

Investigating the perception of route entry barriers  
by airline managers:  
A questionnaire-based approach\*

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Comments are welcome !

Dipl.-Kfm., Diplom-Verkehrswirtschaftler, M. Phil.  
Mirko C.A. Schnell  
PhD Candidate, University of Cambridge (UK)

Waldeckstr. 16  
72074 Tübingen, Germany  
mirko.schnell@epost.de  
www.mirko-schnell.de

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# **1 Route entry barriers, contestability and deregulation**

This paper presents a research project applying an approach new to the field of route entry barriers in airline markets. Its main theme reads: "How do airline managers perceive barriers to route entry?". Considering that only perceived entry barriers prevent entry, industrialists and scientists have to understand which entry difficulties are noticed by whom and to what extent these obstacles deter entry in practice.

Of course, theoretical models and empirical studies have greatly contributed to our knowledge of entry barriers. Yet, overall we still know rather little about this issue. This mainly results from the lack of data, the disregard of an intra-firm perspective or restrictive behavioural assumptions respectively. At the same time, the knowledge of entry barriers is of fundamental importance for policy and business strategy alike, as such market characteristics restrict airlines' playing field per definition. Hence, entry obstacles limit competition, while deregulation actually intended to intensify it.

In the last few decades, airline markets were deregulated in several regions. Regulators removed institutional entry barriers not only in domestic markets such as Canada or the USA, but also lifted restrictions that were formerly imposed on operations by foreign carriers in multi-country regions like Australia / New Zealand and the European Economic Area.<sup>1</sup> Governments have expected that competition would thereby increase and that consequently the industry's efficiency as well as social welfare would be enhanced. The theory of "contestable markets" (Baumol, 1982; Bailey/Baumol, 1984) has suggested that these benefits materialise.

In the following, the paper first outlines the assumptions and the effect of contestability on competition. Second, it discusses the value of a positivistic definition of entry barriers. Third, it identifies knowledge gaps regarding entry barriers. Fourth, it describes the methodology that may help to address some of these gaps. Finally, it presents findings achieved by this methodology and depicts a research project currently undertaken that investigates entry difficulties in the four above-mentioned regions.

## **1.1 Contestability theory: potential competition sufficient to restrain incumbents**

Since it was initially advanced, contestability theory has provided advocates of deregulation, who want to remove institutional entry impediments, with a solid foundation. However, "contestable markets" in the transportation industry do not inevitably arise as a result of deregulation (Berechman, 1993). For the benefits of deregulation to come into effect, contestability theory's assumptions have to hold in airline markets. Yet, even if these requirements are not met in reality, the theory should not be easily dismissed for it still has value: it will then pinpoint which conditions impede on coming closer to the ideal world of contestability and hence it will reveal the need for policy actions. Therefore, an evaluation of the theory's contribution to the deregulation issue presupposes comprehension of the model's world.

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<sup>1</sup> The European Economic Area comprises all countries of the European Union and, additionally, Iceland and Norway. Liberalisation became effective in this region.

„A contestable market is one into which entry is absolutely free and exit is absolutely costless.“ (Baumol, 1982, p. 3). Through this definition, contestability theory explicitly takes into account both the action of entering a market and the option of leaving it. Free entry, however, does not mean that entrants face no costs in starting the business, but that cost discrimination against entrants is impossible (Baumol, 1982). This represents a normative definition of entry barriers, which above all is relevant for competition policy. It is worth pointing this out, as the distinct ways of defining entry barriers will play a major role in the line of reasoning below.

In addition to the absence of entry barriers, contestability theory makes further assumptions. Cross-subsidies between products or markets are excluded. Furthermore, exit must be costless, that is, sunk costs must not exist. Thus, capital that has been invested can be recovered and reinvested elsewhere. Moreover, the argumentation bases on the standard assumptions that both incumbents and potential entrants have access to the same technology with which they produce the same (i.e. homogeneous) product. Consequently, all firms have the same cost-function. These assumptions facilitate the theory's definition of the market and the identification of competitors.

