Auditor Independence and the Provision of Non-Audit Services: Perceptions by German Investors

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An economic model by DeAngelo shows that the existence of client-specific quasi-rents impairs auditor independence. The provision of non-audit advisory services (NAS) increases quasi-rents, and thus it is a threat to independence. Recently, a number of changes have been made not only to the relevant international and US regulations, but also to the German regulations related to NAS. A large number of empirical studies have investigated the influence of NAS on the perceived auditor independence. Most of these studies were performed in Anglo-Saxon countries, particularly in the US, and a majority found a negative impact. Six studies are based on data from Germany. Most of them failed to find a significant negative impact on auditor's independence. German investors have not been surveyed so far. Thus an empirical investigation of the impact of NAS on investors’ perceptions of auditor independence in Germany seemed promising. It was found that shareholders generally perceive a negative effect on auditor's independence if NAS are provided. The effects of 19 different services have been analysed. For most of them a negative effect was found, even if these services are not explicitly prohibited in Germany. Furthermore, it was shown that the type of NAS influences the degree to which auditor independence is perceived to be impaired. Thus, independence rules related to NAS could be differentiated. Additionally, the study ascertained that perceived auditor independence does increase if NAS are provided by a separate department of the audit firm.

Key words: advisory services, auditing, ethics, independence, independence in appearance, non-audit services, quasi-rents

SUMMARY

Financial statement audits are intended to increase trust in financial reporting. This function can only be fulfilled if auditors are perceived as independent. The provision of advisory services...
threatens auditor independence due to an economic bond between auditor and client. It increases client-specific quasi-rents and may constitute a lessening of independence.

Against expectations derived from theory, the majority of studies on the effect of the provision of non-audit advisory services (NAS) to an audit client failed to find a negative impact on independence in mind. However, prior research observed a negative effect on independence in appearance.

A survey in which members of German academic investment clubs participated was conducted. These subjects represent private investors. In general, investors believe that the provision of advisory services reduces auditor independence. To receive more detailed findings the participants had to evaluate a list of 19 different services. Most of them are perceived to have a negative impact. Even services which are not explicitly prohibited by German law, for example those related to human resources, are viewed as problematic. Furthermore, it was found that the degree to which perceived auditor independence is impaired depends on the type of consulting service. The existence of a self-review threat or of an advocacy threat enhances the negative impact on perceived independence. In addition, it could be shown that the separation of audit firm consulting staff from auditing staff reduces the problem. The degree of perceived impairment of auditor independence depends on the relative size of non-audit fees. Participants considered a percentage of approximately 25% as critical and they believed that, on average, the actual consulting fees exceed this critical percentage.

The findings from this study can be beneficial to managers, supervisory boards and audit committees of corporations that are concerned about investor perceptions related to NAS provided by their external auditors. The results can also be useful to auditors in alleviating concerns related to advisory services they performed for their audit clients. Finally, the outcome can be helpful to regulators when discussing potential prohibitions of certain consulting services.

INTRODUCTION

Due to information asymmetries between management and owners there is a moral hazard risk. Management performance is not completely observable and thus managers could be tempted to maximize their own benefit and not that of the shareholders. To reduce this problem management has to prepare financial statements. To increase trust in these statements they have to be audited. The statutory auditor evaluates the compliance of financial statements with relevant accounting standards. Audit reports are only beneficial if they contain reliable information, and thus provide adequate audit quality. DeAngelo (1981b) defined audit quality as the market-assessed joint probability that a given auditor will both discover a breach in the client’s accounting system and report the breach. If addressees do not believe that an auditor is independent of a company, they will have little confidence in the auditor’s opinion on the financial statements of the company in question.

The IFAC distinguishes between independence in mind and independence in appearance (IFAC, 2006: Sec. 290.8). Independence in mind is defined as the state of mind that permits the provision of an opinion without being affected by influences that compromise professional judgment, allowing an individual to act with integrity, and exercise objectivity and professional scepticism. Independence in appearance is defined as the avoidance of facts and circumstances that are so significant that a reasonable and informed third party would reasonably conclude that a firm’s integrity, objectivity or professional scepticism had been compromised. The requirement that a statutory auditor should be independent addresses both (Mautz & Sharaf, 1961: 204). If auditors are not perceived as independent, financial statements are perceived as more uncertain, and thus social costs are incurred. Investments are seen as riskier, investors demand higher risk premiums, and thus the cost of capital increases.2

There are four typical situations that could impair auditor’s independence:

• Personal interaction (e.g. the auditor is director, supervisory board member or client employee; a former employee in the audit firm now has an accounting position in the client company).

• Financial interest (e.g. the auditor is shareholder, lender to or borrower from the client; high percentage of total fees obtained from one client).

• Personal relationships (e.g. based on social contacts).

• Provision of non-audit services (NAS).

The impact of the latter on auditor independence as perceived by private investors is the focus for
this study. It is important for several reasons. To our knowledge it is the first study to investigate the effects of NAS on auditor’s independence as perceived by German private, i.e. non-institutional, investors. Furthermore, it is, except for Quick & Warming-Rasmussen (2005), the only NAS survey worldwide using private investors as subject group. According to Schneider et al. (2006) future studies need to delineate the effects of NAS on different investor types, including novices. Apart from a study by Zapf (2004), which is rather qualitative and did not apply statistical tests, no research on consulting services and their effects on perceived auditor independence has been performed in Germany for the post-Enron era. There is a lack of research regarding the effect of NAS on perceived auditor’s independence in continental Europe. Due to many similarities in the audit environment between Germany and many other continental European countries, our results may be valid for these countries too. We also contribute to the existing literature by analysing the effects of many more specific services than prior research. In particular, the most common NAS purchased, actuarial and tax services, were frequently not examined in prior studies but are included in this one. Schneider et al. (2006) claim that future research should further examine which types of NAS are most problematic for financial statement users. The findings from this study can be informative to managers, supervisory boards and audit committees of corporations that are concerned about investor perceptions related to NAS provided by their external auditors. The results can also be useful to auditors in alleviating concerns related to certain consulting services they perform for their audit clients. Finally, the outcome can be beneficial to regulators when discussing potential prohibitions of certain advisory services or other rules regarding the provision of NAS by the statutory auditor.

The paper proceeds as follows. First we provide an overview of the German audit context. The following section includes a discussion of pros and cons concerning the provision of NAS and an overview of recent regulatory developments. We then introduce two theoretical models of the independence problem and its worsening through the provision of consulting services. Afterwards an overview of prior research results is given. The theoretical background as well as prior research findings are used to derive hypotheses for this empirical inquiry. The main part of the paper presents the design and findings of a survey and discusses and interprets the empirical results. The final section summarizes the main findings, discusses its implications and points out the study’s limitations.

