

**International disharmony in accounting for intangibles arising from government grants:
the case of airport slots in IFRS, US-GAAP and German GAAP**

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Abstract

One of the largest groups of intangible assets has barely been considered in accounting research – intangible assets arising from government grants. This paper examines accounting for government grants according to IFRS, US-GAAP and German GAAP, using the example of airport take-off and landing rights. The results show that both differences and similarities can be found between the three accounting systems in the case of government grants. The findings are partly surprising, because on the one hand, certain disharmonies can be identified between the accounting systems subsumed by the “Anglo-American” accounting philosophy (IFRS and US-GAAP), and on the other hand, certain harmonies can be found between the “Continental-European” German GAAP and “Anglo-American” accounting systems. In particular it is evident that the common assertion that the “Anglo-American” philosophy stresses “relevance”, whereas the “Continental-European” view emphasizes “reliability”, does not apply to intangible assets arising from government grants. To reduce the disharmonies, the paper pleads to provide additional information in the notes.

Keywords: Intangible assets; government grants; airport take-off and landing rights; IFRS; US-GAAP; German GAAP; international harmonization

1. Introduction

Whereas in the past tangible assets like raw materials or plants were largely decisive for corporate success, presently, the use of intangible assets has an increasing impact on a company's profits and therefore its value. This importance also affects financial reporting, because the use of intangible assets is associated with questions relating to their recognition and measurement for balance-sheet purposes. Accounting research has faced these challenges and dealt with problems of reporting intangibles for many years. In the literature, we find a multitude of articles that examine, for example, accounting for brands (Harding, 1997; Stolowy, Haller, and Klockhaus, 2001), development costs (Schellhorn and Weichert, 2001; Ding, Entwistle, and Stolowy, 2004; Walker and Oliver, 2005) and goodwill (Devine, 1985; Pellens, Basche, and Sellhorn, 2003; Küting and Wirth, 2004) and analyze international disharmonies between different accounting systems with regard to intangibles (Brunovs and Kirsh, 1991; Høegh-Krohn and Knivsflå, 2000; Bean and Jarnagin, 2001; Stolowy and Jeny-Cazavan, 2001; Powell, 2003; Eckstein, 2004).

However, one important group of intangibles has been almost completely ignored in the research – intangible assets arising from government grants. These are rights that a company receives from national authorities and from which future economic benefits are expected to flow to the company. Whereas emission rights (Hermes and Jödicke, 2001; Hommel and Wolf, 2005) and UMTS licences (Schmachtenberg, Meixner, and Schäfer, 2005), which belong to this group of intangibles, have already been objects of research, other rights received from national authorities, like fishing licences, broadcasting rights, or public transport licences, have so far been ignored by accounting research. This paper aims to help to close this gap by analyzing the recognition

and measurement of intangible assets arising from government grants according to different accounting systems, identifying prevailing causes of international disharmony and presenting a solution to resolve this disharmony. Firstly, we consider IFRS and US-GAAP as representatives of the “Anglo-American” accounting philosophy, which is associated with the concept of “relevance”. Secondly, we examine the German GAAP. The latter are subsumed by the “Continental-European” philosophy, to which the concept of “reliability” is attributed in particular (Choi and Meek, 2005, pp. 48-60). The analysis is based on airport take-off and landing rights. They can be used as a good example of an international comparison of different financial reporting practices, because they are allocated by all OECD countries and are structured very similarly, due to international agreements. Furthermore, they are interesting and useful objects of research due to their considerable value. The value of take-off and landing rights held by an airline can exceed the value of its fleet of aircraft.

In order to achieve the research objectives, Section 2 explains the characteristics of take-off and landing rights (also called “slots”) and identifies the different ways they can be acquired by an airline. In order to avoid the paper having too wide a scope, only slots for airports in the European Union and the United States are investigated. Section 3 examines whether slots must be recognized according to IFRS, US-GAAP and German GAAP, and how they are measured initially. Section 4 deals with their measurement after recognition within the three accounting systems. Section 5 presents the conclusions.

2. Take-off and landing rights

2.1 Characteristics

Take-off and landing rights allow an airline to use an airport's runway capacities at a specific time on a specific day (IATA, 2004, p. 11). It is necessary to hold such rights for so-called "coordinated airports", that is, airports whose runway capacities are so congested that take-off and landing must be planned by national authorities. Whereas, in the United States, only three airports – the "high density airports" of New York LaGuardia, New York Kennedy and Reagan Washington National – are slot-coordinated, all hub airports and a large number of spoke airports in the European Union are slot-coordinated (Bass, 1994; Abeyratne, 2000; Golaszewski, 2002; Madas and Zografos, 2006). To obtain take-off and landing rights, airlines must apply for these rights to the national authority of the country in which the airport is situated. The allocation of the rare slots to the applicants is free of charge and follows national economic considerations (such as supporting the country's own flag carrier or avoiding excessive market power from accruing to certain airlines). In the United States, a proportion of the slots is also allocated via a lottery. The period of allocation is one scheduling season, that is, half a year. In other words, two allocations of take-off and landing rights take place per year. However, in international air traffic, the so-called "grandfather rights" are valid. This means that an airline, which received the same slots in two successive scheduling seasons, will also obtain these slots in every subsequent scheduling season. However, in order to avoid a blocking of unused slots due to the grandfather rights, these are accompanied by a "use or lose rule". This stipulates that an airline loses its slots if they are operational less than 80 % of the scheduling season (Ewers et al., 2001; Kilian, 2000; 2004; IATA, 2004, p. 27).

2.2 Acquisition

In addition to the take-off and landing rights which are allocated free of charge by national authorities, it is also possible for airlines to acquire the slots they need in other ways (Borenstein, 1992; Starkie, 1994; 1998; Balfour, 1997; Kilian, 2000; 2004; Civil Aviation Authority, 2001; 2004). Firstly, airlines are allowed to exchange slots between one other. In the United States and the United Kingdom, the exchange of slots of equal value and also of unequal value (in combination with an additional payment) is allowed, whereas, in the rest of the European Union, exchanges of unequal slots in combination with payment, are prohibited. Also, the rules for the purchase of take-off and landing rights differ internationally. In both the United States and European Union, an airline can buy another airline's slots by taking over this company via an acquisition or merger. Only in the United States and the United Kingdom, are airlines allowed to buy or sell single slots, that is, to trade slots. Furthermore in the United States, it is possible to transfer slots by lease agreement. These transactions can be arranged as a financial lease, that is a long lease term, which can be combined with the transfer of the slot from the lessor to the lessee at the end of the term. An operating lease is also possible, that is, a short lease term and no slot transfer to the lessee at the end of the term. Table 1 provides an overview on the different ways to acquire slots and their different applications in different countries.

