no longer as the focal point but just one of the many players in these network type configurations. In addition there seems to be a mismatch between administrative entities and the developing functional regions. Strong intra firm networks form large functional regions like South-East England, Randstad and Northern Switzerland the so-called Mega City Regions (Hall & Pain 2006, Thierstein et al. 2006). These regions are much larger than the territorial defined administrative entities (Droß et al. 2006). Hub airports form an important part of the gateway infrastructure of the Mega City Regions. Only these gateways make worldwide economic and social relationships in the emerging knowledge economy possible, because they allow a fast transport of individuals and with that the highly important face-to-face contacts.

A changing aviation industry

Since 1919 nation states had full control over their airspace. That's why many countries were intensely associated with the development of national and international aviation networks. Honest competition or a free market system did not exist (Burghouwt 2005: 21). This changed in 1978, when the United States of America enacted the *Airline Deregulation Act* on the 24th of October (Bouwens & Dierikx, 1997: 254). The aim of this act was to trigger competitiveness. All of a sudden, the airlines, which until that time hid behind the national governments, got to deal with a free market system. Another effect of the deregulation act was that airlines were no longer committed to one airport. So from that day on airports had to do their best to retain their home carrier. Thanks to the deregulation of the American aviation sector and the positive outcomes which resulted from this, Europe also decided to deregulate the market gradually. This happens from 1987 until April 1997. Slowly but surely international competitiveness emerged within the aviation sector (Hakfoort & Schaafsma 2000: 81, Burghouwt & Huys 2003: 40).

In terms of network configuration the deregulation introduced the hub-and-spoke principle. This means that direct flights from and to smaller airports were more and more replaced by indirect flights through a central bigger airport, otherwise known as the hub. At the same time because of a free market system, airlines emerge that are less spatially concentrated at the hubs: the so-called low cost carriers. Because of these no frills airlines the full service airlines experience cutthroat competition on their non-intercontinental origin destination network. To conclude the deregulation led to many new alliances. Nowadays there are three major alliances: Skyteam, Oneworld and Staralliance.

As a result of the free market system airports have less certainty about future network developments. Aviation became more and more a volatile business. So multi serviced airports were developed. Airports began to offer 'urban' services such as shopping and entertainment. Advantage of this urbanization strategy is that airports distribute the risks and reduce the dependence on aeronautical revenues in an aviation sector which is characterized by vitality and uncertainty. The growth of air traffic also leads to an increasing basis of non-aviation facilities.

Airports evolved functionally from one-dimensional transport junctions towards more multimodal network cities where the space of flows and the space of places meet. As we mentioned in the introduction we ask ourselves if *governments can handle both the requirements for global aviation infrastructure and local needs for sustainable spatial development*. How do they cope with the global/local paradox? To answer this question first the economic reality behind planning will be mapped by conducting a spatial economic analysis. This analysis is necessary because spatial and economic conditions prove to be crucial in the success or failure of the airport environment as an important node in a dynamic world.

The spatial economic position of airports can be understood by analysing *airside developments*, or what kind of impact developments within the aviation industry has on the operation of airports, *airport developments*, or how airports deal with the volatile aviation industry, *economic impact*, or how do airports contribute to the region in terms of added value and jobs, and *urban dynamics*, or in what way do airports trigger urban developments on the landside (van Wijk 2006: 261).

Unfortunately, these factors do not explain the development of airports alone: *market actor's behaviour co-determines this development process in relation to governmental regulations. Therefore it is necessary to focus further on the actors and institutions that set the playing field of planning within the context of this spatial economic picture* (van Wijk 2006: 91). The form and the evolution of the spatial economic landscape cannot be fully understood without giving attention to various institutions because economic activity is socially and institutionally situated (Martin 2000, 79). Therefore next to a spatial economic analysis an institutional analysis is needed. Basically, institutions can be seen as the rules of the game or as Martin (2000, 80) puts it: *[i]nstitutions are seen as the products of historically-situated interactions, conflicts, and negotiations amongst different socioeconomic actors and groups*. Scharpf takes it a step further by saying that the term institution can be used *as a shorthand term to describe the most important influences on those factors that (...) drive actors with their orientations and capabilities, actor constellations and modes of interaction* (Scharpf, 1997: 39). Institutions are characterized by path dependence and forming new institutional arrangements becomes a laborious process. Then the institutional setting of *interaction* helps us to understand which actors are involved,

what their options are and what their perceptions and preferences are (Scharpf, 1997: 42).