THE GERMAN ENVIRONMENTAL CONTEXT

As the world’s third strongest national economy, Germany holds a leading position in terms of its total economic output. With the highest gross domestic product and the largest number of inhabitants in the European Union, it is the most important market in Europe. In global trading of goods and services, Germany is in second place after the US (Loschy & Ritter, 2007). Germany accounts for the third largest number of European cross-listings on the NYSE (NYSE, 2008). In the era of globalization this underlines that the performance of German auditors and their independence in mind as well as in appearance is a global issue.

A vast amount of international research has been conducted on the effect of non-audit services (NAS) on independence in appearance. Nevertheless, it is worth performing an additional study based on German data, because most international research has been performed in English-speaking countries. The perception of compliance with ethical principles may vary across cultures (Wines & Napier, 1992) and one would expect cultural influences (Hofstede, 1991; House et al., 2004) to play a key role. Conflicting research results may be due to different contexts (Schneider et al., 2006). Despite harmonization, auditing in Germany has kept certain particularities, which could lead to different results. For example:

- The probability of independent behaviour increases if misbehaviour is sanctioned, e.g. through liability. However, civil liability of German auditors is characterized by a liability cap and limited liability to third parties like shareholders (Gietzmann & Quick, 1998). If the auditor is deemed to have acted in a negligent manner when performing his professional duties, the liability for compensatory damages is limited to €1 million and €4 million in the case of audits of listed companies (paragraph 323, 2 HGB; Handelsgesetzbuch = Commercial Code). Third-party liability requires restrictive prerequisites, in particular intentional misbehaviour, which are rarely fulfilled and
difficult to prove. Thus auditor’s liability in Germany is not as effective for enhancing trust in auditor’s independence as auditor’s liability in the US. This specific litigation environment may result in more frequent perceptions of impaired independence.

- With reference to limited corporations (Aktiengesellschaften), the German corporate governance system is characterized by a stakeholder orientation, an insider control system and a clear division between management and supervision. In contrast to the Anglo-Saxon one-tier system, Germany has a two-tier system in which the executive board is responsible for the management of the company and the supervisory board for appointing and monitoring the executive board. Supervisory board composition is characterized by explicitly involving various stakeholders, e.g. banks, blockholders, parent companies, former top managers and particularly employees and trade unions (Hackethal et al., 2005: 398–401). In companies with more than 2,000 employees, half of the supervisory board members are required to be employee representatives (co-determination) (paragraph 7 Mitbestimmungsgesetz = law on co-determination). The supervisory board has to examine the annual financial statements. This examination is usually based on the findings of the statutory auditor (Köhler et al., 2008: 115). Thus, the auditor in effect merely enhances the monitoring function of supervisory boards. Consequently, statutory auditors are engaged by the supervisory board. Thus, they are primarily agents of the supervisory board and only indirectly of shareholders and other stakeholders. Shareholders, therefore, may be less concerned about auditor’s independence because they tend to rely on the monitoring performed by their representatives on the supervisory board.

- Originally, the primary activities of most German audit firms were the provision of trust and consulting services rather than auditing. This historical context explains why German auditors until recently were allowed to provide NAS, including consulting services, to audit clients (Quick, 2005). As a consequence, advisory services might be perceived as less problematic with respect to auditor independence.

Furthermore, other differences in institutional and business environments across countries may affect the way NAS are perceived due to differences in what is considered acceptable or expected behaviour (Quick & Warming-Rasmussen, 2005). Some examples of particularities of the German setting, in particular in comparison to the US and Anglo-Saxon countries, are the Roman law system, low equity ratios, not very widespread private shareholding and a different accounting approach (Haller, 2002). In addition, it has to be mentioned that German auditors are bound by laws and legislative rules. The legal ‘general auditing standards’, which also include independence standards, are substantiated by standards of the profession (Köhler et al., 2008).

Overall, the German audit context is quite similar to many other continental European countries (e.g. France: Baker et al., 2008; Spain: García-Benau et al., 2008; Belgium: Vanstraelen & Willekens, 2008) and to a lesser degree also Scandinavian countries. Apart from Quick & Warming-Rasmussen (2005), no other research results regarding the effect of the provision of NAS on perceived auditor’s independence has been published for these countries. Due to the environmental similarities, the findings of this study may be valid for other countries too, in particular if the results of Quick & Warming-Rasmussen (2005) are confirmed. There are many similarities between the German and the Danish audit environment, in particular the two-tier system of corporate governance, two qualifications in auditing, auditing regulated by law, public oversight and limited auditor’s liability. There are also some differences, like the education and approval of auditors or non-participation of a professional organization in disciplinary observance (Holm & Warming-Rasmussen, 2008).

COMPATIBILITY OF NON-AUDIT SERVICES AND CHANGES IN REGULATION

Previous literature has discussed the compatibility of providing audit and NAS to the audit client, since the provision of consulting services to audit clients can affect auditor independence. Consulting is based on a special bond of trust between consultant and client’s management. This may result in excessive trust in the client and insufficient objective testing of the accounting data (familiarity threat, Rückle, 1995: 510). If the auditor provided consulting services to the client, the auditor would have to review facts, which were influenced by his or her own recommendations. In
such a situation, the auditor may fail to maintain an objective distance and may not focus on the audit task at hand (Zembke, 1994: 88). During the audit, the auditor may, for example, ignore errors, which are related to advisory services or conceal consulting errors detected by audit work (self-review threat, Bartlett, 1991: 14). The more significant the NAS provided, the higher is the risk that the auditor identifies with the client’s interest (advocacy threat). Furthermore, the provision of advisory services to the audit client could result in financial dependence on the client (self-interest threat) as the total fee from that client becomes material to the audit firm or the engagement partners (Schulze-Osterloh, 1977: 107).

However, numerous arguments have also been raised in favour of providing NAS to audit clients. Such services can lead to information advantages and cost reductions. As a consultant, the statutory auditor obtains additional insights into the enterprise, which may increase audit efficiency. Likewise, the audit findings are available to the advisory service, and knowledge spillovers may enhance not only efficiency but also the quality of the audit and consulting services. Thus beneficial knowledge spillovers may occur in both directions (Peel & O’Donnell, 1995: 214).