If entry and exit are costless, incumbents face the threat of potential entry. Hence, they find themselves compelled to take into consideration not only their current but also potential competitors – a point that Demsetz (1968) already stressed well before contestability theory attracted attention. Given these competitive threats, incumbents have to charge a price being the same that would result from perfect competition. For elucidating this rationale, assume the aforementioned assumptions hold. At the same time, the incumbents produce at a higher cost level and/or charge a price higher than the average costs of a potential entrant using the same technology. Consequently, it is profitable for the latter to enter the market. In this case, the entrant has two strategic options:

- The assumption of non-existing sunk costs is powerful for the argumentation insofar as it allows the entrant to pursue a so-called hit-and-run-strategy: The entrant can enter the market, while charging a price lower than the incumbent's one. Thus, the entrant reaps profits (hit). If the competitive climate should get hostile due to competitors' retaliation, then the entrant leaves the market (run). However, for this to work, two additional assumptions have to be introduced. First, the entrant can only register gains, if consumers switch to the entrant due to its lower price. Second, the incumbents are not in the position to alter their price as quickly as they lose their customers. Otherwise, they can avoid an erosion of their market share.
- Another option for the entrant could be to gain market share being sufficiently large for the financial survival in the market and then to stay in the market. That could lead so far as to eliminate the former incumbents in the market just by charging a lower price (total entry). In this context, the exclusion of cross-subsidies becomes crucial for the argumentation. First, the entrant can only offer a lower price since it is more efficient, but not because it cross-subsidises the product by profits of other goods sold in different markets. Second, the incumbents cannot meet the lower price of the entrant, for they themselves cannot cross-subsidise the product.

Incumbents in a "contestable market" therefore behave as if the market was perfectly competitive to avoid entry. This results in normal profits and absence of X-inefficiency (Baumol, 1982). Additionally, products, and services respectively, are sold at their long-run marginal costs. Thus, profits are zero. Hence, Baumol concludes, a "contestable market" represents „a proper generalization of the concept of perfect competition“ (Baumol, 1982, p. 5) regarding its welfare implications. In other words, it does not require a large number of actual competitors to obtain a competitive market. Instead, potential competition manifests to be a substitute for them. Moreover, the actual amount of entry and exit in one market is not a crucial driving force of competition. Rather on the contrary, the extent of potential entry that incumbents fear is critical to restrain their behaviour.

In summary, the argumentation of the "contestable markets" model seems to give rise to the conclusion that markets should be deregulated. In this line of thought, institutional entry and exit barriers imposed to otherwise "contestable markets" by regulators are a questionable practice as these obstacles restrict potential competition. However, an abolition of regulatory entry barriers is not a sufficient, but a necessary condition to render entry potentially feasible and easy. Additionally, other obstacles to entry must not exist. Hence, the crucial question reads: Which entry barriers do still exist in deregulated airline markets? Before we can answer this question, we need to look more closely at the definition of entry barriers.

## 1.2 Definitions of route entry barriers

Contestability theory has been heavily criticised for its theoretical logic and its underlying assumptions, which are said not to correspond to reality (e.g. Shepherd, 1984). The limitations focused on in this study refer to the issue of entry barriers, that is, to the definition and the existence of entry obstacles. By using the normative definition mentioned above, contestability theory overlooks entry barriers and hence tends to overestimate the threat of potential competition. For example, consider the issue of slots at airports: under the current allocation regime, the lack of slots impedes entry not due to cost discrimination against the potential entrants, but just because of its physical non-availability. Moreover, such a normative definition cannot inform business strategy as it simply fails to accept impediments that may deter airlines, such as brand name or superior quality. Consequently, while pinpointing to an important issue, that is, barriers to route entry, contestability theory involves the hazard of playing down just this very concern.

