

MEASURING CORPORATE GOVERNANCE IN GERMANY: AN INTEGRATED FRAMEWORK ON COMPLIANCE AND TRANSPARENCY & DISCLOSURE

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Abstract

Compliance as well as transparency and voluntary corporate disclosure are essential within the concept of 'good' corporate governance. Consequently, there is an increasing demand for methods enabling investors to compare companies by means of country-specific criteria. However, measures in Germany do not provide a broad spectrum of criteria for evaluating corporate compliance and governance transparency & disclosure. Our framework covers all rules of the German Corporate Governance Code as well as additional criteria, enabling investors to analyse how companies are managed. Furthermore, we raise quality criteria of social sciences to confirm our findings.

Keywords: corporate governance, ratings, compliance, transparency, disclosure

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Introduction

The demand for methods facilitating the comparison of firm-specific corporate governance is constantly increasing. Focussing on 'good' corporate governance, compliance as well as transparency & disclosure are specific core elements within this concept (Bönnner and Rausch, 2008). Corporate governance ratings in Germany have focussed so far on compliance, considered as the sum of arrangements within a company (Baetge and Brembt, 2008) meeting legal rules and voluntary guidelines (Menziez, Tüllner and Martin, 2008). In contrast, there is still sparse research on and interest in the field of transparency & disclosure. This is a critical deficiency, as corporate governance is considered to be a vital information - equitable with financial figures - when companies are evaluated by investors (Deane, 2006; Arnsfeld and Growe, 2006). Since German governance ratings also show lacking transparency themselves (Bassen, Klein and Zöllner, 2006) we try to answer the following research question:

Which aspects of corporate governance should German listed firms report on exactly?

Aiming to close this gap for the German market we developed an integrated framework which consists of a Compliance Scorecard (CS) and a Transparency & Disclosure Scorecard (TDS). Both scorecards are based on international empirical findings concerning information on corporate governance investors want to know from companies. However, corporate

governance has to be evaluated from a national point of view and therefore differences in governance among countries have to be taken into account by governance ratings. Until now, cross-national governance ratings haven't been able to meet both the national and international requirements (Koehn and Ueng, 2007). Responding to this lack of appropriate instruments, our framework covers the rules of the German Corporate Governance Code (GCGC) which are stated to be relevant for investors. Furthermore, we analysed the corporate governance reportings of German firms listed in the Prime Standard segment of the Frankfurt Stock Exchange and identified additional criteria German companies should meet with their governance reportings. Financial analysts might use our framework as an additional instrument to evaluate the corporate governance of German stock corporations. Moreover, the developed criteria may give managers a valuable insight what investors generally expect from their corporate governance reporting. Consequently, we assume our framework to have the potential to support firms by implementing best (corporate governance) practices.

1. Corporate Governance Ratings, Transparency & Disclosure and Firm Performance

Ratings are an objective measure to evaluate specific abilities and/or characteristics of an economic unit (Oelerich, 2005). Therefore, ratings hold the important

function to gain transparency on how companies are managed and consequently to facilitate the comparison of firm-specific governance for investors as well as creditors. That way, these groups might better assess the risks incorporated by an investment (Fischer and Holzkämper, 2005). Thus, summarizing corporate governance quality in one or few ratios improves market efficiency (Arnsfeld and Growe, 2006). Classifying corporate governance ratings on their purpose, literature differentiates between compliance (checking if firms meet legal rules and voluntary guidelines) and performance (systematic and effective evaluation of corporate governance-specific activities and modalities and their effect on companies' performance). In our framework, we go beyond that differentiation by establishing further criteria on transparency & disclosure.

As stated before, ratings by firms of the corporate governance industry (Rose, 2007) like the ones of Governance Metrics International (GMI), Standard & Poor's (S&P) or the Institutional Shareholder Services (ISS) have difficulties in taking national differences in corporate governance systems into account. Unsurprisingly, Koehn and Ueng (2007) comparing companies in a cross-national study with the help of ISS's governance rating, could't find distinct results on how strong governance rating scores are correlated with companies' performance. Since the implementation of the GCGC, there has been a tradition for scientific corporate governance ratings in Germany. The scientific approaches intend to assess the quality of firm-specific corporate governance and try to find possible relations between corporate governance and firm performance. In general, scientific corporate governance ratings don't focus on specific firms. They mainly target on identifying drawbacks in corporate governance and try to obtain correlations between specific corporate governance mechanisms (Werder and Grundei, 2003). As Table 1 shows, most ratings have an exclusive focus on compliance and do not cover all the rules of the GCGC. However, this so-called 'box-ticking' approach excluding additional variables doesn't measure 'good' corporate governance (Van den Berghe and Levrau, 2003). Nevertheless, there is only a minority of ratings covering additional criteria on corporate governance apart from the rules of the GCGC.

