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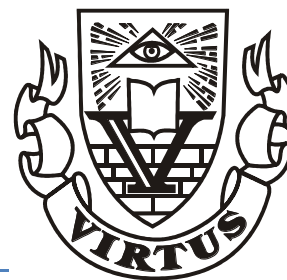
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THE LINK BETWEEN AUDIT COMMITTEES AND CORPORATE GOVERNANCE QUALITY A NORMATIVE AND EMPIRICAL OVERVIEW FOR THE US- AND GERMAN CAPITAL MARKET

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Abstract

Audit committees are a main instrument to increase corporate governance for US- and German listed corporations. The following analysis gives a normative and empirical overview of possible links between audit committees and corporate governance variables (capital costs and market reactions, earnings management and external management reporting, management fraud and external audit). In this context the job specification of audit committee members (independent financial experts) will be focused.

Keywords: audit committees, corporate governance research, financial expertise, board independence

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1. Introduction

A profound international competition between corporate governance and corporations constitutions systems has been going on since the middle of the last century (La Porta et al. (2002), p. 1147). A basic categorization has been made with regard to the ratio between in- and external corporate governance as well as to the management and supervising structure of publicly owned firms (one tier and two tier system). Amongst others, a partial convergence of both constitutional models indicates a high acceptance of audit committees in both systems of corporation's constitutions. However, the committee's competences are different in the one and two tier system as well as the main motives of their implementation. Within the two tier system, the audit committee has been implemented to support and relieve the supervisory board in preparing various tasks. In addition the committee is expected to strengthen corporate governance as a consequence of the high number of supervisory board members. Moreover, the appointment of financial experts as audit committee members is to counteract the lack of respective knowledge in the supervisory board. In contrast, the one tier system is by trend forcing a stronger personal separation between executive and non-executive directors in the board. In addition, major importance is placed on the independence of the committee members in the one tier system which is usually symptomatic for the separation of functions

within the two tier system. As with the example of audit committees, it becomes clear that both models try to use the advantages of the respective constitutional systems. However, a general superiority of one system cannot be concluded.

The aim of the present analysis is to provide an overview of empirical survey results with regard to the acceptance of audit committees on the capital market and the influence of audit committees on corporate governance. Major attention is paid to a statistically proven relation between certain corporate governance variables and the implementation of audit committees, especially with regard to the independence and financial expertise of its members. The German stock corporation law will be used as an example to demonstrate the importance of audit committees within the two tier system. Similarly, the US-American capital market with its particular regulations of the stock exchange commission will be used for the one tier system.

2. Normative Analysis

2.1 Germany (two tier system)

2.1.1 Implementation

The discussion regarding the implementation of audit committees to enhance corporate governance grew more intense with the "control and transparency law" in 1998 (see Schmitz (2003), p. 179). Amongst others, the empirical survey of Coenenberg/Reinhart/Schmitz (1997) supports this

relatively young movement deriving from a scientific economic source. The majority of the management board members of the 100 top German corporations in question were not aware of the necessity to implement audit committees in 1995. In contrast, the survey of Quick/Hoeller/Koprivica (2008) was able to prove an implementation quota of 100% for the DAX30 and 86% for the MDAX. Hence, the present survey results suggest that the majority of the listed stock corporations in the German prime standard have implemented audit committees to strengthen corporate governance.

In contrast to the USA, the German stock corporation law and commercial law have not yet stipulated a general, legally binding obligation for the implementation of audit committees. In fact, the decision to implement audit committees is subject to the autonomy of the supervisory board in terms of § 107 III 1 AktG. This voting right has already been part of the stock corporation law of 1937 and was reinforced by further reform act. The national legislator on purpose did not include the obligation to implement audit committees in order to guarantee highest flexibility with regard to the corporation's management. However, the demand for due diligence of the supervisory board accounting for an appropriate organisation of its activities, will lead to the implementation of audit committees with rising number of board members. Without audit committees, the necessary intensity of the supervision is no longer ensured. Consequently, the corporations voting right to implement audit committees becomes redundant with rising number of supervisory board members. Accordingly, this fact gives reasons for the recommendation in the German Corporate Governance Code (GCGC). According to this recommendation, the implementation of qualified audit committees should depend on the specific circumstances of the company as well as its numbers of members. Since its introduction, the GCGC explicitly advises the implementation of audit committees. In case the supervisory board is composed of only 3 to 6 members, the prevailing opinion allows for an abandonment of the implementation of audit committees. In this case, no explanation according to § 161 AktG is required, since such small supervisory board usually would not relate to the implementation of an audit committee.

The audit committee has been explicitly mentioned for the first time within the context of the commercial and stock corporation law since 2009. However, a general obligation to implement audit committees is still missing. In principle, only capital market oriented stock corporations in terms of § 264d HGB that do not have a supervisory board with the respective job specifications, are obligated to implement audit committees with at least one independent financial expert. Since all

tasks of the audit committee may also be fulfilled by the plenum of the supervisory board, all stock corporations that are legally forced to implement supervisory boards still hold a voting right concerning the implementation of audit committees. Hence, the national legislator relies on the empirically proven high quota in complying with the GCGC.

2.1.2 Job specification

The matter of independence is implemented in the German stock corporation law in § 105 I 1 AktG. Thus, a member of the audit committee is not allowed to be an active management board member or permanent deputy, authorized officer or a general agent authorized for the entire corporations management at the same time. In addition and according to the prohibition of crosswise intersection, a member of the audit committee is not allowed to be a legal representative of a dependent company or of another corporation that engages a management board member of the corporation in question in the supervisory board. These regulations are common practice in the German two tier system. Therefore, the audit committee needs to evolve from the supervisory board and its members are not allowed to fulfil any managerial functions. In accordance with § 264d HGB, capital market oriented stock corporations need to appoint at least one independent member in the supervisory board or audit committee. However, this is the only article with regard to the term "independence" so far. In fact, the recommendation of the EU-commission of the 15th of February 2005 can be classified as a general guidance. A cooling off period of 2 years for former management board members to become supervisory board members of listed stock corporations is advised in 2009. An exception is granted, if shareholders holding more than 25% of the voting rights of the corporation are in favour of the nomination.

In addition to the stock corporation law standards, the GCGC recommends that supervisory board and hence audit committees should be composed of an adequate number of independent members. Thus, a member is independent if he has no commercial or personal relation to the corporation or its management that accounts for a conflict of interests. Furthermore, the GCGC advises a nomination of no more than two former management board members for the supervisory board. Moreover, the GCGC suggests that the present supervisory board chairman should not take the chair of the audit committee. However, the chairman of the audit committee should be independent. The cooling off period of two years for former management members to become audit committees chairman should be strictly adhered to. A missing compliance with the before mentioned

code suggestions will not account for a justification with regard to the conformity declaration, since the compliance statement only relates to recommendations.

In addition to the independency, the job specification of the audit committee emphasises on the financial expertise of its members. In terms of § 100 I AktG, no specialist knowledge is mentioned explicitly. However, “a minimum level of common, economic, organisational and judicial knowledge, necessary for understanding and appropriately judging on all regular business transactions unassisted is demanded (BGH (1982), p. 991). Nonetheless, financial expertise is not mentioned explicitly. At least one member of the audit committee is expected to have the necessary expert knowledge with regard to accounting or auditing (financial expert). Yet, no comment is made on whether and in how far the audit committee chair is to be involved in this part.

Similarly, the GCGC only recommends that the audit committee should be composed of some members that are able to fulfil all tasks with the required knowledge, skills and professional experience at all times. Though, the GCGC provides a detailed job description of the audit committee’s chairman. According to this, the audit committee’s chairman is expected to have special knowledge and experience with regard to the application of accounting standards and internal control procedures. Consequently, the GCGC expects the chairman to be a financial expert, whereas the national legislator only demands for compliance with the legal minimum requirements.

2.2 USA (one tier system)

2.2.1 Implementation

The implementation of audit committees on the US American capital market was first recommended in 1939/1949 by the Securities and Exchange Commission (SEC) and the New York Stock Exchange (NYSE). Since corporations did not put this recommendation into effect in the following years, the American Institute of Certified Public Accountants (AICPA) (1967) renewed and enhanced the recommendations of the SEC. Within this context, the composition of audit committee members and their tasks were discussed for the first time. A liability law case (US District Court for the Southern District of New York (1968)) led to a vote for an obligatory disclosure in the proxy statement with regard to the implementation of audit committee and its members by the SEC (1974). In addition to the name of the members, the disclosure of the number of meetings and their main tasks and responsibilities became obligatory with the 01st of July 1978. Since that time, it became mandatory for all listed corporations at the NYSE to implement an independent audit committee. This

was stipulated by the SEC (1978). The American Stock Exchange (AMEX) followed in 1980 and the National Association of Securities Dealers Automated Quotations (NASDAQ) in 2001. In 1987, the results of the National Commission on Fraudulent Financial Reporting became public, also emphasising the importance of audit committees regarding the corporation’s supervision. Within this context, the national commission recommended the implementation of audit committees for all publicly owned firms. The “Blue Ribbon Report” went along with this after a couple of years in 1999. The Sarbanes Oxley Act stipulated an implicit obligation for the implementation of audit committees as permanent committees of the board of directors for all corporations listed at a US stock exchange. In addition, the job specification of the audit committee’s members was described in detail. Opposed to German stock corporation law, the corporations in question do not have an option with regard to the implementation of audit committees.

2.2.2 Job Specification

According to the Sarbanes Oxley Act, all members of the audit committee have to be financially and personally independent of the corporation’s management (Section 301). The term independent is applicable only if no direct or indirect corporate or affiliate payment is collected by an audit committee member. The regulations of the Sarbanes Oxley Act are of extraterritorial nature. Hence, the rules of financial independence would only hardly be applicable in countries with internal employee participation (e.g. German corporations that are secondary listed at a US American stock exchange). The co-determination of the supervisory board would be dependent in terms of their salary. In order to preserve the extraterritorial effect, the SEC is expecting only managing employees to comply with the rules of financial independence (see Altmeyden (2004), p. 401).

Depending on the stock exchange listing, supplementary regulations of the NYSE, respective the NASDAQ may apply in addition to the ones of the SEC. According to Section 303 of the Sarbanes Oxley Act, a listing at the NYSE requires the independence of all audit committee members. Thus, an audit committee member is independent if he is not an employee of the (affiliated) corporation currently or has been for the past three years. In addition his direct relatives are not part of the management and have not been for the past three years (NYSE (2004)). With regard to the audit committee member’s independence, the NASDAQ demands for an enhancement of the greater SEC criteria. Thus, demanding that an audit committee member has not participated in the preparation of the annual financial statements as a governing body within the last three years. The Sarbanes Oxley Act

does not provide for such cooling off periods after termination of employment. However, as already described above, the German stock corporation law generally arranges for a cooling off period of two years for former management board members to become supervisory board members.

In addition to the requirements of independence, the Sarbanes Oxley Act is demanding for at least one financial expert within the audit committee. Initially, the SEC was interested in stipulating that this person ought to be an expert in terms of accounting. However, in the end they refrained from doing so. In addition to accounting, it is hence acceptable if the expert has knowledge of other finance areas. An exception to this rule may apply if it has been briefly described why no financial expert was appointed as an audit committee member. In general, this is not often the case in order to maintain a good reputation (see Altmeyen (2004), p. 397). The requirement to appoint at least one financial expert is consistent with the amendments of the German stock corporation law. Though in contrast to the German legislator, the SEC is specifying the financial expert qualification in detail. Thus the financial expert is expected to have good knowledge with regard to the preparation of annual financial statement and accounting standards. In addition, he must have the relevant skills to generally judge on the application of accounting policies with regard to estimation, amortization and the setting up of accruals. Furthermore, he needs to be experienced in the preparation, assessment, analysis and evaluation of financial statements which are comparable in scope and complexity to the registered corporation's financial statement. Moreover, he is expected to be experienced in actively supervising people that are assigned to the previously described tasks (Section 401 and 407 of the Sarbanes Oxley Act). Such requirements correspond to the job specifications of accountants, finance directors, accounting directors or similar profession. The Sarbanes Oxley Act does not comment on the qualification of other audit committee members.

In case a corporation is listed at the NYSE, at least one member of the audit committee needs to be experienced in finance and accounting management (NYSE (2004), Section 307). This is consistent with the minimum requirement of one financial expert according to the Sarbanes Oxley Act. Furthermore, all members need to prove basic knowledge in finance and accounting or are required to be financially literate after a reasonable time. Hence, the NYSE requirements are more demanding than the ones of the Sarbanes Oxley Act with regard to the professional qualification of the audit committee members.

In case a corporation is listed at the NASDAQ, all audit committee members are expected to understand and comprehend the

respective corporation's financial statements at the time of their nomination. The regulation with regard to the financial expertise is comparable to the one of the NYSE. In accordance with the regulations of the NYSE, at least one audit committee member is to be experienced in finance and accounting (financial expert). Thus, a professional qualification with regard to accounting or any other comparable experience or basic background knowledge is expected (NASDAQ (2006), Section 4350).

3. Empirical relevance of audit committees

3.1 Capital costs and market reactions

Since no multivariate empirical studies concerning the impact of audit committees on corporate governance are available for the German capital market, US American studies have been used primary. The following explanation provide an overview of current research. According to Ashbaugh/Collins/LaFond (2004), the number of independent audit committee members is related to lower costs of capital. Anderson/Mansi/Reeb (2003) empirically proved that audit committees with independent members imply lower interest on debt. In contrast, the results of Bhagat/Black (1999) suggest a lower corporate performance in case the majority of the audit committee members are independent. Similarly, this holds true for the analysis of Klein (1998). Likewise, no statistical significance exists regarding the number of non-executive directors and the enhancement of corporate performance.

In addition, the study of DeFond/Hann/Hu (2005) was addressing the question whether the existence of an accounting expert or a member with any other financial expertise had an influence on the amount of accumulated abnormal return on investment. The results of this study provided a statistical significant positive evidence for an accounting expert. The studies of Wild (1994);(1996) found a significant positive increase of accumulated abnormal accruals, e.g. stock price fluctuation on the statement results.

The empirical results suggest that the implementation of independent and financially literate audit committees provides and increases confidence on the capital market. Hence, the demonstrated attempts of the standard setter regarding the job specifications of audit committee members (independence and financial expertise) are legitimated from an economic point of view for the US American one tier system.

3.2 Earnings management and external management reporting

An offensive earnings management is sanctioned by the capital market with regard to balance sheet analysis. Hence, a conservative performance is approved. The earnings management performance is measured by means of abnormal accruals. By supervising managing directors, the audit committee is due to provide incentives for the reduction of earnings management.

According to Ebrahim (2007), a significant negative correlation exists between the number of independent audit committee members and the accounting policy, measured by means of abnormal accruals. Xie/Davidson/DaDalt (2001) analysed the financial expertise of audit committee members. They were able to prove a significant evidence for a negative influence of investment banking members and non-executive directors on the amount of corporations accounting policy, measured by means of discretionary (disproportional) accruals.

