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**Changing from German GAAP to IFRS or US GAAP:
Objectives and achievements
– An empirical survey of German companies –**

Working Paper 1 / 2004

– Arbeitspapiere Industrielles Management und Controlling –

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JEL-Classification: M41

We would like to thank two anonymous referees for helpful comments and discussion

Angenommen in: Accounting in Europe, Special volume edited by the European Accounting
Association, Summer 2004

Changing from German GAAP to IFRS or US GAAP: Objectives and achievements

– An empirical survey of German companies –

Since 1993 an increasing number of listed German companies have been publishing their consolidated financial statements in accordance with either IFRS or US GAAP. In 1998 this was approved as a substitute for the consolidated German GAAP financial statements of listed companies (§ 292a HGB). Our study surveys the motives that led these companies to opt for international reporting systems (IFRS or US GAAP) rather than German GAAP and considers whether these objectives have been achieved. Rather surprisingly, we find that even though companies state that their overall expectations have been met to a satisfactory degree, a detailed analysis shows that several of the ex ante objectives have not been achieved from an ex post point of view. Additionally, we use logistic regression analysis to show that companies choosing IFRS rather than US GAAP and vice versa differ distinctly in the objectives they pursue with their choice of international GAAP.

I. Introduction

Nearly a decade has passed since the first German company began publishing its consolidated financial statements according to an international GAAP regime, namely IFRS or US GAAP. However, until EU Regulation No. 1606/2002 was published there had been no clear tendency in favor of one of these two international types of GAAP. The following paper discusses three major empirical questions.

- First, we consider in detail the objectives German companies have pursued in publishing their consolidated financial statements in accordance with either IFRS or US GAAP.
- Second, we assess how far these objectives have been achieved from the companies' point of view.
- Third, we analyze whether the motives for choosing one of the two international reporting systems rather than the other are in accordance with strictly discriminating preferences considering the objectives that motivated the use of a particular GAAP regime.

To date, the accounting literature has not provided an in-depth analysis of these research questions. Even though there have been several papers on accounting choice, e.g. Ball et. al. (2000), these cover the general legal environment and other institutional factors to which all companies in a given setting are subject to, but not companies' individual objectives. Moreover, these papers cover a wide range of countries and therefore do not provide an in-depth analysis of the specific situation in Germany. Leuz and Verrecchia (2000) have discussed the effects on German companies of changing to an international GAAP regime, but their empiri-

cal analysis does not extend to companies' motives for this change. German papers by Krawitz et al. (2000) and by Spanheimer and Koch (2000) are the first empirical studies of the process of adaptation to international GAAP regimes by German companies. Yet they focus merely on a descriptive record and there is only some explorative documentation on the motivation for adopting either IFRS or US GAAP. Both papers find that the prime motives for German companies were the need to meet capital market expectations together with a desire for increased international comparability of their respective financial statements.¹

The research questions raised in this article have to be viewed together with EU Regulation No. 1606/2002, which makes consolidated financial statements prepared under IFRS mandatory for capital-market-oriented companies with effect from 2005. The decision, therefore, on whether to change to an international GAAP regime and, if so, to which type, is no longer subject to listed companies' discretion but depends on whether the US or the European capital market is used. Nevertheless, this important institutional development has no impact on either the execution or the relevance of our study.

First, our study was conducted between September 2000 and February 2001. At that time, there had already been an announcement in May 2000 by the EU Commission with regard to the possible implementation of an EU regulation making IFRS mandatory. On the other hand, there had been an SEC discussion paper in late 2000 regarding the possible acceptance of IFRS in the US. Therefore, joint acceptance of IFRS and US GAAP in both the European Union and the US was a plausible future development, just as the exclusion of US GAAP for European capital-market-oriented companies which had come into effect by 2002. In our opinion, companies' decisions to switch from German GAAP to either IFRS or to US GAAP at that time were not influenced by foreseeable institutional regulation. This notion is supported by the fact that the number of companies using IFRS and US GAAP at that time shows no clear bias towards one or the other.²

Second, our results show that not only have several objectives pursued by changing to either IFRS or US GAAP not been achieved from an ex post point of view, but also that there are marked differences in the motives of IFRS and US GAAP users with regard to the use of an international GAAP regime. Even under the existing EU regulation, these results are useful to European companies that are planning to use IFRS as the main GAAP regime in the near future, as well as to companies intending to prepare two sets of financial statements, i.e. according to both IFRS and US GAAP. The results indicate that a change to a given GAAP regime does not suffice in itself as a means to pursue a set of given goals. They also show that there is consistent reasoning with regard to attitudes and objectives on the part of companies adopting either IFRS or US GAAP, which may serve as a guideline for the future decision-making of companies contemplating the use of the US capital market. Moreover, our results are also relevant for further analysis of the choice of accounting systems. There is a striking divergence between analytical reasoning (what one would expect) and business reality (what is actually perceived) with regard to companies' objectives in changing to international GAAP and this aspect must be explored in more detail.

The structure of our paper is as follows: in section 2 of our paper we shall establish the objectives companies might follow in adopting an international GAAP regime from an analytical point of view. Section 3 presents the empirical research design and conception of our study. Section 4 discusses the first and the second research questions, i.e. the ex ante and the ex post evaluation of objectives pursued in changing from German GAAP to IFRS or US GAAP. Section 5 first discusses on an analytical basis the arguments that are relevant for the choice of IFRS rather than US GAAP and vice versa and then empirically analyses the third

research question of whether a concise differentiation of companies adopting IFRS or US GAAP is possible with respect to their underlying objectives.