Insert Table 1 about here

Transparency & disclosure comprises the availability of firm-specific (corporate governance) information being presented to the capital markets (Bushman, Piotroski and Smith, 2004). From a theoretical perspective, transparency & disclosure is a main component of 'good' corporate governance. Table 2 presents empirical findings confirming its significance on capital markets.

Insert Table 2 about here

So far, there hasn't been a study in Germany analyzing the correlation between corporate governance reporting and corporate performance (Zöllner, 2007). However, there are studies trying to analyse perceived quality of companies' investor relations from an analyst point of view (Schachel and Vögtle, 2006). One finding is a significant positive correlation between companies' investor relations and firm size (Gohlke, Schiereck and Tunder, 2006), which was analysed not to be a consequence of smaller companies' lower budgets for their communication departments (Königs and Schiereck, 2006) but rather a lower emphasis of smaller firms on communication topics (Graf and Stiglbauer, 2007).

2. An Integrated Framework to Measure Corporate Governance in Germany

The development of the framework is described considering the following aspects: (1) solicited versus unsolicited ratings, (2) data collection and (3) disclosure of main categories and subcategories.

(1) Koehn and Ueng (2007) criticise unsolicited governance ratings for not considering internal information from companies within the rating process. Contrary to this, we have a different comprehension of transparency & disclosure encouraging companies to offer corporate governance information on a voluntary basis. According to this, we don't think that solicited ratings (where rating agencies are mainly paid by the rated companies which possibly expect a positive rating) contain an information surplus for the capital markets (particularly in reference to corporate governance). On this account, we prefer unsolicited ratings due to their objectivity (Bassen, Pupke and Zöllner, 2006). Reference may also be established to the findings of Bannier and Tyrell (2006) reporting that only firms having positive private information request a solicited rating, in order to reveal this information. As a consequence, these companies should have better solicited ratings than the ones without positive private information. Empirical findings by Behr and Güttler (2008) confirm this assumption. They demonstrate that unsolicited ratings convey new information to the stock market especially when companies' ratings change over time. Focusing on solicited governance ratings in Germany like the one of Werder and Talaulicar (2008), the authors also suspect the following bias: companies with better compliance to the rules of the GCGC send back their questionnaire more often than companies with lower compliance.

(2) The way of data collection is a further criterion for categorizing corporate governance ratings. Our framework follows the so-called modeling approach. This means that data is collected for the purpose of the rating only (Dallas, 2004) by evaluating all published firm-specific data being accessible to an interested investor. Werder and Grundei (2003) emphasize the importance of analysing private information within German corporate governance ratings, like annual reports, articles of incorporation, companies' website,

declarations of conformity (following § 161 of the German Stock Corporation Act) and the corporate governance report (following rule 3.10 GCGC). We have included these suggested documents in the content analysis within our study.

(3) The disclosure of main categories and subcategories in empirical ratings is our final criterion. Corporate governance ratings are often criticised as being intransparent on their criteria (Bassen, Klein and Zöllner, 2006) and to rather represent a conglomerate of different corporate governance mechanisms (Larcker, Richardson and Tuna, 2005) than giving companies advice where to improve exactly. In contrast, we will present the entire TDS as well as parts of the CS in section 3. Additionally we will present the process of developing the main categories and subcategories of our framework. We also give empirical findings to validate our choice of categories in section 4. Table 3 presents our integrated framework to measure German corporate governance.

Insert Table 3 about here

3. A deductive-inductive approach to develop main categories and subcategories

The six main categories of the CS correspond to those of the GCGC. In order to identify substantiated subcategories of the CS we conducted an in-depth analysis. Several studies reported different numbers of recommendations and suggestions of the GCGC (Claussen and Bröcker, 2002; Peltzer, 2002; Seibt, 2002). Therefore, we decided to do a systematic analysis of the GCGC evaluating each sentence for the term “shall”, which is generally an indication for a recommendation (Werder and Talaulicar, 2003). As a result we have found 77 recommendations in the GCGC version of 2006. As a next step, we identified the suggestions by search for the signal words “should” and “can” (indications for suggestions). We found 17 suggestions in the GCGC version of 2006. Our final result of 94 subcategories is similar to findings of Werder and Talaulicar (2007) who are analysing compliance to the GCGC annually. As the GCGC is updated every year we recommend researchers to proceed alike.