TABLE 1 ABOUT HERE

3. Recognition and initial measurement

3.1 Take-off and landing rights as intangible assets

Whether or not take-off and landing rights have to enter into the financial statement, in turn depends on whether or not they must be interpreted as intangible assets and if, furthermore, they

meet the additional recognition criteria. The *IFRS* define an intangible asset according to IAS 38.8 as a non-monetary resource without physical substance which is identifiable and controlled by an entity as a result of past events and from which future economic benefits are expected to flow to the entity. The criterion of control is met in the case of take-off and landing rights, because, after their acquisition, the airline can use the slots without restriction and after the second scheduling season, it is also entitled to obtain the slots in the future due to its grandfather rights. The criterion of future economic benefits is also fulfilled, because the rights are an inevitable condition for take-off and landing at coordinated airports and therefore for achieving turnover. Not least, the slots are also identifiable, because they are rights and therefore meet the conditions stipulated by IAS 38.12. Hence, take-off and landing rights are intangible assets according to IFRS. However, whether they are recognized in the financial statement or not also depends on two recognition criteria (IAS 38.18). These stipulate that an intangible asset can only be recognized, if, firstly, it is probable that its expected future economic benefits will flow to the company and, secondly, that the cost of the asset can be measured reliably (IAS 38.21). The benefits are probable, because the slots guarantee the airline's use of coordinated airports and participation in the potential profits that accompany this use. More difficult is the answer to the question of whether the cost of the slots can be measured reliably, because this depends on the manner in which they were acquired. It is therefore necessary to take a closer look at this criterion in Section 3.2.

The *US-GAAP* come to a similar result. They define an intangible asset according to SFAC 6.25-31 and SFAS 142.F1 as a non-monetary resource without physical substance, which is under the control of the company due to a transaction in the past and which embodies a probable future

benefit for the company. Both criteria are met in the case of slots as already shown above with regard to the IFRS criteria. Because slots are intangible assets that have been acquired by the company and arise from legal rights they must, in general, be recognized according to SFAS 141.39. However, they must also meet the requirements of measurability, relevance and reliability stipulated by SFAC 5.63-77, to be recognized in the financial statements. The answer to the question of whether the value of the take-off and landing rights meet this criteria, depends on the way they are acquired. This will therefore be considered in Section 3.2, based on an analysis of the different ways in which the airline can attain slots.

According to the *German GAAP*, an intangible asset is a non-tangible, non-monetary item which can yield economic benefit autonomously to the company (without being combined with other assets) and which is clearly identifiable (Moxter, 1999, pp. 10-37; Bitz, Schneeloch, and Wittstock, 2003, pp. 142-143; Baetge, Kirsch, and Thiele, 2003, p. 144; para. 252 I No. 3 Handelsgesetzbuch (HGB)). Permission to trade take-off and landing rights (as in the United States and United Kingdom) or to use them in a lease agreement (as in the United States) meets the criterion of providing benefit autonomously. In the rest of the European Union, the requirement of providing benefit autonomously is met in an abstract sense, that is, the rights could be used separately, if law did not prohibit this. According to German GAAP, this abstract sense is sufficient for all take-off and landing rights, whether in the United States, United Kingdom or the rest of the European Union, to meet the criterion of providing benefit autonomously. The second requirement, that of indentifiability, stipulates that the item can be separated from the rest of the business in the case of a sale of the whole company. In other words, the item would not be part of the goodwill (Reichsfinanzhof, 1931). Because slots are

transferred to the buyer in the case of a corporate takeover and, being legal rights, clearly separable from goodwill, they meet the requirement of indentifiability. Hence, take-off and landing rights are assets, according to the German GAAP. However, additionally the recognition rules of para. 246 I and 248 II HGB must be adhered to. They stipulate that, in general, all assets must be recognized. The only exception are intangible assets with a long-term use that the company attained free of charge, for which recognition is not allowed. Because take-off and landing rights are intangible assets which are, in general, used long-term by the airline, the manner of their acquisition determines, whether or not they must be recognized in the financial statement.

As interim findings, it can be stated that IFRS, US-GAAP and German GAAP yield similar results with regard to the recognition of take-off and landing rights. However, especially IFRS and US-GAAP on the one hand, and German GAAP on the other hand, have different definitions of an asset and different recognition criteria. All three accounting systems judge slots as being “assets”, but in order to be recognized, they must meet further requirements. Whether these are fulfilled, depends on the manner in which the airline acquires the slots.

3.2 Recognition and initial measurement – depending on mode of acquisition

3.2.1 Acquisition free of charge

If the airline acquires take-off and landing rights free of charge from national authorities, the cost of the asset is zero monetary units. The recognition criterion of *IFRS*, which stipulates reliable measurement (IAS 38.21 (b)), is met in this case, but recognition would not take place, because the initial measurement would be at cost according to IAS 38.24, that is, at zero monetary units.

However, this general rule is in the case for take-off and landing rights substituted by the special rules IAS 38.44 and IAS 20.23. They stipulate that intangible assets which have been acquired from national authorities free of charge as a government grant, can be measured initially at fair value or a nominal amount. Take-off and landing rights are cited explicitly in this context as an example of how and where this rule must be applied. Parallel to the recognition of slots, the airline must present the grant in the balance sheet either by setting it up as deferred income or by deducting it in arriving at the carrying amounts of the slots (IAS 20.24-27).

The *US-GAAP* also stipulate initially measuring intangible assets generally at cost (SFAS 141.5-7). However, for intangible assets acquired free of charge from national authorities, SFAS 116.8 applies, which states that they must be measured at their fair value. According to SFAS 116.19, quoted market prices are the best evidence of fair value. If such prices are not available, the fair value should “be estimated based on quoted market prices for similar assets, independent appraisals, or valuation techniques, such as the present value of estimated future cash flows”. However, in spite of this general possibility to initially measure slots that were acquired free of charge at their fair value, they are not recognized in the US-GAAP statement (AICPA, 2003, para. 3.126-129). This can be explained by means of recognition requirements that are not met, because the reliability stipulated by SFAC 5.75-77 is doubtful in the case of measuring slots that have been acquired free of charge at their fair value. Measuring such slots at their fair value is hampered by severe difficulties. The first is, that, because slots are not traded in an active market, but bought and sold sporadically between airlines, market prices only develop from time to time (Starkie, 1998; United States General Accounting Office, 1999; Civil Aviation Authority, 2004). Furthermore, take-off and landing rights are not homogeneous items, so that it is