The described changes and developments mean a challenge for any airport development. Airports are functional and territorial defined places, they are global places. This complexity has to be managed from a broad field of actors. The national governments are important actors; in addition there are at least the often privatised airport companies, hub carriers, local communities and action groups. One of the main challenges is that of the two spaces. There is a local territory, where people are looking for a sustainable development and secondly there is a functional space, the space of flows, where the hub airports compete worldwide. These totally different spheres has to be seen, analysed and included in the arguments about airport developments.

Now that a theoretical framework is given, it is time to discuss the two cases – Amsterdam Airport Schiphol and Munich Airport International – and answer the research questions. First we will provide insight in both the economic and spatial dynamics of the cases before an institutional analysis is given. Furthermore, *the operating process of a fifth runway at Amsterdam Airport Schiphol*, and the *planning process of a third runway at Munich Airport International* will be analysed to discuss recent spatial economic and institutional shifts in both cases.

3 Amsterdam Airport Schiphol

Amsterdam Airport Schiphol (Schiphol from now on) was founded in 1916, originally as a military airfield. Nowadays, Schiphol covers 2878 hectare in the municipality of the Haarlemmermeer (van Wijk 2006: 94). It consists of six runways and one terminal with a capacity of 60-65 million passengers per year. Last year the airport handled slightly more than 46 million passengers, a growth of 4.3 % compared to 2005¹. Cargo increased with 5.3 % to 1.5 million tones. The total air transport movements (440.153) went up with 4.6 %. Schiphol had 261 scheduled destinations in 2006. Furthermore, 59 % of all air transport movements were made by Air France-KLM and partners and 12 % by low cost carriers (Schiphol Group 2007: 24-25). The limited liability company NV Luchthaven Schiphol (Schiphol Group from now on) formed by the end of the fifties manages the governmental-owned airport.

3.1 Spatial economic position

The volatile aviation market and increasing competition had two major consequences for Schiphol. First, Schiphol could evolve into an important intercontinental hub. Because of a small catchments area transfer passengers had always been important for

¹ Still, according to the Airport Council International Schiphol dropped from 9th place in 2005 to 12th place in 2006. Denver (9.1%), Las Vegas (4.3%) and Beijing (18.3%!) surpassed Schiphol when it comes to passenger traffic (ACI 2007)

Schiphol, but by the 1980s the category transfer passengers grew faster than the total amount of passengers (Boelens & de Jong 2006: 102). Hub carrier KLM most definitely contributed to this hub forming. KLM was the first airline to enter successfully into an open skies agreement (which replaced the bilateral agreements) with North America, leading to a domination of the trans-Atlantic market. And although a merger in September 2003 between KLM and Air France threatened the hub-status of Schiphol because of a possible shift towards Charles the Gaulle in Paris, agreements made sure that this status is assured until 2008 (van Wijk 2006: 105). Secondly, deregulation triggered a further commercialization of Schiphol. Landside revenues gained importance because these were amongst the most profitable businesses for airport operators (van Wijk 2006: 108, Schaafsma 2006: 3). In 1995 Schiphol Plaza, a shopping mall accessible for everyone was inaugurated and Schiphol Real Estate delivered its first buildings. In 1997 Schiphol Group created the airport city concept, which in combination with the hub-status, exploits the economic potential of the airport vicinity. In this concept the airport is viewed as a city and a perfect stopover in the travel process where the visitor should be offered a unique experience². Another cornerstone of the concept is the development of commercial real estate on airport land (Schaafsma 2006: 2). The airport city formula is also rolled out internationally, with Schiphol having shares or participating in JFK International New York, Brisbane Airport, Vienna International Airport, Tradeport Hong Kong, Aruba Airport, Angkasa Pura Jakarta, Stockholm and Milan Malpensa (Boelens & de Jong 2006: 104). The airport city concept is seen as successful as it attracted European Headquarters and Distribution Centres in the region. In 2006 Schiphol generated more than 61 000 direct jobs and even more indirect jobs in the region, especially in trade, logistics and businesslike services (Regioplan 2007: 47, Ministry of Housing, Spatial Planning and the Environment 2006: 80).

However, there are also downsides to spatial economic developments. The accessibility of the airport is under pressure because of clustering of developments at the airport territory. The Schiphol region as a whole is congested, making accessibility by car poor, while the airport is well accessible by train. Secondly, in a highly urbanized region competition is fierce and developments by Schiphol group are looked at with Argus' eyes by surrounding municipalities. They believe that Schiphol Group develops a lot of non-airport related real estate, which dupes the competitiveness of surrounding municipalities. Finally, official noise contours restrain developments in the region, making planning a highly urbanized area not an easy task. And despite the fact that Schiphol generates less noise than London Heathrow and Paris Charles de Gaulles, the number of complaints is unprecedented high (RPB, 2006: 7).