Bédard/Chtourou/Courteau (2004) verified a significant negative influence on the accounting policy, in case at least one audit committee member had the respective financial expertise. A corresponding relation applies to audit committees with solely non-executive directors without substantial corporate integration, provided that the corporate addressees have detailed knowledge of the audit committee's job specification. According to the research of Yang/Krishnan (2005), a significant positive relation exists between the share property of the audit committee members and the amount of non-discretionary operative accruals. Further studies of Klein (2002) provide evidence for a significant negative correlation between the audit committee's independence and accounting policy in case the audit committee not solely, but by majority consists of non-executive directors. The respective relation is measured by means of the absolute value of adjusted abnormal accruals.

Other areas of research seek to address the impact of audit committees on the occurrence of subsequent accounting adjustment. Reactive adjustment leads to negative market reactions. From a capital market point of view, they are caused by (intentional) misinterpretations of the corporate management. According to the empirical results of Abbott/Parker/Peters (2004), the frequency of occurrence of subsequent adjustment of the annual financial statement may be reduced significantly by audit committees solely consisting of independent members and/or the existence of at least one financial expert.

Furthermore, accounting policy is directly influencing quality and quantity of the external management reporting. Hence, by pooling financial expertise the audit committee fulfils an advisory function to the managing directors. The joint effort

is to provide the capital market with the best available management reporting. The survey of Karamanou/Vafeas (2005) proves a significant positive correlation between financial expertise in the audit committee and the frequency, e.g. quality of the management's performance forecast. The results differentiate in how far the corporation responds to negative forecasts ("bad news") and how well they are documented. In addition, attention has been paid to the conformity of corporation information with the analyst's opinion. However, according to the survey of Peasnell/Pope/Young (2005), no direct relation exists between the implementation of audit committees and the corporation's accounting policy.

3.3 Management fraud

In addition to the impact on accounting policy, empirical corporate governance research is addressing possible consequences of audit committees on the existence and prevention of management fraud. Here, the occurrence of fraud is associated with an intentional erratic behaviour of the management and results from information asymmetries between the corporation's management and the capital market. The continuous supervision of the management by the audit committee seeks to increase the likelihood of revealing fraud. In addition, it is likely that the implementation of audit committees may impede the occurrence of accounting fraud pre-emptively and avoid falsification of the balance sheet by means of due diligence.

In case the submitted financial statement documents are rejected by the SEC in the context of enforcement, negative publicity and damage to the corporation's reputation will be the consequences. According to Abbott/Park/Parker (2000), audit committees without continuous employees, holding a meeting for at least twice a year, might be able to alleviate the rejection of the SEC. A corresponding significant negative influence can be verified for audit committees without employees or managing directors having substantial relations to the corporation or its management. These findings are consistent with the research of Krishnan (2005). Hence, an independent and financially literate audit committee reduces the risk of internal control-system failure. However, the corporation is obliged to report on the weakness in case of a change of the auditor. The survey of McMullen (1996) reveals a significant negative correlation between the existence of audit committees and the sanctions of the SEC. Farber (2005) empirically proves that accounting fraud usually occurs more often in corporations with audit committees consisting of only few non-managing directors. According to Beasley et al. (2000), the likelihood of management

fraud diminishes with the implementation of audit committees that solely consist of independent members. The sole existence of audit committees leads to a corresponding significant negative influence. The research of Uzun/Szewczyk/Varma (2004) corresponds with the mentioned empirical findings. Thus, the occurrence of fraud is negatively correlated with the existence of audit committees, respectively positively correlated with audit committees consisting of dependent, non-executive directors. These results are supplemented by the research of McMullen/Raghunandan (1996). By trend, corporations with no financial statement fraud have audit committees solely consisting of non-managing directors, i. e. independent audit committees nominating at least one financial expert (e. g. auditor).

3.4 External audit

Amongst others, US-American surveys emphasise on the relation between audit committees and external audit. In addition to the supervision of management and accounting, this activity aims at supervising the external auditor. By continuous monitoring of the auditor's qualification, the audit committee is able to enhance the quality of corporate governance. Amongst others, the relation between compensation of audit and non-audit activities provides a basis for judging on the independence of the external auditor. According to the prevailing opinion, an increase in compensation of audit (non-audit) activities leads to an increase (decrease) in the auditor's independence *ceteris paribus*. By trend, non-audit activities such as consulting promote the annual auditor's dependence on the management. In addition, they imply the risk of financial side transfers, leading to an inferior audit quality. Hence, the auditor might be willing to grant a concession with regard to the certification of the financial statement, he might not be granting in case he had no consulting mandate.

Carcello/Hermanson/Neal (2002) provided evidence for a significant positive relation between audit committees solely or by majority consisting of independent members and the amount of compensation for audit activities of the auditor. According to Abbott et al. (2003a), a completely independent audit committee with respective financial expertise has a positive influence on audit fee. Another survey of Abbott et al. (2003b) concludes that audit committees with solely independent members, holding a meeting at least four times a year might reduce the ratio for the compensation of the non-audit activities, since they might endanger auditor independence. Consequently, this implies a significant positive relation between the independence of audit committee members and auditor independence. However, the results of Vafeas/Waegelien (2007)

are opposed to the aforementioned findings. Their results suggest a significant positive relation between the requirement of appointing at least one managing director or person being a member of an audit committee of another Fortune 500 corporation, into the audit committee and the amount of the audit fee.

Auditor independence serves as a substitute for the audit quality. Within an international framework, it is measured not only by means of the auditor's fee but of the size of the audit company. According to the basic description of the audit theory of DeAngelo (1981), auditor independence and hence audit quality increases with the appointment of international awarded and top-selling audit firms in comparison with other audit and trust companies. Empirical surveys have been addressing possible relations between the implementation of audit committees and the nomination of the annual auditor. If an independent audit committee is responsible for the nomination of the auditor and thus might generate an adequate audit quality in favour of the shareholders, counterproductive intervention of the management are less likely.

The empirical survey of Eichenseher/Shields (1985) already verifies that corporations tend to implement audit committees in case a new auditor needs to be appointed and one of the eight top-selling audit companies is involved. Additional empirically proven relations between audit committees and the external audit refer to the independence of the audit committee members and the likelihood of a cancellation of the auditor's contract. According to Lee/Mande/Ortmann (2004), a significant negative relation exists between a solely independent audit committee and the cancellation, e. g. resignation of the audit mandate. The research of Knapp (1987) suggests a significant positive influence of the existence of audit committees on the appointment of one of the eight top-selling companies, the economic situation of the corporation in question and the likelihood of the board supporting the annual auditor in case a conflict between auditor and management arises.

The majority of the US-American empirical research could verify a positive influence of audit committees on the quality of external annual audit resulting from the normative approach of the legislator. Until the end of the 90s of the 20th Century empirical research was emphasising only on the existence of audit committees. Later, with the introduction of the Sarbanes Oxley Act, the job specification of the audit committee became more important in terms of empirical research. Attention needs to be paid to the trend that only a cumulative existence of independence and financial expertise leads to significant positive impacts on the amount of the audit fee. The surveys often comply with the normative status quo of the Sarbanes Oxley Act, e.

g. all members of the audit committee are independent and at least one member is a financial expert.

4. Conclusion

Audit committees are of great importance in order to strengthen corporate governance within the Anglo-American one tier system and the German two tier system. The comparative normative analysis suggests that the audit committee is representative for the alternating convergence of the one and two tier systems. With regard to the one tier system, the independent audit committee serves as a monitoring instrument for the managing directors of the board of directors. With regard to the two tier system, the audit committee is responsible for preparing the plenum's decision. And with the nomination of at least one financial expert it is ought to counteract the increase of professionalism within the supervisory board. The ideas of the European commission regarding the job specification of audit committees have been realised in Germany. As a result, independence and financial expertise are of equal importance. This is due to the fact that the EU member states use one and tier systems, therefore demanding the equality of both requirements.

Overall, the requirements for the implementation and job specification of audit committees are more restrictive in the US-American one tier system. They ought to impede a potential self-assessment of the board of directors. An objective supervision of financial accounting and executive directors is not feasible with dependent audit committee members. Hence, the subject of the member's independence is of major importance within the one tier system. In contrast, the two tier system is characterised by a vast separation between managing and supervising tasks. As a result, the requirements for audit committee members are described in detail and more restrictive in the USA. However, the independence of audit committee members might be impaired as well in the two tier system. The requirements of the German law (at least one independent member in the audit committee) might not be sufficient if a member accepts an additional position in the supervisory board of another corporation of the same industry. This would lead to an increase in risk of conflicts of interests of audit committee members. Though, with the implementation of audit committees the German two tier system aims at a professional execution of the supervisory board's tasks by a purposive preparation of the plenum's decision.

The normative concretion has been analysed along with empirical findings of the international corporate governance research concerning audit committees. Yet, the present empirical results of

capital market surveys are primarily based on the US American one tier system. With regard to the rising importance of audit committees in the two tier system, further studies are needed. Emphasis should be placed on the question whether and in how far the implementation of audit committees, including respective job specification has an actual influence on the improvement of corporate governance. With regard to the one tier system, empirical results suggest a correlation between the implementation and job specification of audit committees and several corporate governance indicators. Many surveys conclude a significant positive correlation between the nomination of financial experts and independent members in the audit committee and the aforementioned corporate governance variables.

Hence, further studies should address the question whether and in how far the improvement of corporate performance within the one tier system by the appointment of independent and financial literate audit committee members can be adopted to the German two tier system. Yet, it needs to be considered that the competencies of the German audit committee cannot be compared to the US-American as a result of the separation between the corporation's management and supervision. By trend, the majority of the respective studies suggest that the US American capital market has more confidence in corporations with independent and financially literate audit committee members. Thus, the certification of an increase in corporate governance quality might become more realistic. Again, this fact should lead to an increase in research on audit committees within the German two tier system.

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AUDIT COMMITTEES AND INSIDER TRADING AT U.S. BANKS

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Abstract

This paper studies the relationship between insider stock trades by audit committee members and financial concerns at U.S. banks during the 2000s. We initially show that banks with large amounts of discretionary loan loss accruals experience larger stock sales by audit committee members. These stock sales are then associated with banks experiencing subsequent financial problems, measured by firm performance, restatements, and the likelihood of receiving TARP assistance in 2008 and 2009. This suggests that legal insider trading by audit committee members can provide information about a bank's financial condition and financial statement quality. While this study is focused on commercial banks, the results likely apply to larger samples and to trading by other classes of insiders.

Keywords: Corporate governance, agency problems, insider trading, financial crisis, earnings management, audit committee

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Introduction

In a recent paper, Bebchuk, Cohen and Spamann (2010) perform a clinical analysis on the executive compensation and stock selling activities at Lehman Brothers and Bear Stearns during the years preceding the U.S. financial crisis in 2008. They analyze the role that risk-alignment played in the investments these firms made, the compensation and stock selling practices of the firms, and the ultimate fates these firms suffered. They conclude that the risks were misaligned: that is, the executives benefited in good times, but did not suffer in bad times. As a result, the cash compensation they realized, including stock sales, prior to the debacle in the late 2000s made them less concerned about the risks associated with the firms' investments than external shareholders might have preferred.

The current study applies the approach taken by Bebchuk et al. (2010) to the audit committees at a large sample of commercial banks in the U.S. to see if incentives were similarly misaligned at these firms during the 2000s. Indeed they were. Banks where audit committee members sold more stock had worse subsequent performance, were more likely to restate their financial statements in following years, and were more likely to receive funding from the U.S. Treasury's Troubled Asset Relief Program (TARP) than were banks with lesser amounts of stock sales by audit committee members. Further, it appears that these banks engaged in more earnings management prior to

selling their stock, possibly suggesting that these directors planned their stock sales in advance.

We focus on audit committees because they have the responsibility to insure the accuracy and credibility of a firm's financial reporting function, and are thus the directors who have the most control of and knowledge about the firm's financial statements. While other directors are just as responsible for the financial statements in fiduciary sense, they are likely relying on the audit committee's expertise, oversight and judgment in issuing the financial statements. And, in studying audit committee members we can only study their insider trading transactions because stock compensation is typically their only form of incentive compensation; since most audit committee members are independent directors, they do not receive salaries and their director stipends are not unique to audit committee members.¹ Insiders may engage in legal insider trading for a variety of rational and appropriate reasons. For example, given that they have their human capital tied to their firm, insiders may sell stock for diversification. Insiders may also sell stock for liquidity purposes, to transform non-cash

¹ The term "insider trading" is frequently assumed to refer to some illegal breach of fiduciary duties by executives or other directors. However, insider trading is not necessarily illegal. For purposes of this paper, it means all insider transactions relating to buying stock, selling stock, or exercising options. This use of the term "insider trading" is consistent with the extant literature. See Roulstone (2008) for example.

compensation into cash. This motive is especially relevant for directors since they receive relatively little cash compensation from the firm. But it is also possible that insiders opportunistically trade based on private information. Therefore, it is necessary to study the nature of any insider trading to better understand the determinants and the consequences of the insiders' actions on the firm as a whole.

This study contributes to the literature by expanding our understanding of corporate governance, insider trading and the U.S. financial crisis of the last 2000s. It is well-established that corporate insiders opportunistically time their stock sales, frequently at the expense of external stockholders (see, for example, Roulstone, 2008). The results in this study show that audit committee members, who are responsible for ensuring the quality of firm's financial reporting function, opportunistically time their stock sales, too. Further, it appears that the firms that had the most selling by audit committee members experienced the most subsequent problems. However, the results show that firms with the most audit committee ownership do not experience the same problems. The results in this study suggest that investors have reason to be concerned about the members of bank audit committees abusing their inside information and their stock ownership by timing their stock sales at the expense of common shareholders.

The remainder of this paper is as follows. A literature review and the motivation for this study are in the next section. The empirical methodology and then the data description follow. Then the results of the hypothesis tests and the empirical analyses are presented. The paper finishes with a short discussion followed by a concluding section.

Literature & Motivation

This study attempts to connect three separate but certainly related corporate governance literatures: stock ownership and compensation of directors, audit committee characteristics, and insider trading. Bebchuk, Cohen and Spamann (2010) study the culture of stock sales, option sales, and executive compensation at Lehman Brothers and Bear Stearns during the 2000s. They conclude that the insiders realized so much cash compensation (through salary and stock compensation) in the years leading up to the financial crisis of 2008 that their incentives were not properly aligned with shareholders' incentives at the time of the crisis. As a result, they were encouraged to take risks with the firms' investments that could ultimately lead to large costs for the shareholders, but were unlikely to lead to large costs to the insiders themselves. In a separate paper, Bebchuk and Spamann (2010) consider the larger sample of all banks and argue that bank executives expected to share in the gains

that common shareholders' might have enjoyed, but were insulated from any losses that ultimately might have been realized by these shareholders as a result of the executives' excessively risky investment strategies.