problematic to derive the fair value of a slot from the market price of a different slot. Slots lack homogeneity, because the potential economic benefit and therefore value of take-off and landing rights depends on the airport for which they are valid (for example, hub versus spoke airport), the time of the day for the slot (peak versus off-peak) and the category of aircraft that can be operated in the slot (commuter versus carrier slot) (Starkie, 1998, p. 113; Ewers et al., 2001; Kilian, 2004, p. 6). The estimation of fair value based on a present value technique must also face several severe challenges, because the airline cannot gain any cash flow by operating only a single slot. In fact, in addition to a take-off right at airport A, it needs a landing right at airport B. Also, to enable the aircraft to fly back home, a take-off right at airport B and a landing right at airport A are needed (or even more slots, if the airline does not fly back directly from B to A but, for example, from B via C back to A). That is, in order to estimate the fair value with the aid of a present value technique, even for the most simple case, it is generally necessary to consider a bundle of at least four slots (airport A: take-off and landing, airport B: landing and take-off) and to measure the value of this bundle, which, afterwards, must be allocated to the respective slots combined in the bundle (Ewers et al., 2001, p. 15; Olbrich and Brösel, 2005, pp. 2-3).

Furthermore, in the financial statement according to the *German GAAP*, slots that have been acquired free of charge are not recognized. If, on the one hand, the airline plans a long-term use of the take-off and landing right – which will usually be the case – the slots are subject to the rule that prohibits recognizing intangible assets that have been acquired free of charge (para. 248 II HGB). If, on the other hand, only short-term use is intended, the slots are not subject to para. 248 II HGB, but they are nevertheless not recognized, because they would have to be measured at cost (para. 253 I 1 HGB) which amounts to zero monetary units.

The above comparison of the three proceedings shows that the US-GAAP and German GAAP lead to identical results with regard to slots acquired free of charge, because in neither accounting system are they recognized in the financial statement. In contrast to this outcome, the IFRS stipulate that such slots must be recognized, but they give the airline the option of measuring the rights either at their fair value or at a nominal value. None of these different proceedings according to US-GAAP, German GAAP and IFRS is clearly advantageous from the point of view of the statement users. On the one hand, not recognizing the slots or measuring them at a nominal value, leads to considerable hidden reserves. This becomes clear, given the facts that one single slot can be traded on the market at price of up to several million US Dollars, and that an airline can possess – depending on its company size – up to several hundred slots (Borenstein, 1992; Kilian, 2004). On the other hand, if take-off and landing rights are measured at their fair value, as allowed according to IFRS, the statement users must face the challenge of judging whether the values can be interpreted as correct and are therefore useful in making decisions. As mentioned above, estimating the fair value of a slot is extremely difficult, which creates substantial latitude in terms of measurement for the reporting airline.

3.2.2 Purchase

It was already shown in Section 2.2, that an airline can purchase slots in two ways. Firstly, in the United States and the United Kingdom, it can buy them as single items (slot trade). Secondly, it can purchase them by taking over another airline. In the *IFRS* statement, slots that are acquired via trade must initially be measured at cost (IAS 38.24). If they are purchased as part of a corporate takeover, their initial measurement must be at fair value (IAS 38.33). The estimate of

fair value should be based on quoted market prices or, if these are unavailable, on the price of the most recent similar transaction (IAS 38.39). If such data does not exist, fair value must be estimated with the aid of prices of similar assets or by means of present value techniques (IAS 38.40-41).

Also in the financial statement according to *US-GAAP*, take-off and landing rights purchased via slot trade, are measured initially at cost (SFAS 141.5-7). Intangible assets acquired in a corporate takeover are measured at fair value (SFAS 141.35 and 37.e), if they arise from contractual or other legal rights or if they are separable (SFAS.141.39). Slots do arise from legal rights, that is, they must be measured initially at fair value when they were acquired via the takeover of another airline.

The *German GAAP* stipulate that slots acquired through trade must be measured at cost (para. 253 I 1 HGB) and those received in a corporate takeover at fair value (para. 255 IV HGB). The estimation of fair value must be based on the purchase prices of identical or similar take-off and landing rights that can be observed in the market (Knobbe-Keuk, 1993, pp. 197-199; Wohlgemuth, 1993, col. 493-494).

In contrast to the case of take-off and landing rights acquired free of charge, purchased slots are recognized in all three accounting systems. They are measured at cost when bought in a trade and at fair value when received in a corporate takeover. The severe problem of hidden reserves does not occur in this situation, but it is difficult for the financial statement users to judge, whether the fair value estimation of slots acquired in a takeover is reliable. That is, the reporting

airline has a wide latitude for measurement here, similar to the one when initially measuring slots acquired free of charge in the IFRS financial statement.

3.2.3 Exchange

If an airline acquires a take-off and landing right in an exchange, the slot received is measured in the *IFRS* statement at the fair value of the slot surrendered. If, in addition, a payment is made between the exchange partners, the measurement is adjusted by this amount. That is, if the airline not only surrenders a slot, but also pays for the slot it receives in return, this slot is measured at the fair value of the surrendered one plus the amount paid. Conversely, if the airline received a payment, this must be deducted from the fair value of the slot given up. However, the principle that the fair value of the asset surrendered is the relevant one for measurement is not valid if the fair value of the asset received can be measured more reliably. If this is the case, the received slot is initially measured at its own fair value (IAS 38.45 and 47).

The initial measurement according to *US-GAAP* is similar to that in the IFRS statement. APB-Opinion 29.18 stipulates that an asset received must be measured at its own fair value or the fair value of the asset surrendered, depending on which of the magnitudes is easier to determine. However, APB-Opinion 29.20 restricts this rule inasmuch as an asset acquired in an exchange must not be measured at fair value if the fair value is not determinable within reasonable limits. In this case, the asset received must be measured at the recorded amount of the asset transferred from the enterprise (APB-Opinion 29.26). In Section 3.2.1 it has already been shown, slots acquired free of charge are not recognized in the US-GAAP statement, because the fair value cannot be measured reliably. Therefore, if a slot acquired free of charge is surrendered in an

exchange, the take-off and landing right received is generally not recognized. The fair value of the slot given up cannot be measured reliably, and, in general, this also applies to the slot received. That is, a slot acquired in an exchange can only be recognized, if a slot received in a trade or corporate takeover is transferred from the enterprise. Its fair value or, if this is not determinable within reasonable limits, its recorded amount, is the magnitude on which the initial measurement of the slot received must be based. However, an exception to this rule might be possible, if the airline receives a take-off and landing right in the exchange, which the transaction partner had been purchased. In such a constellation, a market price is available on which the fair value measurement can be based, especially if the purchase was relatively recent and if there have not been significant changes in economic circumstances since that time.