The provision of NAS to audit clients reduces the client’s consulting risk. Not only is the auditor highly qualified and required to meet strict ethical rules, but the client also knows the capability of the statutory auditor from the audit services (Böcking & Löcke, 1997: 466). In addition, the client’s transaction costs are reduced. Furthermore, consulting services level out seasonal variations in demand for audit services (Fleischer, 1996: 7). Supporters of the provision of NAS argue that it may be difficult at times to differentiate between auditing and consulting, that the provision of NAS increases the trust of the audit client, that advisory services are usually provided by a separate department of the audit firm and that the provision of consulting services increases the attractiveness of the audit profession to graduates (Jacobs, 1975: 2239). It has also been suggested that a prohibition of the provision of NAS to audit clients could be eluded and that it would be difficult to control such a prohibition (Dörner, 1997: 85). Finally, it can be argued that the provision of consulting services strengthens the position of the statutory auditor, because the client is interested in a long-term relationship for efficiency reasons (Ballwieser, 2001: 109–10).

Several large business scandals (e.g. Enron, Parmalat, Ahold or Comroad) caused a change in regulations concerning auditor’s independence. In May 2002, the European Commission issued a recommendation on statutory auditors’ independence in the EU (European Commission, 2002). It highlights specific situations that can compromise a statutory auditor’s independence. The same approach was chosen by the IFAC in their Code of Ethics. In the United States, the Sarbanes-Oxley Act of 2002 (SOX) implemented a ban on the following nine NAS (SOX Sec. 201, services outside the scope of practice of auditors): bookkeeping or other services related to the accounting records or financial statements of the audit client, financial information systems design and implementation, appraisal or valuation services and fairness opinions, actuarial services, internal audit outsourcing services, management functions, human resources, broker-dealer services and legal services. In addition, a registered public accounting firm may only engage in a service other than auditing if the activity is approved in advance by the client’s audit committee.

Germany followed these developments. Whereas involvement in keeping the audit client’s accounting records and preparing its annual financial statements to be audited were prohibited previously, additional restrictions were added in December 2004:

- Involvement in the performance of internal audit functions in a position of responsibility.
- Rendering corporate management or financial services and independent actuarial or valuation services that have material bearing on the annual financial statements to be audited (paragraph 319, 3 HGB).

In addition, further services for the audit of listed companies are prohibited:

- Provision of legal or tax advisory services in the financial year to be audited that extend beyond the presentation of structuring alternatives, and which directly and materially affect the presentation of the net assets, financial position and results of operations in the annual financial statements to be audited.
- Involvement in the financial year to be audited in developing, establishing and implementing accounting information systems, unless such an activity is insignificant (paragraph 319a, 1 HGB).

Irrespective of the fact that all consulting services may create a self-interest threat, the main issue of
the new rules is the prohibition of self-review. Only those services that cause a self-review threat are explicitly forbidden (Pfitzer et al., 2005).

THEORETICAL BACKGROUND

The economic model of DeAngelo

Since new auditors must bear technological start-up costs, incumbent auditors possess a comparative advantage over competitors. Transaction costs associated with changing auditors provide an advantage for the incumbent auditor (DeAngelo, 1981a: 118). As a consequence, an incumbent auditor can capture future benefits from technological and transaction cost advantages by setting future audit fees above the avoidable costs of producing audits, i.e. the auditor can expect future quasi-rents. DeAngelo used the term quasi-rents because in market equilibrium, the present value of each potential auditor’s profit from obtaining the initial engagement for a given client becomes zero (DeAngelo, 1981a: 122). The existence of client-specific quasi-rents leads to competition among auditors to become the incumbent auditor and drives fees below costs in the initial period (low balling). Thus the auditor makes an investment and expects future pay-offs (quasi-rents). This investment will fail if the audit engagement is not renewed. The client could use the threat of a termination of the contract and demand a clean audit opinion. Thus the existence of client-specific quasi-rents may constitute a lessening of independence.

On the other hand, the auditor also receives quasi-rents from other clients, which means that if the auditor’s misconduct is revealed or a lack of independence is perceived, the auditor’s good reputation can be tarnished. As a consequence, the auditor could lose a portion of the quasi-rents from other clients. This effect counteracts the lessening of independence. The larger the number of clients, the higher the risk of losing quasi-rents from other audit clients. As a result, the auditor has less incentive to behave opportunistically, which increases the perceived quality of an audit. Big audit firms usually have more clients. Thus they have reduced incentives to cheat in order to retain any one client, and they are assumed to supply a higher level of audit quality (DeAngelo, 1981b).

If the statutory auditor provides consulting services to the audit client, the information gained as a consultant can be used to reduce audit costs (knowledge spillovers). As a result, the economic bond between the auditor and the client is strengthened since quasi-rents from auditing services increase. Thus the risk that the auditor’s independence may become impaired increases (Beck et al., 1988). Moreover, the auditor can use the information gained as auditor to lower consulting costs. Thus the total quasi-rents from auditing and consulting services are higher than the quasi-rents from only auditing services. This increases the threat to auditor’s independence (Ostrowski & Söder, 1999). As a consequence, the trust, which the external addressees of the audit have in the auditor’s independence, can be reduced if the auditor provides NAS.

Antle’s agency-theoretical model

Agency theory models the contractual relationship between the owner (principal) and the manager (agent) (Ross, 1973; Jensen & Meckling, 1976). The owner hires an auditor to produce information used in contracting with the manager (Antle, 1982; Watts & Zimmerman, 1986: 312–37). Thus the auditor is also an agent and can be modelled as such (Ballwieser, 1987a, 1987b). The auditor is assumed to behave as if he or she maximizes expected utility, while taking investigative acts and rendering reports under conditions of moral hazard. The auditor is provided with more and better information about audit quality, which is not completely observable by the client (hidden action; Arrow, 1985). As a consequence, a moral hazard exists (Spremann, 1990: 571–2). The auditor could decide to reduce efforts in carrying out the audit, i.e. decrease production costs or give up his independence and accept side-payments from management for not truthfully reporting as the owner expects (Ewert, 1990: 140–6). If an auditor accepts such side-payments he is not independent. Consulting services could be used to give side-payments a legitimate character (Antle, 1984).

The consequences of a lack of independence depend on the owner’s opportunities to detect and penalize the auditor and manager for shirking and/or not telling the truth. If the owner can monitor the transactions between the auditor and manager, he can more effectively control their interactions. Thus a publication of consulting services and consulting fees is beneficial. Due to the adverse effects, which the evidence of non-independence has on the auditor’s reputation...
and the resulting changes in the market value of the auditor’s services, independence can be strengthened (Antle, 1984).