II. Objectives pursued by changing from German GAAP to IFRS or US GAAP: an overview

The objectives pursued by German companies in changing from German GAAP to an international GAAP regime fall into two groups. On the one hand, there are objectives which apply directly to a company's relationship with investors and the capital market. These we shall therefore refer to as financial objectives. On the other hand, there are objectives that primarily target other groups of stakeholders, which we shall refer to as operating objectives.

It should be noted that besides these two groups there are two overriding factors that must be taken into account when discussing the objectives involved in a change in the GAAP regime.

First, some companies did not choose to adjust of their own free will but were obliged to do so as a consequence of their lack of independence, i.e. the obligation to follow a group consolidation of the parent using either IFRS or US GAAP. Such companies have been eliminated from our analysis.

Second, since 1997 the use of international reporting systems has been a precondition for listing in only one specific stock market segment, i.e. the *Neuer Markt* in Germany.³ This is taken into account by segmenting the data base in our analysis into the two relevant types of stock market segments, i.e. *DAX100* vs. *Neuer Markt*.

1. Financial objectives

The financial objectives pursued in changing to an international GAAP regime can be summarized as follows:

- Fulfillment of capital market expectations to a higher degree
- Improvement of comparability to industry peers
- Increased diversification of investor community
- Internationalization of investor community
- Increased attractiveness for institutional investors
- Planning of a foreign listing
- Reduction of the cost of equity
- Enhancement of credit rating

International reporting systems such as IFRS or US GAAP are viewed as capital-market-oriented systems whose main feature is the supply of relevant information for investors. Extensive reporting obligations as well as requirements of fair presentation and decision usefulness result in a more transparent exposure of the economic situation of a company compared to German GAAP, which in contrast are characterized by creditor protection, limitations on profit distribution and linkage with tax-reporting requirements, making both the balance sheet as well as the income statement less informative for investment decisions (Breker et al., 1999: 148; Niehus and Thyll, 2000: 558).

Comparison with peer-group firms plays a major role in the context of company financial analysis. In most cases, ratios derived from the analysis of financial statements can be interpreted thoroughly only with reference to the respective industry sector (Ordelheide, 1998: 16; Auer, 1999: 378): The better a company can be analyzed against its peers, the more useful are the reported data to its investors. Particularly in industry sectors where companies are compared with international peers, such comparison is enhanced by reporting in accordance with IFRS or US GAAP.

Another objective that may determine the decision to switch to an international GAAP regime is the desire to enlarge and diversify the investor community. It is assumed that this will both create greater interest in the company's shares and reduce share price volatility, thereby improving the stock market performance of the shares. This objective is also important if a company plans to issue new stocks or bonds in future periods (Förschle et al., 1998: 2281).

Moreover, a company might not only want to diversify its investor base in its home country but also abroad. One reason may be the fact that its domestic capital market is too limited for current or future capital needs.⁴ Another aim is the reduction of stock price volatility by scattering investors geographically. The use of international GAAP is usually a sine qua non if foreign investors are to be attracted (Weißenberger, 2002: 184). Companies may also use a change to a GAAP regime in order to prepare a listing on a foreign stock exchange. Any company desiring a US listing is obliged to change from German GAAP to US GAAP or provide at least a reconciliation to US GAAP as on the US capital markets only US GAAP are accepted for the publication of financial statements.

Additionally, institutional investors play a specific role within the investor community. Important members of this group are, for example, Anglo-Saxon pension funds with considerable volumes of investment as well as insurance companies or investment funds. Institutional investors are a relevant investor group from a capital-market standpoint as they usually trade substantial volumes of shares. Moreover, they typically follow long-term investment strategies that have a stabilizing effect on stock and bond prices. It must be noted, however, that some institutional investors are subject to legal restrictions that constrain their choice of investments. Some US-based insurance companies and pension funds are, for example, only allowed by their statutes to invest in stocks listed in the US. A company's specific interest in this type of investor would imply a decision in favor of US GAAP.

In some circumstances, the change to an international GAAP regime is motivated less by direct benefits for the investor community than by a desire to reduce the cost of equity and thereby increase market value. This reasoning is based on the belief that higher transparency and better information will reduce the risk premium demanded by investors and thereby decrease the cost of capital (Leuz and Verrecchia 2000: 91).

Finally, switching to an international GAAP regime may have a positive impact on the credit rating of a company. This can be attributed to the fact that rating agencies acknowledge transparency, details and comparability in financial reporting. A higher level of documentation could be rewarded if long-term opinions with respect to the solvency of a company are generated.

2. Operating business objectives

In addition to financial objectives, several other motives for the use of an international GAAP regime can be identified which are mostly related to operating business objectives. In this

case, the use of an international GAAP regime then serves as "a key to the implementation of strategic steps" (Kagermann, 1999: 346). The following are typical operating business objectives:

- Improvement of product and brand recognition
- Improved cooperation with foreign business partners
- Acquisition of foreign companies
- Improved cooperation with foreign authorities
- Improved recruiting of international employees
- Integration of internal and external reporting systems
- Implementation of value-based management systems

Many companies believe that a change to an international GAAP regime will bolster their product and brand name familiarity and thereby improve their position on the sales market (Pellens, 2001: 90). Their reasoning is twofold. First, it is supposed that higher name recognition on international capital markets will carry over to markets of goods and services via investors' consumption decisions. Second, the change to an investor-oriented international GAAP regime does not only give investors, but also other groups of stakeholders, e.g. suppliers or customers, better insights into the company, therefore encouraging an increasingly profitable exchange of goods and services.

In the context of internationalization strategies, the improvement or creation of new business cooperation projects, e.g. dealership agreements or joint ventures, in order to access new markets can play a major role. One objective of adjusting to IFRS or US GAAP might thus be to communicate a company's economic situation to its business partners (Pellens, 2001: 11). On the other hand, internationalization strategies can also be implemented by the acquisition of foreign business ventures. In this context, a major advantage of an international GAAP regime is the increased possibility of using one's own shares instead of cash as a means of payment, in international merger transactions. Moreover, an international GAAP regime facilitates communication with foreign local authorities (Siepmann, 2000: 1344).