The *German GAAP* stipulate that a slot acquired in an exchange must be measured at the recorded amount of the slot given up by the enterprise. If the airline made (received) an additional payment, the recorded amount must be increased (decreased) by this cash flow (Knobbe-Keuk, 1993, pp. 166-167; Baetge, Kirsch, and Thiele, 2003, p. 174). As mentioned in Sections 3.2.1 and 3.2.2, only purchased take-off and landing rights and not those acquired free of charge, are recognized in the German GAAP statement. Therefore, a slot received in an exchange can only be recognized if the surrendered slot had been purchased. If it was acquired free of charge, there is no recorded amount, and, consequently, if it is surrendered in an exchange, the slot received cannot be recognized.

A comparison of the three accounting systems shows that a slot received in an exchange must be recognized and measured at fair value in the IFRS financial statement. US-GAAP and German

GAAP, however, only allow the airline to recognize those take-off and landing rights for which slots that were purchased in the past are surrendered, because only in this constellation does the measurement meet the requirement of reliability. The US-GAAP make an exception to this rule, because the fair value can be measured within reasonable limits, if the slot received had been purchased by the exchange partner. In other words, the US-GAAP rule takes a position somewhere between IFRS and German GAAP, albeit closer to the German position than that of the IASB.

3.2.4 Lease

If the airline receives the take-off and landing right through a lease, this transaction can be designed, as already mentioned in Section 2.2, as either a financial lease or an operating lease. In a financial lease, substantially all the risks and rewards incidental to ownership of the asset are transferred to the lessee. This is the case, for example, if the lease term is for the major part of the economic life of the asset or if the ownership of the asset is transferred to the lessee at the end of the lease term. Conversely, agreements are classified as operating leases, if substantially all the risks and rewards incidental to ownership remain with the lessor. This applies, for example, to an agreement with a short lease term and without a transfer of ownership of the asset to the lessor at the end of the lease term (IAS 17.7-19; SFAS 13.7; Bitz, Schneeloch, and Wittstock, 2003, pp. 211-214). According to *IFRS*, a take-off and landing right that an airline receives in a financial lease is recognized in the balance sheet of this airline. The initial measurement is at fair value or, if lower, the present value of the minimum lease payments. A liability must be recognized at an equal amount (IAS 17.20). In the case of an operating lease,

the slot does not enter into the lessee's balance sheet. Only the lease payments are recognized as expenses in the income statement (IAS 17.33).

The *US-GAAP* stipulate a proceeding similar to the IFRS. In the case of an operating lease, the slot is not recognized in the lessee's balance sheet, but the lease payments for the slot are recognized as expenses in the income statement (SFAS 13.15). If the agreement is designed as a financial lease – which, in US-GAAP, is called a “capital lease” from the lessee's point of view (SFAS 13.6) – the slot must be recognized in the lessee's balance sheet. Initial measurement must be at the present value of the minimum lease payments during the lease term (excluding the portion of payments representing executory costs) or, if lower, at fair value. An obligation must be recognized at an equal amount (SFAS 13.10). Although the US-GAAP and IFRS rules concerning leased take-off and landing rights seem very similar at first glance, an important difference in initial measurement becomes obvious when taking a closer look. As shown in Section 3.2.1, the US-GAAP regard an initial measurement at fair value of slots acquired free of charge as unreliable. If the lessor received the take-off and landing right himself free of charge from national authorities, the lessee faces the same problems of fair value measurement as in the situation of having himself received the slot free of charge from the state. Hence, in such a case, an initial measurement at the present value of the minimum lease payments will always be necessary. However, a different constellation prevails, if the lessor purchased the slot in the past or received it by surrendering a purchased slot. The price that was paid can then be used as a basis for estimating the fair value, which then can be compared with the present value of the minimum lease payments.

Also according to the *German GAAP*, the take-off and landing right received in an operating lease is not recognized in the lessee's balance sheet. Only the lease payments are recorded as expenses in the income statement. In the case of a financial lease, the lessee must recognize the slot and initially measure it at the lessor's cost which was used as the basis for calculating the lease payments. A liability must be recorded at the same amount (Döllerer, 1971; Knapp, 1971; Knobbe-Keuk, 1993, pp. 80-81). It was shown in Sections 3.2.1, 3.2.2 and 3.2.3, that a slot is recognized in the German GAAP financial statement only in two cases. Firstly, if the airline purchased the slot, secondly, if it received the slot in an exchange by surrendering a purchased slot. Only if the lessor acquired the take-off and landing right in one of these two ways, can its cost be identified and therefore recorded by the lessee when recognizing the leased slot in his balance sheet. If, on the other hand, the lessor acquired the slot free of charge from national authorities, it cannot be recorded at cost in the lessee's balance sheet. The financial lease agreement must then be recorded as an operating lease, that is, only the lease payments enter as expenses into the income statement.

By comparing the accounting systems, it becomes obvious that they treat the operating lease of slots identically, but the financial lease differently. In IFRS, it is always necessary to compare the present value of the lease payments and the slot's fair value. In US-GAAP, this comparison will often not occur, because the fair value is only regarded as reliably measurable, if the lessor purchased the slot or received it by surrendering a purchased slot in an exchange. The German GAAP stipulate recording the take-off and landing right in the lessee's balance sheet at the lessor's cost. If he acquired the slot free of charge, a recognition in the lessee's balance sheet is not possible, that is, the transaction must be recorded as an operating lease. In this constellation,

the financial statement users face the problem that the lessee reports an operating lease, although lessor and lessee in fact agreed on a financial lease. Table 2 provides an overview of slot recognition and initial measurement.

