

[On the Provision of Airport Infrastructure in Germany](#)

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I. Introduction

The German airport policy is currently heavily criticised, since it is decentralised and uncoordinated. In the past years airports have been extended using public money although sometimes there was already sufficient airport capacity in the region. Furthermore, some regions keep small and economically not viable airports “alive” through covering their annual losses. Therefore, people argue against state aid and ask for a more centralised and coordinated provision of infrastructure. Currently, all federal levels are owners and financiers of the airport infrastructure in various different ways and hereby participants in the provision of airport infrastructure. This division of power leads to frictions and inefficiencies, which is the starting point of this study.

A. *Starting Point*

The current trend in the German airport landscape that existing airports and airfields are getting extended using public money is being heavily criticised by an increasing number of citizens, scientists and associations. In 1990 only 25 airports and airfields catered to either charter or scheduled traffic or had a runway-length of over 1,500 metres. The first two maps in Figure 1 show that since then the airport density has increased. This is mainly due to the fact that since the end of the cold war and the withdrawal of foreign armed forces many former military airbases have been converted for civil usage.¹ The third map in Figure 1 shows a possible future airport infrastructure and it includes expansion projects, which are currently discussed. Although the overall German airport density is not higher than in other European countries,² one can find significant overcapacities in some regions. For instance, one controversial project that was recently completed is the former military base Memmingerberg (EDJA), located in the south-west of the Free State of Bavaria. The airport conversion was favoured by the Bavarian government, which financially supported it with EUR 7.3 million, although the airport is located in close proximity to the already existing Friedrichshafen Airport (FDH) in the neighbouring federal state of Baden-Wuerttemberg and

1 See Behnen (2004).

2 See Hartwig / Malina (2007), p. 8.

could withdraw traffic from there.³ EDJA serves as our first illustration of the problem that the current decentralised airport policy⁴ tends to lead to regional overcapacities and overlapping catchment areas. These problems occur on the level of the federal states as well as on the local level. Figure 1 shows the increase of the airport density from 1990 until today (airports with either charter / or scheduled air traffic or runway lengths of greater than 1,500 meters) and depicts a possible future airport-landscape in Germany.

Airport projects are often carried out without consideration of whether there already is adequate capacity in the region and many projects also neglect whether the demand of airlines and passengers is sufficient or not.⁵ As a result, the regional passenger volume is distributed on more and more airports. The implication is that the critical mass of traffic, which is necessary for operating profitably, cannot be reached at many German airports. Thus, these unprofitable airports are financially dependent on their, mostly public, shareholders.

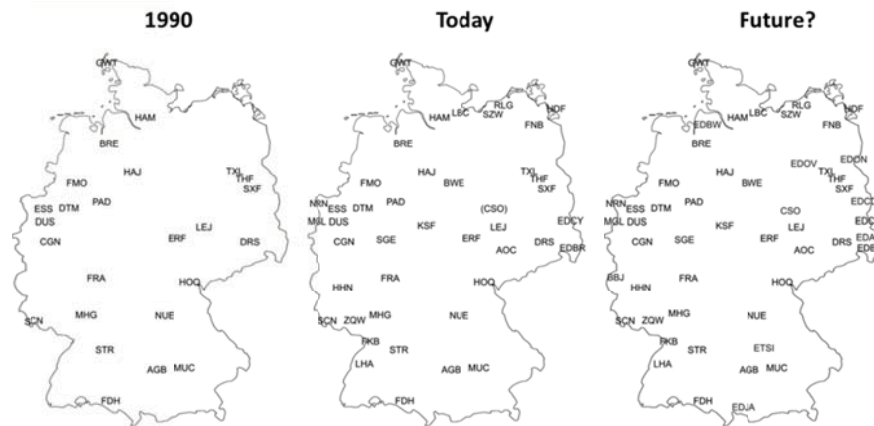
Since the rise of low-cost airlines, which are willing to use underutilised and remote airports, an increasing number of smaller airports are trying to acquire these airlines in order to gain more traffic. For being able to attract these airlines, that typically have a fleet of Boeing 737 / Airbus 320 series aircraft, investments, e.g. for runway extensions or expansions of terminal infrastructure, are often necessary. Thus, a significant number of former military airbases has been converted for civil usage (e.g. Hahn, Weeze-Niederrhein). Furthermore, there are several additional regional airports which are currently planning extension programmes in order to participate in the persistent low-cost-boom (e.g. Kassel / Calden, Hof / Plauen).