Given the above and the attempt to explain real competition among airlines, it matters what *does* (i.e. positivistic perspective) rather than what *should* (i.e. normative perspective) deter entry. Hence, a distinct definition is chosen for the purpose of the research project presented here: a barrier to route entry denotes a route characteristic that in reality does prevent an airline from operating flights on this particular route.<sup>2</sup> The usefulness of this positivistic definition stems from its broad perspective in two respects. First, it enables economists gain a better understanding of competition. In fact, rivalry among airlines might not exist even if all barriers according to the conventional (i.e. normative) definitions (cf. Demsetz, 1982) are removed as long as additional obstacles remain in existence. Yet, one has to be cautious about drawing immediate conclusions for regulatory policy, while choosing a positivistic definition. Not every

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<sup>2</sup> In the following, entry barriers refer to entry on route-level.

entry obstacle that exists according to the above positivistic characterisation should trigger actions by regulators. Second, the definition used here informs business strategy as it reveals which (strategic) actions keep entrants away from an incumbent's market. Conventional definitions of entry barriers rather determine which of these measures should prompt regulatory interference. The deterrence devices not banned by the conventional perspective represent opportunities to airlines by which they can shelter their markets from competition without infringing on competition law.

Regardless of the way one defines an entry barrier, one can distinguish between natural and strategic entry barriers. The former are inherent features of a market, that is, they exist independent of any incumbent's behaviour. The latter describe obstacles unintentionally or purposely erected by the conduct of the incumbent(s). As it is the case with many categorisations, the resulting groups overlap: for example, advertising expenses to inform potential passengers of a new service (cf. natural) may increase with an incumbent on the route in question (cf. strategic). Similarly, the scale of route entry required for a profitable service depends on the capacity offered compared to rivals as the S-curve relationship (Fruhan, 1972) suggests. Hence, incumbents can reinforce the effect of natural barriers. Since it will be difficult to determine the natural effect and the artificial effect imposed by the incumbent(s), such reinforcing measures may be indeed a subtle way for airlines to restrict competition.

Advocates of contestability theory supposed that airline markets are free from natural barriers to entry as defined by this model. Additionally, in the 1970s supporters of deregulating US-airline markets overlooked the potential for strategic barriers as regarded by contestability theory or they dismissed it as minor. Therefore, they viewed airline markets as a case in point for contestability (Bailey/Panzar, 1981; Baumol, 1982). Since then, much research effort has been put into investigating whether the performance of deregulated airline markets meets the conditions for a contestable market.

## **2 What do we know about route entry barriers?**

Former studies of airline markets have greatly enhanced our knowledge of how airlines compete, how airlines' conduct affects social welfare and the extent to which this is in line with economic theory. In exploring airline competition, researchers found that fares depend, for example, on measures of concentration, the number of incumbents and potential entrants (Graham et al., 1983; Strassmann, 1990; Peteraf/Reed, 1994; Gimeno, 1999).<sup>3</sup> Moreover, findings show that prices tend to fall when entry occurs (Joskow et al., 1994). All in all, the majority of results questions the contestability of airline markets.

Despite their merits, previous studies following the traditional approach have some shortcomings: they observe the result of non-contestability rather than its cause(s), they neglect airline characteristics and the perspective of airline managers, they treat only some entry obstacles and they mainly use US-data.

For the first, though previous analyses do detect relationships among variables that infringe on contestability, their insights are less systematic when it comes to why this may be the case. More precisely, they say rather little on the following questions:

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<sup>3</sup> An overview is available from the author upon request.

Which assumption(s) of contestability theory is / are precisely infringed in real markets? For example, can incumbent airlines alter their prices more quickly than theory assumes so that the entrant's hit-and-run strategy is not feasible? Or do entry barriers exist, which render entry and exit costly? One can indeed reasonably argue that airline markets exhibit features that qualify as entry difficulties (e.g. Doganis, 1994) and some empirical studies support such reasoning (e.g. Sinclair, 1995; Gimeno, 1999). However, two potential problems with such logic exist. First, one tends to find plausible explanations (e.g. entry barriers) for phenomena (e.g. non-contestability) that, however, may not correspond to the perception of airline managers and hence may not influence their behaviour in the supposed way. Second, airline managers may well perceive a certain condition denoted as a difficulty by logic, but may then find ways to overcome it. Consequently, this condition does not deter entry – in contrast to expectations formed by logic. In the end, pure logic may result in misleading conclusions. Therefore, the relevant question reads: do airline managers view their environment accordingly? Again, previous evidence does not systematically tell for data are not readily obtainable on which an answer could be based – to the best of the author's knowledge, Levine (1987) offers the only comprehensive paper showing an airline manager's perspective.