PRIOR RESEARCH AND HYPOTHESES DEVELOPMENT

The effect of the provision of consulting services to an audit client on independence in mind is difficult to observe. Apart from some experiments (e.g. Dopuch & King, 1991; Joe & Vandervelde, 2007), prior research used proxies for independence, e.g. audit planning decisions (e.g. Johnstone & Bedard, 2001), qualifications or disclaimers of audit opinions or going concern opinions (e.g. Craswell et al., 2002; DeFond et al., 2002; Geiger & Rama, 2003), the degree of earnings management (e.g. Frankel et al., 2002; Ashbaugh et al., 2003; Chung & Kallapur, 2003; Larcker & Richardson, 2004; Ferguson et al., 2004; Dee et al., 2005; Huang et al., 2007), restatements (e.g. Raghunandan et al., 2002; Kinney et al., 2004) and litigation (e.g. Bajaj et al., 2003). The majority of the above-mentioned studies did not find a negative effect of the provision of advisory services on independence in mind. Thus empirical studies failed to confirm expectations derived from theory.

Numerous studies investigated the effect of the provision of NAS to an audit client on independence in appearance. These studies are based on (1) surveys (e.g. Lavin, 1976; Firth, 1980; Dykxhoorn & Sinning, 1981; Bartlett, 1997; Beattie et al., 1999; Canning & Gwilliam, 1999; Jenkins & Krawczyk, 2001; Chien & Chen, 2005), (2) experiments (e.g. Pany & Reckers, 1984; Knapp, 1985; Agacer & Doupnik, 1991; Gul, 1991; Lowe et al., 1999; Patel & Psaros, 2000; Swanger & Chewning, 2001; Jenkins & Krawczyk, 2002) and (3) archival data (e.g. Glezen & Millar, 1985; Chaney & Philipich, 2002; Raghunandan, 2003; Brandon et al., 2004; Francis & Ke, 2004; Krishnan et al., 2005; Mishra et al., 2005). The latter observed reactions of capital markets or investigated whether the auditor was ratified by shareholders. Most studies reported a negative effect on perceived independence but some failed to find any significant impact at all, and a few studies even found a positive impact.

Theory and the majority of prior research lead to the following hypothesis:

**H1:** The audit firm’s provision of NAS to its audit client negatively affects the perceived independence of the auditor.

These conflicting research findings could be the result of different research designs applied. Results from different subject groups were analysed, e.g. bank loan officers, financial analysts, shareholders, board members, financial executives and auditors, and it is not surprising that differences in perceived independence exist given the fact that the interests of these groups vary. Research reveals that auditors perceive the weakest impact on independence (e.g. Hartley & Ross, 1972; Bartlett, 1997; Quick & Warming-Rasmussen, 2005).

These earlier studies also used different types of consulting services, e.g. bookkeeping, IT services, design and installation of financial and cost accounting systems, tax planning and preparation, purchase acquisition assistance, human resource management, actuarial services and outsourcing of the internal audit function. The likely impact of these different advisory services on perceived auditor independence seems to vary. Significant differences would require individual treatment of different services by regulators. Thus, a general prohibition of advisory services would not be necessary. Instead, regulators should evaluate the effect of each specific NAS on auditor independence before barring auditors from providing them to their audit clients.

Auditor’s independence may potentially be threatened by a broad range of circumstances that are categorized in the following threats (IFAC, 2006: Sec. 100.10):

- **Self-interest threat,** which may occur as a result of the financial interests of the auditor.
- **Self-review threat,** which may occur when a previous judgment needs to be re-evaluated by the auditor responsible for that judgment.
- **Advocacy threat,** which may occur when an auditor promotes a position or opinion to the point that subsequent objectivity may be compromised.
- **Familiarity threat,** which may occur when an auditor becomes too sympathetic to the interests of the client because of a close relationship.
- **Intimidation threat,** which may occur when an auditor is deterred from acting objectively by threats.

Different types of services may create one or several threats (e.g. the recruitment of senior management for an audit client may create self-interest, familiarity and intimidation threats; IFAC, 2006: Sec. 290.203) and the impact of these threats on independence may differ from service
to service (IFAC, 2006: Sec. 290.165). This leads to our second hypothesis:

**H2:** The degree to which perceived auditors’ independence is impaired depends on the type of consulting service.

Furthermore, empirical research showed that the separation of audit firm staff performing advisory services from those performing the financial statement audit had a significantly positive impact (Titard, 1971; Pany & Reckers, 1983; Lowe & Pany, 1995; Canning & Gwilliam, 1999; Lowe et al., 1999; Swanger & Chewning, 2001; Hill & Booker, 2007). The use of separate personnel mitigated stakeholders’ concerns. These studies are from the US and Ireland. However, a recent study from Denmark (Quick & Warming-Rasmussen, 2005) did not find an increased level of trust in the auditing function by separating the auditing and the consulting function within the audit firm. Therefore, it seems to be appropriate to test the effects of such an internal separation of functions once again for German shareholders.

Auditors are required to consider and apply safeguards to eliminate significant threats or to reduce them to an acceptable level (IFAC, 2006: Sec. 100.5). Such safeguards include making arrangements so that personnel providing consulting services do not participate in the audit engagement (e.g. IFAC, 2006: Sec. 290.163). Having different personnel perform the audit and the advisory services mainly addresses self-review and familiarity threats but not self-interest threats (at least at audit firm level). Thus our third hypothesis can be stated as:

**H3:** The separation of audit firm consulting staff from auditing staff increases perceived independence.

It is undisputed that the absolute size of total fees generated by an audit client may create a self-interest threat and thus impair independence. However, the degree to which perceived independence is impaired depends also on the relative size of consulting fees (as a percentage of total fees from the particular client, Pany & Reckers, 1983; Agacer & Doupnik, 1991; Lowe & Pany, 1995). The audit function is used for cross-selling lucrative consulting services. Because it has been argued that NAS typically have a significantly higher margin than do audit services and thus generate more quasi-rents (Hillison & Pacini, 2000; Chung & Kallapur, 2003), non-audit fees may actually create a more significant self-interest threat than audit fees. As a consequence, the risk of impaired independence increases with the relative size of consulting fees. Apart from Quick & Warming-Rasmussen (2005), no previous empirical evidence existed to support the proposition that there is a generally accepted upper limit for consulting fees, which, when broken, reduces perceived independence. They found that the upper limit of the relative consulting fee varies between Danish subject groups. Another question of interest is whether the perceived consulting fees exceed such a limit. Quick & Warming-Rasmussen (2005) revealed that all external groups assume that the critical percentage is exceeded. If shareholders assume that non-audit fees exceed such a maximum their trust in auditor’s independence is reduced. Then it is of interest whether such a lack of trust is justified. Thus, a further hypothesis can be stated as:

**H4:** The upper limit of the relative consulting fee as perceived by investors is lower than their perception of the actual consulting fees.