² The airport offers shops, restaurants, casinos, a branch of the Rijksmuseum and conference facilities (Schaafsma 2006: 2).

3.2 Institutional position

The Netherlands can be characterized as a centralized state. The Dutch government has the ambition to steer and regulate their society. This resulted in the social welfare state, but also in an extensive planning system and comprehensive planning practice³. The national government makes a coordinating strategic plan, provinces make masterplans for sub-regions within the province and municipalities make detailed plans which exactly state what can be done and what not. Municipalities are obliged to make such a zoning plan. At the same time civil society has many opportunities to participate in the policy making process, for instance by lodging objections. The land supply in the Netherlands is unique: the state is large landowner and municipalities play a controlling role when it comes to land policy. Still, more and more land is sold to the open market and commercial property developers are taking land positions. Negative effects are that there are fewer incentives for mixed and intensive land use: a municipality just develops a new area. Also the fiscal institutions are centralized, meaning that municipalities and provinces do not have to compete for local taxes or lobby for incomes (van Wijk 2006: 195). Nevertheless, a careful shift can be seen. The latest Report on Spatial Planning which came out in 2006 (*Nota Ruimte*) shows a decentralizing trend. More responsibilities and tasks are projected on the local level, while projects of national interest are further centralized (Ministry of Housing, Spatial Planning and the Environment 2006: 81).

Schiphol is such a project of national interest. Since 1988 Schiphol was appointed a mainport and became one of the two economic engines of the Netherlands⁴ which needs national guidance. According to the national government this is still the case in 2007, thus the government (to be more precisely the Ministry of Transport, Public Works and Water Management) has the unrewarding and paradoxical task to find a durable balance between economic development and environmental sustainability. Therefore Schiphol becomes an emotional charged topic with a growing number of parties involved in the decision making process. The concerned actors are differentiated in four ministries, three provincial authorities, several municipalities, different airport coalitions, airport operators and airport users, commercial actors, advisory organizations and other actors (van Wijk 2006: 162, Commissie de Grave 2005: 69). And even within the national government actors are differentiated, which results in conflicting statements (Commissie de Grave 2005: 71). That's why it is no surprise that actors to whom new developments would prove very helpful say that the national government is rigid and indecisive when it comes to the decision making process concerning future developments and actors to whom sustainable development would prove very helpful are under the impression that economic growth is more important than their liveability. More remarkable is the fact that concerned actors

³ According to a popular saying, God created the world but the Dutch created the Netherlands.

⁴ The harbor of Rotterdam is the other *mainport*. Mainport is a Dutch word, invented by two professors at the University of Rotterdam. Originally it was only used for the harbor, Schiphol being a *gateway*. But the airport formed a lobby to become a mainport and trigger spatial developments.

admit that the same parties keep meeting one another in various committees and none of them seem to be able to decide which committee is really relevant and which one is not (de Jong 2006: 16). To conclude the airport operator, Schiphol Group, has a strange role. Officially the organization is state-owned but in practice Schiphol Group acts like a private actor with commercial interests. Public and private interests seem to mingle.

All together this results in a lack of trust, unclear roles and a policy making patchwork quilt or excessive governance which means there is simply too much co-ordination which is seen as oppressive and obstructive (Cerfontaine 2006: 11, van Wijk 2006: 271). To validate these conclusions we will now look at developments in the Schiphol area between 2003, when the fifth runway came into existence, and 2006, the year that the national government chose for more growth and continues to extend the quantity and quality of the airport.

3.3 Operating a fifth runway at Amsterdam Airport Schiphol

In February 2003 the fifth runway, the Polderbaan, was festively inaugurated. It took Schiphol Group almost twenty-five years of debating before the construction was



Figure 1

approved at last. At the same time a new chapter in the aviation law was prepared because environmental norms were not met. Chapter eight, better known as the Schiphol law, would replace the existing environmental norms. This was necessary

because of the inaccurate norms and prognoses that were used. Schiphol would get an environmental permit and could decide how the airport wanted to facilitate future developments just as long as these developments did not exceed the environmental criteria that were given. The immediate surrounding area frowned and stated that the Schiphol law legitimated more growth. But Schiphol Group and Ministry of Transport, Public Works and Water Management assured that the construction of the fifth runway was for the benefit of everyone: more airplanes could land and take-off and less people would be inconvenienced by Schiphol. The new runway was even promoted as an *environmental friendly runway* ('milieubaan' in Dutch).