Likewise, what does the lack of statistically significant findings with regard to a specific entry barrier tell us? It either shows that the characteristic in question exists too seldom (or not at all) to exert considerable influence on competition or that it is indeed present often, but without having the supposed negative effect on competition. In any case, the lack of statistical evidence does not rule out that an entry barrier never occurs (Lieberman, 1987).

Furthermore, all these studies implicitly assume equal perception of entry difficulties among industry participants. Such a procedure however overlooks two facts important in this regard. First, market environments are not unambiguous realities as research in management science (Stubbart/Ramaprasad, 1988; Fombrun/Zajac, 1987) and economics (Aiginger et al., 2001) confirms. Hence, perception of entry barriers is likely to vary among airline managers. Second, this insight is not trivial, as a large body of theory and evidence shows that managers' perception of environmental conditions matters (Penrose, 1959; Duncan, 1972; Snow, 1976; Paine/Anderson, 1977; Lefebvre et al., 1997). Similarly, differences among (groups of) carriers are hardly addressed: As opposed to theory, airlines do not form a homogeneous group of firms. Consequently, a specific market characteristic may have different effects on the entry behaviour of two distinct carriers.

Most of the above objections result from the lack of data and not from the respective methodology applied to analyse the information more or less readily available. An only modest reward by the economics profession for the effort to collect such primary data (Schmalensee, 1988) may explain why the dearth of data has persisted. Yet, as such data would yield valuable insights for the society as a whole, this appears to be a special case of market failure.

The lack of data results in two additional knowledge gaps. First, it has prevented determining the importance of strategic measures, for example, frequent-flyer schemes for competitive advantage (Borenstein, 1991). Therefore, the absolute significance of certain route characteristics as an entry barrier remains unclear. Second, the data problem has made researchers focus their empirical analyses on only a few barriers to entry. Systematic research dealing with the long list of entry barriers suggested by theory and statements of airline managers is not available. Hence, a comprehensive

comparison of the effectiveness of obstacles is ruled out. It is, however, unlikely that all entry barriers inhibit entry to the same extent. To ensure the effectiveness and efficiency of policy measures, they have to tackle the severest problems first. That again requires knowledge of which impediments are most effective in preventing entry.

To circumvent the restrictions set by the lack of data, researchers have applied proxies, which aim at capturing the phenomenon in question instead. However, such substitutes portray the actual phenomenon only partly. Besides, while researchers naturally try to derive proxies by using a logically reasonable argumentation, the relationship between the actual phenomenon and its proxy may not correspond to what airline managers perceive. For example, Peteraf (1995) uses a vector of sensible proxies to account for sunk costs. Yet, the proxies may not tally with the way airline managers calculate non-recoverable costs, provided they think of such costs at all. Note in this respect, that only what managers *do* consider (i.e. positivistic view) affects their behaviour, and not what they *should* consider (i.e. normative view). Such discrepancy exists, as the concept of “rational behaviour” does not hold in reality.

An additional problem is that the insights at hand are almost exclusively based on data from US-markets, reflecting the availability of data. The 10%-ticket-sample, which US-airlines have to provide by law, offers a unique and rich data set for research. To the best of the author’s knowledge, a comparable source of data is not accessible for air transport markets in other regions at affordable costs. Consequently, few studies based on systematic data focus on markets outside the USA: for example, Schwegmann (1998) analyses fares on intra-European routes by using data sold by Reed Travel Group.