Another operating business-type objective is the improvement of recruiting possibilities, especially with regard to international employees. Highly qualified personnel are supposed to be more attracted by a company preparing its financial statements under IFRS or US GAAP than under German GAAP; this is interpreted as an indication of a more international character (Lüdenbach, 2001: 22). Moreover, stock-based management compensation systems, e.g. stock plans or stock-option plans, benefit from a change to IFRS or US GAAP. Particularly in the US, stock-option plans enjoy tax privileges only if the company's shares are listed in the US.

Finally, the restructuring of the accounting and control systems, i.e. the integration of internal and external accounting, which in Germany are traditionally based on different sets of data, as well as the introduction of value-based management systems are important motivations for German companies changing to international GAAP regime (Kubin, 1998: 525; Horváth and Arnaout, 1997: 255). The reason is that both IFRS and US GAAP focus more strongly on a dynamic portrayal of a company's economic situation compared to German-GAAP and therefore provide more relevant performance measures for decision-making, especially in the context of value-based management.

III. Methodology of the empirical study

The empirical study underlying our analysis is based on a survey of listed companies in Germany conducted between September 2000 and February 2001. At that time, a total of about 550 listed companies was subject either to § 292a HGB – a section of the German commercial code which since 1998 has allowed but not forced listed companies to prepare their consolidated financial statements to an international GAAP regime rather than to German GAAP – and/or to the regulations of the stock market segment known as the *Neuer Markt*, which required the financial statements being prepared to either IFRS or US GAAP as a listing precondition.

Our sample therefore comprises two groups of firms. Besides the companies listed in the *Neuer Markt* we included all companies listed in the *DAX100*. This is an index composed of the 100 largest companies listed in the stock market segment *Amtlicher Handel*, which at the time of our study was the only German stock market segment of major importance besides the *Neuer Markt*. From the companies listed in the *Amtlicher Handel*, the *DAX100* comprised most of the non-*Neuer-Markt*-companies that at that time had switched to IFRS or US GAAP.⁵ We included only companies with headquarters in Germany as, unlike German companies, foreign companies did not face the decision to change their reporting system.

As a result our sample included 100 companies from the *DAX100* and 259 *Neuer Markt* companies. These 359 companies were surveyed by means of a written questionnaire. The questionnaire was pre-tested with three *DAX100* and three *Neuer Markt* companies to ensure comprehension and focus of the questions and the measurement constructs. Special attention was paid to the question of whether the list of possible objectives pursued by changing to GAAP was complete. The group of companies included in the final analysis was furthermore restricted to companies that had either completed a conversion to an international reporting system or at least intended to do so. Companies that had changed due to instructions received from a parent company were also excluded from our analysis.

After these exclusions, a total of 81 (23%) of the 359 companies returned an analyzable questionnaire. 31 companies were quoted in the *DAX100* and 50 companies on the *Neuer Markt*. Of the 81 companies 70 (86%) had already adopted an international system, 11 (14%) planned to do so. The temporal distribution of the adjustments in the sample is shown in Figure 1.⁶

Insert Figure 1 here.

The distribution shows clearly that the majority of companies participating in the survey switched to international GAAP in 1999 and 2000. This has two methodological advantages for the study:

- The event is still present in respondents' memories.
- Most of the companies in our sample do not belong to the precursor group (early adopters). We thus assume that in most cases the decision to change to an international GAAP regime was the result of a painstaking process in which careful consideration was given to the objectives pursued.

It should be noted that, as indicated in section 1, until our survey was closed there had been no clear tendency towards either joint relevance of US GAAP and IFRS for the US and Euro-

pean capital markets or the now effective mutually exclusive relevance of both types of GAAP on the respective capital markets.

This notion is also supported by the proportion of the number of IFRS or US GAAP companies in the sample shown in Table 1. The various clusters differ according to two criteria:

- a point-in-time versus a period-of-time view (cutoff in 2000 versus the time horizon from 1993 to 2000 on a firm-year basis),
- a focus only on large companies versus the use of all companies included in the *CDAX* stock index.⁷

Insert Table 1 here.

Clusters A to D should be regarded as an approximation of the entire capital market. As the distributions in the different clusters are almost identical, they can be regarded as representative for the base population. Clusters E to G demonstrate the distributions of the samples in this study. The respective ratio of 59/41 for the IFRS/US GAAP distribution in the base population is comparable to the ratio of 51/49 in the sample. This similarity is considered to be sufficient.

In similar studies, comparable ratios were identified. The preference to choose one rather than another GAAP regime did not vary much over time or over market segments. A study conducted in September 1999 by Krawitz et al. (2000) determines a ratio of 46/54 on the *Neuer Markt* concluding a slight preference for US GAAP. In other stock market segments they find a small bias towards IFRS. Analyzing the *Neuer Markt* between June 1998 and October 1999, d'Arcy and Leuz (2000) identify an almost balanced distribution of GAAP regimes.

The quality of the questionnaires returned is dependent on the position of the respective respondent. An analogous verification shows that 48% rank among the top management and 18% among the upper management levels. 19% of the questionnaires were answered by the accounting department, 15% qualify as other respondents. Companies that were obliged to switch to an international system on the instructions of their parent companies were excluded from the analysis.

Companies were asked to indicate their degree of agreement with pre-phrased statements on a scale from 1 to 5. Answer 1 was "does not apply at all", 2 "applies only to a minor extent", 3 "applies in average", 4 "applies to a major extent", and 5 "applies totally".