For establishing the TDS two experts in the field of German corporate governance developed six main categories and 38 associated subcategories independent of each other. They evaluated companies' survey-specific private data (already mentioned in section 2) from the year 2007 in regards to international standards for corporate governance reporting. After having discussed their individual results they designed the TDS together following empirical and theoretical findings, mentioned in section 4, and derived from information both experts identified repeatedly in the private data. They also included information only one expert identified to be relevant - but only, if both experts agreed on its

importance. Mayring (2003) is calling this procedure a deductive-inductive approach. Table 4 presents our final TDS.

Insert Table 4 about here

4. Compliance and Transparency & Disclosure Scorecard: Disciplined Inquiry

Social sciences apply three criteria to disciplined inquiry: objectivity, reliability and validity (Denzin and Lincoln, 1994). In order to meet these relevant criteria, we now present how we integrated them in our research and thus confirmed the quality of our findings.

Developing and applying content analysis systems, one must be aware of a classic dilemma: coding schemes may be very complex becoming unwieldy or thus simple that they become meaningless (Harris, 1996). Our intention was to balance complexity (as to maximize its theoretical relevance) and simplicity (as to maximize its reliability) in our framework. Our set of categories directly originates from a well-established body of theoretical knowledge (see section 4).

We're reaching *objectivity* of our rating through a high level of standardisation. This implies a high standard for the coding as well as the interpretation process. Thus, we allow the application of both instruments independent from coders' (un)conscious behavior patterns. A further point was the standardisation of evaluation. Assigning clear values to single subcategories (conformity counted with 1–non-conformity counted with 0), makes the instruments very robust against mistakes of coding and at the same time enhances its selectivity (Hofmann, 2006) by reducing space for interpretations. This binary splitting of the decision process also helps to increase intercoder reliability: the higher the number of subcategory characteristics the lower reliability scores (Spiegelman, Terwilliger and Fearing, 1953; Schutz, 1958).

Here are some additional words to the scoring of our framework: a first step is summarizing single subcategory scores and building scores on each of the main categories. When comparing different firms on only one main category, these scores can be on an absolute or relative basis. When comparing companies across different main categories we recommend to build relative scores due to different numbers of subcategories and also for better calculation e.g. in SPSS. Furthermore, the absolute main category scores can be summarized to an overall score for the CS and TDS. Interpreting the results is as follows: the higher main category or overall scores the higher the compliance or transparency & disclosure level and vice versa. We didn't further weight the single main categories of the CS and TDS as there are no empirical findings which intend any weighting. However, weighting of our category scheme is possible, if assessors of our framework find it necessary to meet

coders' individual purpose.

Holsti describes *reliability* of coded data as a function of the training during which coders familiarize themselves with the concepts (Holsti, 1969). We tested both scorecards for intercoder reliability (Krippendorff, 1980). As there doesn't exist a unitary 'best' coefficient for intercoder reliability that corrects measures like Holsti's R (Holsti, 1963) on chance agreements, we were calculating a set of coefficients mainly used in communication research (Milne and Adler, 1999; Srnka and Koeszegi, 2007; Zwick, 1988): Scott's pi (π), Cohen's kappa (κ) and Krippendorff's alpha (α) (Scott, 1955; Cohen, 1960; Krippendorff, 1980). Literature gives recommendations how results of coefficients for intercoder reliability should be interpreted. The theoretical span of all calculated coefficients lies between +1.00 (perfect agreement) and -1.00 (completely non-agreement) (Milne and Adler, 1999). Values of π and κ increasing +0.70 are regarded as good agreement (Fleiss and Cohen, 1973; Bakeman and Gottman, 1986). Values higher than +0.80 are suggested as very good agreement (Popping, 1988; Funkhouser and Parker, 1968). Milne and Adler (1999) similarly to π and κ suggest α -values between +0.75 and +0.80 as good agreement and levels above +0.80 as very good agreement.