Such shortage of data leads to general policy recommendations based mainly on US-evidence. However, how do we know whether a specific entry difficulty is equally effective in all deregulated airline markets? For some reason, it may be more effective in one region than in another one at one point in time. This may be as airline markets once they are deregulated go through different phases regarding intensity of competition. In fact, Joesch/Zick (1994) and Fawcett/Farris (1989) provide findings that the US-airline markets were contestable shortly after deregulation but become non-contestable due to measures applied by incumbent airlines. Additionally, on the assumption that carrier’s characteristics influence the effectiveness of entry impediments, the composition of the industry regarding type of carriers within one region may affect barriers’ effectiveness. Moreover, a carrier’s strategies and barriers’ height may interact. In this context, newly set-up entrants in the European Union report a management emphasis different from the one of their US-counterparts (Gudmundsson, 1997). This difference may be (partly) due to different route entry obstacles perceived.

In conclusion, many questions still await their answers. Considering that only perceived entry barriers prevent entry, it is of interest which entry difficulties are noticed by whom and to what extent they prevent entry in practice. Such knowledge would contribute to explain systematic differences in entry behaviour. Moreover, it would provide substantial information to develop policy measures that aim at fostering competition. And it would finally represent a valuable base for airlines’ strategies.

It should be stressed that the above remarks about the limitations of existing evidence should not be taken as a negative assessment of it in general. Of course, no methodology answers all research questions. The points are rather that one approach may be more appropriate for a certain question and that different methodologies can

generate distinct valuable insights into the same issue. Moreover, the above review reveals that many shortcomings result from the mere lack of data rather than the methods applied to analyse the data.

### **3 A proposal how to enhance knowledge of route entry barriers**

Following the above argumentation, I advocate a research methodology different from the ones used so far. The approach chosen subsequently should address the knowledge gaps discussed above and mainly caused by the lack of data. To tackle this objective, the research design has to meet the following requirements: First, it has to generate a new data set to alleviate the problems caused by insufficient data. Second, the data should portray an intra-firm (or even intra-manager) perspective – a point of view recently repeatedly called for by economists (Mueller, 1992; Helper, 2000). Third, the data collection procedure should be capable of handling a comprehensive list of entry barriers. Apart from these conditions, the results should comply with the demand for generalisability and therefore conclusions should be based on more than a handful of airlines. Moreover, the approach should be affordable regarding costs and manageable with regard to time. In view of this set of requirements, the choice falls on conducting a questionnaire-based survey.

Such a survey-method provides intra-firm views and data not otherwise available. It has the potential to investigate how airlines' strategies and resources influence the perception of entry barriers. Furthermore, it can account for the effect of additional carrier's characteristics, such as size, scope or age on the way obstacles are viewed. Moreover, on the level of respondents, the affiliation to a certain department within a specific airline might also have an impact on the assessment of entry difficulties. In summary, this method does not only consider hypotheses advanced by IO-theory, but also by the resource-based view (e.g. Penrose, 1959; Conner, 1991; Peteraf, 1993), which has recently attracted increasing attention in the field of strategic management. Thereby, it does not only inform policy, but also airlines' strategies: It helps to explain entry behaviour and suggests effective deterrence devices as well as means to overcome them. Eventually, it may shed new light on why airlines fail.

From the perspective of long-term competition policy, the results spawn by the methodology proposed here may represent a first step to question some of the conventional wisdom about competition on monopolistic routes. Consider such a survey finds the following: some of the difficulties that a normative definition does not accept as barriers to entry are quite effective. In this respect, one can think of obstacles such as the monopolist's strong brand name, superior quality or sufficient supply of capacity, for example. If airline managers report that these route conditions do prevent entry, first of all actual competition does not exist because entry does not occur and consequently the monopoly is sustained. Actual competition is, however, most relevant to control incumbent's behaviour as evidence suggests. Second, if the monopolist in question is aware of both possessing such an advantage and the advantage's entry deterring effect, potential competition does not exert a threat either since the monopolist does not have to fear entry. Consequently, neither potential nor actual competition restrains the monopolistic incumbent.<sup>4</sup> To render things worse, competition policy does not recommend taking measures, in applying a normative definitions of entry barriers.

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<sup>4</sup> Of course, for this reasoning to hold, competitors must not serve the relevant city-pair by offering connecting services, as this would introduce at least some competitive pressure.