IV. Objectives and achievements of international GAAP users: Results of the empirical study

1. Ex ante evaluation of objectives

The findings of our survey with regard to the different objectives companies might have when changing to an international GAAP regime are shown separately for *DAX100* companies and *Neuer Markt* companies in Table 2⁸.

By means of the Mann-Whitney-U-Test⁹ (Z-value) four items can be shown to display a significant deviation in the answers of the two company groups. Two of these deviations appear plausible; the other two deviations are not intuitive.

The aspect 'Improvement of comparability to industry peers' is a major goal (4,2/3,5) from the perspective of both company groups. Nevertheless, *Neuer Markt* companies attach significantly less importance to this item. The same is true of the item 'Enhancement of credit rating', which has a significantly lower relevance for *Neuer Markt* companies. The differing evaluations can be explained in both cases by the specific context in which *Neuer Markt*-companies are embedded.

The objectives 'Planning of a foreign listing' and 'Acquisition of foreign companies' implausibly show significantly lower averages for *DAX100* companies than for *Neuer Markt* companies. The level is even below 2.5, i.e. in the rejection range. One reason for this result may be the point in time at which the survey was conducted (year-end of 2000), which was marked by the beginning of a substantial decline in the initial public offering market as well as in the market for mergers and acquisitions.

With regard to the most important aspect both company groups are in agreement. The item 'Fulfillment of capital market expectations to a higher degree' is valued at 4,7/4,6 (*DAX100/Neuer Markt*) as a reason for changing the reporting system. From this follows an enhancement of the attractiveness of the stock for a wide range of investors, particularly institutional and foreign investors. Thus, objectives directly focused on the capital market are the main motives while business related objectives are substantially less important. However, respondents agreed on a positive assessment of most of the latter aspects (average > 2,5) but the results are relatively weak in comparison to the investor-related items.

Insert Table 2 here.

From a conceptual point of view, an interesting result is the relatively minor importance of the objective 'Reduction of the cost of equity' (2,7/2,5). From an economic point of view, precisely this argument is most relevant for maximizing the value of a company and it is the basic principle for most of the other action-oriented measures.

2. Ex post evaluation of objectives

In a second step, companies were asked to evaluate whether their particular objectives had been achieved from an ex post point of view after changing to either IFRS or US GAAP. Based on an overall assessment of the objectives achieved the result is positive in both company groups, i.e. the *DAX100* companies evaluate the overall achievement of objectives at 4,0 and the *Neuer Markt* companies only slightly lower at 3,8.

Analyzing this question on the basis of the chosen GAAP regime we do not find a significant difference: the respective arithmetic mean of the assessment of whether the objectives have been achieved is 3.91 for IFRS users and 3.86 for US GAAP users; the Mann-Whitney-U-Test ($Z = -0.281$) indicates no significant difference. The assessment of the question if the same decision would be taken again results in arithmetic means of 4.23 (IFRS users) and 4.27 (US GAAP users) again without a significant Z statistic (-0.365). Satisfaction with the objectives achieved is therefore the same, regardless of the reporting system chosen.

Even though this indicates a high achievement rate, our detailed results prove such a conclusion to be premature, as can be observed by examining the results of the single aspects in detail. All data is provided in Table 3.

Insert Table 3 here.

Once again the difference between the two company groups in the assessment of each aspect is analyzed by means of the Mann-Whitney-U-Test (Z-value). As can be seen in Table 3, there are only few deviations in the two groups' evaluations of the various aspects achieved. The assessment of the objectives achieved is thus much more homogenous than the evaluation of the importance of these aspects before the adoption of international reporting systems.

Using the Wilcoxon statistic¹⁰ (W-value) permits the comparison of the ex ante and ex post evaluations of the items for each group. A significant W-value indicates that the ex ante and ex post assessments are not equal. A positive or a negative discrepancy between the expectation and the realization can therefore be measured.¹¹

The discrepancy for the eight items shown in Table 3 is pronounced, i.e. statistically significant. Eight of the fifteen tested aspects deviate, six of these eight deviate negatively and only two exceed expectations. In respondents' opinion neither better cooperation with business partners or local authorities nor an improved credit rating could be achieved. There is general agreement (Z-values are insignificant) with regard to increased diversification and internationalization of the investor base but the high expectations could not be met. A similar result is obtained for the item 'increased attractiveness for institutional investors'. Only the positive effects that stem from improved comparability with industry peers and the advantageous integration of internal and external reporting systems are evaluated significantly higher from the ex post perspective. Both aspects apply in particular to *Neuer Markt* companies.

At the very least, therefore, a question mark should be placed against the positive response to the initial control question as to whether overall the objectives have been achieved. There may be various reasons for the deviating judgment of the control question. First, objectives that have not been achieved may have been given a lower weight in the overall evaluation. Second, important objectives may have been omitted. Nevertheless, we feel that this is probably not the case as we placed special focus on giving the companies as complete a list as possible of conceivable objectives, not only by means of extensive analytical research and discussions during the pretest phase but also by allowing the companies to name other reasons in the survey, which they rarely did. We therefore believe that the divergence of positive overall assessment and negative assessment in detail is probably due to a response bias: an overall judgment such as that demanded by the control question results in higher uncertainty with respect to respondents' ability to assess this question, which leads to a positive response bias (Krenz and Sax, 1987: 575).

V. IFRS versus US GAAP users: different objectives behind the choice of GAAP regime

As a number of studies have documented, there had been no explicit trend towards the choice of one of the two alternative international reporting systems in Germany by 2002. Thus, it would be interesting to discover if a specific reporting system is chosen in view of the objectives indicated by the respondents in this survey. The intention of this third part of the analysis is to determine the motives that might lead to the adoption of IFRS or US GAAP and to

test whether discriminating items can be statistically validated. We shall therefore first focus our attention on the specific considerations that might have influenced German companies to choose IFRS rather than US GAAP or vice versa, and then in the second part of this section we shall present the results of our empirical analysis.