In a first step, two coders were trained in the use of the coding system, determining explicitly the classification of each subcategory. In a second step, they tested independently the CS on 23 firms listed in the selection index TecDAX on the Frankfurt Stock Exchange. Finally, we compared the coders' results by calculating the above mentioned intercoder reliability coefficients. Table 4 shows the results (in brackets) of our test for intercoder reliability on TecDAX. All categories excepting α for categories I, II, IV and the overall level had good or very good intercoder agreement levels.

Insert Table 5 about here

However, intercoder coefficients always have to be interpreted according to the coding object and its characteristics (Wirtz and Caspar, 2002). Looking on the dichotomous characteristics of our subcategories we didn't find the results to be satisfying enough. Moreover, according to Zwick (1988) also marginal differences between coders should be taken under suspicion. As we were not able to readapt the categories due to the presetting of the GCGC, our focus was on the coding process, our coding scheme as well as the coders themselves. Remarkably, 18.09% of the subcategories had reliability scores less than +0.70 for all coefficients. 27.66% had reliability scores under +0.70 for at least one coefficient. Though, we were analyzing and discussing inconsistencies between the two coders in detail (Cohen, 1960). We identified some systematic differences between the coders' approach. Table 6 demonstrates our findings.

Insert Table 6 about here

We reconciled disagreements between the coders and readapted our coding scheme and tested it again (according to Mayring, 2003) on 137 firms listed in the selection indices DAX, TecDAX, MDAX and SDAX. Subsequently, we found better intercoder agreement levels (Table 5). See for example the nearly equal results of pi and kappa which are based on similar distributions of both coders' random sums (Wirtz and Caspar, 2002). Summarizing, we assume the CS as being highly reliable for all categories; therefore we had no reason for further adaptations.

We also tested TDS for intercoder reliability on the same 23 firms listed in the selection index TecDAX. Following the same steps like testing the CS, we received results presented in Table 7.

Insert Table 7 about here

The results for all categories, also for Krippendorff's α on all categories had good or very good intercoder agreement levels. We only found some minor differences in the coders' operations, e.g. one coder in some cases evaluated in some cases codes of ethics as firm-specific corporate governance codes which in fact didn't base on the GCGC (Number VI.1 TDS). Nevertheless, we readapted our coding scheme as a consequence of these minor deviations.

Content analysis is considered as being valid to the extent its interferences are upheld in the face of independently obtained evidence (Krippendorff, 1980). Corporate governance ratings are often criticized not to be checked for validity, when they are (further) developed (Bassen, Klein and Zöllner, 2006). We picked up that critique on missing inclusion of empirical and theoretical findings: several experts in the field of corporate governance were involved in the rating process to validate our approach. Many publications already stated on the content of the GCGC (Pfitzer, Oser and Orth, 2005). As the CS contains exactly its main categories and subcategories, we're now focusing on empirical and theoretical findings pointing out the relevance of the TDS.

The TDS contains six main categories and 38 subcategories. Some subcategories represent specific rules of the GCGC which can be evaluated from the outside. Indeed, scientists state consistently that compliance on rules of the GCGC shouldn't be interpreted automatically as real practice inside companies (Werder and Talaulicar, 2003; Laufer, 2006). As the GCGC is updated every year the subcategories of the TDS should be checked according to the year of evaluation. Additionally, we have developed further and in part stricter rules on transparency & disclosure exceeding the formal standards and benchmarks of the GCGC. The Society of Investment Professionals in Germany (DVFA - Deutsche Vereinigung für Finanzanalyse und Asset Management) was the first organisation having developed a Scorecard for German Corporate

Governance (the DVFA-Scorecard). This scorecard contains additional subcategories to the GCGC numerous investors and financial analysts are asking for (Frank, 2005) and has already been tested for validity (Bassen, Pupke and Zöllner, 2006). We identified seven subcategories that capital markets expecting German listed firms to report (Arnsfeld and Growe, 2006): thus, we integrated them in the TDS. We also integrated a further single criterion, namely installing a specific representative, responsible for compliance on the rules of the GCGC within the company. This criterion is part of the so-called equi-card developed by the University of Applied Sciences Osnabrück which has also been tested for validity (Arnsfeld and Growe, 2006). Recent studies are coming along with this criterion as an important component in corporate governance reporting (Baetge and Brembt, 2008).