The role of audit committees in carrying out a firm's corporate governance mandate has taken increased importance since the Sarbanes-Oxley Act (SOX) was enacted in 2002. SOX required that publicly-listed firms have an audit committee that is comprised entirely of independent directors. Further, SOX required audit committees to have at least one 'financial expert.' Since firms' audit committees serve as the primary monitor of their financial reporting function, improving the quality of audit committees should improve the quality of the financial information. A considerable amount of recent work has focused on the costs and benefits of SOX, giving particular attention to the role of board and audit committee effectiveness. Duchin, Matsusaka and Ozbas (2010) show that the value of adding independent directors to the board, which might be necessary for some firms to comply with SOX, is inversely related to the information costs associated with the firm. When the cost of acquiring information is low, adding independent directors is effective; when the cost is high, adding independent directors is not as effective. Their study compares performance in 2000 with performance in 2005, implicitly capturing the effects of SOX. Their conclusion is that there is a direct connection between regulatory requirements and the quality of firms' information environments.

Engel, Hayes and Wang (2009) specifically study the cash and stock compensation structures of audit committees. They find that audit committee members receive higher compensation when there is a greater demand for monitoring the financial reporting process. Further, they show that audit committee members receive higher cash and stock compensation than do compensation committee members, which is consistent with the notion that different directors add differential levels of value to the corporate governance function. Audit committee members are presumed to add greater value than other directors because they receive greater compensation. This is consistent with the notion that the financial reporting function is one of the board's most important and valuable responsibilities. They also show that the levels of audit committee compensation has increased significantly in the years following SOX, suggesting that boards recognize the increased importance and value of the financial reporting process.

A study by Carcello, Neal, Palmrose and Scholz (2011) finds that audit committee effectiveness can be compromised when there are unnecessary external factors affecting the financial reporting process, such as when the CEO becomes

overly involved in selecting directors. They show that greater CEO involvement leads to a higher likelihood of the firm having to restate the financial statements. DeZoort, Hermanson and Houston (2003) highlight the importance of the audit committee in ensuring the quality of financial reporting, despite any managerial influence. DeZoort, Hermanson and Houston (2008) examine this role before and after SOX, and find that audit committee members do indeed have greater responsibility post-SOX. Cohen, Gaynor, Krishnamoorthy and Wright (2010) also study the role of managerial influence giving particular attention to the insiders' incentives. When incentives are high they find a greater concern for earnings management, which would suggest that the audit committee's role is more important.

Finally, insider compensation and insider trading can convey critical information. Bergstresser and Philippon (2006) show that there is a strong positive relationship between CEO stock and option compensation and the use of discretionary accruals. Roulstone (2008) studies insider trading around earnings announcements and shows that insiders do trade on inside information, and that this does convey information to the market. Sawicki and Shrestha (2008) find strong evidence of insiders engaging in earnings management to time their trades. Insiders manage earnings downward when they wish to take advantage of opportunistic purchases; insiders manage earnings upwards when they wish to take advantage of opportunistic sales. Brochet (2009) finds that the information content from insiders' sales and purchases is greater following SOX relative to before shows that insiders are less likely to engage in opportunistic trading post-SOX.² This shows that the information content can vary over time given changes to the operating environment, and that insiders are aware of the opportunities presented to them.

Combining these three strands of literature should yield interesting analyses. Insider trading does convey valuable information to the market. Audit committees are responsible for monitoring the financial reporting process. This process is designed to ensure the quality of the information that the firm presents to the public about its operations, investments, risks and compensation, and other issues. Since the audit committee members have access to private information about the firm's financial condition which is not yet public, they have the opportunity to enjoy private benefits from this information. And, there seems to have been a particular misalignment between the risks that financial institutions were taking and their compensation structures prior to the financial crisis

² Prior to SOX, insiders were required to file a Form 4 with the Securities and Exchange Commission within 10 business days. SOX now requires insiders to report trades via a Form 4 within 2 business days.

of 2008. These risks likely resulted in a severely weakened financial condition for the firm – which may have been known and anticipated by insiders with private information, such as members of the firm's audit committee. This study connects these three issues to evaluate the information content conveyed by insider trading at U.S. banks during the 2000-2009 period.

The interconnection of these three issues provides the basis for the hypotheses analyzed in this study. These hypotheses concern the motivation for insider trading by audit committee members at U.S. banks and the subsequent effects. Since audit committee members have private information concerning the quality of a firm's financial statements, the first hypothesis concerns whether or not they act on this information. Prior research suggests that they might (see, for example, Sawicki and Shrestha, 2008, which shows that insiders manage earnings downward when buying stock to obtain a lower price). This leads to the first hypothesis:

Hypothesis 1: Insider trading by audit committee members will be greater at banks that have engaged in greater earnings management or at banks that have lower quality financial reporting.

Hypothesis 1 analyzes whether or not there is a contemporaneous relationship between earnings management and insider trading, which would be consistent with the findings of Sawicki and Shrestha (2008), which shows that insiders manage earnings downward when buying in order to get a lower price. However, Roulstone (2008) and others suggest that some level of insider trading may be optimal. Bhagat and Bolton (2008) show that insider ownership is beneficial, so it is possible that insiders merely selling stock is not a negative signal about future performance. To better understand the implications of this insider trading, we need to analyze what happens *after* those trades take place. If those trades do convey negative private information, then we would expect to observe a weaker future financial condition of the bank. This leads to the second hypothesis of this study:

Hypothesis 2: Banks that have greater insider trading by audit committee members are likely to experience more negative post-trading effects, such as weaker performance and more restatements.

Hypothesis 2 follows from prior research that insider trading conveys private information to market participants. It is possible that there is an optimal level of insider trading that actually increases the value of the firm. Roulstone (2008), however, shows that insiders buy stock ahead of positive earnings announcements and sell stock

ahead of negative earnings announcements. Hypothesis 2 predicts a similar finding for insider trading by audit committee members, except we consider a more general type of performance than Roulstone (2008).

Methodology

This analysis will be performed in two related stages. In the first stage, we want to evaluate Hypothesis 1 and determine which firm characteristics lead to audit committee members buying or selling stock.³ This analysis is performed with equation (1):

$$(1) \quad \text{Audit Committee Trades}_t = \text{Discretionary Accruals}_t + \text{Last 2 Years' Return}_t + \text{Last 2 Years' Industry Return}_t + \text{Market Value}_t + \text{Capital Ratio}_t + \text{Audit Committee Ownership}_t + \text{Audit Committee Size}_t + \text{Audit Committee Independence}_t + \text{Dividend Ratio}_t + \text{Deposit Ratio}_t + \text{Volatility}_t$$

The key variable of interest is *Discretionary Accruals*, a measure of earnings management for the sample firm in each year, calculated following the Modified Jones Model in Dechow, Sloan and Sweeney (1995). Higher levels of discretionary accruals are consistent with lower quality earnings.⁴ In this model, *Discretionary Accruals* serves as a measure of the private information that insiders, and especially members of the audit committee, may have. The dependent variable, *Audit Committee Trades*, is measured in two different ways. First, we use the total number of trades, or the frequency of trading. Second, we use the total dollar amount of all trades, which represents the net sum of all trades made by the audit committee members in a given year. Year dummy variables in all analyses characterize insider trading over the entire decade.

In the second stage of this analysis, we want to see what the longer-term effects of prior audit committee trading has on the firm. In equation (2), we evaluate the *Financial Condition* of the firm following the insider trading.

$$(2) \quad \text{Financial Condition}_t = \text{Audit Committee Trades}_{t-1} + \text{Last 2 Years' Return}_{t-1} + \text{Last 2 Years' Industry Return}_{t-1} + \text{Market Value}_{t-1} + \text{Capital Ratio}_{t-1} + \text{Audit Committee Ownership}_{t-1} + \text{Audit Committee Size}_{t-1} + \text{Audit Committee Independence}_{t-1} + \text{Dividend Ratio}_{t-1} + \text{Deposit Ratio}_{t-1} + \text{Volatility}_{t-1}$$

In equation (2), we utilize three proxies for *Financial Condition*: return on assets, a dummy for

³ Option exercises are included in this study. Insiders exercising options constitutes an acquisition of stock.

⁴ Qualitatively similar results are found when using *Discretionary Accruals* from year $t-1$.

whether or not the firm subsequently restated its financial statements, and a dummy variable for whether or not the firm ultimately received TARP assistance from the U.S. Treasury.

The measure of insider trading used in this study is a unique measure. Most prior work on insider trading has used event study methodologies to study the information content of each individual trade. However, because the current study is considering longer-term, indirect effects of trading, it is more appropriate to consider a longer term measure of insider trading. This allows the analysis to better align the insider trading variable with the financial statement and firm performance variables, as well as with the risks the firm may be taking. The measure of insider trading is calculated as:

$$(3) \quad \text{Net Trades}_t = \text{Stock Sales}_t - \text{Stock Purchases}_t - \text{Option Exercises}_t$$

The measures for *Stock Sales*, *Stock Purchases* and *Option Exercises* are summed across all audit committee members at each firm during each year. *Net Trades* is a firm-level measuring either the number of trades made by all audit committee members or the net dollar amount all audit committee members received⁵ trading their stock during the year.⁶ We do not perform an event study on each trade, but rather analyze the longer-term effects of insider trading on financial statements and financial performance. In this analysis, our 'events' occur over a longer period, so using an aggregate measure of trading is more appropriate than using data on specific trades.

Data

The banks studied are all relatively large, publicly traded U.S.-based banks during the ten years from 2000-2009. Compustat's Bank database is used for the initial sample selection and for all financial statement variables. The Thomson Insiders' database provides the insider trading data. Insiders' stock sales, stock purchases and option exercises are obtained from their Form 4 filings with the Securities and Exchange Commission. This database is merged with the RiskMetrics' Directors database to identify specific audit committee members. RiskMetrics also provides other governance variables, including stock ownership,

⁵ *Net Trades* could be positive or negative. It would be negative if the total stock purchases were greater than the total stock sales by the audit committee during a year. In this sample, only 16 of the 1,058 firm-year observations (1.51%) are negative and all of these are due to option exercises and not open market purchases.

⁶ The raw dollar amount is used in the regression analyses. Qualitatively similar results are obtained when the log of net trades is used. More than 90% of the *Net Trades* values are between \$0 and \$10 million.

independence and demographic data for all board and audit committee members. Stock return data are obtained from CRSP. Information regarding restatements is obtained from Audit Analytics. And finally, information on which firms received TARP assistance is obtained from various public sources, including the U.S. Treasury, corporate press releases and ProPublica⁷. The final sample is an unbalanced panel of 159 unique banks during the 2000-2009 timeperiod with 1,058 firm-years.

The key variables of interest are the audit committee trading variables. *Audit Committee Trades – Number* represents the total number of trades made by all members of the firm's audit committee in a given year. *Audit Committee Trades – Value* represents the total dollar value of all trades made by all members of the firm's audit committee in a given year. Several other audit committee variables are included as control variables, including the total dollar amount of stock owned by the audit committee, the percentage of audit committee members who are independent, and the number of directors on the audit committee. The final analysis is a test of *SOX Compliance*, or whether or not all members of the firm's audit committee are independent.⁸ As shown in equations (1) and (2), various standard bank-level characteristics are also included as control variables. All variables are defined in Appendix A. Table 1 presents the descriptive statistics for all firms and by sub-period. We can see that the average audit committee made 13.41 trades per year with net sales valued at \$2,735,615. On average, this represents selling about 17% of the committee's average total stock ownership of \$16,565,375 each year. Audit committees average 3.71 members, 92.88% of whom are independent. Over the entire period, 62.00% of audit committees are compliant with SOX; not surprisingly, this measure increases from 52.26% during 2000-2002 to 79.37% during 2007-2009.⁹ Panel B shows that

the number of audit committee members decreased during the 2000s, possibly indicating that committees removed non-independent directors in order to be *SOX Compliant*. Panel B also shows how ownership and trading behavior has changed over time. During the first sub-period from 2000-2002, directors owned the most stock, directors did the most net trading, and CEOs owned the most stock, compared to the later sub-periods. It is interesting to note how much lower the ownership and trading numbers were during the financial crisis sub-period, from 2007-2009. Audit committee net trades decreased from over \$4.1 million during 2000-2002 to less than \$1.8 million during 2008-2009 and CEO ownership decreased from over \$134 million to less than \$38 million during the same time periods. Many factors could be causing these changes: it could be that insiders own fewer shares, it could be that lower market valuations are causing it, and it could be that insiders were able to cash out and take money off the table prior to the crisis hitting, which would be consistent with the Bebchuk, Cohen and Spamann (2010) risk-alignment story.

⁷<http://bailout.propublica.org/list/index>

⁸ Even though SOX did not become effective until 2002, this variable is applied to firms in 2000 and 2001 also as a measure of whether or not they would have been compliant. The results are qualitatively unchanged when the analysis is performed only on the 2002-2009 time period.

⁹ According to SOX, the compliance should be 100% during 2003-2006 and 2007-2009. However, there is no standard definition of what it means for director to be 'independent.' The independence data used in this study is from RiskMetrics, and manual inspection of numerous proxy statements suggests that RiskMetrics has a higher standard of independence than do many firms. A number of firm proxy statements mentioned, for example, that a director had a business or family relationship with the firm, but that such relationship was immaterial and did not compromise the director's fiduciary duty to the firm. While the firm may consider this director to be independent, and thus the committee in compliance with

SOX, RiskMetrics may classify this director as an affiliated director, which would explain why the SOX compliance numbers in this study are so much lower than 100%.

Results

The primary results of this study are presented in Table 3 and Table 4. In Table 3, we evaluate the determinants of net trading by audit committee members. Two measures of trading are considered: total number of trades and total net dollar value of trades. Specification (1) shows that none of the variables are significantly associated with a greater number of trades. This is not necessarily surprising; the number of trades made may not tell us anything about an insiders' private information. In some cases, insiders would acquire exactly one share of stock, only to later sell thousands of shares. Using the number of trades would treat these two transactions equally, when the economic consequences are certainly different. Specification (2) more appropriately captures these economic effects by using the total net dollar amount of trades as the dependent variable. And, it does seem that there is an association between *Discretionary Accruals*, or earnings management, and audit committee members selling their stock. Higher levels of *Discretionary Accruals* are associated with higher levels of net selling in the full sample and in all three sub-periods. The effect is highest during the financial crisis sub-period from 2007-2009.¹⁰ This result is consistent with the findings of Sawicki and Shrestha (2008) in that insiders appear to be taking advantage of their private information.¹¹ Interestingly, the other audit committee variables are not consistently associated with net trading. Specifically, there is no relationship between the amount of stock the audit committee members own and the amount they sell; they sell when *Discretionary Accruals* are high. Audit committee members are also net sellers of stock following periods of strong performance, measured by *Last 2 Years' Return*. Selling stock following periods of strong performance makes perfect sense for any rational investor; however, if this selling was enhanced by low-quality financial statements it could have substantial and significant effects on the financial condition of the firm in the future.