Unfortunately the total amount of complaints rose immediately when the Polderbaan came into operation, mostly because people complained in areas where they were confronted with airplane noise for the first time ever (Schiphol Group 2004: 4). Secondly the impact of noise produced by taxiing airplanes grew; mainly because it takes airplanes a fair amount of time to taxi to the Polderbaan. Finally Schiphol Group lost quite some respect due to the consternation following the input mistake and the debacle concerning simultaneous take-offs. Just after the Polderbaan came into operation the so-called *invoerfout* (input mistake) came to light. In the environmental impact assessment on the basis of which the limiting values for the enforcement points for noise were determined a crucial mistake was made: The calculation model estimated a more generous use of the Polderbaan than was feasible in reality. To make matters worse, Air Traffic Control the Netherlands reported two weeks after the runway came into operation that simultaneous take-offs from the Polderbaan and the Zwanenburgbaan were not possible, even dangerous. Initially, Air Traffic Control promised that this would be possible, but eventually in practice this turned out to involve risk of life (de Jong 2006: 12). It is remarkable to see how these several mistakes and Schiphol Group's future plans about slot capacity or developments are frowned upon by the surrounding area. Experiences and opinions mingle and without actual knowledge a negative image is constructed, fed by distrust. Thus, since the Polderbaan came into operation and the prevailing aviation law was adopted, the relationships in the Schiphol region have been disturbed. These disturbed relationships also have an impact on the policy making process. While concerned actors try to solve the crisis of confidence by forming new deliberative bodies, excessive governance arises. This leads to policy making dominated by negotiation and compromises, with a sense for equality as a result: consensualism (van Wijk 2006: 271). After the Polderbaan came into existence, and the new Schiphol law was adopted it was decided that the new law should be evaluated before February 2006. In this way it was assured that the new law would offer the same protection as the prevailing norms before February 2003. More than thirty reports were written in three years and in February 2006 it was concluded that the Schiphol law offered the same protection as the law it replaced (Ministry of Transport, Public Works and Water Management 2006: 5). That's mainly why the national government decided in April

2006 that Schiphol is allowed to grow towards 600 000 airplane movements per year (To illustrate this growth: There were more than 400 000 airplane movements in 2006 (Schiphol Group 2007: 25)). Again, the civil society and opposition were not exactly amused. All those concerned even speak of secret master plans, free state Schiphol, deception of the public and hidden agendas. They state that the new aviation law is too rigid and does not offer the same protection. Inhabitants of the immediate surroundings believe that the situation worsened since 2003. On the other hand the aviation sector (Schiphol Group, KLM and Air traffic control the Netherlands) believe that the new law is unworkable. They agree that the new aviation law is too rigid, because there is no flexibility to experiment with routes and reduce the hindrance. At the same time Schiphol Group is not amused that the government decided not to privatize the airport (CDA, PVDA & Christenunie 2007: 16).

This is a typical example of Dutch consensualism gone wild. The government concludes that the new law offers the same protection, which would be good for people hindered by airplane noise. Also, the government decided that Schiphol may expand, which would be good for all parties that benefit from economic development. But in contrary, the civil society is angry because they believe that the new law does not offer the same protection. They even believe that the government only pays attention to the economic aspect of Schiphol. The aviation sector is angry because they find the new law unrealistic. The national government tries to please every concerned actor and eventually pleases no-one. Furthermore, the government seems not to know how to resolve this issue. There are many actors concerned with Schiphol and severe dissension has arisen between these actors. Schiphol is perceived as an unreliable neighbour.

4 Munich Airport International

Munich Airport International (MUC from now on), inaugurated in 1992, is a young airport located 30 kilometres to the north of the City of Munich. Before 1992 there was a small city airport just south of the City of Munich. MUC covers 1.560 hectare in the administrative districts Erding and Freising. It has two runways, on which planes can take off and land independently, which allows 90 flights per hour. MUC is with a 7.5 % growth in 2006 one of the fastest growing airports in Europe. In 2006 the airport handled 31 million passengers. Cargo increased with 13.3 % to 404.000 tones. The total air transport movements (411.335) went up with 3.1 % (FMG 2007). MUC had 246 scheduled destinations in 2006. Furthermore, 60 % of all air transport movements were made by Lufthansa and partners (Star Alliance) and 12 % by low cost carriers (Initiative Luftverkehr für Deutschland 2006: 72). MUC is managed by the Flughafen München Gesellschaft GmbH, short FMG. Shareholders of the FMG are the Bavarian State (51 %), the Federal Republic of Germany (26 %) and the City of Munich (23 %).