H4 states that investors believe that consulting fees are above a critical limit.

Most of the studies have come from English-speaking countries (US, Canada, UK, Australia, New Zealand, India and Malaysia). Thus, it is reasonable to test hypotheses from prior studies again by using German subjects. Indeed, six studies examine data from Germany (see Table 1). Most of these studies did not find any significant effect on perceived independence. Despite this evidence a negative impact was assumed when developing H1 for a number of reasons. Three of these studies used auditors as subjects and it is not surprising that this group did not perceive an impairment of auditor’s independence. Furthermore, perceptions of journalists, directors, supervisory board members, bank loan officers and financial analysts have been investigated. So far, private shareholders have not been used in German studies. The extent of information asymmetries between managers and private shareholders is more extensive than for most other groups. Thus, auditor’s independence is more important to private shareholders and they might be more sceptical with regard to the provision of advisory services. In addition, it should be mentioned that some of these studies did not apply any statistical tests. Finally, most prior research was performed before numerous business scandals like Enron and

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<th>Author(s)</th>
<th>Subjects</th>
<th>Method</th>
<th>Type of NAS</th>
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<td>Auditors</td>
<td>Survey (binomial test)</td>
<td>Bookkeeping and EDP</td>
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<td>Bank loan officers, Financial analysts</td>
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<td>Auditors</td>
<td>Experiment (ANOVA)</td>
<td>NAS in general</td>
<td>Negative influence if revenues from one client are high</td>
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<td>Chief loan officers</td>
<td>Survey</td>
<td>Tax and business consultancy in general</td>
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<td>CEO/CFO, Chairmen of supervisory boards (s.b.)</td>
<td>Survey</td>
<td>List of different NAS</td>
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before the regulatory changes caused by them were introduced. It could be assumed that stakeholders perceive NAS as more problematic nowadays.

RESEARCH DESIGN AND FINDINGS

Research method and sample

Audit reports are addressed to different stakeholders. Institutional investors and employees are represented on German supervisory boards. The same is valid for banks because they are often important shareholders of listed companies. Since supervisory boards have various rights to information, these groups have indirect access to information, which is more detailed and informative than financial statement information. The audit opinion may be less important to them than to stakeholders not represented on supervisory boards. Thus private investors particularly need to be protected and their perceptions of auditor’s independence should be analysed.

This study is based on a survey,10 which was conducted in the spring of 2006. The questionnaire11 was addressed to members of the ‘Börsen-Team’, an academic investment club at Darmstadt University of Technology. It has approximately 600 members and is the largest German academic investment club. Because the questionnaire was made available online, it was appropriate only to ask members with an e-mail address to participate. To increase the number of participants, the e-mail was forwarded to the members of the academic investment club of Bautzen University. Furthermore, the webpage and the newsletter of the ‘Bundesverband der Börsenvereine an deutschen Hochschulen’ (BVH, German Association of Academic Investment Clubs) informed its members of the study. Members of these clubs are not only students. ‘Grafstat’, a specific software for questionnaires was used. The survey resulted in 98 usable responses (incomplete questionnaires were eliminated automatically by the software). It is impossible to identify how many members of BVH were aware of the study, and therefore it is not possible to determine a response rate.

We considered a number of demographic factors. Table 2 provides brief details of the respondents. To test for non-response bias, early and late responses were compared by performing Mann-Whitney U-tests. Only one in 19 different advisory services (due diligence) had significant differences (it is only perceived as critical by early respondents). This indicates that apart from this exception, non-response bias does not exist.

Survey findings

Effect of NAS

To test our first hypothesis, the participants had to give their view on the following assertion: ‘If the auditor provides consulting services in addition to audit services, he is not sufficiently independent from client’s management’. The following five-point response scale was provided: 1 = completely disagree, 2 = somewhat disagree, 3 = indifferent, 4 = somewhat agree, 5 = completely agree.12 Table 3 shows the results. The ‘completely disagree’ and ‘somewhat disagree’ as well as ‘completely agree’ and ‘somewhat agree’ responses are summarized in Table 3.13

Obviously, investors believe that the provision of advisory services reduces the trust held in an auditor’s independence. This result is highly significant. Thus the first hypothesis is confirmed.

<table>
<thead>
<tr>
<th>Table 2: Demographic characteristics of the participants</th>
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<tr>
<td>Yes</td>
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<tr>
<td>Shareholder</td>
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<tr>
<td>Student</td>
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<tr>
<td>Age</td>
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<td>&lt;31</td>
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<td>31–50</td>
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<td>51–65</td>
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<table>
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<tr>
<th>Table 3: The impact of non-audit services on perceived independence</th>
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<tr>
<td>Disagree (%)</td>
</tr>
<tr>
<td>Indifferent (%)</td>
</tr>
<tr>
<td>Agree (%)</td>
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</table>

*Difference agree/disagree significant (0.000) (chi-square test)
This result is quite similar to what was found in Denmark, where 69.2% of private shareholders agreed (Quick & Warming-Rasmussen, 2005). Statutory audits can only increase trust in financial statements if investors perceive auditors as being independent. From that point of view, Table 3 indicates that the provision of consulting services may reduce trustworthiness of audited financial statements. Independence in appearance may be endangered.

To receive a more detailed impression of the effect of different NAS on auditor’s independence as perceived by shareholders, a list of 19 different services was presented to them. This list contained services that are viewed as being critical or explicitly prohibited, as well as additional services publicized on the web pages of the big four audit firms. The participants were questioned as to whether their trust in auditor’s independence was affected by the auditor providing these 19 additional advisory services to their auditing clients. The following five-point response scale was provided: 1 = much less confidence, 2 = less confidence, 3 = no change in confidence, 4 = more confidence, 5 = much more confidence.

Table 4 provides an overview of the results. It can be seen that all means are lower than 3, i.e. respondents tend to perceive a negative effect on auditor’s independence for all services. To determine whether the means differ significantly from 3, t-tests have been performed (H0: μ = 3, H1: μ ≠ 3). Table 4 shows the results.