However, before deciding how to deal with this challenge, let us await the evidence – this issue may in fact not be relevant at all.

Despite its potential, this methodology is relatively new to the field of entry barriers. In cross-sectional studies, Smiley (1988) and Bunch/Smiley (1992) explore from an intra-firm perspective, how frequently certain strategic entry deterrence measures are applied. Investigating the marketing executives' perspective, Karakaya/Stahl (1989) provide empirical evidence on the importance of innocent and strategic entry barriers in consumer and industrial goods markets. Brewer (1996) analyses which industry conditions might prevent potential entrants from a commitment to the British rail freight industry. These studies have made important contributions to our knowledge of entry difficulties. Yet, only one of these studies investigates how industry entry barriers are perceived by firms whose entry might be prevented. Moreover, former studies have not concentrated on the airline industry. However, air carriers apply some peculiar measures (e.g. code-sharing, hub-and-spoke system). Hence, a conclusion about the effect of these means on competition cannot be readily drawn by just looking at evidence available for other industries: First, comparable means hardly exist in other industries, and, second, airlines may overcome this industry-specific obstacles by again other peculiar strategies (e.g. frequent-flyer programmes).

It goes without saying that the method proposed here is not free of some shortcomings. First, answers may be biased, for example, by deliberate under- or overstatements of specific obstacles to accomplish a certain objective (e.g. influencing regulatory policy). Distortion resulting from biased answers represents a problem inherent to surveys, that can be alleviated (e.g. by ensuring confidentiality) but can never be fully controlled. Yet, there are ways to estimate the extent of biased answers. For one thing, one can look at the respondent's answers on other sensitive questions: If these answers seem to be honest in that sense as they would be disadvantageous for the respondent if announced publicly, then one can reasonably regard the other answers as closely corresponding to facts. And then, one can compare the stated severity of a problem with actual conditions on recently entered routes. Furthermore, follow-up interviews with some respondents offer the opportunity to verify their answers.

Second, a usual objection to survey data refers to the subjectivity of answers stated. However, in our context, subjectivity does not constitute a problem because "barriers to entry are effective if they are perceived to exist" (Borenstein, 1989, p. 345). The issue of subjectivity therefore relates to the distinction between a normative and positivistic definition of barriers to entry.

In conclusion, the proposed method serves as a complement rather than a substitute for the traditional approach in testing for entry barriers.

#### **4 Application and results of the new research approach**

I first decided to apply this methodology in course of my Master thesis dealing with entry barriers in Europe's airline markets one year after full deregulation came into effect in 1997 (Schnell, 1998).<sup>5</sup> I collected data from 39 airlines based in the European

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<sup>5</sup> A copy of the Master thesis can be requested from the author.

Economic Area in spring 1998.<sup>6</sup> Some of the results were subsequently published in Pitelis/Schnell (2002). Table 1 provides an overview of the entry difficulties considered and their severity as assessed by European airline managers. The sample endorses the suppositions set above, that is, (1) entry barriers differ in their extent to which they impede entry, (2) airline managers have distinct perceptions with regard to a certain obstacle, (3) at least some airline managers' stated perceptions cannot be reconciled with normative theory on barriers to entry (e.g. regarding sunk costs).

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<sup>6</sup> The European Economic Area comprises all countries of the European Union and, additionally, Iceland and Norway. Liberalisation became effective in this region.