The results in Table 3 suggest that audit committee members do opportunistically sell stock, but it does not show the post-trade effects. Those effects are presented in Table 4 where equation (2) regarding the post-trade financial condition of the bank is analyzed. Specifically, we consider the

relationship between the dollar amount of net trading and the post-trade financial condition of the firm.¹² Three different measures of financial condition are considered: firm performance measured by return on assets in Panel A, whether or not the firm subsequently restated financial statements in Panel B, and whether or not the firm received funds from the U.S. Treasury's TARP in Panel C. To summarize the results, banks where the audit committees engaged in the most net selling had the weakest financial conditions following the year of trading. However, somewhat surprisingly, this effect does not seem to be dominated by any of the three sub-periods considered; the effect exists at similar levels in all three time periods.

In Panel A, the results show a significantly negative relationship between firm performance and *Audit Committee Trades*. Banks that had the most audit committee selling had the weakest performance in the following year.¹³ This effect is consistent across all three sub-periods. This could be consistent with the firm having to correct for *Discretionary Accruals* in the prior year and having lower subsequent operating performance as a result. In Panel B, the results show that banks that had the most audit committee stock sold in year $t-1$ were more likely to restate their financial statements in year t . This effect is also consistent across all three sub-periods. This could be consistent with the audit committee members selling based on private information about the bank's current and future financial statements (which is inconsistent with the bank having greater *Discretionary Accruals* in year $t-1$). The final analysis in Panel C of Table 4 considers a unique characteristic of banks: many experienced such drastic problems during the 2008-2009 financial crisis that they needed capital injections from the U.S. Treasury through the Troubled Asset Relief Program.¹⁴ Table 1 shows that 58.6% of the banks in this sample did ultimately receive TARP support.¹⁵ The results in

¹² As with the analysis in Table 3, untabulated results using the number of trades are generally insignificant.

¹³ The primary specification does not include a measure for "Industry ROA" because all firms are banks and should have relatively similar industry performance. When a variable equal to the ROA of all firms in the sample firm's same 4-digit SIC code is included, the results are qualitatively unchanged.

¹⁴ The U.S. Treasury stopped making TARP investments in October 2010. Thus, all banks that will ever receive TARP funds have been included in this study.

¹⁵ As defined in Appendix A, if a bank received TARP funding in 2008 or 2009, this dummy variable is equal to 1 in all years that the bank appears in the sample. This makes the assumption that the bank characteristics that prompted the bank to need TARP money in 2008 or 2009 also existed in all prior years. The results in Table 4, Panel C for the 2007-2009 sub-period show the

¹⁰ The coefficient of 6.116 in specification (5) is statistically significantly higher than the coefficients in (3) and (4).

¹¹ Technically this result is not the same as Sawicki and Shrestha (2008). They find that insiders manage earnings downward prior to making acquisitions of stock in order to obtain a lower buying price. But, then those insiders do acquire stock in the same period as when the earnings management occurs, which is the result that we find.

Panel C support the notion that audit committee members selling their stock could have weakened the financial position of the bank, leading it to need TARP assistance. Banks that had the most selling were more likely to ultimately need funding from TARP. Interestingly, banks with the greatest audit committee stock ownership were less likely to need TARP assistance. This suggests that it is not the mere ownership of stock that could be problematic for firms, but it is the selling of stock based on private information about the firm's financial condition that could be problematic.

Finally, in Table 5 we consider a separate but related issue regarding audit committee structure. One of the primary mandates of the 2002 Sarbanes-Oxley Act was that all audit committee members must be independent of the firm. The rationale behind this is that independent audit committee members are better monitors of the financial reporting environment because they likely have fewer conflicts of interest. If this is indeed true, we might expect to observe a different relationship between audit committee trading and financial condition for firms that are compliant with SOX compared to those that are not SOX compliant. To analyze this, the equation (2) analysis from Table 4 is performed separately on two subsamples: those banks with 100% independent audit committees and those banks with less than 100% independent audit committees.¹⁶ The results in Table 5 show that there does not appear to be a significant difference between these subsamples.¹⁷ The results from Table 4, that firms with greater audit committee selling experience weaker subsequent financial condition, hold for both the compliant and not-compliant subsamples.¹⁸ Thus, while audit committees being 100% independent may be beneficial for certain aspects of a bank's financial reporting environment, it does not appear to mitigate the propensity for insiders to

sell stock when they may have private information about the bank's future financial condition.¹⁹

To ensure the above results are not limited to model specification, a number of robustness tests are performed. In the Table 3 analysis of equation (1) on the determinants of trading, stepwise regressions were performed beginning with only the *Discretionary Accruals* variable, and iteratively adding more control variables. *Total Assets* was considered as the firm size measure instead of *Market Value*. Rather than using audit committee governance variables for ownership, size and independence, the relevant variables for the full board were used. In all cases, the general tenor of the Table 3 results maintains: firms that have the highest levels of *Discretionary Accruals* have the highest levels of audit committee selling. In other tests, a lagged value of *Discretionary Accruals* was used; in these tests, there is a positive but insignificant relationship with the value of audit committee selling, suggesting that the relationship is contemporaneous. Finally, firm-level fixed-effects models were considered; the results from these tests were qualitatively the same as the results presented in Table 3.

In the analyses in Tables 4 and 5 of equation (2) on the post-trading financial condition of banks, similar robustness tests were performed. Stepwise regressions were performed beginning with only the *Audit Committee Trades-Value* variable. Alternate measures for different firm and corporate governance characteristics were also considered. In all cases, the results are qualitatively the same as those presented in Tables 4 and 5. Firm-level fixed-effects models were considered; the results from these tests were qualitatively the same as the results presented in Tables 4 and 5. In a final robustness test, the SOX compliance analysis in Table 5 was modified. While SOX required all firms to have 100% independent audit committees, policies enacted in 2003 by the New York Stock Exchange and the NASDAQ exchange required all listed firms to have a majority of independent directors on their board. A stricter definition of compliance was considered: firms had to be both compliant with the SOX audit committee requirements and with the exchanges' board independence requirements. Using this stricter definition does not alter the results: regulatory compliance does not alter the relationship between

relationships for just the immediate period during the financial crisis.

¹⁶ As discussed previously, there can be different definitions of what constitutes an 'independent' director. This study uses the classifications provided by RiskMetrics, which appears to be based on a higher standard of independence than what many firms are using.

¹⁷ In untabulated results, rather than splitting the sample by SOX compliance, a *SOX Compliance* dummy variable was included in the Table 4 analyses. In all specifications, this variable was insignificant.

¹⁸ In untabulated results, the respective coefficients between the compliant and not-compliant sub-samples were compared. Only the *Restatements* coefficients are statistically significantly different, and even then only at a *p*-value of 0.098. There is no statistical difference between the *Firm Performance* and *TARP Recipient* pairs of coefficients.

¹⁹ A separate requirement of SOX was that all audit committees must have at least one member who is a "financial expert." This would suggest that audit committees are of a higher quality after SOX relative to before SOX. While this is not explicitly tested in the current study, the lack of differences between the three time period sub-sample results and the two SOX compliance sub-sample results suggests that the effects of audit committee trading is not affected by this requirement.

audit committee selling and the financial condition of the bank.²⁰ The primary result that audit committees that engage in the most selling are associated with banks that have weaker financial states was consistent through all robustness tests.

Discussion

The results discussed above provide significant support for the notion that audit committee members sell stock when they have informed and private knowledge about the future financial condition of their banks. While the methodology used in this study is somewhat novel, and the study is focused on banks, this finding is generally consistent with the prior insider trading literature. Insiders do trade on private information – and this does not appear to be absolved by the presumed fiduciary duty of the members of the audit committee to monitor the quality of the bank's financial reporting environment. These results are robust to the time period considered and to the measure of post-trading *Financial Condition* considered. Interestingly, the level of the dollar amount of stock owned by the audit committee is positively associated the future *Financial Condition* of the bank.²¹ Thus, it is not merely the fact that audit committee members own a significant amount of stock and options, but it is what those directors do with the private information they have about the firm's financial reporting environment. Insiders manage earnings to take advantage of these opportunistic buying opportunities, but this appears to lead to weakened financial condition for the bank.

Several caveats are in order. The *Net Trades* measure used in this study is novel and unproven. It is, however, similar to the realized cash flow measures in Bebchuk, Cohen and Spamann (2010), and it does have a solid theoretical foundation. Another issue is whether or not this phenomenon is unique to audit committee members. This study focuses on the behavior of audit committee members because the Sarbanes-Oxley Act singled out the audit committee, and because prior research has shown that audit committees are indeed different from other board committees (e.g. Engel et al., 2010). Further, this study focused on audit committees because they should have the most private information about the bank's financial reporting quality and processes – and the most control over that financial reporting process. It is unclear whether or not these results would generalize to a larger group of insiders. Finally,

this analysis identifies associations but not necessarily causality. It may be reasonable to assume that the earnings management leads to audit committee trading, but that this trading does not necessarily *cause* the weakened financial condition (although it may be highly correlated with the unobservable factors that do cause the weakened condition).

Conclusion

The purpose of this study was to analyze the insider trading behavior of members of commercial banks' audit committees during the 2000s. The sample was selected to study U.S. banks during the decade of the 2000s because the activity that occurred at these banks during this period may have contributed to the financial crisis of 2008 and 2009. This is where we are most likely to observe dislocations between the incentives the insiders have and the risks they are taking on behalf of shareholders. Audit committee behavior was specifically selected because audit committees have a unique fiduciary duty to monitor the firm's financial reporting environment. Prior research and recent regulations have specifically highlighted the responsibilities of the audit committees as being distinct from those of other board committees or of the board as whole. And, the insider trading was chosen because it can convey the presence of private information. Audit committees may be most likely to have private information about the bank's financial condition, and, thus, observing insider trading by them based on this private information may identify a significant principal-agent concern.

The results show that audit committee members at banks did sell substantial amounts of stock during the 2000s. The net selling of stock was indeed contemporaneously associated with the banks having larger amounts of discretionary accruals. More selling appears to have taken place at firms with the greatest degree of earnings management. And, subsequent to these insider trades being made, firms with the largest amounts of insider selling by audit committee members were associated with weaker financial conditions, as measured by firm performance, likelihood of restating financial statements, and likelihood of receiving TARP funding. However, this is not due to audit committee members owning more stock or options; the level of ownership is positively associated with better subsequent financial condition.

The implications from these findings are vast. While audit committee members may have different fiduciary responsibilities, it appears that their behavior is no different from all other insiders when it comes to insider trading. They, too, engage in opportunistic trading based on private information. This result is robust within this

²⁰ Again, performing the Table 4 analysis using a *SOX Compliance* dummy variable yielded positive but statistically insignificant results.

²¹ This is consistent Bhagat and Bolton (2008) and other studies that have found a positive relationship between stock ownership and firm performance.

sample of U.S. banks during the 2000s. Banks were chosen because of their involvement in the financial crisis; and audit committees were chosen because of their unique role in monitoring the firm. However, it is reasonable to assume that these same results would maintain for larger samples of firms across different time periods and that they would maintain for all insider trading. These results should concern both regulators and investors as they suggest that insiders continue to take advantage of their unique information and realize benefits at the expense of external shareholders. Thus, while insiders owning stock may be beneficial, it seems that better mechanisms are needed to prevent those insiders from acting in their own self-interest to the detriment of outside shareholders.

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Appendix A. Description of Variables

- Audit Committee Trades - Number* – The total number of common stock purchases, common stock sales, and option exercises by all members of a firm’s audit committee in a year.
- Audit Committee Trades - Value* – The net value of all common stock purchases, common stock sales, and option exercises by all members of a firm’s audit committee in a year, as defined in equation (3). The value is equal to the cash paid for stock purchases and for option exercises, subtracted from the cash received for stock sales.
- Audit Committee Ownership* – The dollar amount of the common stock owned by all members of a firm’s audit committee as of the beginning of a year.
- Audit Committee Independence* – The proportion of audit committee members who are neither employees of the firm nor affiliated with the firm in some manner.
- Audit Committee Size* – The number of directors serving on the firm’s audit committee.
- SOX Compliance* – A dummy variable equal to 1 if all members of the firm’s audit committee are independent, and equal to 0 otherwise.
- Board Independence* – The proportion of board directors who are neither employees of the firm nor affiliated with the firm in some manner.
- Director Stock Ownership Value* – The dollar amount of stock owned by the median director.
- Director Stock Ownership Percent* – The percent of stock owned by the median director.
- CEO Stock Ownership Value* – The dollar amount of stock owned by the firm’s CEO.
- CEO Stock Ownership Percent* – The percent of stock owned by the firm’s CEO.
- CEO-Chair Duality* – A dummy variable equal to 1 if the CEO is also the chair of the board, and equal to 0 otherwise.
- Assets* – The dollar amount, in millions, of the total assets of the firm. Logarithmic transformations are used in the analyses.
- Market Value* – The dollar amount, in millions, of the market value of the firm’s equity. Logarithmic transformations are used in the analyses.
- Return on Assets* – Earnings before interest and depreciation divided by total assets.
- Tobin’s Q* – The ratio of the market value of the firm’s assets to the book value of assets.
- Stock Return* – The annualized stock return during the year for the firm
- Loan Ratio* – The ratio of book value of net loans to total assets.
- Deposit Ratio* – The ratio of total deposits to total assets.
- Tier 1 Capital Ratio* – The ratio of Tier 1 Capital to total assets.
- Last 2 years’ Return* – Compound stock return over the preceding 2 years.
- Last 2 years’ Industry Return* – Compound stock return over the preceding 2 years for all firms in the sample firm’s 4-digit SIC group.
- Dividend Ratio* – Ratio of cash dividends paid to total assets.
- Volatility* – Standard deviation of monthly stock returns over the preceding 36-60 months.
- Discretionary Accruals* – A measure of earnings quality, calculated following the Modified Jones Model as in Dechow, Sloan and Sweeney (1995). Higher levels of discretionary accruals are associated with lower levels of earnings quality.
- TARP Recipient* – A dummy variable equal to 1 if the institution received funds from the U.S. Treasury’s ‘Troubled Asset Relief Program’ during 2008 and 2009, and equal to 0 otherwise. This variable is the same for all years for each firm; if a firm received TARP funding in 2008, this variable is equal to 1 for all years that firm is in the sample.
- Restated Financial Statements* – A dummy variable equal to 1 if the institution restated its financial statements in the year following the sample year.

Table 1. Descriptive Statistics

This table presents the descriptive statistics for the primary variables in this study. All variables are as described in Appendix A. In Panel A, the descriptive statistics are presented for all firms and all years. In Panel B, the mean values for each variable are presented across three different time periods: 2000-2002, 2003-2006 and 2007-2009.