3 See EU-Commission (2007), p. 25.

4 Article 85 of the German constitution, in connection with article 87d and 31 air traffic-law (LuftVG) say that the federal states are carrying out the supervision of airports. They are responsible for the approval of new airport-expansion projects. Nevertheless the property of almost all German airports (58 of the 60 biggest ones) is in the hands of municipalities or local agencies (e.g. public utilities). At 37 out of these 58 airports the local owners hold the majority of the shares (own research).

5 Feldhoff (2002) states that for regional airports the credo „if you build it they will come“ did not work out.

Figure 1: Airport Infrastructure in Germany



Source: Own depiction.

The following quotations shall illustrate the public dispute. The CEO of Air Berlin, Joachim Hunold, criticises the spending of public financial resources for the extension of additional regional airports. “Nowadays each and every mayor or county commissioner, who does not have the money to repair the pavements, seems to believe that he or she is entitled to have an own airport.”⁶ Gerd Aberle, editor of the journal “Internationales Verkehrswesen“, ironically rhymed “Für jede Region, ist sie auch noch so klein, muss ein Flughafen sein.”⁷ The association of taxpayers especially dunned the situation in the very sparsely populated federal state Mecklenburg-Western Pomerania in its annually published black book: “Now we in Mecklenburg-Western Pomerania have the highest airfield density. Unfortunately not in line with demand. This wasted much of the taxpayers’ money.”⁸

Responsible for this development are politicians, airport operators, airlines and local lobbyists, who frequently justify the existence and extension of regional airports and with the assertion that airports are “job motors” and that they support the regional economy. For instance, the county of Kassel and the chamber of commerce in Kassel released a joint statement regarding the extension of the

6 See Hunold (2003), own translation.

7 The English translation is “For each and every region, no matter how tiny, an airport must exist”, see Aberle (2005), p. 63.

8 See Bund der Steuerzahler Mecklenburg-Vorpommern e.V. (2005), p. 3.

Kassel / Calden airfield, which is currently heavily contested: „(...) with the extension, the economic attractiveness of Northern Hesse will increase for companies that consider to establish a business here.“⁹ Such arguments are also brought forward for other airports in order to justify public funding.

The following two examples shall demonstrate regional airport overcapacities which are due to the flaws of the current airport policy.¹⁰ The first one emphasises the role of federal states.

First Example: Kassel / Calden Airport (KSF): The city of Kassel is located in the north of the federal state Hesse. Northern Hesse is an economically lagging region due to its proximity to the former border to the German Democratic Republic and due to the fact that it is rural and only sparsely inhabited. Hence, the state government is currently trying to boost the regional economy by upgrading the airport Kassel / Calden (KSF).

Figure 2: Location of Kassel / Calden Airport



Source: Own depiction.

Figure 2 shows how close the projected airport is located to other airports in neighbouring federal states. Erfurt Airport (ERF) is located just about 140 km

⁹ See Strothmann / Spengler / Aring (2004), own translation.

¹⁰ On these and other examples see Wollersheim (2006), pp. 48 ff., Wollersheim (2008) and Behnen (2004), pp. 278 ff.

east of Kassel / Calden in the federal state of Thuringia.¹¹ One can also find Hanover Airport (HAJ) 140 km north-west, located in the federal state of Lower Saxony. Only 70 kilometres west of Kassel / Calden lies the region's fourth airport, Paderborn / Lippstadt (PAD). The latter is located in North Rhine-Westphalia and is primarily owned by the local municipalities. In 2007 PAD catered to 1.2 million passengers and could hereby reach a financial break even. If Kassel / Calden would be extended and if airlines could be convinced to operate services into the region a problem for the other airports in proximity would occur. These could suffer from the withdrawal of passengers, and, hence, decreasing revenues which could mean that Paderborn / Lippstadt would again be dependent on public funding.