4.1 Spatial economic position

Germany has a strong decentralised airport system containing 35 airports with regular services and/or holiday services (Initiative Luftverkehr für Deutschland 2006: 36). Among these airports, there are two hub airports, Frankfurt and Munich. The two hub system copes with 47 percent of the 170 million passengers in Germany (Droß, Thierstein 2007: 1). In 2003 there were five times more direct flights to international destinations from Frankfurt and MUC than from all other airports in Germany together (Initiative Luftverkehr für Deutschland 2006: 29). The five biggest airports in Germany transport 73 % of all flight passengers, showing that the other airports do not have much importance (calculation with figures from 2005, source: ADV). The small regional airports are not working efficient, even though they receive a lot of subsidies. Additionally, low cost airlines which are normally the home carriers of the small airports receive – often hidden – subsidies. Such an example is the carrier Ryanair at Lübeck Airport (Reuters 2006). New regional airports are often situated near existing airports initiating a ridiculous competition. Overcapacities are built up whereas the large airports have capacity problems (Initiative Luftverkehr für Deutschland 2006: 38, 39, 43).

The largest airport in Germany, Frankfurt Airport, handled 53 million passengers (Fraport 2007). In recent years MUC has caught up, because Frankfurt Airport had serious problems with its expansion leading to stagnation of its growth rate. In Frankfurt, the planning process for a new runway has been operational for several years. Recently, Lufthansa which is the home carrier of Frankfurt and MUC has decided to expand its activities at MUC and to shift long-haul route employees from Frankfurt to Munich. At MUC the intercontinental flights grew fast and the number of transfer passengers increased too in the last years. MUC develops its hub function and extends its position as second hub in Germany. But the capacity of the fast growing airport draws to an end. The airport enterprise estimates that the first bottlenecks will appear in 2008 and the capacity of the two runway systems will reach its limit in 2010 (FMG 2006: 1). As a consequence the shareholders of the airport enterprise decided in 2005 to expand the capacity of the airport from 90 to 120 flights per hour.

MUC is located in the “Erdinger Moos”, a sparsely populated area 30 km to the north of the City of Munich. The MUC site belongs to the two administrative districts of Erding and Freising. The latter is one of the administrative districts with the lowest unemployment rates in Germany. The corridor between the airport and the City of Munich is highly important for the economic development of the Mega City Region of Munich. Many global players, like the German dependence of Microsoft and the head office of BMW are located there.

The airport himself has a growing airport city with shops, restaurants, medical specialists, a discotheque, a first class hotel and a conference centre. The non aviation sector is highly important for the airport company because it produces about 50 % of the turnover.

A large problem of MUC is the landside access. The accessibility by train is very poor, the accessible by car is better. Today it takes forty minutes from Munich central station to MUC by a commuter train. MUC has no access to the national and international high speed railway network. So it takes a fair amount of time to reach other destinations than the City of Munich. Currently a high speed train, the Transrapid – a magnetic railway – from Munich central station to MUC is planned. The journey shall take 10 minutes. The realisation of the Transrapid is not sure because of financial uncertainties. The City of Munich presented in 2005 an alternative concept: an express commuter train shall make the same distance in 25 minutes.

4.2 Institutional position

The German state is responsible for the flight control, the coordination of the airports and the long-distance traffic access of the airports. The most important instrument for airport planning is the Plangenehmigung (planning approval). Originally, the responsibility for this instrument lies by the state, but in fact, it gave the competence to the federal states. The current national air transport strategy is from 2000, claiming that a combination of hubs, big airports and many small airports all over the country would be successful. The Bundesverkehrswegeplan (National traffic infrastructure plan) from 2003 takes the same position (Bundesministerium für Verkehr 2003: 30). In the years 2004 and 2006 the German Initiative für Luftverkehr, a pressure group composed of the airport companies of Frankfurt and Munich, the Lufthansa and the German Flugsicherung (German flight control), presented a Masterplan for the Development of the Airport Infrastructure (Initiative Luftverkehr für Deutschland 2006).

The Masterplan recommends an extension of Frankfurt and MUC according to the actual requirements while critically considering the regional airports. The current German government sees this Masterplan as a basis of the German aviation policy, but so far there has been no official announcement concerning a new agenda for German airport policy.

In Germany there are currently planning processes under way to expand the capacities of many international airports, such as Berlin, Frankfurt and Munich. The planning procedures in Berlin and Frankfurt are both supplemented with non-formalised processes and mediation processes which are not regulated by law. The importance of these non-formalised processes is growing, because the opposition to the building or extension of such large infrastructure projects is constantly on the increase. Criticism focuses on the huge demand on land, the growing aircraft noise, air pollution, the increasing road traffic and the conflicts with local spatial development needs. *The gap between the rising aircraft traffic and infrastructure demands and local requirements gets larger and larger* (Droß et al. 2006: 13). The problem is that the strong opposition produces a long planning procedure that involves more legal action. And

questions are left unanswered if the spatial development conflicts are effectively reduced through the planning processes. The traditional sectoral planning procedures, namely the Raumordnungsverfahren (regional planning procedure) and the Plangenehmigung (planning approval) are not able to solve the planning conflicts concerning the extension of airports. Hence, there is a strong need for alternative procedures.