Panel A: All firms, all years

	Mean	Median	5 th Percentile	95 th Percentile
<u>Audit Committee Variables:</u>				
Audit Committee Trades - Number	13.41	6.00	0.92	52.18
Audit Committee Trades - Value	\$2,735,615	\$647,237	\$0	\$10,182,478
Audit Committee Ownership	\$16,565,375	\$5,695,343	\$453,600	\$54,677,306
Audit Committee Independence	92.88%	100.00%	66.67%	100.00%
Audit Committee Size	3.71	3.00	2.00	6.00
Audit Committee SOX Compliance	62.00%	100.00%	0.00%	100.00%
<u>Other Governance Variables:</u>				
Board Independence	71.93%	75.00%	47.37%	90.91%
Board Size	13.00	13.00	8.00	19.00
Director Stock Ownership Value	\$2,341,085	\$1,368,579	\$249,879	\$9,523,641
Director Stock Ownership Percent	0.15%	0.07%	0.00%	0.57%
CEO Stock Ownership Value	\$89,189,031	\$25,905,556	\$1,704,555	\$301,173,180
CEO Stock Ownership Percent	2.07%	0.83%	0.12%	9.08%
CEO-Chair Duality	63.66%	100.00%	0.00%	100.00%
<u>Other Bank Variables</u>				
Assets (in millions)	\$63,116	\$10,571	\$2,771	\$237,615
Market Value (in millions)	\$9,090	\$1,746	\$404	\$40,648
Return on Assets	0.90%	1.12%	-0.69%	1.89%
Tobin's Q	1.092	1.082	0.957	1.239
Stock Return	3.15%	3.76%	-49.62%	47.03%
Loan-to-Asset Ratio	61.56%	63.94%	34.91%	80.06%
Deposit-to-AssetRatio	68.22%	68.91%	47.99%	83.24%
Tier 1 Capital Ratio	10.61%	10.22%	7.04%	15.91%
Discretionary Accruals (x 100)	-0.026	-0.099	-1.022	1.558
TARP Recipient	58.60%	100.00%	0.00%	100.00%
Restated Financial Statements	10.96%	0.00%	0.00%	100.00%

Panel B: All firms, by subperiod

	Mean Values: 2000-2002 (n=243)	Mean Values: 2003-2006 (n=500)	Mean Values: 2007-2009 (n=315)
<u>Audit Committee Variables:</u>			
Audit Committee Trades - Number	10.89	14.62	13.79
Audit Committee Trades - Value	\$4,149,411	\$2,611,817	\$1,767,980
Audit Committee Ownership	\$23,365,968	\$18,619,070	\$8,256,412
Audit Committee Independence	87.44%	92.08%	98.43%
Audit Committee Size	4.33	3.65	3.27
Audit Committee SOX Compliance	52.26%	55.80%	79.37%
<u>Other Governance Variables:</u>			
Board Independence	68.76%	71.11%	75.65%
Board Size	13.95	12.93	12.31
Director Stock Ownership Value	\$2,153,503	\$2,865,850	\$1,777,971
Director Stock Ownership Percent	0.11%	0.15%	0.18%
CEO Stock Ownership Value	\$134,359,405	\$101,525,195	\$37,441,100
CEO Stock Ownership Percent	2.62%	2.26%	1.72%
CEO-Chair Duality	63.47%	70.19%	54.92%
<u>Other Bank Variables</u>			
Assets (in millions)	\$54,040	\$58,928	\$76,764
Market Value (in millions)	\$8,690	\$10,435	\$7,253
Return on Assets	1.20%	1.24%	0.15%
Tobin's Q	1.119	1.122	1.023
Stock Return	12.35%	12.02%	-17.81%
Loan-to-Asset Ratio	58.76%	61.54%	63.76%
Deposit-to-AssetRatio	68.22%	67.48%	69.39%
Tier 1 Capital Ratio	10.69%	10.32%	10.97%
Discretionary Accruals (x 100)	-0.112	-0.130	0.316
TARP Recipient	52.26%	57.60%	65.08%
Restated Financial Statements	13.17%	10.80%	9.52%

Table 2. Correlation Coefficients

This table presents the correlations coefficients for the primary variables in the study. Pearson correlation coefficients are below the diagonal, and Spearman rank coefficients are above the diagonal.

<u>Variable</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Audit Comm. Trades - Number	-	0.35	-0.04	0.07	0.04	0.02	0.02	0.05	-	-	-	0.01	0.02	0.06	0.09
(2) Audit Comm. Trades - Value	0.49	-	0.13	0.16	0.05	0.01	0.19	0.37	0.13	0.13	0.15	0.05	0.26	0.01	0.02
(3) Audit Comm. Ownership	-0.05	0.09	-	0.12	0.18	0.03	0.17	0.15	0.02	0.08	0.03	0.12	0.18	0.03	-
(4) Audit Comm. Independence	0.03	-0.01	0.02	-	0.18	0.10	0.03	0.44	0.25	0.25	0.15	0.16	0.03	0.03	0.03
(5) Audit Committee Size	0.04	0.07	-0.17	0.03	-	0.02	0.08	0.09	0.14	0.01	0.03	0.06	0.03	0.02	0.14
(6) Discretionary Accruals	0.01	0.06	-0.06	0.12	0.02	-	0.14	0.03	0.01	0.04	0.03	0.03	0.04	0.04	0.05
(7) Last 2 years' return	0.04	0.00	0.16	0.13	0.07	0.08	-	0.15	0.06	0.03	0.13	0.05	0.24	0.04	0.11
(8) Market Value	0.20	0.30	0.12	0.00	0.14	0.05	0.04	-	0.19	0.29	0.25	0.06	0.08	0.02	0.13
(9) Capital Ratio	-0.06	-0.02	-0.03	0.07	0.13	0.05	0.08	0.31	-	0.25	0.17	0.35	0.08	0.03	-
(10) Deposit Ratio	-0.10	-0.13	-0.07	0.01	0.00	0.02	0.00	0.31	0.09	-	0.20	0.64	0.10	0.04	0.03
(11) Dividend Ratio	-0.19	-0.10	0.05	0.07	0.07	0.02	0.12	0.24	0.25	0.28	-	0.12	0.04	0.03	0.00
(12) Volatility	0.02	0.05	0.13	0.04	0.07	0.03	0.03	0.13	0.26	0.62	0.14	-	0.16	0.03	0.10
(13) Return on Assets	0.02	0.09	0.16	0.16	0.01	0.12	0.31	0.34	0.09	0.16	0.02	0.17	-	0.05	0.00
(14) Restatements	0.07	-0.01	0.04	0.04	0.01	0.03	0.03	0.06	0.02	0.05	0.02	0.03	0.03	-	0.07
(15) TARP Recipient	0.14	0.03	-0.15	0.26	0.17	0.02	0.12	0.08	0.09	0.02	0.07	0.02	0.03	0.07	-

Table 3. Determinants of Net Trades

This table presents the results from estimating equation (1) on the relationship between earnings management and audit committee trading. In specification (1), the dependent variable is *Audit Committee Trades – Number*. In specification (2), the dependent variable is *Audit Committee Trades – Value*. In specifications (3), (4) and (5), the dependent variable is *Audit Committee Trades – Value* and the analysis is performed on three different time periods. All other variables are as defined in Appendix A. Intercepts and year dummy variables are included but not presented. Ordinary least squares analysis is performed. Standard errors are corrected for clustering by firm and year. Regression coefficients are presented with t-statistics below in parentheses. * denotes significance at a 10% level, ** denotes significance at a 5% level, and *** denotes significance at 1% level.

	Audit Committee Trades - Number _t (1)	Audit Committee Trades - Value _t (2)	Audit Committee Trades - Value _t		
			2000-2002 (3)	2003-2006 (4)	2007-2009 (5)
<i>Discretionary Accruals_t</i>	-13.599 (0.80)	2.186 ** (2.26)	3.622 ** (1.98)	4.184 ** (2.47)	6.116 *** (3.01)
<i>Last 2 years' Return_t</i>	0.802 (1.21)	0.086 ** (2.36)	0.498 ** (2.24)	0.223 ** (2.38)	0.545 ** (2.42)
<i>Last 2 years' Industry Return_t</i>	1.478 (0.35)	0.055 * (1.77)	0.281 * (1.70)	0.133 (1.51)	0.225 ** (2.00)
<i>Market Value_t</i>	1.543 (0.75)	0.369 (4.48)	0.267 ** (2.17)	0.265 ** (2.24)	0.933 *** (6.65)
<i>Tier 1 Capital Ratio_t</i>	-0.236 (0.42)	-0.046 (1.17)	-0.080 (1.47)	0.009 (0.14)	-0.158 *** (2.82)
<i>Audit Committee Ownership_t</i>	-2.018 (1.35)	0.003 (0.04)	-0.074 (0.70)	-0.003 (0.02)	0.163 * (1.76)
<i>Audit Committee Size_t</i>	1.373 (1.78)	0.113 (2.24)	0.174 ** (2.10)	0.091 (1.25)	0.007 (0.06)
<i>Audit Committee Independence_t</i>	-2.943 (0.29)	0.591 (0.86)	0.852 (0.77)	0.042 (0.05)	0.619 (0.41)
<i>Deposit Ratio_t</i>	-16.616 (0.87)	-1.626 (1.65)	-2.964 ** (2.27)	-2.239 * (1.61)	-2.451 * (1.83)
<i>Dividend Ratio_t</i>	0.002 (1.20)	0.000 (0.99)	0.212 (1.10)	0.009 (0.98)	0.019 ** (2.11)
<i>Volatility_t</i>	0.154 (1.34)	0.048 (3.60)	0.067 *** (3.85)	0.052 *** (2.86)	0.022 * (1.94)
R-squared	0.151	0.446	0.353	0.380	0.598
Number of Observations	1,058	1,058	243	500	315

Table 4. Effect of Net Trading on Financial Condition

This table presents the results from estimating equation (2) on the relationship between the dollar value of audit committee trading and bank financial condition. Three different measure of financial condition are considered. In Panel A, post-trading Return on Assets is the measure of financial condition. In Panel B, a dummy variable equal to 1 if firm restated financial statements in the year after the trading is the measure of financial condition. In Panel C, a dummy variable equal to 1 if the firm ultimately received funds from the U.S. Treasury through the Troubled Asset Relief Program is used as the measure of financial condition. All other variables are as defined in Appendix A. In each Panel, equation (2) is estimated for the entire sample across 2000-2009 and for three sub-periods. Ordinary least squares analysis is performed for Panel A, and logit analysis is performed in Panels B and C. Intercepts and year dummy variables are included but not presented. Standard errors are corrected for clustering by firm and year. Regression coefficients are presented with t-statistics for OLS and chi-square statistics below in parentheses. * denotes significance at a 10% level, ** denotes significance at a 5% level, and *** denotes significance at 1% level.

Panel A: Firm Performance as Financial Condition

<i>(Ordinary Least Squares)</i>	Financial Condition - Firm Performance	Financial Condition - Firm Performance		
		2000-2002	2003-2006	2007-2009
<i>Audit Committee Trades – Value_{t-1}</i>	-0.102 ** (2.28)	-0.142 ** (2.13)	-0.198 ** (2.38)	-0.172 *** (3.09)
<i>Last 2 years' Return_{t-1}</i>	0.004 (1.35)	0.001 (1.02)	-0.004 (1.22)	0.013 * (1.68)
<i>Last 2 years' Industry Return_{t-1}</i>	0.004 * (1.72)	0.024 ** (2.49)	0.001 (0.26)	0.009 * (1.81)
<i>Market Value_{t-1}</i>	0.001 *** (3.04)	0.001 ** (2.18)	0.001 *** (3.99)	0.002 *** (2.95)
<i>Tier 1 Capital Ratio_{t-1}</i>	0.000 (1.27)	0.000 (1.45)	0.000 (0.74)	0.000 (0.96)
<i>Audit Committee Ownership_{t-1}</i>	0.002 * (2.01)	0.001 ** (2.53)	0.002 *** (2.74)	0.001 ** (2.22)
<i>Audit Committee Size_{t-1}</i>	-0.004 * (1.71)	-0.001 (0.56)	-0.002 (1.20)	-0.003 (1.37)
<i>Audit Committee Independence_{t-1}</i>	-0.004 ** (1.97)	0.001 (0.34)	-0.001 (0.72)	-0.022 * (1.74)
<i>Deposit Ratio_{t-1}</i>	0.006 (0.84)	0.028 * (1.60)	0.000 (0.02)	-0.021 (1.34)
<i>Dividend Ratio_{t-1}</i>	0.000 (0.87)	0.301 ** (2.29)	0.000 (0.76)	0.000 (0.71)
<i>Volatility_{t-1}</i>	0.004 *** (6.35)	0.002 (1.49)	0.005 *** (7.72)	0.005 *** (3.62)
R-squared	0.424	0.414	0.547	0.510
Number of Observations	1,058	243	500	315

Panel B: Restatement as Financial Condition

<i>(Logit estimation)</i>	Financial Condition - Restatements	Financial Condition - Restatements		
		2000-2002	2003-2006	2007-2009
<i>Audit Committee Trades – Value_{t-1}</i>	0.007 *** (6.70)	0.008 ** (4.47)	0.005 ** (5.36)	0.007 *** (8.38)
<i>Last 2 years' Return_{t-1}</i>	-0.018 (0.39)	-0.128 (1.42)	0.038 (0.30)	-0.036 (0.37)
<i>Last 2 years' Industry Return_{t-1}</i>	-0.225 *** (7.77)	-0.866 *** (6.88)	0.341 (1.17)	-0.271 *** (7.99)
<i>Market Value_{t-1}</i>	-0.013 (0.91)	-0.003 (0.16)	-0.018 (0.96)	-0.020 (0.79)
<i>Tier 1 Capital Ratio_{t-1}</i>	-0.008 * (3.60)	-0.010 (1.42)	-0.003 (0.30)	-0.015 ** (5.16)
<i>Audit Committee Ownership_{t-1}</i>	-0.009 * (3.78)	-0.022 * (3.64)	-0.024 ** (6.22)	-0.006 ** (5.26)
<i>Audit Committee Size_{t-1}</i>	0.001 (0.08)	-0.009 (0.58)	-0.011 (0.67)	0.036 (1.30)
<i>Audit Committee Independence_{t-1}</i>	0.094 (1.44)	0.167 (1.38)	0.134 * (3.60)	0.167 (0.40)
<i>Deposit Ratio_{t-1}</i>	0.071 (0.49)	0.159 (0.63)	0.066 (0.30)	-0.014 (0.05)
<i>Dividend Ratio_{t-1}</i>	0.001 (0.87)	0.001 (1.25)	0.003 * (3.27)	-0.001 (0.25)
<i>Volatility_{t-1}</i>	0.001 (0.71)	0.004 (1.55)	0.002 (0.30)	0.004 (0.76)
R-squared	0.132	0.171	0.134	0.210
Number of Observations	1,058	243	500	315