1. Analytical considerations of the choice between IFRS and US GAAP

When our survey was conducted, the choice between one of the two international reporting systems was open to all companies with only one constraint – a company might have been obliged to switch to one particular system by its parent. Moreover, listing on the US American capital market compels a company to report according to US GAAP as the SEC has not yet accepted IFRS as a reporting framework. Nevertheless, this did not automatically result in companies' abandoning IFRS. Schering, for example, began reporting according to IFRS in 1994 and continued to use IFRS even after its listing on the NYSE in 2000; the US American reporting requirements are fulfilled by means of a reconciliation.

Other decision parameters influencing the choice of IFRS or US GAAP are opinions with respect to the global recognition of a system, the degree of influence on the standard setting process of a system, expected difficulties in using the system and the expected implementation effort. A number of parameters are discussed below which favor the adoption of either IFRS or US GAAP.

US GAAP were regarded as the most efficient reporting system, at least until the time of the *Enron* debacle when this survey was carried out. One of the main reasons for its prestige was the reduced number of explicit earnings-management opportunities in comparison to other reporting systems (d'Arcy and Leuz, 2000: 388; Krawitz et al., 2000: 547). Many interpretations and implementation questions with regard to IFRS were open and thus allowed additional windows of opportunity for earnings management. In recent years, these flaws have been removed by the IASC's Core Standard Project in order to gain the IOSCO approval for IFRS and the introduction of the SIC/IFRIC. At the same time, the revision of existing IFRS has led to a clear convergence of IFRS towards US GAAP (Bruns, 1998: 398), yet from the standpoint of European companies their influence on the design of IFRS is disproportionately stronger compared to lobbying opportunities in the US (Breker et al., 1999: 188).

Of major significance for the relevance of IFRS as a global reporting system is the continued reluctance on the part of the US American Security Exchange Commission (SEC) to accept it and thus open the most important capital market of the world. The first step towards the global acceptance of IFRS was only taken in 2000 when the IOSCO recommended the approval of IFRS for cross-border listings. The SEC has not yet undertaken formal steps to implement this recommendation, so that if and when IFRS will finally be accepted on the US capital market remains an open question.

One of the main reasons for the SEC's refusing this recognition is the lack of a comparable enforcement mechanism. From today's perspective, it is debatable whether this attitude will change in the near future as IFRS-enforcement institutions will be established as a result of the CESR consultancy paper. On the other hand, EU Regulation No. 1606/2002 which excludes US GAAP from European capital markets may well delay the process of approval by the SEC. It is important to note with respect to our study that neither IFRS enforcement nor the existing EU regulation were subjects for discussion during our survey.

Besides easier access to the US capital market, there are other specific reasons for choosing US GAAP. These can result from a company's current business situation or general business intentions, e.g. to produce in the US or to develop sales in the US market.

For companies whose interests are less focused on the US, IFRS might be preferable, as their use is spread throughout Europe, Asia and Africa. In addition, from a German perspective there are greater opportunities for lobbying activities designed to promote the future development of the system compared to US GAAP. German delegates are members within the organizational body of the IASC.

Quite apart from the development of the global domination of one or the other reporting system, the implementation costs have to be considered. German managers are skeptical with respect to the multitude of case rules within US GAAP ('Cookbook Accounting', Lüdenbach and Hoffmann, 2003: 387). In comparison to US GAAP, IFRS system appears more systematic and concise. The great amount of detail required by US GAAP is one reason why, taking cost aspects into consideration, so many companies prefer IFRS.

As we have seen, companies assign different attributes to the two international reporting systems. The empirical study by Horváth and Arnaout (1997) identifies the following items as influencing the decision:

- Companies choosing IFRS expected lower costs for the implementation and maintenance of the system. At the time our study was conducted results were driven by the association of greater earnings-management opportunities within IFRS and the sentiment of a higher similarity between IFRS and German GAAP than between US GAAP and German GAAP, making a transition from German GAAP to IFRS easier and also less costly.
- The recommendations of external advisers (e.g. auditors, banks, management consultants) have influenced some decisions significantly.
- In Europe the acceptance and use of IFRS is more widespread than that of US GAAP.
- Companies preferring US GAAP have a strong interest in US markets.

An accurate assessment of the future global dominance of the chosen system seems to be particularly relevant for decision-making. Companies selecting IFRS, for example, assume that IFRS will become the global system. However, German managers believe US GAAP provide them with more information. Empirical results exist only for the years 1997 and 1998. The study of Horváth and Arnaout (1997), for example, shows that 75% of companies regard US GAAP as the future global system and only 63% expect IFRS¹² to fulfill this role. The study by Peemöller et al. (1999) indicates that in 1998 *Neuer Markt* companies expected US GAAP to be dominant in the future. In the same study, however, IFRS users expect an increasing influence of IFRS. Förchle and Glaum (1998) obtained similar results in 1997: the majority of German companies included in their survey had been expecting to report under IFRS in 2002.

2. Empirical results

Although the literature has projected a detailed opinion, it has not yet provided statistical validation for the various objectives being able to discriminate effectively between the users of IFRS and US GAAP. In order to analyze this question, the companies in our survey were asked to evaluate seventeen items. These were designed to mirror the context and form of both GAAP regimes, the necessary adjustment process, and the strategic goals associated with

either IFRS or US GAAP. By means of a logistical regression the significant items in the decision process can be identified in relation to the decision taken by the respective company.¹³

The seventeen statements that were polled are briefly illustrated. For contextual and formal criteria, the rate of change of a reporting system was first evaluated. Then the rigor and completeness of the reporting system and the limitations of alternative reporting options were considered together with the question of the flexibility of the reporting system. The similarity to the German GAAP then had to be assessed and the question answered of whether the SEC is likely to accept IFRS in the near future.