TABLE 2 ABOUT HERE

4. Measurement after initial recognition

4.1 Amortization

In the *IFRS*, the reporting enterprise can choose between two models of measurement after recognition. There is the cost model, in which the asset is carried at its cost less any accumulated amortization and any accumulated impairment losses. Secondly, the revaluation model stipulates that the asset is carried at a revalued amount, being its fair value less any subsequent accumulated amortization and impairment losses (IAS 38.72-75). Because the latter requires an active market for the asset, which does not exist for take-off and landing rights (as explained in Section 3.2.1), slots must be measured after recognition according to the cost model. In this context it is questionable, whether slots have a finite useful life and must therefore be amortized. Some airlines assume a finite useful life and amortize take-off and landing rights in the *IFRS* financial statement. British Airways, for example, amortizes its slots over a period of up to 20 years (British Airways, 2005). However, it is doubtful that the assumption of a finite useful life always corresponds to reality. IAS 38.88 stipulates that an intangible asset's useful life shall be regarded as indefinite "when, based on an analysis of all of the relevant factors, there is no foreseeable limit to the period over which the asset is expected to generate net cash inflows for the entity". Due to the grandfather rights after the second scheduling season, the airline obtains

its slots in every future season, if it meets the requirements of the “use or lose” rule. Furthermore, one cannot assume in general that the cash inflows generated by a slot will run dry after a certain number of years in the future. Air traffic is growing steadily and faces, especially in the European Union (due to tight public budgets and intensified obligations with regard to environmental protection and noise prevention), a very limited extension of airport capacities, so that slot values will increase rather than decrease in the future (Lévêque, 1998; Abeyratne, 2000; Ewers et al., 2001). And even if an airline plans to withdraw from a certain airport, due, for example to a restructuring of its route network, it is often still able to use its valid slots at this airport through sale, lease or exchange against slots at a different airport (the best-known example of such a use of take-off and landing rights is the so called “Guernsey case” (High Court, 1999)). However, an amortization is appropriate, if the airline received the slot in a financial lease and must return it to the lessor at the end of the lease term. Because the leased asset must be amortized over the shorter of either the lease term or its useful life, according to IAS 17.28, the amortization period must be the lease term in such a case.

Also according to *US-GAAP*, intangible assets with an indefinite useful life must not be amortized (SFAS 142.11). However, take-off and landing rights *are* generally regarded as assets with a finite useful life and therefore subject to amortization. In the financial statements of various American airlines, amortization periods as long as 25 years can be found (AMR Corporation, 2005; US Airways Group, 2005), but also as short as two to five years (UAL Corporation, 2005). Especially with regard to take-off and landing rights at United States airports, a finite useful life is assumed, because they can only be used as long as the airline holds gate facilities at the airport for which they are valid (United States General Accounting Office,

1999; Dresner, Windle, and Yao, 2002). These facilities are often leased by the airline over a period of about 20 years (United States General Accounting Office, 1999, p. 16), so that the useful life of the slots is regarded as being finite over this period of time (AcSEC, 2004). At first glance, the connection between take-off and landing rights and the finitely useable gate facility justifies the assumption of a finite useful life of the slot. However, on closer examination, it becomes clear, that the use of the slot after the end of the lease term must be considered, as explained in the above IFRS case. If the take-off and landing right reverts back to national authorities at the end of the gate facility lease term, complete amortization is the correct approach. If, instead, the airline is able to sell the slot, exchange or lease it, the residual value that could be gained in such a transaction must be estimated. An amortization is then only justified for the amount initially assigned to the slot, less its residual value (SFAS 142.13). An amortization is also appropriate, if, due to a capital lease, the airline records the take-off and landing right in the balance sheet. If the ownership of the slot will not be transferred to the airline at the end of the lease term and the airline does not hold an option to buy the slot, it must be amortized over the lease term to its residual value (SFAS 13.11b).

In the *German GAAP*, take-off and landing rights are generally regarded as assets with an indefinite useful life, which must not be subject to amortization (Bundesfinanzhof, 1963; 1970). Slots at United States airports are excepted from this rule, if their use is linked with the lease term of the gate facilities. However, only the difference between the amount initially assigned to the slot and its residual value (due to a sale, exchange or lease at the end of the useful life) can be amortized (Bitz, Schneeloch, and Wittstock, 2003, pp. 263-264). An amortization is justified, if

the airline acquired the slot through a financial lease and will return it to the lessor at the end of the lease term. The amortization period then equals the lease term.

In summary, one can make the point that, in all accounting systems, an amortization is only justified for slots at United States airports and for financial leases in which the slot ownership is not transferred to the lessee at the end of the lease term. The amortization of all take-off and landing rights, which can be found in the IFRS financial statements of some airlines, is problematic from the point of view of the statement users, because the slots' useful life is indefinite and their value is more likely to increase rather than decrease, especially in the European Union. Amortizing all slots thus leads to a gradual creation of hidden reserves in the balance sheet. However, it is sensible to amortize those take-off and landing rights which are connected with gate facilities that have a finite useful life. Nonetheless, the airline must assess whether the slots can be sold, exchanged or transferred in a lease agreement at the end of their useful life. If this is the case, only the difference between the initial amount and the residual value should be amortized. The estimation of future residual value creates a certain measurement latitude for the airline, especially in German GAAP (in the case of IFRS and US-GAAP, the latitude is smaller because of the additional criteria of IAS 38.100 and SFAS 142.13 which must be met for assuming the residual value to be higher than zero).

4.2 Impairment

According to the *IFRS*, at each reporting date the enterprise must assess whether there is any indication that an asset may be impaired. Furthermore, intangible assets with an indefinite useful life are tested annually for impairment, irrespective of whether there is any indication of such

impairment (IAS 36.9-10). With regard to take-off and landing rights, such indications may either take the form of incidents that impede all air traffic and therefore reduce the value of all slots, such as terrorist attacks. On the other hand, incidents can occur that affect only a group of slots at a certain airport or in a certain region. This is the case, for example, if another airport is built that will compete with the existing one for which the slots are valid and cause a decrease in passenger and freight quantities for the latter.

In order to assess whether a take-off and landing right is impaired, its carrying amount must be compared with its recoverable amount. The recoverable amount is the higher of the slot's fair value less costs to sell and its value in use (IAS 36.18). The best evidence of the asset's fair value less costs to sell is the price in a binding sale agreement in an arm's length transaction. If there is no such agreement, the estimation of the fair value should be based on the slot price in an active market, or the price of the most recent transaction or the prices of similar assets (IAS 36.25-27). The estimation of fair value is associated with considerable difficulties, because there are generally no binding sale agreements. Furthermore, as stated in Section 3.2.1, slots are not traded on active markets, and deriving the fair value from the prices of similar slots is problematic, because take-off and landing rights differ considerably with regard to their particular characteristics.

The value in use is calculated as the present value of the estimated future cash flows that the airline expects to derive from the take-off and landing right (IAS 36.30). Its estimation is as difficult as that of fair value, because the future cash flows are uncertain and must be forecasted by the airline. Additionally, the problem occurs, that, as mentioned in Section 3.2.1, the value in

use cannot be calculated for a single take-off and landing right. Instead, it must be determined with regard to a “cash generating unit” (IAS 66-68), comprising at least four slots (two for a flight from A to B and two to fly back), the aircraft used in this operation, and, if necessary, additional assets, such as, for example, gate facilities (Ewers et al., 2001, p. 15; Olbrich and Brösel, 2005, pp. 2-3). If the impairment test shows that a slot’s carrying amount exceeds its recoverable amount, the slot is impaired, and the airline must recognize the impairment loss immediately in profit or loss (IAS 36.60).