Panel C: TARP Recipient as Financial Condition

<i>(Logit estimation)</i>	Financial Condition - TARP Recipient	Financial Condition - TARP Recipient		
		2000-2002	2003-2006	2007-2009
<i>Audit Committee Trades – Value_{t-1}</i>	0.042 ** (5.02)	0.033 * (2.80)	0.027 * (2.92)	0.053 *** (7.43)
<i>Last 2 years' Return_{t-1}</i>	-0.189 ** (4.10)	-0.175 * (2.92)	-0.119 * (3.59)	-0.212 ** (5.18)
<i>Last 2 years' Industry Return_{t-1}</i>	0.120 (1.50)	-0.300 (0.50)	-0.232 (0.67)	0.071 (0.76)
<i>Market Value_{t-1}</i>	0.064 * (2.74)	0.030 (0.61)	0.067 * (3.03)	0.082 * (2.97)
<i>Tier 1 Capital Ratio_{t-1}</i>	-0.026 * (2.87)	-0.025 (1.26)	-0.061 *** (8.77)	-0.023 (1.14)
<i>Audit Committee Ownership_{t-1}</i>	-0.110 *** (8.90)	-0.096 ** (5.13)	-0.154 *** (9.34)	-0.086 ** (6.13)
<i>Audit Committee Size_{t-1}</i>	-0.011 (0.44)	0.013 (0.42)	-0.040 (1.28)	-0.026 (0.48)
<i>Audit Committee Independence_{t-1}</i>	0.045 (1.23)	0.279 (0.90)	0.149 (0.76)	1.025 ** (5.99)
<i>Deposit Ratio_{t-1}</i>	0.612 (1.36)	0.279 (0.42)	0.745 (1.44)	0.745 (1.16)
<i>Dividend Ratio_{t-1}</i>	0.003 (1.42)	0.001 (0.78)	0.002 (0.75)	0.004 (1.16)
<i>Volatility_{t-1}</i>	0.015 * (2.98)	0.012 * (3.03)	0.015 ** (4.04)	0.017 * (3.22)
R-squared	0.342	0.322	0.424	0.524
Number of Observations	1,058	243	500	315

Table 5. Effect of Net Trading on Financial Condition – By SOX Compliance

This table presents the results from estimating equation (2) on the relationship between the dollar value of audit committee trading and bank financial condition on subsamples sorted by whether or not the bank's audit committee is compliant with SOX. Three different measure of financial condition are considered: post-trading Return on Assets, a dummy variable equal to 1 if the firm restated financial statements in the year after trading, and a dummy variable equal to 1 if the firm ultimately received funds from the U.S. Treasury through the Troubled Asset Relief Program. All other variables are as defined in Appendix A. Ordinary least squares analysis is performed on *Firm Performance* and logit analysis is performed on *Restatements* and *TARP Recipient*. Intercepts and year dummy variables are included but not presented. Standard errors are corrected for clustering by firm and year. Regression coefficients are presented with t-statistics for OLS and chi-square statistics for logit below in parentheses. * denotes significance at a 10% level, ** denotes significance at a 5% level, and *** denotes significance at 1% level.

	Firms Compliant With SOX			Firms NOT Compliant With SOX		
	Firm Performance (OLS)	Restate ments (Logit)	TARP Recipient (Logit)	Firm Performance (OLS)	Restate ments (Logit)	TARP Recipient (Logit)
<i>Audit Committee Trades – Value_{t-1}</i>	-0.004 * (1.87)	0.012 ** (4.25)	0.046 ** (5.13)	-0.003 * (1.76)	0.009 * (2.85)	0.041 ** (4.09)
<i>Last 2 years' Return_{t-1}</i>	.006 * (1.61)	0.018 (0.28)	-0.121 (1.11)	0.000 (0.06)	-0.097 (1.24)	-0.323 ** (4.35)
<i>Last 2 years' Industry Return_{t-1}</i>	0.005 (1.55)	-0.243 *** (7.38)	0.051 (0.58)	0.000 (0.13)	-0.161 (1.14)	0.424 * (2.99)
<i>Market Value_{t-1}</i>	0.002 *** (2.86)	-0.024 (1.63)	0.081 ** (4.13)	0.001 (1.65)	0.032 (1.00)	-0.030 (0.45)
<i>Tier 1 Capital Ratio_{t-1}</i>	0.000 (0.45)	-0.007 (1.23)	-0.020 (1.44)	0.001 * (1.88)	-0.013 ** (4.14)	-0.046 * (2.93)
<i>Audit Committee Ownership_{t-1}</i>	0.000 (0.68)	0.001 (0.07)	-0.116 *** (7.57)	0.000 (1.19)	0.026 (1.07)	-0.104 ** (4.19)
<i>Audit Committee Size_{t-1}</i>	-0.001 * (1.83)	0.003 (0.22)	-0.008 (0.27)	0.000 (0.13)	-0.019 (1.31)	-0.015 (0.34)
<i>Deposit Ratio_{t-1}</i>	0.007 (0.71)	0.083 (0.47)	0.634 (1.32)	0.003 (0.78)	-0.028 (0.12)	0.606 (0.90)
<i>Dividend Ratio_{t-1}</i>	0.000 (0.80)	0.001 (1.43)	0.002 (0.61)	0.000 (0.28)	0.001 (0.26)	0.001 ** (5.07)
<i>Volatility_{t-1}</i>	0.039 *** (4.96)	0.009 (0.04)	0.185 (0.38)	0.033 *** (5.22)	0.089 (0.23)	1.554 (1.49)
R-squared	0.398	0.437	0.346	0.612	0.373	0.400
Number of Observations	653	653	653	405	405	405

SHAREHOLDER ACTIVISM IN GOOD AND BAD ECONOMIC TIMES

Christoph Van der Elst*

Abstract

Over the last few years the economy shifted from fast growth to a deep financial and economic crisis. Slowly companies are returning to growth rates in 2009-2010 after a sharp fall of profits in 2007-2009. This provides an excellent backdrop to assess trends in shareholder activism, how shareholders responded to the fall in profits and how they have exercised influence in these turbulent times. This paper focuses on the activism exerted by shareholders at annual general meetings of shareholders between 2007 and 2010 via their attendance and voting at AGMs in four European countries. The main research questions answered are the way large and minority shareholders expressed their voice at general meetings of shareholders and what drives this type of shareholder activism. The drivers of shareholder activism at general meetings are empirically tested. Four factors that can influence the willingness and probability of shareholder attendance and voting turnouts that are tested are shareholder structure, corporate performance, institutional framework and size of the companies. Overall shareholder activism measured as the attendance at general meetings between 2007 and 2010 did not significantly change. It is found that the ownership structure and institutional frameworks are important drivers of shareholder attendance. Corporate performance and size have no significant impact on attendance. We conclude that shareholder activism depends on the identity of large individual shareholders shedding doubts on the effectiveness of one size fits all (mandatory) corporate governance measures.

Keywords: General meeting, attendance, voting behavior, shareholder activism, corporate governance

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1. Shareholder Activism

Shareholder activism has been subject to intense academic debate in recent years at both sides of the Atlantic. Yet information on the methods of activism and results of shareholder activism is hardly available outside the Anglo-Saxon world. In general, the important role of shareholders in shaping the organization and future of the company as it is discussed in corporate law, seem to be largely unimportant in daily corporate life of many companies in the US and the UK.

Bebchuk (2005) is a strong advocate of shareholder participation in corporate governance, and argues that shareholder-initiated proxy proposals are a useful and relevant means of countering managerial agency problems. Some of his ideas have been translated in the new American Dodd Frank Bill of July 2010 which gives the SEC the power to provide the shareholders the right to nominate directors. In Europe many initiatives have been taken since the start of the millennium of which the Shareholder Rights Directive 2007/36/EC is of particular importance. Recently, to address the financial crisis the European

Commission launched a green paper and an accompanying Commission Staff Working Paper *Corporate governance in financial institutions: the lessons to be learnt from the current financial crisis and possible steps forward*. The Commission identified a number of ways to improve the commitments of shareholders vis-à-vis the company.

The vast majority of the literature on shareholder activism is focusing on the financial impact of activist initiatives in the United States and to a lesser extent in the United Kingdom. This literature can be classified in studies that address the overall activism by specific kinds of investors like hedge funds or institutional investors including investors like CalPERS or Hermes. Other studies address specific activities like proxy fights, building shareholder coalitions, issuing shareholder resolutions and shareholder suits and class actions. Another strand of literature captures the activism that is conducted behind the scenes via coalition formations and publicity seeking.

In continental Europe empirical research on shareholder activism is very scarce. Recently, Cziraki and others (2009) showed that adding

shareholder items on the agenda rarely happens, the support for the proposals is moderate to low and the proposals are most of the time addressing corporate governance issues. Poulsen and others (2010) addresses the voting power at the general meetings of shareholders of Swedish companies. Based on the theoretical model of Leech they found that the power of a shareholder is not strictly proportional to the voting weight but depending on the distribution of voting rights. Manifest and Georgeson, Rematch, Eumedion and RiskMetrics all describe the voting turnouts at meetings and a number of them address the approval rates. Research that empirically assesses the recent evolution of the attendance of both small and large shareholders and studies the drivers of attendance is not known to us.

In this paper we contribute to the literature of shareholder activism via an analysis of the recent developments of shareholder behavior of both large and small shareholders at general meetings in different European countries. Over the last number of years the economy shifted from fast growth to a deep financial and economic crisis. Slowly companies are returning to growth rates in 2009-2010 after a sharp fall of profits in 2007-2009. This provides an excellent backdrop to assess trends in shareholder activism, how shareholders responded to the fall of profits and how they have influenced the behavior of companies in this turbulent time. This paper focuses on the activism exerted by shareholders at annual general meetings of shareholders between 2007 and 2010 via their attendance and their voting behavior in four European countries. The two main research questions that will be answered are the way large and minority shareholders responded to the different economic environment in which companies have to operate. Next the drivers of shareholder activism at general meetings will be empirically tested. Four factors that can influence the willingness and probability of shareholder attendance and voting turnouts that are tested are shareholder structure, corporate performance, the institutional framework and size of the company. The general meetings of companies in Belgium, Germany, France, and the UK will be taken into account. These countries have been selected for a number of reasons. First, the United Kingdom is selected as a typical common law country with a deep capital market and where corporate governance and shareholder activism are well developed. France and Belgium are selected as countries with typical civil law regime. Finally, Germany is selected as a representative country of the German legal countries.

2. Legal framework

A company is an association of members and at the same time a person separate from its members. This

dual nature is aligned via the ownership of shares in the company. These shares are issued in return for contributed capital. If it is successful, the company will pay dividends to the shareholders and share the surplus of the generated assets if the company is wound up while solvent. The popularity of the company is certainly due to the fact that it enables to bring together in an effective and often efficient way labor and capital. The member shareholders contribute capital and earn returns while others manage the company. The constitution of the company will assign the management powers to the directors and officers of the company. In older editions of companies' acts it was generally stated that 'the business of the company shall be managed by the directors who may exercise all the powers of the company'.²² According to the Dutch, Belgian and French Code it was and still is the duty of the board of directors to govern the company²³, while in Germany the management board had to and must direct the company and the supervisory board must supervise the management of the company.²⁴ In the UK Companies Act the directors are required to promote the success of the company for the benefit of its members as a whole.²⁵

Handing over so much power comes at a risk. The shareholders might be confronted with misbehavior by self-interested directors and managers. To mitigate this risk company law provides mandatory and supplementary rules like the requirement of the directors to act in good faith and as already has been mentioned require them to promote the success of the company (and its shareholders). In addition, company law reserves many important decisions regarding company affairs to the shareholder members. The shareholders can change the company via the election, dismissal and replacement of directors, alter the capital structure of the company, and change the objects of the company, the articles of association and so on. These mechanisms must guarantee that equilibrium is found between members whose investment is at risk and directors and managers who act in their own interest.

The important decisions on company affairs reserved to the shareholders can be classified in four different classes.

The first class of decisions is those that follow logically from the right of the members to incorporate and register a company and to subscribe

²² Regulation 70 of the U.K. Table A edition 1985. The Companies Act 1985 is imprecise and only imposes that the duty of the directors is owed to the company (section 309 (2) CA 1985).

²³ Book 2:129 Dutch Civil Code, Article 53 Belgian Companies Act 1935 and Article 89 French Companies Code 1966.

²⁴ Article 76 (1) and article 111 (1) German Stock Corporation Act 1965.

²⁵ Section 172 Companies Act.

to a memorandum of association and draft the articles of association. When the articles of association are amended the members should be involved. Similarly it belongs to the members to decide to wind up the company voluntarily. Also decisions like transforming the company into another entity, change name of the company and so on, require a member's decision.

Second, there are the decisions that are related to the on-going operational management and activities of the company. In most countries company law provides for the mandatory requirement to call for a general meeting of shareholders on a yearly basis. During this meeting the board of directors provides insights in its management activities which can be considered as a bonding cost in agency theory. In large companies, individual shareholders will no longer be capable to verify whether the financial information related to the company affairs that the board of directors provides is reliable and many companies acts entrust this verification to an auditor who is elected by the general meeting of shareholders. If the shareholders are not satisfied with the results of the company or of the board members, the general meeting of shareholders can dismiss the directors or take the decision not to reelect the incumbent board members. In many countries the decision is accompanied with the decision to discharge the board members of their duties during the previous year. As principals, the shareholders will determine the remuneration of the directors. Further the (general meeting of) shareholders decide(s) which part of the profit the company will distribute as dividends. The decision influences the financial position of the company.

Another class of decisions is related to the absolute and relative position of the shareholders in the capital and voting rights structure. Increasing and decreasing the share capital, authorize directors to allot shares, dis-apply members' pre-emption rights when shares are issued, the market purchase by the company of its own shares are all decisions that need to be taken by the (general meeting of) shareholders in European countries.

Finally, the last class of decisions relates to the other issues that the legislator or the company's subscribers to the extent allowed by the legislator appropriately consider as powers that belongs to the shareholders. As an example we can refer to the right for the general meeting to vote on the remuneration policy. In this decade the UK, Germany and Belgium provided this right to the general meeting of shareholders, France is considering this right. France provided the right to vote on related party transactions with the executive directors and senior executive managers.

Next the procedures to make use of these rights are different too. In most countries the large majority of the decisions of the members must also

be identified and qualified as decisions of the company. It accords to the requirement that not the individual members take the decision but the members gathered together in a general meeting of members. Differences between countries exist as to the type of decisions that the general meeting must take and the individual member can make. In some countries individual shareholders can start a legal action for maladministration of the company, whereas other company's acts deny this right to individual shareholders.

The threshold to validly organize the (extraordinary) general meeting of shareholders can also be different. In some countries, like in France ordinary general meetings have a quorum. Next, some countries apply supermajority requirements. In Belgium the board of directors can be authorized to buy back the shares of the company but the authorization requires a majority vote of 80 per cent of the attending votes.

All these differences result in many differences in the organization of the general meeting and the items the shareholders vote. Table 1 illustrates these differences. In Europe, the number of items the general meeting has to approve is a multiple of the items the shareholders of an American company have to approve. The European general meeting of shareholders is accompanied by a notice of numerous pages whereas the general meeting of American companies is convened with a press release.