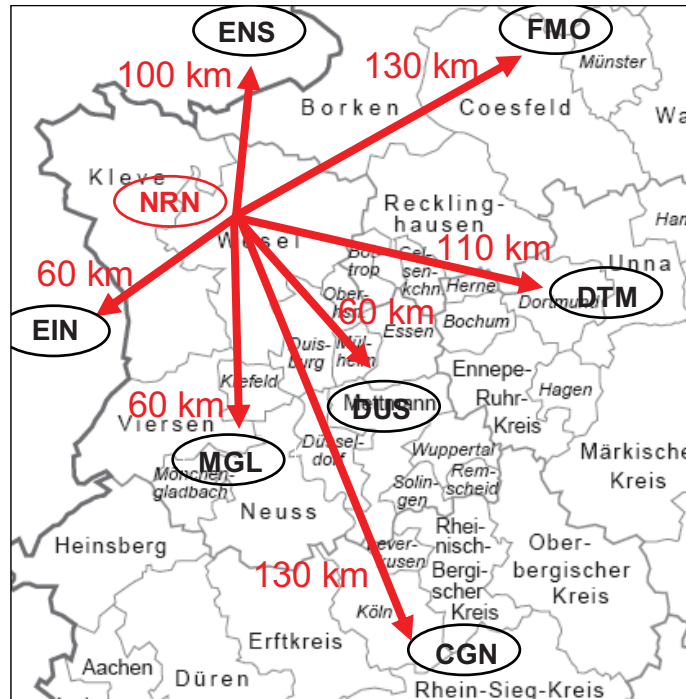
While the Kassel / Calden example dealt with the influence of the federal states, the next example focuses on the role of local authorities and how they influence the provision of airport-infrastructure as well.

Second Example: Weeze / Niederrhein Airport (NRN): This former air base of the British forces is located in the very west of Germany, close to the Dutch border, and was converted into a civil airport in 1998. The following map shows a number of airports in the vicinity.

About 130 km north-east of Weeze, the Muenster / Osnabrueck Airport (FMO) is located. The airport is owned by the surrounding cities, counties and chambers of commerce. Just about 110 km east of Weeze / Niederrhein one can find Dortmund Airport (DTM). Its owners are the city of Dortmund (26 percent of the shares) and the municipal utility "Dortmunder Stadtwerke DSW21" (74 percent), which again is owned by the city. 60 km south-east of Weeze / Niederrhein Duesseldorf International (DUS), which is the third-largest German airport, is located. Half of its shares are owned by the city of Duesseldorf. Duesseldorf International Airport again holds 70 percent of the shares at Moenchengladbach Airport (MGL), which is only about 20 driving minutes away from Duesseldorf and about 60 km south of Weeze / Niederrhein. The residual 30 percent of the shares of Moenchengladbach are held by the municipal utility of the city of Moenchengladbach. Cologne / Bonn Airport (CGN) is located 130 km south-east of Weeze / Niederrhein and again primarily owned by the surrounding municipalities. On the Dutch side of the border there are Eindhoven (EIN) 60 km south-west and Enschede (ENS) 100 km north-west of Weeze / Niederrhein. Both airports are also former military airbases and were converted to civil usage.

11 The estimated distances are road kilometres. If one would consider beeline-distances these values would be even smaller.

Figure 3: Location of Weeze / Niederrhein Airport



Source: Own depiction.

Thus, five German airports within a radius of just about 130 km around Weeze and the shares of all five airports are held by the specific municipalities, at least in part. Moreover, only the Muenster / Osnabrueck and Duesseldorf International airports are currently not making losses.