Also according to the *US-GAAP*, slots with an indefinite useful life must be tested for impairment at least annually (SFAS 142.17), and also those with a finite useful life when circumstances indicate that the slot’s carrying amount may not be recoverable (SFAS 144.8). In the case of a take-off and landing right that is not amortized, its fair value is compared with its carrying amount. If the latter exceeds the fair value, the airline must recognize an impairment loss in an amount equal to that excess (SFAS 142.17). The carrying amount of a take-off and landing right with a finite useful life is not recoverable, if it exceeds the sum of undiscounted cash flows that the airline expects to derive from its use in the future. In this case, the enterprise must recognize an impairment loss as the amount by which the slot’s carrying amount exceeds its fair value (SFAS 144.7).

The measurement of fair value should be based on quoted prices in active markets, the prices for similar assets or a present value technique (SFAS 142.23-24, SFAS 144.22-23). The present value (and also the undiscounted sum of future cash flows according to SFAS 144.16-21) must be determined for an “asset group”, which includes, as mentioned with regard to the “cash

generating unit” in IFRS, at least four slots, the aircraft used in the operation and, if necessary, additional assets such as gate facilities. The problems associated with a reliable determination of the fair value and the future cash flows that will derive from the use of the slot therefore occur to the same extent in the US-GAAP impairment test as in that according to IFRS.

The *German GAAP* stipulate that an impairment loss be recognized, if the slot’s carrying amount exceeds its fair value (para. 253 II, III and 279 I HGB). The airline must compare these two magnitudes only if circumstances indicate that the take-off and landing rights might be impaired. The fair value must be determined on the basis of purchase prices of identical or similar slots that can be observed in the market (Knobbe-Keuk, 1993, pp. 197-199; Wohlgemuth, 1993, col. 493-494). Estimation with the aid of a present value technique is not possible, because as explained above this requires a unit of several slots, the aircraft and, if necessary, further assets. The German GAAP, however, stipulate that every asset must be measured separately, a measurement of a group of assets is not allowed (para. 252 I No. 3 HGB).

The comparison of IFRS, US-GAAP and German GAAP indicates similarities as well as differences between the accounting systems. The German GAAP do not stipulate a formal impairment test, but require a comparison between carrying amount and fair value, only if circumstances indicate an impairment. According to IFRS and US-GAAP, slots with an indefinite useful life must be tested for impairment at least annually, and amortized slots as well, but only if circumstances indicate an impairment. The IFRS stipulate an impairment test in which the airline must always compare the fair value and value in use and must reduce the carrying amount to the higher of these two magnitudes. The US-GAAP, as compared to the

IFRS, in the case of an indefinite useful life, require a comparison only between carrying amount and fair value, similar to the German GAAP. When testing slots with a finite useful life, a two-step process is applied, in which the carrying amount is compared firstly, with the undiscounted sum of future cash flows and secondly, with the fair value. For the financial statement users, the impairment rules of all three accounting systems cause assessment difficulties, whether or not the impairment is justified with regard to its cause and amount. These difficulties arise, because the estimation of fair value as well as of future cash flows that derive from the slots, lead to a large degree of latitude in measurement for the reporting airline.

4.3 Reversal of an impairment loss

If the airline has recognized an impairment loss in the *IFRS* financial statement, it must assess on each reporting day, whether there is any indication that this impairment may no longer exist or have decreased (IAS 36.110). If the recoverable amount has increased since the impairment loss was recognized, the carrying amount must be increased to its recoverable amount (IAS 36.114, 117, 119). The *US-GAAP*, as opposed to the *IFRS*, prohibit the airline from reversing an impairment loss of both slots with an indefinite or a finite useful life (SFAS 142.17, SFAS 144.7). The *German GAAP* correspond with the *IFRS*, because they stipulate that an impairment loss must be reversed to the extent to which the recoverable amount has increased since the impairment loss was recognized (para. 280 I HGB).

From the financial statement users' point of view, the duty to reverse an impairment loss, which results from the aspect of "relevance", as well as the prohibition from such a reversal, the latter being an outcome of "reliability", is associated with certain problems. Because the airline has a

large degree of latitude when measuring a decrease in the recoverable amount, it also has the same latitude when measuring an increase. When reversing an impairment loss, the latter can be used in the IFRS as well as in the German GAAP financial statement. In the US-GAAP financial statement, there is no such latitude, due to the prohibition of reversing an impairment loss. Here, however, the financial statement users must face the problem that hidden reserves are created if take-off and landing rights are impaired due to circumstances which are only temporary. Examples of such a situation are an airport staff strike or a terrorist attack that lessen turnover for a short time. Table 3 provides an overview of measurement after initial recognition.

TABLE 3 ABOUT HERE

5. Conclusions

The analysis demonstrates that there are clear differences between IFRS, US-GAAP and German GAAP with respect to the recognition and measurement of intangible assets arising from government grants. They are manifest especially in four areas: Firstly, slots acquired free of charge can be measured at fair value according to IFRS, whereas US-GAAP and German GAAP prohibit the airline from doing this. While the IFRS pursue an accounting approach based on the criterion of “relevance”, the US-GAAP and German GAAP stress the aspect of “reliability”. Secondly, the same scenario occurs with regard to the initial measurement of slots acquired in an exchange. For reasons of relevance, the IFRS stipulate measurement at fair value, whereas the US-GAAP and German GAAP for reasons of reliability orientate towards a price paid in a purchase that preceded the exchange. Thirdly, with regard to accounting for take-off and landing rights acquired through a financial lease, the US-GAAP take a position between that of the IFRS,

which stresses relevance, and that of the German GAAP, which is based on reliability. Fourthly, the duty to reverse an impairment loss according to IFRS and German GAAP is an outcome of the relevance aspect, whereas the US-GAAP prohibit the airline from reversing an impairment loss due to reliability. Table 4 provides an overview.

TABLE 4 ABOUT HERE

The outcomes of the analysis confirm the findings of Stolowy, Haller, and Klockhaus (2001) with regard to accounting for brands according to IFRS, French and German GAAP:

1. The assumption that the “Anglo-American” accounting philosophy stresses the aspect of relevance, whereas the “Continental-European” one emphasizes “reliability”, cannot be confirmed in the case of intangible assets arising from government grants. It turns out that the US-GAAP give partial priority to reliability and the German GAAP are orientated partly towards relevance.
2. Between the two systems subsumed into one accounting philosophy, clear differences can be found (IFRS and US-GAAP). Between the systems belonging to different philosophies, there are similarities (between US-GAAP and German GAAP and between IFRS and German GAAP). It is therefore doubtful whether the clustering of accounting systems into “Anglo-American” and “Continental-European” accounting philosophies (Choi and Meek, 2005, pp. 48-60) is sensible, because this disguises existing disharmonies between accounting systems within one “philosophy cluster”, as well as harmonies between systems in different clusters.