4.3 Planning process of a third runway of Munich Airport International

In the summer of 2005 the shareholders of the airport company decided to expand the capacity of the airport with a third runway. The airport enterprise established a new approach for the planning process. Before starting the regional planning procedure in August 2006, the airport enterprise founded a board supporting the planning process concerning the expansion of MUC. Furthermore, local communities have been involved in discussions about solutions to potential conflicts. The chairperson of the forum is an independent individual. The so called *Neighbourhood Forum* became operational in the autumn of 2005. Today, 23 local communities, action groups, pressure groups, aviation businesses, the Munich regional planning association as well as the owners of the airport enterprise are members of the Neighbourhood Forum (see figure 2). The work of the Neighbourhood Forum has held up since autumn 2006. The next meeting shall be in April 2007.

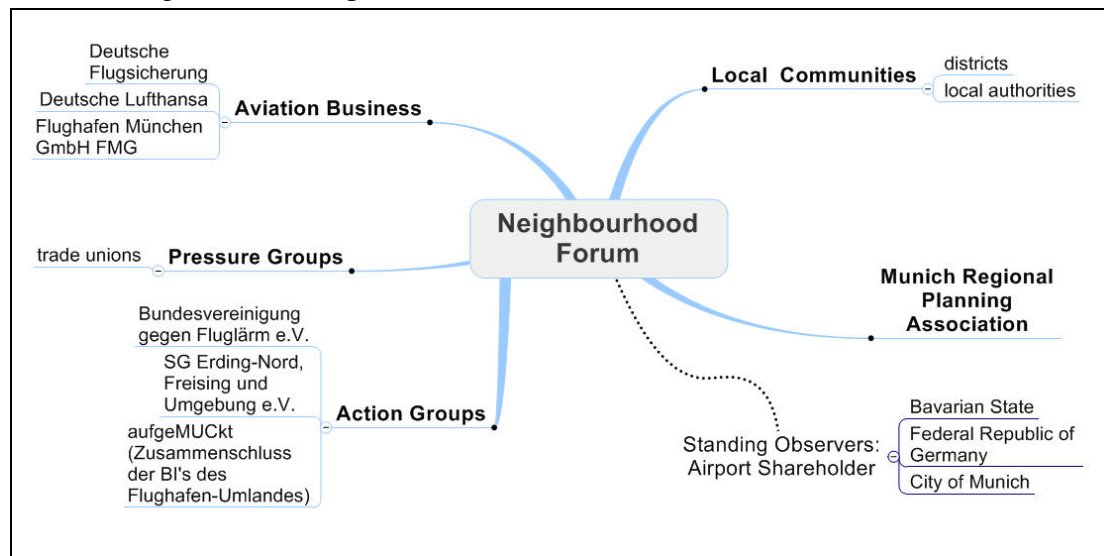


Figure 2

The following part analyses the arguments inside the Neighbourhood Forum. The analysis is based on the records of the Neighbourhood Forum and interviews with members of the forum.⁵

⁵ Interviews were conducted with two members of the action group "aufgeMUCt", a mayor of one of the local communities around the airport and the head of the district Freising in December 2006.

Until now, the following main topics have been discussed in the Neighbourhood Forum:

1. the requirement for a new runway
2. the location of the planned runway
3. the road and railway traffic in the airport region
4. the expenses of the growing population

The requirement of a new runway

Firstly the critics of the planned third runway doubt the estimated growth of the airport. Secondly they don't want MUC developing as a hub airport. The critics argue that the airport should only satisfy the needs of south Germany. The airport should not be planned as a hub airport, which competes with airports in the European and global scale (Stadt Freising 2006). The third argument against the need of a third runway is the capacity of the new runway. They argue that the current capacity would be enough for the expected growth and that the carriers should use bigger aircrafts instead.