The questions with regard to the adjustment process focused on for issues: The impact of external advisers, the complexity of the process, the cost incurred by changing the GAAP regime, and the availability of sufficient practitioner literature for the respective reporting system.

The questions on strategic goals asked whether, in the company's opinion, the respective reporting system would become the global standard and if so how its acceptance in Europe or worldwide would be assessed. In addition, the possibility of influencing future regulations was to be judged. Finally, companies were asked to evaluate their intention to expand on the US market, the possibility of their being more easily benchmarked against competitors, improved relationships with business partners and substantial existing business of a subsidiary in the US.

In order to construct a concise model a method was chosen that includes variables stepwise. The inclusion of a variable is based on the Wald test, which uses a likelihood statistic with conditional estimators.¹⁴ IFRS users were assigned the internal value 0 and US GAAP users the internal value 1 as input parameters.

Table 4 shows the results of the estimation. The model correctly detects 37 of 40 IFRS users and 33 of 39 US GAAP users; in other words, almost 90% of cases are accurately assigned. Within the estimation six items are identified as being responsible for the precise discrimination of IFRS and US GAAP users. These items are shown in Table 4.

Insert Table 4 here.

The column labeled e^β explains the direction and the strength of the independent variable in the logistic regression. The value of 3.479 for example for the item 'US GAAP acceptance and employment is globally stronger' changes the probability of being a member of the US GAAP group (cf. internal value equals 1). In the neutral case the probability of being a member of each group is 1:1 (US GAAP user : IFRS user). If the assessment of the answer to the statement 'US GAAP acceptance and employment is globally stronger' is increased by one unit on the given five-point scale, the probability of being a member of the US GAAP group becomes 3.479:1. A different result is achieved if the answer to the statement 'IFRS acceptance and employment is in Europe stronger' is increased by one unit on the five-point scale. In this case, the probability of being a member of the US GAAP group decreases to 0.393:1. As no independent variable has an e^β value that is near zero, the probability is definitely changed by each of the six items. Consequently, an e^β value < 1 identifies a motive for choosing IFRS, whereas an e^β value > 1 indicates a motive for choosing US GAAP.

The characteristic of the e^β value with respect to the chosen reporting system is in all cases in line with expectations. Thus, it can be demonstrated that a decision in favor of US GAAP

will be taken primarily by companies which intend to expand in the US, attach more importance to the global acceptance and prevalence of the respective reporting system and do not believe the SEC is likely to approve IFRS in the near future. Companies that have opted for IFRS on the other hand perceive a strong similarity between IFRS and the German GAAP, have the focus of their business activities in Europe and attach higher value to the possibility of exerting influence on the development of the reporting system.

In the context of the logistic regression model the remaining eleven items are not important for the decision on the respective reporting system. This shows, for example, that the costs for the adjustment process are assumed to be equal regardless of the reporting system chosen.

VI. Conclusion

German companies started to report in accordance with international GAAP regimes in addition to their consolidated German GAAP statements some ten years ago. In 1998, German legislation introduced an amendment to the Commercial Code (§ 292a HGB) enabling listed companies to report consolidated financial statements under either IFRS or US GAAP. Until EU Regulation no. 1606/2002 became effective, listed companies were mainly free to decide which GAAP regime to choose depending on the specific objectives pursued in changing the GAAP regime.

Our study picks up the arguments associated with a change of GAAP regime theoretically by first analyzing in detail the objectives pursued by German companies within the framework of a survey. In a second step, comparisons are made between the ex ante (pre transition) and ex post (post transition) evaluations of the respective objectives and their achievement. In a third step, specific motivations are identified that were crucial for the final decision on which GAAP regime to choose.

To our mind, our results indicate that the change to an international GAAP regime was motivated primarily by the expectation of attaining improved standing on the capital markets, i.e. by financial motives. Other motives were an improved supply of information, the diversification and internationalization of the body of investors and increased comparability with industry peers. Motives related to operating business aspects (e.g. improved cooperation with local authorities, the planning of a foreign listing or improved recruiting of international employees) only played a minor role in the decision process.

Ex post evaluation of the achievement of these objectives provides an ambiguous picture. Most companies stated that, on the whole, they had been able to fulfill all their expectations. This holds for both IFRS and US GAAP users.

Looking at the targets in detail, however, shows that nearly 50% of the goals were either not reached or the level of achievement was significantly below what had been expected. In particular, neither the expansion and internationalization of the body of investors nor an increase in the attractiveness for institutional investors could be realized. At this point an overestimation of the (positive) effects of converting to an international reporting system becomes patent. This could in part be attributed to the 'conversion hype' that was prevalent at the end of the nineties. On the other hand, it can be shown that other long-term flanking measures, such as support by investor relations and a high level of communication with other stakeholders, are very important for a successful transition. As the empirical results reveal such a clear divergence between analytical theory (what one would expect) and business reality (what one

perceives), the need for more in-depth research on the process of change in GAAP regimes is clearly indicated.

The analysis of seventeen statements with respect to the characteristics of a particular reporting system is implemented with a logistic regression model identifying the aspects that were most important for the final decision. Six aspects are identified by the model: companies that opted for IFRS supported the view that it is more similar to German GAAP, is more common and accepted in Europe and offers greater opportunities to influence the standard-setting process. Companies converted to a US GAAP regime on the other hand if they believed it to be more advantageous with regard to the US market and of greater global importance. In addition, they do not expect the SEC to approve IFRS in the near future. These results clearly show that attitudes towards the two types of GAAP differ and this finding can be exploited in future research with respect, for example, to the standard-setting process and the role played by companies as institutional investors in this context.