In order to improve international accounting harmonization, it seems useful to provide additional information in the notes which decrease the differences with regard to “relevance” and “reliability”. For cases in which accounting is based on reliability, such as the prohibition from reversing an impairment loss according to US-GAAP, information about the fair value of the affected slots can be provided in the notes. The financial statement users gain information about slot values in this way, and reserves that would be hidden are revealed. For situations in which accounting emphasizes relevance, for example, when slots acquired free of charge are recognized and measured at fair value according to IFRS, information about the technique and the premises on which the valuation is based, should be provided in the notes. With the aid of this data, the financial statement users can form their own opinion as to whether the presented fair values are reliable.

References

- Abeyratne, R.I.R. (2000). Management of airport congestion through slot allocation. *Journal of Air Transport Management*, 6, 29–41.
- AcSEC (2004). *Discussion at Meeting January 27-28, 2004*.
aicpa.org/download/acctstd/2004_0427ag_iss2.pdf.
- AICPA (2003). *Airline Audit and Accounting Guide*, New York.
- AMR Corporation (2005). *Annual Report 2004*, Fort Worth.
- Baetge, J., Kirsch, H.-J., and Thiele, S. (2003). *Bilanzen* (7th ed.), IDW-Verlag, Düsseldorf.
- Balfour, J. (1997). Slots for Sale. *Air & Space Law*, 22, 109–113 (No. 3).
- Bass, T.C. (1994). Infrastructure constraints and the EC. *Journal of Air Transport Management*, 1, 145–150.
- Bean, L., and Jarnagin, B.D. (2001). Intangible Asset Accounting: How Do Worldwide Rules Differ?. *The Journal of Corporate Accounting & Finance*, 13, 55–65 (November-December).
- Bitz, M., Schneeloch, D., and Wittstock, W. (2003). *Der Jahresabschluss* (4th ed.), Vahlen, Munich.
- Borenstein, S. (1992). The Evolution of U.S. Airline Competition. *Journal of Economic Perspectives*, 6, 45–73 (No. 2).
- British Airways (2005). *Annual Report 2004/2005*, Harmondsworth.

- Brunovs, R., and Kirsh, R.J. (1991). Goodwill accounting in selected countries and the harmonization of international accounting standards. *Abacus*, 27, 135–161 (No. 2).
- Bundesfinanzhof (1963). Urteil vom 10.07.1963, IV 186/60 U. *Bundessteuerblatt III*, 1963, 501–502.
- Bundesfinanzhof (1970). Urteil vom 18.12.1970, VI R 99/67. *Bundessteuerblatt II*, 1971, 237–239.
- Choi, F.D.S., and Meek, G.K. (2005). *International accounting* (5th ed.), Prentice Hall, Upper Saddle River.
- Civil Aviation Authority (2001). *The Implementation of Secondary Slot Trading*. London, November 2001.
- Civil Aviation Authority (2004). *Introducing commercial allocation mechanisms: The UK Civil Aviation Authority's response to the European Commission's staff working paper on slot reform*. London, November 2004.
- Devine, C. T. (1985). Goodwill – The problem of unrecorded values. *Studies in Accounting Research*, 22, 91–101.
- Ding, Y., Entwistle, G., and Stolowy, H. (2004). International differences in research and development reporting practices: A French and Canadian comparison. *Advances in International Accounting*, 17, 55–72.
- Döllerer, G. (1971). Leasing – wirtschaftliches Eigentum oder Nutzungsrecht?. *Betriebs-Berater*, 26, 535–540.
- Dresner, M., Windle, R., and Yao, Y. (2002). Airport Barriers to Entry in the US. *Journal of Transport Economics and Policy*, 36, 389–405.

- Eckstein, C. (2004). The measurement and recognition of intangible assets: then and now. *Accounting Forum*, 28, 139–158.
- Ewers, H. et al. (2001). Möglichkeiten der besseren Nutzung von Zeitnischen auf Flughäfen (Slots) in Deutschland und der EU. Technische Universität Berlin.
- Golaszewski, R. (2002). Reforming air traffic control: an assessment from the American perspective. *Journal of Air Transport Management*, 8, 3–11.
- Harding, T. (1997). Brands from the standards setters' perspective. In: R. Perrier (Ed.), *Brand valuation* (3rd ed.) pp. 73–86, Premier, London.
- Hermes, O., and Jödicke, R. (2004). Bilanzierung von Emissionsrechten nach IFRS. *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung*, 4, 287–298.
- High Court (1999). Regina versus Airport Co-Ordination Ltd. *Business Law Europe*, 2–3 (No. 14).
- Høegh-Krohn, N. E. J., and Knivsflå, K. H. (2000). Accounting for Intangible Assets in Scandinavia, the UK, the US, and by the IASC: Challenges and a Solution. *The International Journal of Accounting*, 35, 243–265.
- Hommel, M., and Wolf, S. (2005). IFRIC 3: Bilanzierung von Emissionsrechten nach IFRS – mehr Schadstoffe im Jahresabschluss. *Betriebs-Berater*, 60, 315–321.
- IATA (2004). *Worldwide Scheduling Guidelines* (10th ed.), Montreal, Geneva, 2004.
- Kilian, M. (2000). Der Handel mit Slots – Die Entscheidung des High Court im Verfahren Regina vs. Airport Co-Ordination Ltd. *Transportrecht*, 23, 159–168.