Only in regard to two services (accounting information systems and forensic services) do investors not perceive significant impairment of auditor’s independence. Concerning organizational services there is only a weak significant negative impact. Thus, H1 is also confirmed for most of the individual services tested here.

Surprisingly, the respondents do not perceive a significant negative effect on auditor’s independence for services related to accounting information systems. According to paragraph 319a, 1 no. 3 HGB, a public accountant cannot be the statutory auditor of a listed company if involved in the development, establishment and implementation of the accounting information systems. This finding is in contrast to what was found for Danish investors, who perceived a significant negative impact (μ = 2.68) of financial IT systems (Quick & Warming-Rasmussen, 2005).

On the other side it is remarkable that numerous services are perceived as being problematic despite the fact that they are not explicitly forbidden by paragraphs 319 and 319a HGB. This is primarily the case for services related to human resources. Concerning the temporary staff assignments and the recruiting of senior management, a highly significant negative impact on independence as perceived by investors is found. Interestingly,
companies have to prepare their consolidated financial statements to be audited. Listed position and results of operations in the annual affect the presentation of the net assets, financial alternatives, and which directly and materially extend beyond the presentation of structuring services, in the financial year to be audited, that 2 HGB interdicts the provision of tax advisory services is understandable. Paragraph 319a, 1 no. and going public.

Furthermore, investors perceive services related to the client’s internal control system as negative. A review of the internal control system is a compulsory component of the audit of financial statements (ISA 315; IDW EPS 261). Thus related services create a self-review threat. On the other hand, the statutory auditor is obliged to ensure that revealed weaknesses (also those related to internal controls) are eliminated by the client. It is difficult to distinguish here between auditing and consulting. This might be the reason why the legislator did not prohibit such types of services.

Risk management services reduce investors’ trust in auditor’s independence, too. According to paragraph 91, 2 AktG (Aktiengesetz; stock corporation law), the executive board has to implement a system for the early identification of risks. For statutory audits of listed clients the auditor has to review the existence and the of risks. For statutory audits of listed clients the auditor has to review the existence and the efficiency of such a system (paragraph 317, 4 HGB). Hence, risk management services cause a self-review threat. Thus respondents’ scepticism is justified. However, these services are not forbidden. Further services, which are not explicitly prohibited, but have been perceived as problematic, are due diligence, corporate recovery and going public.

The very critical attitude to tax consulting services is understandable. Paragraph 319a, 1 no. 2 HGB interdicts the provision of tax advisory services, in the financial year to be audited, that extend beyond the presentation of structuring alternatives, and which directly and materially affect the presentation of the net assets, financial position and results of operations in the annual financial statements to be audited. Listed companies have to prepare their consolidated annual accounts in accordance with International Financial Reporting Standards. But for the preparation of the individual financial statements of subsidiaries, German accounting standards have to be applied. The authoritative principle (Maßgeblichkeitsprinzip, paragraph 5, 1 EStG), which states that the commercial financial statements form the authoritative basis for the ‘tax financial statements’, and the reversal of the authoritative principle (which provides that the use of certain tax incentives may only be claimed if the same accounting treatment is used in the commercial financial statements) results in a strong impact of tax law on the individual-company commercial financial statements. Hence, tax advisory services are more problematic in Germany than in Anglo-Saxon countries.

**Effect of different types of NAS**

To test our second hypothesis the above-mentioned means were reviewed for significant differences. Since the prerequisites for parametric tests were not fulfilled, it was necessary to apply non-parametric tests. Overall, H2 can be confirmed (Kruskal–Wallis test, significance 0.000). In addition, the means were tested in pairs for significant differences by applying Mann-Whitney U-tests (Table 5). This revealed many significant differences in particular with regard to the following services: corporate management and internal audit on one side and accounting information systems, organization and forensic services on the other side. The first two are perceived as exceptionally negative, whereas the latter three have no or only a weak significant negative effect on perceived auditor independence.

Figure 1 summarizes the results. It shows that all means are lower than 3. In addition, the figure discloses that most means are on the left side of the dashed line, i.e. they have a significant negative effect on perceived auditor’s independence. Furthermore, it is possible to conclude that different services have different effects on the investors’ perceptions, because the lengths of the individual bar charts differ.

Self-interest threats, familiarity threats and intimidation threats can be created by all services. The significance of these threats is influenced mainly by the volume of the service and the size of fees and not by the type of service. A self-review threat is created mainly by the following 12 services: internal control systems, bookkeeping,
Table 5: Pair comparisons of individual services

|   | a    | b    | c    | d    | e    | f    | g    | h    | i    | j    | k    | l    | m    | n    | o    | p    | q    | r    | s    |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| a | 0.320| 0.255| 0.785| 0.843| 0.055| 0.535| 0.045| 0.016| 0.178| 0.548| 0.983| 0.001| 0.870| 0.463| 0.336| 0.922| 0.340| 0.055|
| b | 0.862| 0.387| 0.368| 0.003| 0.059| 0.002| 0.134| 0.769| 0.614| 0.255| 0.013| 0.346| 0.101| 0.032| 0.395| 0.848| 0.002|
| c | 0.327| 0.315| 0.879| 0.014| 0.252| 0.011| 0.017| 0.238| 0.788| 0.761| 0.001| 0.910| 0.298| 0.141| 0.923| 0.460| 0.012|
| d | 0.879| 0.014| 0.252| 0.011| 0.017| 0.238| 0.788| 0.761| 0.001| 0.910| 0.298| 0.141| 0.923| 0.460| 0.012|
| e | 0.223| 0.103| 0.859| 0.000| 0.001| 0.007| 0.027| 0.000| 0.001| 0.005| 0.021| 0.000| 0.018| 0.273| 0.193| 0.041| 0.001| 0.754|
| f | 0.070| 0.001| 0.023| 0.191| 0.401| 0.000| 0.331| 0.747| 0.631| 0.418| 0.052| 0.118| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| g | 0.398| 0.143| 0.026| 0.205| 0.043| 0.011| 0.240| 0.627| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| h | 0.586| 0.004| 0.693| 0.166| 0.094| 0.660| 0.655| 0.008| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| i | 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| j | 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| k | 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| l | 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| m | 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| n | 0.354| 0.192| 0.995| 0.401| 0.020| 0.966| 0.441| 0.091| 0.334| 0.026| 0.298| 0.041| 0.451| 0.041| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| o | 0.273| 0.026| 0.298| 0.041| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| p | 0.451| 0.041| 0.001| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| q | 0.001| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| r | 0.001| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|
| s | 0.001| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000| 0.000|

Overall: 0.000 (Kruskal–Wallis-test). (□) <0.05; (■) <0.06.
tax advisory, legal advisory, actuarial services, accounting information systems, internal audit, valuation, personnel lending, corporate management, risk management and financial services. The average mean for these services ($\mu = 2.44$) is lower than that of the other services ($\mu = 2.65$) and this difference is significant ($T: -4.466$).