As stated in section 2, we are now giving empirical findings to validate our choice of categories. Category I in detail analyzes the Declaration of Conformity to the GCGC, German listed firms have to release yearly, following § 161 of the German Stock Corporation Act (AktG). We're attaching importance to this category, since § 161 AktG doesn't call for a real 'comply or explain': companies only have to declare which recommendations (not suggestions) they do and which they don't follow. Therefore we analyze if companies explain voluntarily not to follow specific recommendations. Furthermore, this category covers reporting on suggestions of the GCGC. Following international standards, the suggestions of the GCGC accelerate the progress of corporate governance in Germany (Graf and Stiglbauer, 2007).

The GCGC also recommends a separate Corporate Governance Report within the traditional components of companies' annual reports (Rule 3.10 GCGC) to give additional information although non-quantifiable but equally crucial (Brotte, 1997). Empirical studies report on the high relevance of the Corporate Governance Report as an instrument to communicate on firm-specific corporate governance both for companies and investors (Achleitner, Bassen and Pietzsch, 2001; Ergo Kommunikation, 2005).

By analyzing category III we come up with the increasing international relevance of corporate internet reports for financial reporting (Geerings, Bollen and Hassink, 2003; Abdelsalam, Bryant and Street, 2007; for Germany see Stöblein and Mertens, 2008). The central element of corporate governance internet reporting is the companies' website (Matheson and Reynolds, 2004). Thus, the GCGC covers several rules on electronic media being an additional evidence for its increasing importance (Meckel et al, 2008).

Management compensation has extensively been discussed in Germany (Ruess, 2004; Kann and Just, 2006) as well as on international platforms (Bebchuk and Fried, 2006; Main et al, 2008). In general, research indicates disclosure on remuneration of companies' management teams as fundamental information for

investors (Meckel et al, 2008; Stöblein and Mertens, 2008).

Investors also demand for data on the qualification and experience of companies' management teams. Category V highlights this expectation on corporate governance reporting including also information on the question if board members are independent of each other (Parum, 2005). Recently, a study by Meckel et al. (2008) indicated that institutional investors in Germany put special emphasis on the quality of management when evaluating companies.

Developing a firm-specific corporate governance code based on the GCGC is an interesting opportunity for companies to adapt its structures to the GCGC. Furthermore, a specific commitment on corporate governance may be interpreted as a significant signal for continuity and strategic security outside the company. Those codes are not substituting the rules of the GCGC, quite the contrary, they must be considered as complementary to them (Hütten, 2002).

5. Conclusion

Our framework meets the increasing economic relevance of unsolicited corporate governance ratings. Against critics on unsolicited ratings, it has great potential to reduce information asymmetries on the German capital market (Behr and Güttler, 2008). International private governance ratings haven't met this requirement so far. Best practices of international guidelines don't consider national specifications in corporate governance systems to a sufficient degree. Firstly, starting with a literature review we identified a lack of transparency within existing German governance ratings themselves. It also became obvious that these ratings don't cover all governance aspects which are relevant for the German capital market. Secondly, we pointed out the increasing relevance of transparency & disclosure in governance reporting. Referring to our initial research question, which aspects of corporate governance German listed firms should report on our framework covers national specifications of the German corporate governance system integrating all recommendations and suggestions of the GCGC. Additionally, it contains international standards on corporate governance reporting which companies can follow voluntarily, including corporate governance internet reporting, compensation systems and board integrity. Documenting the quality of our findings, we presented the whole process of developing our framework. Thus, our framework is highly significant and easy to handle. Both scorecards represent an alternative framework to measure German corporate governance. On the one hand companies get to know numerous subcategories investors expect from companies to report on corporate governance. On the other hand it enables companies to enhance and adapt their corporate governance quality.

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Appendix

Table 1. German Scientific Corporate Governance Ratings

Study	Criteria of rating and purpose	
Drobetz, Schillhofer and Zimmermann (2004)	5 main categories, 30 subcategories based on the DVFA Scorecard, parts of the GCGC, CalPers-Principles, Deminor Corporate Governance Checklist	P
Nowak, Rott and Mahr (2004)	63 criteria based on the GCGC	C
Bassen, Pupke and Zöllner (2006)	5 categories, 41 subcategories, DVFA Scorecard	C
Bassen, Kleinschmidt, Prigge and Zöllner (2006)	6 main categories, 83 subcategories based on recommendations and suggestions of the GCGC	P
Zimmermann, Goncharov and Werner (2006)	62 criteria based on the GCGC	P
Arnsfeld and Growe (2006)	37 overall, 29 subcategories based on critical rules of the GCGC for all companies of the selection indices DAX, TecDAX, MDAX and SDAX (Werder and Talaulicar 2005), 5 subcategories of the DVFA Scorecard, 3 subcategories of Drobetz, Schillhofer and Zimmermann (2004); known as “equi-card”	C
Werder and Talaulicar (2008)	103 criteria based on the GCGC	C
Purpose of rating: C = compliance, P = Performance		