Table 1. Agenda general meeting 2010

	UK	G	FR Air liquide	US General Electric
	Vodafone	Siemens		
report of the (supervisory) board		p		
Company's accounts (and reports of the directors and the auditor)	x	x	x	
Consolidated accounts			x	
dividend (potentially approving the profits of the company)	x	x	x	
discharging board members		x		
discharging supervisory board members		x		
directors (re)election	x		x	x
remuneration report	x			
remuneration policy		x		
related party transaction (board and senior management)			x	
auditor (re)election	x	x	x	x
deputy auditor (re)election			x	
auditor remuneration (potentially AC authorisation)	x			
shares to be allotted by board	x			
disapply pre-emption rights	x*			
authorisation to trade in own shares			x	
purchase own shares	x*	x		
purchase own shares via equity derivatives		x		
annulment of own shares			x*	
authorisation to issue convertible bonds		x		
new articles of association	x*	x		
settlement agreement former board		x		
settlement agreement D&O		x		
term to call the meeting	x*			
approve share incentive plan	x		x*	
authorisation for capital increase via retained benefits			x*	
authorisation for capital increase via beneficiaries of savings plan			x*	
authorisation for capital increase for specific group of benef.			x*	
authorisation share option plan			x*	
authorisation to issue equity instruments in case of takeover bid			x*	
authorisation of power to execute AGM decisions			x	
Total items (election considered as 1 item)	12	13	16	2
shareholder proposals		2 (rejected)		6 (rejected)
notice of the meeting (pages) provided to shareholders	16	100	28	press release

x: item voted; p: informative item; * extra-ordinary part of combined meeting (FR) or special resolutions (UK)

Source: Mendoza, Jose Miguel, Van der Elst, Christoph and Vermeulen, Erik P. M., Entrepreneurship and Innovation: The Hidden Costs of Corporate Governance in Europe (October 26, 2010). Lex Research Topics in Corporate Law & Economics Working Paper No. 2/2010. Available at SSRN: <http://ssrn.com/abstract=1698352>

3. Data description, hypotheses and methodology

We investigate the attendance at and voting turnouts of annual general meetings between 2007 and 2010 in four European countries. All companies of the referential index of Belgium - the BEL-20 -, Germany - DAX-30-, France - CAC-40- and 70 companies of the UK FTSE-100 index have been investigated. Only those companies for which the website contained the attendance and voting results of all annual general meetings of 2007 to 2010 was provided are in the final sample. For Belgium 75% of the companies provided this

information, for Germany 97%, for France 57% and for the UK 57%. We also collect stock price and market capitalization data from the (statistic and historic parts of the) websites of the London Stock Exchange, the Deutsche Börse and Euronext. The stock price was collected for the last trading day of the previous accounting period and the last trading day of the accounting period. Finally the voting blocks of the large shareholders of the companies in the database were collected via the annual reports and the websites of the companies and compared with the data collected from the websites of the supervisory authorities.

To gain insights in the shareholder behavior at general meetings several techniques have been applied. First a descriptive analysis of the evolution of the attendance at general meetings will be discussed. Next, the differences between the attendance of shareholders in the four different countries and for the four different years will be empirically assessed via a repeated measures anova to take into account the violation of the sphericity assumption due to the sample composition (sample of 108 companies over four years). We expect that attendance will be higher in 2009 and to a lesser extent 2008 when the financial crisis was peaking. Shareholders will want to know from the board of directors how the company will survive the crisis. We also assume that opposition for reelection of directors and remuneration packages will be higher in difficult economic times. Further, we expect that the attendance in all four countries will develop in a similar way as all four countries further developed shareholder rights and each experienced a serious relapse of the economy.

Third, the assumption that large and controlling shareholders will attend the general meeting of shareholders will be used to estimate the attendance of smaller and small shareholders. We expect that companies that are controlled by large or controlling shareholders will have general meetings that are avoided by small(er) shareholders. These shareholders can free ride as their voice will have no influence in the voting turnouts.

Fourth, an OLS-regression analysis provides insights in the determinants of attendance of shareholders at the 2010 general meeting. We expect that larger companies will have lower attendance rates at general meeting of shareholders. Often larger companies have more shareholders that will free ride and expect other shareholder to monitor management and board of directors. Next, companies that perform better will have lower

attendance of shareholders. Shareholders of prosperous companies will rely on the board of directors and management to continue the profitable strategy and also free ride. Companies with many large and/or controlling shareholders will have higher attendance of shareholders at general meetings. Controlling shareholders will attend the meeting to control the outcome of all the items on the agenda. Large non-controlling shareholders will attend the meetings to influence the voting process or control the behavior of the controlling shareholder. Finally the institutional environment is considered via a proxy of the country of incorporation. French and Belgian companies are located in countries where the protection of shareholders is less developed compared to the United Kingdom. We can expect that shareholders of Belgian and French companies will participate to guarantee their (limited) shareholder rights.

4. Results

4.1. Descriptive Statistics

Figure 1 provides the mean, median, maximum and minimum attendance rates of the 108 yearly general meetings of European companies between 2007 and 2010. Over this period the average and median remained stable at around 60 per cent of all the votes. In all years the median was approximately 1 per cent higher than the mean. The number of companies where almost all shareholders attend are on their way down. In 2007 the highest attendance was above 90 per cent but by 2010 the maximum attendance rate was only 82 per cent. At the lowest end, the reverse pattern is visible: less than 15 per cent of all the votes were represented at the meeting of a large Belgian company in 2007 but by 2010 the lowest attendance rate was almost 18 per cent. Overall the differences between the years are limited.

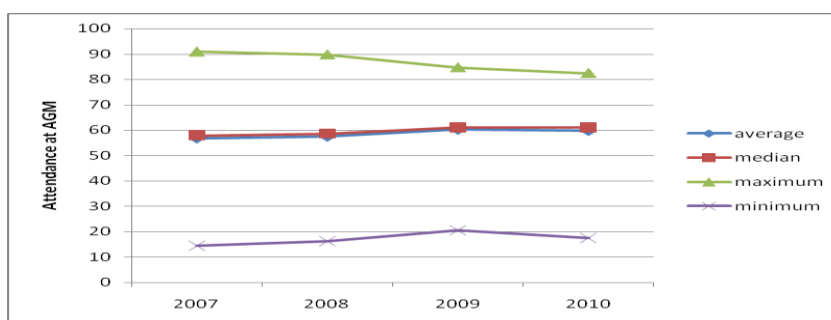


Figure 1. Evolution of the attendance rate at general meetings of shareholders

Figure 2 provides the average attendance rates at general meetings of companies located in the different countries in the analysis. The results show some different patterns. In France and the UK the relative number of represented voting shares

increased over the years. In France the average soared from 53 per cent in 2007 to 61 per cent in 2010, the UK companies experienced an increase from 60 per cent to 66 per cent. In German companies the attendance at AGMs decreased from

around 60 per cent to 55 per cent in 2010. Of all countries studied Belgian AGMs were visited by the fewest shareholders, but the rate stayed mostly stable over the years: around 50 per cent of the voting rights were represented both at the meeting in 2007 and in 2010.

Overall the results illustrate that the financial crisis can have an impact on the shareholder behavior, but a straightforward relationship is not visible.

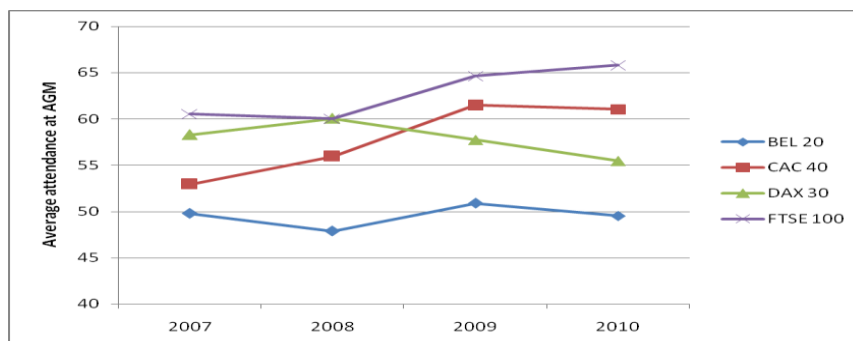


Figure 2. Evolution of the attendance rate at general meetings of shareholders in different countries

Figure 3 visualises the frequencies of the attendance levels. At the lower end, the number of meetings with an attendance of under 20 per cent is hardly found. Second, the histogram indicates that meetings with attendance levels of 20 per cent to 40 per cent fell back to less than 5 per cent of all companies. A continuous decrease of the relative number of AGMs with attendance rates between 40 per cent to 60 per cent goes hand in hand with a continuous increase of meetings with attendance rates of 60 per cent to 80 per cent. Higher attendance rates are hardly found. Considering that

AGMs of large American companies are often visited by more than 80 per cent of the shareholders, these findings come as a surprise. The annex provides the results for the four countries. Attendance below 40 per cent and even 60 per cent became uncommon in UK companies. The majority of German AGMs are visited by 40 per cent to 60 per cent of the shareholders. For French companies both the levels of 40 per cent to 60 per cent and 60 per cent to 80 per cent are often found. Attendance rates at Belgian companies seem to be highly unpredictable.

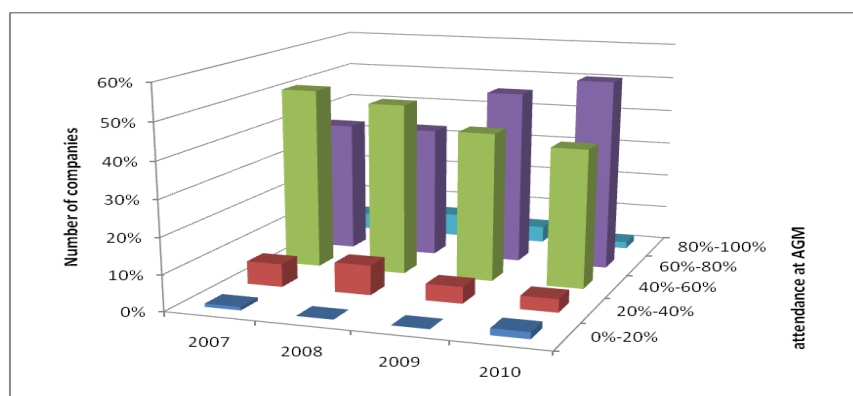


Figure 3. Histogram of attendance at AGMs between 2007 and 2010

4.2. Repeated anova

To assess the differences between the AGMs for different years and in different countries, a repeated measures anova was applied. As the composition of the sample is identical over the four years, the sphericity assumption for applying a straightforward anova is violated.

The results of the analysis are presented in table 1 and table 2. Table 2 provides the differences

between the different years. The attendance increased significantly between 2008 and 2009. Both the attendance in 2007 and 2008 is significantly lower than the attendance in 2009. From figure 2 it is clear that in three of the four countries the average attendance rate in 2009 was higher than the attendance in 2007 and 2008. The increase did not continue in France and Belgium in 2010. The small decrease was sufficient to reduce the results for 2010 to insignificant increases.

Table 2. Repeated Measures Anova for years

(I) allyears	(J) allyears	Mean Diff. (I-J)	Std. Error	Sig.a	95% Conf. Interval for Diff. a	
					Lower Bound	Upper Bound
2010	2009	-0,712	0,719	1,000	-2,645	1,221
	2008	1,985	0,805	0,092	-0,182	4,151
	2007	2,581	0,983	0,060	-0,063	5,225
2009	2010	0,712	0,719	1,000	-1,221	2,645
	2008	2,697*	0,691	0,001	0,837	4,556
	2007	3,293*	0,853	0,001	0,998	5,588
2008	2010	-1,985	0,805	0,092	-4,151	0,182
	2009	-2,697*	0,691	0,001	-4,556	-0,837
	2007	0,596	0,728	1,000	-1,362	2,554
2007	2010	-2,581	0,983	0,060	-5,225	0,063
	2009	-3,293*	0,853	0,001	-5,588	-0,998
	2008	-0,596	0,728	1,000	-2,554	1,362

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

*. The mean difference is significant at the ,05 level.

Table 3 continues with the differences between the different countries. With the exception of one, the AGM of companies in different countries are not attended by a significant different number of shareholders. However UK AGMs experience the participation of a significant higher number of

shareholders than Belgian AGMs. This is also visible in figure 2. In 2007 the average attendance difference between UK AGMs and Belgian AGMs was already 10 per cent to the advantage of the UK AGMs. In 2010 the difference increased to more than 15 per cent.

Table 3. Repeated Measures Anova for countries

All countries combined countries		Multiple Comparisons				
(I) country	(J) country	Mean Diff. (I-J)	S.E.	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Belgium	Germany	-8,363	3,58204	0,129	-17,9975	1,2714
	France	-8,3345	3,73792	0,167	-18,3883	1,7192
	UK	-13,2281*	3,39864	0,001	-22,3693	-4,087
Germany	Belgium	8,363	3,58204	0,129	-1,2714	17,9975
	France	0,0285	3,14476	1,000	-8,4298	8,4868
	UK	-4,8651	2,73279	0,468	-12,2154	2,4852
France	Belgium	8,3345	3,73792	0,167	-1,7192	18,3883
	Germany	-0,0285	3,14476	1,000	-8,4868	8,4298
	UK	-4,8936	2,93415	0,590	-12,7855	2,9982
UK	Belgium	13,2281*	3,39864	0,001	4,087	22,3693
	Germany	4,8651	2,73279	0,468	-2,4852	12,2154
	France	4,8936	2,93415	0,590	-2,9982	12,7855

Based on observed means.

The error term is Mean Square(Error) = 126,852.

*. The mean difference is significant at the ,05 level.

4.3. Small shareholder attendance behavior

The significant difference of attendance of shareholders at UK and Belgian AGMs is further studied via an analysis of the relative attendance of small shareholders. The fact that Belgian companies are famous for their concentrated shareholdership while UK companies typically have a dispersed ownership structure, might explain the differences in attendance. For this part of the

research we started from the assumption that controlling shareholders will attend the general meeting. When these shareholders attend these meetings the difference between the attendance rate and the controlling voting block provides information of the small shareholders willingness to attend the meeting.

We calculated the attendance rate of smaller shareholders recalculated as follows:

$$\text{Attendance rate of small(er) shareholders} = (\text{Total attendance rate} - \text{voting block largest or controlling shareholder/concert parties}) / (100\% - \text{voting block largest or controlling shareholder/concert parties})$$

For each AGM three different results have been calculated. First the attendance of the shareholders after excluding the largest shareholders is calculated. Only if the largest shareholder has a voting block of over 5 per cent of the voting rights the recalculation was performed. For the second and third recalculation, the companies have been split into two groups. The first group is companies that have a controlling shareholder or controlling shareholders that act in concert. The threshold to consider the company having a controlling shareholder is the threshold that makes it mandatory to start a takeover bid. In Belgium, Germany and the UK the threshold is set at 30 per cent, in France at 1/3. This group consists of 22 companies: 4 Belgian companies, 9 German, 5 French and 4 British. The second group is companies that do not have a shareholder of more than 20 per cent of the voting rights. Seventy companies have no shareholder with more than 20 per cent of the voting rights: 11 Belgian companies, 16 German, 14 French and 36 British. Companies with shareholder owning between 20 and 30 per cent of the votes were excluded as it is unclear whether this voting block offers these shareholders the majority of the votes at the AGM.