The existence of self-review threats intensifies the negative impact of the NAS provision on perceived auditor’s independence. Since all services prohibited in Germany create a self-review threat, it is not surprising that the average mean for prohibited services ($\mu = 2.42$) is significantly lower than that of non-prohibited services ($\mu = 2.61$). This finding indicates an overall effectiveness of German legislation in prohibiting certain NAS.

The position of a director and the provision of legal, tax advisory and corporate finance (e.g. promoting, dealing in or underwriting audit clients’ shares) services may create advocacy threats. With regard to legal and tax advisory services, there is a distinction between advocacy and advice. Acting for resolution of a dispute would create advocacy. Since the average mean for the services that may create advocacy threats ($\mu = 2.38$) is lower than that of the other services ($\mu = 2.57$) and this difference is again significant ($T: -3.746$), it can be concluded that the existence of advocacy threats reduces trust in auditor’s independence even more.17

**Staff separation**

To test the third hypothesis, the participants had to give their view on the following statement: ‘Your trust in auditor’s independence would have been strengthened if auditing and consulting had been performed by different accountants from the same firm’. The following five-point response scale was provided: 1 = completely disagree, 2 = somewhat disagree, 3 = indifferent, 4 = somewhat agree, 5 = completely agree.18 Table 6 shows the results. The ‘completely disagree’ and ‘somewhat disagree’ as well as ‘completely agree’ and ‘somewhat agree’ responses are combined.19

H3 is confirmed. The separation of audit firm consulting staff from auditing staff increases perceived independence. A possible explanation for this result is that the perception of independence is influenced not only by the audit firm-related self-interest threat but also by the auditor-related familiarity threat or self-review threat.
Relative consulting fees

To test out fourth hypothesis, first, the participants had to state the percentage of consulting fees (in relation to audit firm’s total fees from the same client) when they no longer have trust in the auditor’s independence. The mean of their answers is 27.9% (standard deviation: 21.7). In addition, the participants were asked to assess the current percentage of consulting fees in the auditing industry. The average percentage is 47.4 (standard deviation: 19.2).

By comparing both percentages, it becomes apparent that investors assume that the critical percentage is exceeded. A Mann–Whitney U-test was applied to test whether there is a significant difference between these two means. This was the case (significance: 0.000). H4 is confirmed.

Group differences

It could be presumed that the results of this study are not representative of private investors given that only members of academic investment clubs took part in the survey. To control the risk of such a bias, whether there are significant differences between the answers of students and those of non-students was tested (Mann–Whitney U-tests). This was rarely the case, namely only for due diligence services (significance: 0.002) and risk management services (significance: 0.045). Concerning due diligence services, the mean for students was 2.81 and for non-students 2.27, i.e. only non-students perceive them as problematic (for students the significance was 0.141). Concerning risk management services, the mean for students was 2.75 and for non-students 2.35. Thus, students do not perceive a significant impairment of auditor’s independence (significance: 0.063). In addition, significant differences were found with regard to the question of whether a separation of consulting staff from auditing staff in a given audit firm increases perceived independence. Students agree (25.5% disagreement, 59.6% agreement), i.e. to them the self-review threat is relevant. For non-students no significant difference between agreement (40.8%) and disagreement (34.7%) was found. So, it can be assumed that this group considers the self-interest threat as more important.

Moreover, a test was conducted to determine whether there are significant differences between the perceptions of participants who own shares and those who are merely interested in the stock exchange (potential shareholders). Such a difference could only be revealed for due diligence services (significance: 0.026). The mean for shareholders was 2.46, whereas the mean for non-shareholders was 2.89, i.e. non-shareholders do not perceive an impairment of independence (significance: 0.542).

Overall, these tests for group differences and the low number of detected significant differences indicate that the results are representative of private shareholders.

SUMMARY AND CONCLUSIONS

A lack of independence can neither be justified by efficiency arguments nor by the chance of increased effectiveness in the auditing and consulting areas. Due to the current situation in audit markets, where audit services have low margins (Hillison & Pacini, 2000; Niehus, 2002), it can be assumed that knowledge spillovers from consulting services are not used to increase audit quality but to reduce audit costs. In addition, improved consulting services are primarily beneficial to the auditor and the client, whereas a lack of independence harms the interests of external stakeholders. Even if knowledge spillovers increase auditor’s ability to discover a breach in the client’s accounting system, such an increase in effectiveness is worthless if the auditor does not report the breach, due to a lack of independence. Thus a positive effect on shareholders’ trust in financial statements is implausible.

Economic theory explains why an auditor’s independence is endangered and how the provision of advisory services by the auditor in addition to audit services can impair independence. This threat is reduced by the fact that the auditor can lose clients and/or audit fees.
if a lack of independence becomes public. Such a market mechanism only functions if auditors’ independence is monitored and if violations are published. Monitoring and adequate sanctions can also reduce the moral hazard risk.

Several conclusions can be drawn from this empirical study. Prior international research and our results from Germany, which are compatible with the theoretical findings introduced earlier, demonstrate that the provision of NAS impairs independence in appearance. The main function of external audits is to increase trust in financial statements. To fulfil this function it is not enough that the auditor is independent in mind. In addition, the recipients of financial reports must believe in the auditor’s independence, i.e. independence in appearance is required. Thus a need for a limitation of statutory auditors’ opportunities to provide consulting services is documented.

Prior research found that some types of services are not perceived as being crucial. This study researched a significantly larger number of advisory services than prior studies. For most advisory services a significant impairment of perceived auditor’s independence was found. This finding may be due to a lack of mitigating factors in Germany, like unlimited liability of auditors. Services related to accounting information systems were seen as unproblematic. Nevertheless, German auditors of listed firms are explicitly forbidden to provide them to such companies. This result is also surprising because it is in contrast to prior research (Shockley, 1981; Gul, 1987, 1991; Bartlett, 1993; Patel & Psaros, 2000; Quick & Warming-Rasmussen, 2005) and because the self-review threat is obvious. On the other hand, many services were perceived as impairing independence, in particular those related to human resources, despite the fact that they are not prohibited. As a consequence, superiority of standard-setting by the legislator could be questioned with regard to independence standards. Nevertheless, it was found that currently prohibited services have a more significant negative effect on investors’ trust in auditor’s independence than non-prohibited services, indicating an overall effectiveness of legislation. The impact on perceived auditor independence differs from service to service. One reason for this is that different services create a different number of threats. Services that also create self-review threats and advocacy threats result in more negative perceptions on auditor’s independence. Therefore, it might be concluded that independence rules related to NAS could be differentiated, i.e. different NAS could be treated differently.