Difficulties	Not Perceived as a difficulty	perceived as a difficulty and regarded as....					Mean rank
		ineffective	neither effective nor ineffective	effective	very effective	absolutely effective	
		(-1)	(0)	(+1)	(+2)	(+3)	
Market research about new route is very costly	43%	16%	16%	16%	8%	0%	13,9
New route is not part of your competitor's hub-and-spoke system but yet served by your competitor	22%	11%	38%	24%	5%	0%	12,7
Competitors offer superior service to customers compared with your company	37%	8%	18%	21%	13%	3%	11,4
Competitors segment customer groups and offer differentiated services to them	26%	8%	32%	21%	8%	5%	10,9
Some of the route entering costs cannot be recovered if you give up this route	24%	11%	24%	21%	13%	8%	10,3
Competitors advertise heavily	19%	8%	27%	30%	14%	3%	10,2
Additional aircraft is required to serve new route	27%	5%	19%	22%	22%	5%	9,7
Heavy advertising expenses are required to inform potential passengers on new route about your company's flights	21%	0%	29%	24%	21%	5%	9,2
Competitors offer limited amount of deeply discounted tickets before and after entry of your company	11%	11%	24%	37%	16%	3%	9,2
Competitors may undertake counter-actions against your company on routes other than the entered one	5%	0%	42%	32%	18%	3%	8,7
Your company's total average costs on the new route are higher than the presumed total average costs of your competitor(s)	24%	5%	18%	16%	24%	13%	8,6
Fees for using airport facilities (e.g. slots, ground facilities)	11%	11%	13%	34%	24%	8%	8,1
Competitors share flight codes with other competitors on new route	16%	3%	19%	30%	24%	8%	7,9
Introduction of new route requires vast amount of capital compared to its turnover	16%	3%	22%	27%	30%	3%	7,8
New route represents spoke of your competitor's hub-and-spoke system	16%	5%	11%	27%	35%	5%	7,2
Competitors offer frequent-flyer programs	16%	8%	13%	21%	32%	11%	7,1
Certain scale of route entry is required to achieve a profitable average costs level	16%	0%	14%	30%	35%	5%	7,1
Before entry of your company, competitors set fares at a low unattractive level for your company	8%	3%	24%	34%	18%	13%	6,9
After entry of your company, competitors may reduce fares to a low unattractive level for your company	3%	3%	18%	45%	29%	3%	6,1
New route connects two hub airports of your competitor	11%	0%	22%	22%	25%	19%	5,9
Competitors may expand their number of flights after entry of your company	5%	3%	8%	34%	42%	8%	4,9
Attractive slots (regarding daytime) are not available as your competitors own them	5%	0%	3%	11%	24%	57%	1,8

Table 1: Route entry difficulties as assessed by managers of airlines in the European Economic Area (Pitelis / Schnell, 2002)

Above, I suggested that the data gathered via a questionnaire-based survey help to enhance our knowledge of why some carriers fail. Four years after the responses were received, they can be analysed to ascertain whether they support this supposition. And in fact, the sample described corroborates that barriers to entry exert influence on airlines' ability to survive. Airline managers that participated in the survey in 1998 and whose company does not exist any more in March 2002 due to bankruptcy, take-over or merger, stated a higher effectiveness of many strategic barriers as compared to airlines still operating in March 2002. Differences are significant for code-sharing and limited amount of discount tickets (10%), frequent-flyer program and post-entry expansion of capacity by incumbent (5%), as well as the mere existence of an incumbent and counteractions on other routes (1%).<sup>7</sup> Such a striking disparity between both groups does not exist for natural barriers, as only airport fees are significantly (at the 5%-level) more effective from the perspective of the disappeared airlines.

While preparing this contribution, I carried out a new survey with an extended scope. First, the questionnaire considers potential entry obstacles not previously included. Second, it asks the respondent for an assessment of the airline's resource position, (financial) performance, a range of strategic actions, current and future industry conditions as well as the airline's business objectives. Third, it does not only cover airlines within the European Economic Area, but also includes carriers from other deregulated markets, i.e. Australia / New Zealand, Canada and the USA. Thereby it allows for comparing the severity of certain issues in different regulatory regions.

The database of addressees was mainly formed by details available in World Airlines 2001 and complemented by information in industry journals as well as airlines' websites. Questionnaires were sent to airlines' top-management and line managers in charge of route entry decisions and other market-related strategies. To ensure a high percentage of forms completed by managers concerned with the above, mailings were personally addressed to them. To accomplish a reasonable response rate and a sufficiently large sample in absolute terms, additional endeavours were taken: respondents were offered a feedback report covering the results of the survey in return for participation. Moreover, strict confidentiality on the respondent- and airline-level was promised. Furthermore, a more detailed description of the research project were offered on the author's website. To further increase the response rate on the airline-level, more than one questionnaire was mailed to a single airline, provided the names of potential respondents were known.