The location of the planned runway

The airport company prefers a runway north of the existing runways (figure 3). As a consequence, several people would have to leave their homes, because the runway would be built on their sites. Another fact is that far more people would suffer under aircraft noise. Freising, a city with about 50.000 inhabitants, lies just a few kilometres

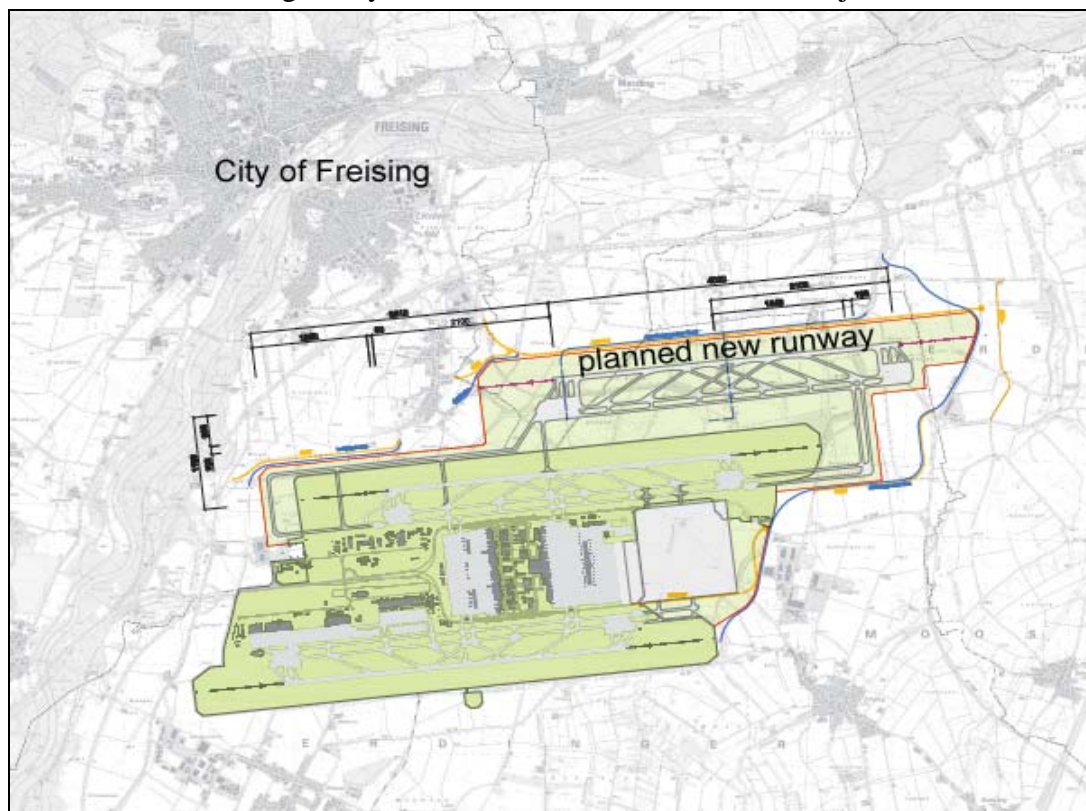


Figure 3

north of the airport. If the new runway is built just to the north of the existing runways, the noise will spread out more in that direction and hinder more inhabitants than now.

The road and railway traffic in the airport region

When MUC was planned, the Federal Republic of Germany and the Bavarian State promised a large expansion of the road and railway network. There has been an expansion, but not as promised, and several projects have failed. Many people in the airport region do not only suffer under the aircraft noise but under the traffic noise too. A growing airport (with a third runway) would mean more traffic than now. Hence, the local communities are pushing for a further expansion of the road and railway networks.

The expenses of the growing population

Since the airport opened, there was a strong population growth in the airport region and local communities had to spend a lot of money for the necessary infrastructures as kindergartens, schools etc. The critics argue that a rising population will bring more costs than profits for the communities and ask the airport enterprise to pay for new infrastructure.

The regional planning procedure was finished in March 2007. The result is that the planned third runway (to the north of the existing runways) is conforming to the regional planning goals. Now the second formal procedure, the planning approval can start. Until now, no agreement between critics and supporters of the third runway is in sight. That gives rise to the suspicion that there will be intensive and long-standing legal action against the likely approval of the new runway.

5 Comparison and Conclusion

Now that we discussed both cases it is time to turn to the main research question again: *Can governments handle both the requirements for global aviation infrastructure and local needs for sustainable spatial development?*

After analyzing the development of MUC we can conclude that the biggest drawback is the absence of a national policy. Currently Germany has no national airport strategy that really supports the extension of the two hub airports Frankfurt and Munich. So far the extension of the regional airports has more support, because every federal state has its own airport development strategy and tries to develop one airport after another. Unfortunately the small, regional airports are not working efficiently, although they receive a lot of subsidies. Overcapacities are generated whereas the large airports have capacity problems (Initiative Luftverkehr für Deutschland 2006, 39). So, the expanding of regional airports is mostly driven by public funding and as a result the growing airport system is working inefficient (Droß, Thierstein 2007).