After the EU regulation in July 2002 the situation changed. Which solutions US GAAP users will develop remains an open question. With regard to our analysis it will be interesting to see if the trend reverts to parallel reporting in accordance with IFRS and US GAAP or if current US GAAP users convert to IFRS. Irrespective of that question, our analysis shows that some of the expected goals with regard to the transition could be achieved but major objectives could not be realized. In the light of the substantial (opportunity) costs that have to be incurred with a change of GAAP regime (Heintges, 2003: 621), any decision in favor or against such a change must be carefully balanced. This is particularly relevant for companies in Europe that are not listed but might be obliged to report under IFRS in the future. But even if a company is forced to change to IFRS under the provisions of the EU regulation, our analysis indicates that the financial or operating business objectives associated with the change of GAAP regime may not be easy to achieve.

Notes

¹ The findings of the studies are heterogeneous with respect to different market segments and with respect to the differentiation between IFRS and US GAAP; tests about the achievement of both objectives and a statistical discrimination to link objectives and the reporting system chosen are not provided by these studies.

² Nevertheless, if there had been a tendency towards one type of international GAAP this would introduce a bias into our analysis.

³ Note that the *Neuer Markt* has been terminated in 2003 due to several financial fraud cases that strongly reduced the investors' trust in this segment. The remaining companies listed in the *Neuer Markt* were included into other capital-market segments.

⁴ In this context, Pellens (2001: 89) mentions the IPO of Deutsche Telekom with a volume of about 10 billion EURO in 1996 that could not be supplied by the capital market in Germany alone.

⁵ In 2000, 219 companies were listed in the *Amtlicher Handel*. 55 of these companies used either IFRS or US GAAP, and 54 of them were included in the *DAX100*. The other 46 *DAX100*-companies were still using German GAAP.

⁶ The companies that did only plan to switch to an international reporting system were excluded in the latter part of the analysis.

⁷ The size of a company was determined by its market capitalization. *CDAX* or *Composite DAX* is a stock index comprising all companies listed on the German stock market.

⁸ The coefficient of variation (CV) describes the homogeneity of the answers – the higher the CV the more heterogeneous the opinion on a specific aspect.

⁹ The Mann-Whitney-U-Test is designed to compare arithmetic means of two independent samples even if the items are not normally distributed. A significant Z-value shows statistical differences of the arithmetic means (Toutenburg, 2000: 172).

¹⁰ The Wilcoxon test is used to compare the rank of an item in two independent samples (Toutenburg, 2000: 182).

¹¹ The number of companies in the analysis from here on is reduced by 11 companies as these did not yet adopt a different system at the cutoff time of the survey.

¹² This study carried out between November 1996 and February 1997 was answered by 56 companies from a sample of the 200 biggest companies (size criterium: amount of turnover). Multiple answers were possible.

¹³ Only 79 questionnaires of the survey could be analyzed with respect to this research question.

¹⁴ The requirement for the test is the existence of at least 25 cases in each dependent variable. The condition is met using 40 observations of IFRS users and 39 observations of US GAAP users. Segmentation between *DAX100* and *Neuer Markt* therefore is not possible. The Durbin-Watson statistic and the multicollinearity test deny the existence of autocorrelation and multicollinearity. For more details on logistic regressions see Krafft (1997: 625).

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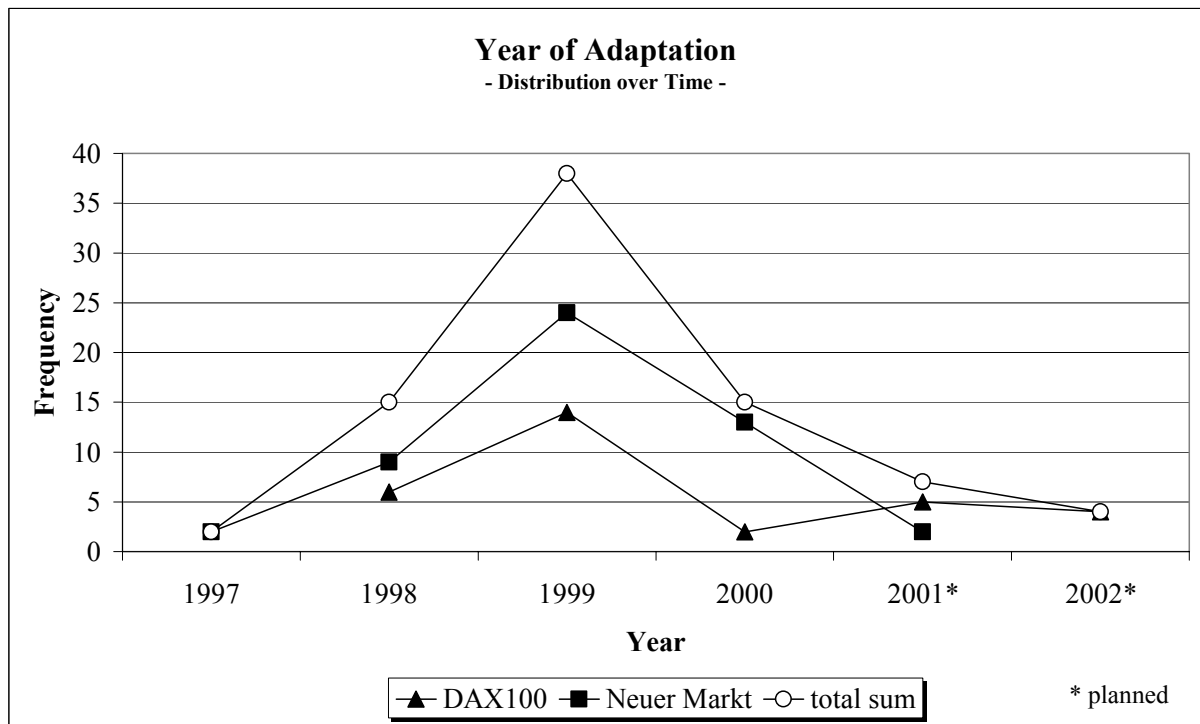