Table 2. Transparency & Disclosure on Capital Markets, Recent Findings

Study	Findings
Aksu and Kosedag (2006)	Successful companies share more information with the environment than less successful companies
Jin and Myers (2006)	Positive association between share price synchronicity and a lack of transparency
Schachel and Vögtle (2006)	Good investor relations activity implies better stock performance
Durnev and Kim (2007)	Positive association between transparency and business valuation
Chipalkatti, Le and Rishi (2007)	Positive association between corporate transparency and portfolio flows in emerging capital markets
Lambert, Leuz and Verrecchia (2007)	If more corporate disclosure reduces the amount of managerial appropriation, this generally reduces firms’ cost of capital
Orens and Lybaert (2007)	Analysts who use more forward-looking information and more internal-structure information offer more accurate forecasts
Francis, Nanda and Olsson (2008)	Firms with good earnings quality have more expansive voluntary disclosures than firms with poor earnings quality

Table 3. Integrated Framework to Measure German Corporate Governance

Compliance Scorecard (CS), GCGC Version 2006			Transparency & Disclosure Scorecard (TDS)		
	Category	Criteria		Category	Criteria
I	Shareholders and the General Meeting	8	I	Declaration of Conformity to GCGC	7
II	Cooperation between Management Board and Supervisory Board	8	II	Corporate Governance Report	5
III	Management Board	17	III	Corporate Governance Internet Reporting	8
IV	Supervisory Board	38	IV	Compensation System	8
V	Transparency	10	V	Board Quality, Independence and	6
VI	Reporting and Audit of the Annual Financial Statements	13	VI	Corporate Governance Commitment and firm-specific Corporate Governance Code	4
Σ		94	Σ		38

Table 4. Transparency & Disclosure Scorecard (TDS)

Transparency & Disclosure Scorecard (TDS) [A = Suggestion of GCGC; E = Recommendation of GCGC]			
I	Declaration of Conformity to GCGC		
1			Does the declaration of conformity refer to the underlying version of the GCGC?
2			Does the declaration of conformity refer to the previous financial year concerning conformity?
3			Does the declaration of conformity refer to the upcoming financial year concerning conformity?
4			Is the declaration of conformity dated, to recognize, what is the firms' actual quality of corporate governance?
5			Is it possible to relate explicitly every rule of the GCGC being declared to its according number of the GCGC?
6		Stricter 3.10 S2 GCGC	Does the company explain deviations from recommendations of the GCGC?
7	A	3.10 S3 GCGC	Does the company refer to the suggestions of the GCGC voluntarily?
II	Corporate Governance Report		
1	E	3.10 S1 GCGC	Do management board and supervisory board report on corporate governance in the annual report (Corporate Governance Report)?
2			Do management board and supervisory board report on compliance to the GCGC rules?
3			Does the Corporate Governance Report contain substantial information on firm-specific corporate governance beyond the Declaration of Conformity?
4			Where do management board and supervisory board report on corporate governance in the annual report?
5			Do management board and supervisory board provide information on planned actions and developments on corporate governance in the reporting year?
III	Corporate Governance Internet Reporting		
1			Where does the company report on corporate governance on the companies website? Is it easy to find relevant information or is important information rather hidden?
2	E	3.10 S4 GCGC	Are Declarations of Conformity published on the companies website up to five years?
3		IV.1 DVFA	Does the company publish its articles of incorporation in the internet?
4			Is it possible to download the Corporate Governance Report separately?
5			Is it possible to download the current version of the GCGC or is there a link to the website of the Commission of the GCGC?
6	E	6.7 GCGC	Does the company announce dates of the essential and recurrent publications in a financial calendar timely?
7		Connection to 7.1.1 S2 GCGC	Does the company publish quarterly reports?
8	A	6.8 S3 GCGC	Does the company also publishes relevant corporate governance information in English?
IV	Compensation System		
1	E	Connection to 4.2.5 (1) GCGC, § 315 Abs. 2 Nr. 4 HGB	Does the company disclose its compensation system for the members of the management board in its Compensation Report separately?