- Kilian, M. (2004). *The development of the regulatory regime of slot allocation in the EU*.
Universität Köln.
- Knapp, L. (1971). Problematischer Leasing-Erlaß. *Der Betrieb*, 24, 685–691.
- Knobbe-Keuk, B. (1993). *Bilanz- und Unternehmenssteuerrecht* (9th ed.), Verlag Dr. Otto Schmidt, Cologne.
- Küting, K., and Wirth, J. (2004). Bilanzierung von Unternehmenszusammenschlüssen nach IFRS
3. *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung*, 4,
167–177.
- Lévêque, F. (1998). *Insights from micro-economics into the monetary trading of slots and
alternative solutions to cope with congestion at EU airports*. Ecole Nationale
Supérieure des Mines de Paris.
- Madas, M. A., and Zografos, K. G. (2006). Airport slot allocation: From instruments to
strategies. *Journal of Air Transport Management*, 12, 53–62.
- Moxter, A. (1999). *Bilanzrechtsprechung* (5th ed.), Mohr Siebeck, Tübingen.
- Olbrich, M., and Brösel, G. (2004). *Valuation of airport slots in airline managerial accounting
systems*. Fern-Universität Hagen.
- Pellens, B., Basche, K., and Sellhorn, T. (2003). Full Goodwill Method – Renaissance der reinen
Einheitstheorie in der Konzernbilanzierung?. *Zeitschrift für internationale und
kapitalmarktorientierte Rechnungslegung*, 3, 1–4.
- Powell, S. (2003). Accounting for intangible assets: current requirements, key players and future
directions. *European Accounting Review*, 12, 797–811.

- Reichsfinanzhof (1931). Urteil vom 21.10.1931, VI A 2002/29. *Reichssteuerblatt*, 1932, 305–308.
- Schellhorn, M., and Weichert, S. (2001). Ansatz und Bewertung von Forschungs- und Entwicklungskosten nach IAS 38 im Vergleich zu IAS 9. *Deutsches Steuerrecht*, 39, 865–868.
- Schmachtenberg, F., Meixner, P., and Schäfer, D. (2005). Die Folgebewertung von Mobilfunklizenzen nach HGB, IFRS und US-GAAP. *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung*, 5, 512–523.
- Starkie, D. (1994). Developments in Transport Policy – The US Market in Airport Slots. *Journal of Transport Economics and Policy*, 28, 325–329.
- Starkie, D. (1998). Allocating airport slots: a role for the market?. *Journal of Air Transport Management*, 4, 111–116.
- Stolowy, H., Haller, A., and Klockhaus, V. (2001). Accounting for brands in France and Germany compared with IAS 38 (intangible assets): An illustration of the difficulty of international harmonization. *The International Journal of Accounting*, 36, 147–167.
- Stolowy, H., and Jeny-Cazavan, A. (2001). International accounting disharmony: the case of intangibles. *Accounting, Auditing & Accountability Journal*, 14, 477–496 (No. 4).
- United States General Accounting Office (1999). *Airline Deregulation. Changes in Airfares, Service Quality, and Barriers to Entry*, Washington D.C.
- UAL Corporation (2005). *Annual Report 2004*, Chicago.
- US Airways Group (2005). *Annual Report 2004*, Arlington.

Walker, R.G., and Oliver, G.R. (2005). Accounting for Expenditure on Software Development for Internal Use. *Abacus*, 41, 66–91 (No. 1).

Wohlgemuth, M. (1993). Bewertung, handelsrechtliche. In: W. Wittmann, W. Kern, R. Köhler, H.-U. Küpper, and K. von Wysocki (Eds.), *Handwörterbuch der Betriebswirtschaft*, Vol. 1 (5th ed.) col. 482–500, Schäffer-Poeschel, Stuttgart.

Table 1

Ways of acquiring slots and their different national validities

Acquisition from national authority	Acquisition from other companies					
Acquisition free of charge	Exchange		Purchase		Lease	
	Without additional payment	With additional payment	Slot trade	Corporate take over	Financial	Operating
<i>European Union</i>	<i>United Kingdom</i>		<i>European Union</i>			
<i>United States</i>						

Table 2

Recognition and initial measurement

Recognition and initial measurement		IFRS	US-GAAP	German GAAP
<i>Qualification of slot as an asset</i>		Intangible asset		
<i>Acquisition free of charge</i>		Fair value or nominal value, recognition of grant at equal amount	No recognition	
<i>Purchase</i>	<i>Slot trade</i>	Cost		
	<i>Corporate takeover</i>	Fair value		
<i>Exchange</i>		Fair value of surrendered slot or received slot, if the latter can be measured more reliably	Fair value or recorded amount of surrendered slot (if purchased ex ante) or fair value of received slot (if purchased ex ante by the transaction partner)	Recorded amount of surrendered slot (if purchased ex ante)
<i>Lease</i>	<i>Financial</i>	Lower of present value of minimum lease payments and fair value	Lower of present value of minimum lease payments and fair value (if measurable reliably)	Cost of the lessor
	Recognition of a liability at an equal amount			
	<i>Operating</i>	No recognition in the lessee's balance sheet, only lease payments enter income statement as expenses		
<i>Problems for the statement users</i>		Wide latitude with regard to fair value measurement		
		Hidden reserves due to initial measurement at nominal value	Hidden reserves due to lack of recognition of slots acquired free of charge	
			In some cases, presentation of financial lease as operating lease	

Table 3

Measurement after initial recognition

Measurement after initial recognition	IFRS	US-GAAP		German GAAP
<i>Amortization</i>	Amortization of slots when combined with gate facilities or in the case of a financial lease without a transfer of ownership			
<i>Impairment</i>	Impairment test			Comparison between carrying amount and fair value
	Comparison between carrying amount and recoverable amount (higher of fair value less costs to sell and value in use)	Finite useful life Carrying amount is compared with sum of future cash flows and fair value	Indefinite useful life	
<i>Reversal of an impairment loss</i>	Yes	No		Yes
<i>Problems for the statement users</i>	Latitude in measurement with regard to amortization (estimation of residual value) and impairment (estimation of fair value and, in IFRS and US-GAAP, of future cash flows)			
	Latitude in measurement with regard to impairment loss reversal	Hidden reserves due to prohibition of impairment loss reversal		Latitude in measurement with regard to impairment loss reversal

Table 4

Main differences between IFRS, US-GAAP and German GAAP

Fields of differences	IFRS	US-GAAP	German GAAP
Recognition/initial measurement of slots acquired free of charge	Initial measurement at fair value/ nominal value <i>Relevance</i>	No recognition <i>Reliability</i>	
Initial measurement of slots acquired in an exchange	Fair value of surrendered slot or received slot <i>Relevance</i>	Fair value or recorded amount of surrendered slot (if purchased ex ante) or fair value of received slot (if purchased ex ante by the transaction partner) <i>Reliability</i>	Recorded amount of surrendered slot (if purchased ex ante) <i>Reliability</i>
Initial measurement of slots acquired in a financial lease	Lower of present value of minimum lease payments and fair value <i>Relevance</i>	Lower of present value of minimum lease payments and fair value (if reliably measurable) <i>Relevance/Reliability</i>	Cost of the lessor <i>Reliability</i>
Reversal of an impairment loss	Yes <i>Relevance</i>	No <i>Reliability</i>	Yes <i>Relevance</i>