In accordance with prior empirical research results, an internal separation of the auditing and the consulting function within the same audit firm is viewed as beneficial by German investors. However, this result was not found for the group of non-students. As a consequence, it cannot be concluded that the legislator should demand such internal separation of functions.

Furthermore, results confirm findings from prior empirical research that the risk of perceived dependence increases with a larger amount of consulting fees. It can be concluded that a limitation of fees paid by a company to its public accounting firm for NAS as a percentage of both audit and NAS fees would contribute to a reduction in perceived dependence. Investors are very important addressees of the audit report. A limit of 25% was acceptable to them, because the mean of their assessments was 27.9%. The SEC suggested the same percentage (SEC, 2001: 41).

A comparison of the findings in this study with the findings from Quick & Warming-Rasmussen (2005) for Denmark reveals many similar results; the provision of NAS is generally perceived negatively, the degree to which perceived auditor independence is impaired varies by the type of service, apart from services related to accounting information systems, all services analysed in Denmark have a negative impact on perceived independence in Germany too, the results for recruiting services are nearly identical and a critical percentage of consulting fees close to 25%. On the other hand, some findings differed: Danish investors have a less critical attitude to accounting-related services and a separation of audit firm consulting staff from auditing staff only increases perceived auditor independence for German investors. As a consequence, the findings in this study may be valid for other continental European countries. Nevertheless, a generalization of the results can only be done with caution and requires further research.

Finally, some limitations of this study need to be mentioned. Our study is based on a survey of just one group of stakeholders, private shareholders. Hence, the results are only valid for this group and cannot be transferred to other addressees such as creditors. On the other hand, it should be
mentioned that the IASB assumes that investors represent the needs of other users: ‘investors are providers of risk capital to the enterprise, the provision of financial statements that meet their needs will also meet most of the needs of other users’ (Framework 10).

Also, we have to take into account that the participants were persons interested in the stock exchange. Probably, they gave their assessments with regard to the audit of listed companies. The validity of the results for audits of non-listed companies should not be assumed. Despite little difference between the perceptions of students and non-students, respectively shareholders and potential shareholders, there is a remaining risk that the subject group used for this study is not completely representative of private shareholders. Furthermore, to reduce the required handling time and thus increase the response rate, the questionnaire simply named different advisory services without providing further explanations. As a consequence, the advisory services could have been interpreted differently by different subjects. Furthermore, the effects of a separation of audit firm consulting staff from auditing staff were only tested generally. This safeguard mainly addresses self-review and familiarity threats. Given that not all NAS involve a self-review threat, the effect of staff separation could differ by the type of service. Future research should test this hypothesis for individual services. Finally, the objective of this survey may have been obvious to participants. This may have resulted in biased answers. Moreover, the specific wording of the questionnaire may have caused inconsistent findings. Thus a fruitful avenue for future research would be to use an experimental design.

NOTES

1. The AICPA Code of Professional Conduct (ET Section 55, Article IV.03) uses the term ‘independent in fact’ (AICPA, 2006).
2. The association between quality of annual reports and cost of capital is examined by, for example, Botosan (1997) and Botosan & Plumlee (2002).
3. Apart from participation in the client’s bookkeeping, only one additional service is explicitly prohibited in Denmark; the auditor of a public interest company is not allowed to perform recruiting services for crucial financial and administrative management positions in the client company.
4. For a detailed discussion, see Quick (2006: 45–48).
6. Kanodia & Mukherji (1994: 607) emphasize that the audit client’s ability to put the auditor under pressure is higher if the client knows the audit costs. It may be questionable whether audit costs are observable for the client. Magee & Tseng (1990) investigate the circumstances under which independence is reduced.
7. Empirical research shows that perceptions of independence depend on the size of the audit firms. The smaller the audit firm is, the higher the negative effect on perceived independence (Shockley, 1981; McKinley et al., 1985; Lindsay, 1989, 1992; Gul, 1989, 1991; Knapp, 1991; Dykxhoorn et al., 1996).
8. A detailed discussion of such prior research is provided by Quick (2006: 48–53).
9. An extensive overview is provided by Quick & Warming-Rasmussen (2005: 156–63).
10. An experimental design was not applied. It is more complex and might have resulted in a lower response rate, and thus in a lack of significant findings. Furthermore, the effect of a large number of different advisory services can only be analysed by use of a questionnaire.
11. The questionnaire used by Quick & Warming-Rasmussen (2005) was similar in design.
12. The use of a five-point Likert scale could result in a low differentiation of answers if the respondents tend to avoid the extreme answers. This was not the case, because 26.5% answered ‘completely agree’.
13. This summary should not lead to a bias. The mean is 3.6 and the mode 4, i.e. most respondents answered ‘somewhat agree’. 9.2% responded ‘completely disagree’, 16.3% ‘somewhat disagree’, 26.5% ‘completely agree’ and 38.8% ‘somewhat agree’.
14. The Danish study by Quick & Warming-Rasmussen (2005) only included four services:
design and implementation of financial IT systems, recruiting senior management, legal services and accounting-related services.

15. Again the use of a five-point Likert scale could result in a low differentiation of answers if the respondents tend to avoid the extreme answers. This was not the case, e.g. concerning corporate management services, 36.7% answered ‘much less confidence’.

16. If a one-tailed t-test had been performed (H0: μ = 3; H1: μ < 3), these two services would have been (weakly) significant too.

17. All services prohibited in Germany create self-review threats, and all services that may create advocacy threats are forbidden.

18. Again the use of a five-point Likert scale could result in a low differentiation of answers if the respondents tend to avoid the extreme answers. This was not the case, because 30.2% answered ‘completely agree’ or ‘completely disagree’.

19. The mean is 3.2 and the mode 4, i.e. most respondents answered ‘somewhat agree’. 16.7% responded ‘completely disagree’, 13.5% ‘somewhat disagree’, 14.0% ‘completely agree’ and 36.0% ‘somewhat agree’.

20. A comparable result is reported by Quick & Warming-Rasmussen (2005) for Danish private shareholders. They found a critical percentage of 25.

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