2		Connection to 4.2.3 (4) und 4.2.5 (1) GCGC	Does the company explain the main features in the compensation system for the members of the management board?
3		Connection to 4.2.4 GCGC	Does the company does without having an opting-out in reporting on management compensation?
4	E	4.2.5 (2) S1 GCGC	Does the company report the value of long run incentives with risky character?
5	E	4.2.5 (2) S2 GCGC	Does the company report on the value of pension reserves or pension funds?
6	E	4.2.5 (3) S2 GCGC	Does the Compensation Report contain information on incidental services?
7	E	5.4.7 (3) S1 GCGC	Does the company report on the compensation of the members of the supervisory board on an individual basis and is their compensation divided in fixed and variable components?
8		V.3 DVFA	Does the company give any information on success-based incentives to managers below top management?
V	Board Quality, Independence and Integrity		
1		II.6 DVFA	Does the company publish information on sideline jobs of members of the management board?
2			Does the company publish information on sideline jobs of members of the supervisory board?
3		III.15 DVFA	Does the company publish information on how often every member of the supervisory board takes part on meetings of the supervisory board?
4			Does the company publish the biography of every member of the management board?
5			Does the company publish the biography of every member of the supervisory board?
6		III.6 DVFA	Does the company publish profiles of potential new members of the supervisory board before recommending them for election in the shareholders meeting?
VI	Corporate Governance Commitment and firm-specific Corporate Governance Code		
1		I.2 DVFA	Does the company publish a firm-specific corporate governance code based on the GCGC?
2		I.3 DVFA	Does the company make a commitment on durable adaption to the GCGC in the future?
3			Does the company report on planned actions in corporate governance in the future?
4		I.3 equi-card	Does there exist a representative, responsible compliance to the rules of the GCGC within the company?

Table 5. Testing for intercoder reliability, Compliance Scorecard

Category	R	π	κ	α
I	.969 (.940)	.925 (.858)	.907 (.859)	.897 (.700)
II	.960 (.935)	.916 (.865)	.916 (.866)	.877 (.725)
III	.986 (.977)	.916 (.890)	.916 (.890)	.914 (.850)
IV	.974 (.943)	.920 (.821)	.920 (.822)	.903 (.657)
V	.993 (.987)	.959 (.920)	.959 (.920)	.951 (.891)
VI	.999 (1.000)	.992 (1.000)	.992 (1.000)	1.000 (1.000)
Overall level of agreement	.980 (.961)	.930 (.865)	.930 (.865)	.913 (.744)

in brackets: reliability scores on TecDAX before readapting the coding scheme

Table 6. Discovered reasons for intercoder differences, Compliance Scorecard

No.	Reasons for intercoder differences and consequences
1	Wrong declaration of code number through firms <u>Consequence:</u> Wrong coding due to missing proof on correctness
2	Accumulative declaration of code numbers through firms, but additional verbal description of its content <u>Consequence:</u> Wrong coding (= complete compliance or exclusion of several code numbers, obviously only one code number has been concerned)
3	Accumulative declaration of code number through firms without additional verbal description of its content <u>Consequence:</u> Wrong coding (= compliance or exclusion of only one code number; a strict approach has to comply or exclude several code numbers)
4	Drawing conclusions on recommendations/suggestions due to the exclusion of similar (concerning contents) recommendations/suggestions obviously not declared as conformity/non-conformity <u>Consequence:</u> Wrong coding without proving exactly, which code number being concerned
5	Declaration of conformity includes references on two calendar years and two versions of the GCGC <u>Consequence:</u> Wrong coding, without differentiation between calendar years and GCGC versions
6	Suggestions coded as conform, but no assignment in fact was possible to single suggestions <u>Consequence:</u> Compliance on suggestions rated as too positive comparing to firms who don't give any information on suggestions
7	Updated declaration of conformity in annual reports including different information comparing to original declaration <u>Consequence:</u> Wrong coding due to inconsistent data
8	Information on suggestions only in annual reports <u>Consequence:</u> Wrong coding due to sole observation of declaration of conformity

Table 7. Testing for intercoder reliability, Transparency & Disclosure Scorecard

Category	R	π	κ	α
I	.907	.781	.781	.798
II	.913	.819	.819	.857
III	.946	.843	.844	1.000
IV	.902	.779	.780	.882
V	.942	.883	.883	.855
VI	.902	.783	.783	.763
Overall level of agreement	.920	.830	.830	.875