One can conclude that the problems that occur with the provision of airports is a controversial and current topic in Germany and also in other EU-countries.¹²

12 The state's role for the provision of airport infrastructure was made subject of discussion in an EU-decision on the subsidisation of the Belgium airport Brussels-South Charleroi. The airport is completely held by the government of Wallonia. The airport operator acquiesced to a wide range of benefits for the Irish low-cost airline Ryanair. The airline was conceded large discounts as well for landing fees as for handling services. Ryanair accepted EUR 4 million of marketing grants as well as EUR 1.92 million for each newly established route, EUR 768,000 for the training of pilots and EUR 250,000 for hotel-costs

The two examples discussed above indicate that not only the states' financial involvement leads to the current flaws but also the decentralised and uncoordinated way in which airport infrastructure is provided. Thus, there are requests for greater centralisation of responsibilities in order to avoid regional overcapacities and subsequent misuse of public money.¹³

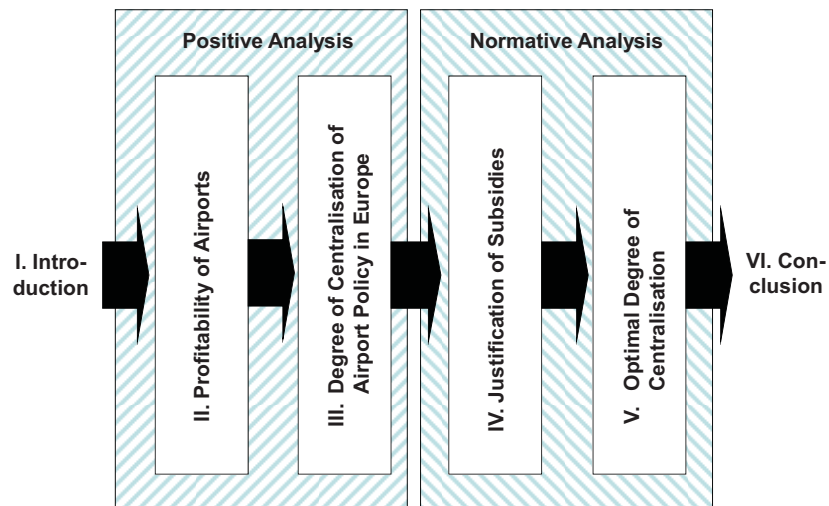
B. Objectives and Structure of the Thesis

This study will focus on the following two research questions: First, is the predominantly public financing of Germany's airports justifiable? In this context the study will test arguments derived from regulatory policy and welfare economics. The hypothesis is that neither a general prohibition of subsidies nor a universal necessity will be identified. The second research question is how the provision of airport infrastructure could be organised in a more efficient way? In this respect we will analyse the current provision practice critically and will derive policy recommendations. Based on the principle of fiscal equivalence and the minimisation of organisational costs the degree of centrality of the provision will be examined. The hypothesis is that neither a complete centralisation of competences, nor a decentralisation will resolve the problems that occur today.

of the crews. However, the recently elaborated guidelines by the EU-Commission now limit the subsidisation of regional airports and the common procedure to concede favourable conditions from airports to (low-cost-) airlines for securing a certain amount of passengers. See EU-Commission (2004, 2005b).

13 However, Helm / Thompson (1991) argue that in general social costs of overinvestment in transport infrastructure were lower than those of underinvestment. See Helm / Thompson (2001), p. 239 f.

Figure 4: Structure of the Thesis



Source: Own depiction.

Chapters II and III will carry out a positive analysis of the status quo and chapters IV and V will normatively derive recommendations.

Chapter II deals with the reasons for financial difficulties at many airports and thus analyses how airport revenues are generated and what the cost structure of an airport looks like. Chapter III focuses on the way selected European countries provide airport infrastructure and compares their airport policy to the German one. Chapter IV deals with the central question of whether the currently significant influence by the state is justified by economic theory or not. Given that public interference in the market is somehow justifiable, chapter V analyses how the provision of the airport infrastructure can be organised in a more efficient way. Finally, chapter VI concludes.