The Schiphol case shows us that it is the other way around in the Netherlands. A more or less rigid national airport policy is a thorn in the eyes of concerned actors. An important cornerstone of the national policy is the so-called *double objective*.

Economic growth should be feasible without environmental deterioration. Strangely enough both the aviation sector (KLM, Schiphol Group and Air Traffic Control the Netherlands) and surrounding municipalities and their inhabitants find the national airport policy inflexible and unworkable (Bijnsdorp Communicatie Projecten 2005: 17). But the Netherlands airport policy has one serious advantage. It secures further growth of Schiphol by guaranteeing 600 000 airplane movements per year. A State being responsible for airport planning has more leeway; it can regulate the airport system in a more or less rigid way, but at least it can. The German state currently has a very small leeway; every step towards a concentration on hub development would probably lead to arguments with the federal states.

A special problem is the state ownership of airports. Schiphol has the same problems as MUC because of the large tension between state ownership and the need for an airport company to act like a private actor with commercial interests. Probably it would be better to privatize the airport companies. Unfortunately, the Dutch government just decided that Schiphol will not be privatised; mainly because the municipality of Amsterdam, actually one of the shareholders, is against privatisation and used its veto right.

Furthermore, the Munich case shows us that there is a gap between market driven hub airport development and local needs of spatial development which the presented consensus strategy *Neighbourhood Forum* is not able to solve. Mistakes that the Federal State and the Free State of Bavaria made in the past are one reason for the unsolved conflict: next to poor accessibility and a lack of devoted planning, the Neighbourhood Forum is too locally orientated. We state that more stakeholders should be involved, such as the City of Munich, the Bavarian State and the Federal Republic of Germany. Unfortunate, they are only *standing observers*. In addition, communities located further away from MUC that receive more benefits than drawbacks are missing in the Forum. Finally, we believe that the airport company shareholders as well as the airport company itself are not clear about their ambitions to strengthen MUC's hub function (e.g. increasing the total amount of flights per hour). As a result the territorial view is actually dominating the Forum.

In the Schiphol case we conclude that the last five years were years of turmoil: the new runway came into operation but several big mistakes were made, the total amount of complaints increased considerable and political dissension and a climate of distrust arose. After being the Dutch pride and national economic engine, Schiphol is experienced as an unreliable neighbour nowadays. But last year a turning point could be seen. After the national government decided that the airport could expand towards 600 000 airplane movements a year, it was demanded that Schiphol Group would formulate a transparent master plan. In this way everyone can take notice of future

development plans that Schiphol Group has. In addition a forum⁶ was created with all involved parties to discuss the future of Amsterdam Airport Schiphol.

The most important conclusion is that both cases show that the critics do not accept the strong development of the hubs MUC and Schiphol. They do not see that so-called Mega City Regions like London, Randstad, Frankfurt and Munich need large gateway infrastructures to facilitate connections with destinations all over the world. Hence, the gap between the space of flows and the space of places is an important factor in arguments about airport developments; actually it is, but that is not seen enough. Airports as glocal places, this topic is not enough discussed in the arguments about airport developments.

And this leads to answering the research question: Currently governments find it difficult to handle both the requirements for global aviation infrastructure and local needs for sustainable spatial development. We believe that mostly institutional arrangements can be blamed for this. When referring to space as object-centred, static normative, and Euclidean, it is neglected that in a globalising world, space and time are effectively produced and created through social actions within and between places. Therefore in both Germany and the Netherlands a more relational planning approach is needed. By this we mean that one of the tasks is to deal with all actors and their different spatial claims. How can governments create a framework which deals with this relational view on space?

It is obvious that the deregulation of the aviation sector leads to regulation conflicts. There is still much to learn not only for the governments but the stakeholders too. The German example shows that the mixture of territorial bounded planning competences, market forces and subsidies of regional airports forms an inefficient airport system. In the Netherlands the state has problems to define the right strategy which can deal with one of the biggest European aviation infrastructures, the mainport Schiphol. Both airports try to set up governance structures, the forums, to deal with the difficult situation. There is a strong need for institutional reform. Until now these two examples do not succeed in dealing with the dual nature of hub airports, their two faces as glocal places.

Hence, the important research questions are as follows:

- How has the glocal nature of hub airports to be described?
- How is aviation policy developing in different countries? Are there institutional settings which can deal with the high tension between the hub airport development and local needs of spatial development?

⁶ Members include the national, regional and local governments, inhabitants of the surrounding municipalities and members of the aviation industry. In a constructive manner solutions are sought to increase the liveability.

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