Figure 1: Distribution of the year of adapting an international reporting system in the sample

Frequency of the respective reporting system

Cluster	IAS/IFRS	US-GAAP	Description
A	59%	41%	100 biggest companies based on firm years (1993-2000)
B	58%	42%	all companies based on firm years (1993-2000)
C	59%	41%	100 biggest companies for 2000
D	59%	41%	all companies for 2000
E	59%	41%	in the DAX100 sample
F	44%	56%	in the Neuer Markt sample
G	51%	49%	in the entire sample

Source: Thomson Financial (Worldscope) and own survey

Table 1: Frequency of international reporting systems in Germany

Evaluation of objectives

Typ	Aspect	DAX100			Neuer Markt			Z
		Rank	Mean	CV	Rank	Mean	CV	
<i>financial</i>	Fulfillment of capital market expectations to a higher degree	1	4,7	0,13	1	4,6	0,18	-0,10
<i>financial</i>	Increased attractiveness for institutional investors	2	4,3	0,17	3	4,1	0,26	-0,73
<i>financial</i>	Improvement of comparability to industry peers	3	4,2	0,21	5	3,5	0,41	-1,71 *
<i>financial</i>	Increased diversification of investor community	4	4,0	0,19	2	4,2	0,23	-1,20
<i>financial</i>	Internationalization of investor community	5	4,0	0,23	4	4,0	0,27	-0,36
<i>financial</i>	Enhancement of credit rating	6	3,4	0,35	12	2,6	0,49	-2,64 ***
<i>business</i>	Integration of internal and external reporting systems	7	3,4	0,39	6	3,3	0,41	-0,11
<i>business</i>	Improved cooperation with foreign business partners	8	3,2	0,32	8	3,1	0,39	-0,38
<i>business</i>	Implementation of value-based management systems	9	3,0	0,34	9	3,0	0,43	-0,11
<i>business</i>	Improvement of product and brand recognition	10	3,0	0,41	10	2,9	0,46	-0,22
<i>financial</i>	Reduction of the cost of equity	11	2,7	0,48	13	2,5	0,52	-0,45
<i>business</i>	Improvement of cooperation with foreign authorities	12	2,4	0,43	14	2,2	0,61	-1,28
<i>financial</i>	Planning of a foreign listing	13	2,2	0,64	7	3,3	0,53	-2,65 ***
<i>business</i>	Improved recruiting of international employees	14	1,8	0,45	15	2,1	0,51	-1,05
<i>business</i>	Acquisition of foreign companies	15	1,9	0,71	11	2,7	0,54	-2,46 **

Mean=arithmetic mean of answers, CV=coefficient of variation, Z=Mann-Whitney-U-Test statistic
 Level of significance: ***= below 0,01 **= below 0,05

Table 2: Results of the ex ante evaluation of objectives

Evaluation of achievement of objectives

Deviation	Aspect	DAX100			Neuer Markt			Z
		Mean		W	Mean		W	
		ex ante	ex post		ex ante	ex post		
	Expectations were fulfilled completely	-	4,0	-	-	3,8	-	-0,88
<i>negative</i>	Increased attractiveness for institutional investors	4,3	2,7	-3,5 ***	4,1	3,1	-3,5 ***	-1,11
<i>negative</i>	Increased diversification of investor community	4,0	2,9	-2,9 ***	4,2	3,5	-2,8 ***	-1,65
<i>negative</i>	Internationalization of investor community	4,0	3,2	-3,7 ***	4,0	3,0	-2,2 **	-0,32
<i>negative</i>	Enhancement of credit rating	3,4	2,2	-3,8 ***	2,6	1,9	-2,3 **	-1,00
<i>negative</i>	Improved cooperation with foreign business partner	3,2	2,4	-2,7 ***	3,1	2,5	-2,9 ***	-0,30
<i>negative</i>	Improved cooperation with foreign authorities	2,4	2,1	-2,1 **	2,2	1,7	-1,3	-2,07 **
<i>positive</i>	Improvement of comparability to industry peers	4,2	4,2	1,5	3,5	4,0	2,7 ***	-0,17
<i>positive</i>	Integration of internal and external reporting systems	3,4	4,1	-3,6 ***	3,3	3,8	-3,5 ***	-1,26

Mean=arithmetic mean of answers, CV=coefficient of variation, Z=Mann-Whitney-U-Test statistic, W=Wilcoxon-Test statistic
 Level of significance: ***=below 0,01 **= below 0,05

Table 3: Results of the ex post evaluation of objectives and comparison to ex ante results

Logistic regression model to discriminate aspects associated with respective reporting systems

Aspect		coefficient (β)	Wald statistic	e^{β}
	constant term	-3,1	1,1	0,047
US-GAAP-users	US GAAP acceptance and employment is globally stronger	1,2	4,4 **	3,479
	Intention to develop sales in the U.S.	1,1	9,3 ***	2,928
	Assuming that SEC will not approve IFRS in the near future	1,0	7,1 ***	2,645
IFRS-users	IFRS is more similar to German GAAP	-1,3	6,5 **	0,270
	IFRS acceptance and employment is in Europe stronger	-0,9	3,5 *	0,393
	Opportunity to have influence on the standard setting process	-0,6	3,4 *	0,538

Table 4: Discriminating aspects for the choice of an international reporting system