C. *Delimitation*

Since the research question focuses on German airport policy, this work is primarily limited to the specific German situation, its current flaws and what possible improvements could look like. However, especially in the frame of the status

quo-analysis in chapter IV we will also deal with modalities in other European countries. The aspects of airport policy that are taken into account here are limited to airport ownership, planning, and approval processes and to the financing of airport infrastructure. Other currently debated airport related fields, such as the regulation of airports with market power, the allocation of take-off and landing slots or the reduction of aviation-related effects on the environment, will not be discussed.

Many aspects of the analyses of this thesis will vary for different sized airports. There are several ways of classifying airports. For clarifying the terminological framework for the subsequent analysis, we will shortly focus on the classification of airports.

The first way to group airports focuses on their function and importance.¹⁴ While primary airports are important for the entire country due to their function as national hubs, secondary airports are still important for national air traffic but do not serve as hubs. Tertiary airports are the residual ones, which are primarily of regional importance. Tertiary airports often serve as spokes for networks, which are centred at the primary airports. Quaternary airports are newcomer airports that are either converted from former military bases to civil useage or are upgraded smaller airfields. These airports cater mostly to charter and low-cost carriers with point-to-point networks. Table 1 summarises these categories and provides examples.

14 See Deutsche Bank Research (2005), p. 2.

Table 1: Classification of Airfields Following Their Importance

Category	Criteria	Number	Examples
Primary airports	Airports with hub function.	2	Frankfurt / Main, Munich
Secondary airports	Without hub function, but with a high-class catchment area and big point-to-point network	8	Duesseldorf, Hamburg, Berlin-Tegel, Stuttgart
Tertiary airports	Residual airports with connections to Frankfurt or Munich and charter or low-cost flights.	13	Dresden, Leipzig / Halle, Muenster / Osnabrueck
Quaternary airports	Newcomer-airports that developed through the conversion of former military airbases and all those airports where general aviation dominates.	36	Altenburg / Nobitz, Weeze / Niederrhein, Karlsruhe / Baden-Baden

Source: Own depiction, following Deutsche Bank Research (2005), p. 2.

The traffic volumes of airports can also serve as an indicator for distinction. During the recent consultations in the case of Brussels-South Charleroi Airport the EU-Commission developed four categories ranging from A to D. Airports with more than ten million annual passengers belong to the group of large community airports (Category A), those with five to ten million passengers are national airports (Category B), airports with one to five million passengers are large regional airports (Category C) and the remaining airports with less than one million annual passengers are small regional airports (Category D). Table 2 summarises this classification.

Table 2: Classification of Airports Following their Traffic Volumes

Category	Criteria	Number	Examples
Category A (Large Community Airports)	Over 10 million passengers	4	Frankfurt / Main, Munich
Category B (National Airports)	5 to 10 million passengers	4	Cologne / Bonn, Hamburg
Category C (Large Regional Airports)	1 to 5 million passengers	9	Hahn, Nuremberg
Category D (Small Regional Airports)	Less than 1 million passengers	42 ¹⁵	Weeze / Niederrhein, Altenburg / Nobitz

Source: Own depiction and calculations, following EU-Commission (2005b), p. 8. Data regarding the passenger-volumes by Statistisches Bundesamt (2005), chapter 3.

There are further ways to classify airports which are discussed in Appendix 1. The two categorisations above however, are the most common and suitable for following considerations.

15 The number of existing Category D airports cannot be exactly determined, since the definition of what should count as an airport is not clear. The German air-traffic law (*Luftverkehrsgesetz*) would require an aerodrome for airports, while those without aerodromes are determined as airfields. Thus, some airports with significant amounts of scheduled traffic, such as Friedrichshafen, Hof or Augsburg, were considered as airfields and were thus not included.