The questionnaire is based on an extensive review of previous theoretical and empirical academic findings as well as information in industry journals. Furthermore, relevant suggestions by the respondents of the survey conducted in 1998 and insights gained by personal interviews with airline managers were considered. Finally, industry experts were consulted.

With regard to entry obstacles, the questionnaire distinguishes between the mere existence of an impediment and its effect. First, the form asks whether a certain route condition that potentially qualifies as an entry barrier exists at all. Second, for the route conditions existing according to the respondent's perception, he / she has to indicate whether the condition in question prevents entry "never", "unlikely", "probably",

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<sup>7</sup> The Mann-Whitney-U-test was applied and numbers refer to one-tailed significance.

“likely” or “always”.<sup>8</sup> The separation of a phenomenon’s existence and effect appears meaningful for the following reasons. In view of the intended comparison of different regulatory regions, the mere existence of a certain characteristic appears to be of interest. Moreover, only existing difficulties influence airline’s conduct and thus help to explain the current stage of competition. Therefore, competition policy should primarily focus on real issues and not hypothetical effects.

Yet, this distinction comes at a cost. From the perspective of a business strategist, it is worth knowing whether a certain route condition could potentially prevent entry and would consequently shelter an airline’s markets from competition. Of course, this shortcoming could have been avoided by a slightly different design of the answer section. However, there are a practical and a findings-related reason for not having done so. First, this would have increased the time to complete the questionnaire, which is considered to be already at the upper limit regarding length. Moreover, airlines not confronted with a certain route characteristic (and therefore having no experience in the feature’s effect) may assess this condition wrongly and hence provide misleading advice to rivals.

The survey allows linking the resulting data set with publicly available secondary data on a specific airline. It consequently permits to test to what extent the reported perception influences actual (i.e. observable) behaviour. Given the earlier data set, one can also check whether and how the perception of barriers has changed. Moreover, due the possibility to link the data set with other data source, the questionnaire could leave corresponding questions aside while instead concentrating on gathering data not provided elsewhere. Besides, secondary data (e.g. regarding financials or operations) are unlikely to be readily available for every potential respondent and hence increase the required effort to complete the questionnaire, which would have reduced the response rate. Furthermore, requests for detailed (financial) numbers are likely to make potential respondents hesitating to answer due to the perceived sensitivity of the relevant information.

For two reasons, the project considers mainly characteristics relevant at the route rather than the industry level. While competitive pressure can stem from start-up or established airlines, only entry impediments at the route level are relevant for both. First, a start-up airline, for which barriers at the industry level are also of importance, has to enter at least one route since an airline without a single route serves no market. Second, entry difficulties at the route level play a role for established carriers’ considerations about expansion. Evidence on barriers to route entry certainly offers sufficient insight for regulatory policy and airlines’ management alike - though additional substantiation of barriers at the industry level are not worthless.

## **5 Summary and conclusion**

This paper started with an outline of contestability theory whose strength lies in stressing the importance of entry barriers for competition and market performance. It proceeded to explain the reasons for using a positivistic definition of barriers to entry, instead of a normative definition, which is usually chosen. Subsequently, in arguing that

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<sup>8</sup> The layout of the questionnaire is designed in the following way: the respondent has either to indicate that a certain phenomenon never exists or that it exists while specifying the extent of impeding entry according to the scale provided.

only perceived entry barriers matter for airlines' entry behaviour, knowledge gaps were identified in the literature. This perception-based perspective is not addressed by previous studies. Hence, this article presented a research approach that takes this fact into consideration. Afterwards, some results of the author's research in this field were shown and supplemented by a description of a project that I am currently undertaking.

In conclusion, it has been shown that an effort to gather primary data exhibiting an intra-firm perspective contributes to improve our knowledge of barriers to entry. The insights resulting from such an analysis do not only inform competition policy, but also airlines' business strategies as well.

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