The results are presented in figure 4. It is found that the attendance of small shareholders in controlled companies is lower than in non-controlled companies. It confirms the free riding hypothesis. However the differences remain limited. In Belgium the difference is only 1 per cent, in the UK 5 per cent, in France 6 per cent and in Germany 8 per cent. The major difference is found between companies in the three large countries and companies in Belgium. The average attendance of small shareholders both in controlled and in non-controlled companies is less than 20 per cent. In the large countries the relative attendance of these shareholders is between 40 per cent in controlled French companies to more than 60 per cent in non-controlled UK companies. This large difference cannot immediately be explained. However we believe the size in combination with the identity of the shareholders might provide the answer. The companies of the large countries in this sample are larger than the Belgian companies. Larger companies have a more institutional shareholdership. Many institutional investors have a fiduciary or even mandatory duty to vote. The explanatory variables of shareholder attendance at AGMs will be discussed in the next section.

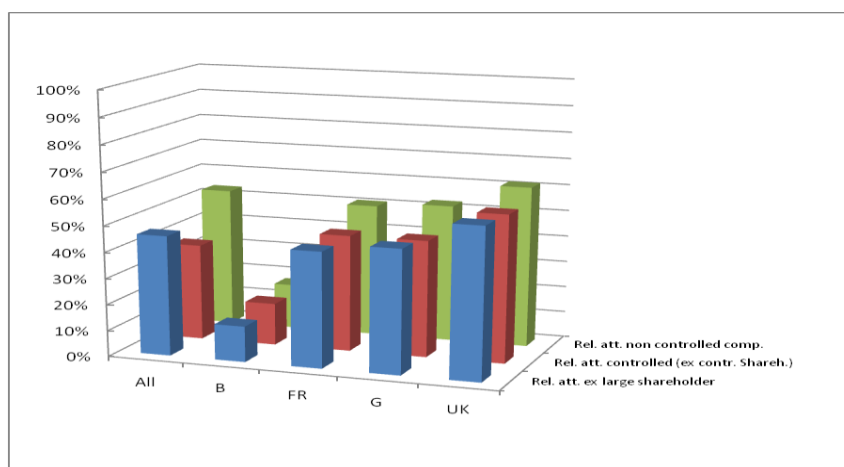


Figure 4. Attendance of small shareholders at AGMs

4.4. Regression results

In the previous section we found that smaller shareholders of Belgian companies tend to free ride. In this section we analyze a number of explanatory variables of overall shareholder attendance. First we assume that larger companies will experience lower attendance rates. Larger companies have more shareholders. More shareholders will free ride. The size of the company is measured as the logarithm of the market capitalization (in mio. euro). Next, we assume that well performing companies need less monitoring by shareholders. Shareholders of well performing companies will spend less effort to control the company. Hence we hypothesize that companies with higher returns have lower attendance rates at AGMs. In this research the performance is measured as the relative stock price performance during the accounting period. Third, large shareholders have a larger interest to participate. We assume that the larger the voting block of the largest shareholder or shareholders acting in concert as well as the larger the summed voting blocks of all large shareholders with more than 5 per cent of the voting rights, the higher the attendance rate at AGMs. Finally, we assume that the institutional framework will influence the attendance. Shareholders in countries that provide less shareholder protection will attend AGMs to individually protect their interest. The need to attend the AGM decreases with the number of shareholder rights that can be used outside the AGM. Therefore we expect the attendance at AGMs to be higher in civil law countries than in common law countries, with German countries in the middle.

The descriptive results of the variables can be found in table 4. The average size of the company in the sample is 18 bn. Euro, with 50 per cent of the companies having a market capitalization of more than 7,8 bn. Euro.²⁶ The largest shareholder has an average voting block of 20 per cent, much more than the median voting block of 11 per cent.²⁷ The summed block of all large shareholders is on average 25 per cent, with a median block of 20 per cent. In 2009 most companies performed well and experienced an increase of their stock price of more than 28 per cent. One company even quadrupled its stock price in the accounting period of 2009.

²⁶ The market capitalisation of UK companies has been recalculated in euro.

²⁷ If the voting block of the largest shareholder was less than 5 per cent, it is assumed the shareholder structure is fully dispersed.

Table 4. Descriptive results of the independent variables (2010)

Variable	N	Mean	SD	Min.	Q1	Median	Q3	Max.
Market cap in mln. €	108	18034	22346	1376	4614	7881	28136	138905
Size (log cap in mio. €)	108	4,01	0,45	3,14	3,66	3,89	4,45	5,14
Stake largest/concerting shareholder	108	20,10%	18,99%	<5%	6,97%	11,01%	31,40%	71,64%
Stake all large shareholders	108	25,11%	20,57%	<5%	7,37%	20,28%	38,31%	90,12%
Stockperf	108	28,11%	59,35%	-69,20%	1,93%	7,96%	39,39%	442,24%
Belgium	108	0,14	0,35	0	0	0	0	1
France	108	0,21	0,41	0	0	0	0	1
Germany	108	0,27	0,45	0	0	0	1	1
UK	108	0,38	0,49	0	0	0	1	1

The correlation between the different variables is provided in table 5. None of the variables are significantly related. The size of the voting block of the largest shareholder does not significantly correlate with the summed voting block of all shareholders. Notwithstanding this finding, we split

the OLS-regression analysis in two models. In the first model we assess the attendance with the size of the largest voting block as independent variable, in the second model the summed voting block of all large shareholders is used.

Table 5. Correlation between variables

	Attendance	logsize	stockperf	Belgium	France	UK	stake largest	stake all
Attendance	1							
logsize	-0,020	1						
stockperf	0,166	-0,024	1					
Belgium	-0,315	-0,265	-0,182	1				
France	0,051	0,220	-0,194	-0,209	1			
UK	0,363	-0,105	0,266	-0,314	-0,407	1		
stake largest	0,494	-0,200	-0,034	0,328	-0,001	-0,230	1	
stake all	0,414	-0,115	-0,077	0,411	0,013	-0,331	0,928	1

Table 6 provides the results of the regression analysis. Overall it is shown that the ownership structure and the institutional framework are the most influential explanatory variables. An increase in the voting block of the largest shareholders of 1 per cent results in an increase of the attendance rate at AGMs of 0,53 per cent. If the summed blocks of all large shareholders increase with 1 per cent, the attendance soars with 0,46 per cent. Attendance at

Belgian meetings is 30 per cent lower than attendance at UK AGMs. However this difference is not necessarily due to the “civil law” effect. French companies experience significant lower attendance rates at AGMs than UK companies but the attendance at the latter meetings is higher than at German companies. Finally, neither size, nor stock price development influence the attendance behavior of shareholders.

Table 6. results of the OLS regression analysis

	Expected	Model 1a	Model 1b	Model 2a	Model 2b
Intercept		61,91 (8,60)*	47,12 (6,25)*	51,13 (6,90)*	37,94 (4,89)*
Log size	-	-0,74 (-0,42)	-0,74 (-0,42)	1,38 (0,77)	1,38 (0,77)
stock perf.	-	0,009 (0,65)	0,009 (0,65)	0,007 (0,53)	0,007 (0,53)
size largest/concert	+	0,53 (11,71)*	0,53 (11,71)*		
size all large	+			0,46 (11,62)*	0,46 (11,62)*
Belgium	+	-30,47 (-10,98)*	-15,67 (-5,73)*	-26,2 (-9,9)*	-13,01 (-4,83)*
France	+	-8,67 (-3,94)*	6,12 (2,76)*	-7,59 (-3,45)*	5,60 (2,51)**
Germany	=	-14,80 (-7,48)*		-13,19 (-6,72)*	
UK	-		14,80 (7,48)*		13,19 (6,72)*
Adj. R2		0,664	0,664	0,64	0,64
F		33,24	33,24	32,77	32,77
N		108	108	108	108

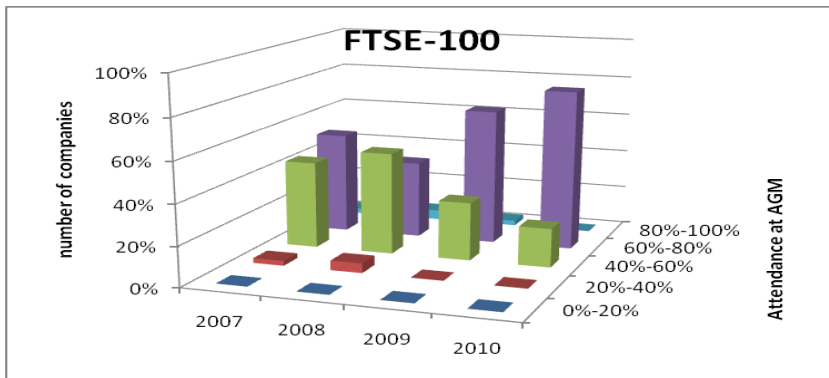
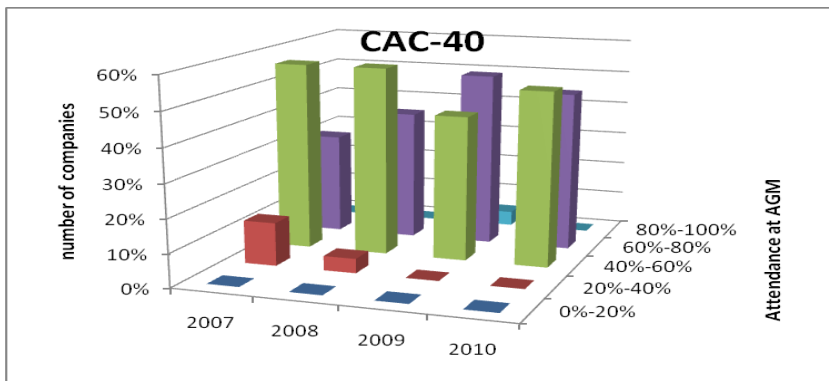
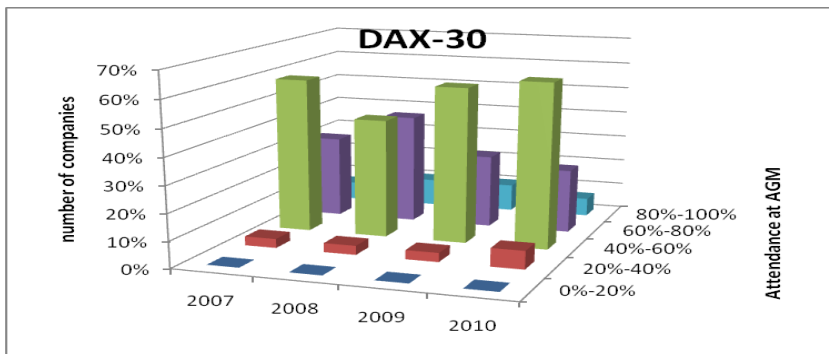
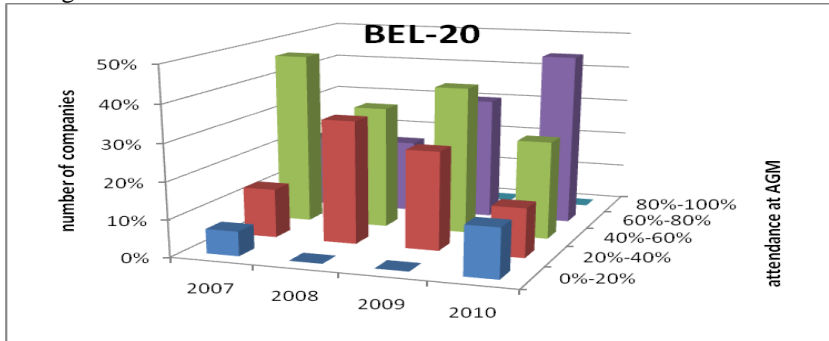
5. Conclusion

This study partly opens the black box of the European AGMs. The attendance of shareholders at AGMs between 2007 and 2010 is approximately 60 per cent but lower in Belgium and higher in the UK. In the UK and France the attendance is increasing but not in Germany nor in Belgium. The turning point in the UK and France seem to be 2008/2009. We will have to wait for more recent data to see if this trend continues. Small shareholders more often participate if the company is not controlled by one or more large shareholders but the differences with non-controlled companies are relatively small. Small Belgian shareholders avoid AGMs. The ownership structure and the institutional environment are significant explanatory variables for the attendance of shareholders at AGMs. However, the results do not yet convincingly prove that the institutional environment is the tool to improve shareholder activism. While the UK, as a representative of the common law countries experience higher attendance rates, the difference between Belgium and France, both typical civil law countries, shed doubt on the legal framework as an important driver of shareholder activism. Further research is required to identify which variables of the institutional environment can further enhance shareholder activism and revalue the position of the AGM. We believe that the identity of the large shareholders will provide further explanatory evidence. The ownership of the largest companies in France, the UK and even Germany is more institutionalized than in Belgian companies. Institutional investors have fiduciary duties to vote at AGMs. In a follow up research we will try to identify a number of these variables. We will further broaden the research to other and smaller companies and other European countries. Next, another research studies the voting turnouts of agenda items to further clarify the voting behavior during the AGM. We believe that most items on the agenda are approved by an overwhelming majority. Institutional investors meet their fiduciary duties as soon as they attend the meeting. However, they are not expected to be actively involved in the meeting or oppose the agenda items put forward by the board of directors. Further research can prove if shareholder activism depends on the identity of large individual shareholders. This research already sheds doubts on the effectiveness of one size fits all (mandatory) corporate governance measures.

References
To be added

Annex

Histogram of attendance rates in four countries



PREPAREDNESS OF BANKS TO BE COMPLIANT WITH THE CRITERIA FOR THE ADVANCED MEASUREMENT APPROACH: A SOUTH AFRICAN PERSPECTIVE

Prof J. Young*

Abstract

The New Basel Accord proposed qualitative and quantitative criteria for banks to use the Advanced Measurement Approach to calculate a capital charge for operational risk. The question now is how prepared are banks in South Africa? This article provides insight into relevant criteria, indicating the level of preparedness of banks for the Advanced Measurement Approach. An analysis based on results of a questionnaire, aimed at junior and middle management levels, indicated that banks are more compliant with qualitative than quantitative criteria. It also indicated a general lack of understanding of certain criteria. Should a bank want to implement the Advanced Measurement Approach, it is imperative that criteria be clear and that all role-players be knowledgeable about relevant systems and processes.

Keywords: Operational risk, Capital allocation, Risk management principles, Advanced Measurement Approach, Regulatory capital, Quantitative and qualitative risk management criteria,

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1. Operational risk

Banks play an important part in the global economy, which became clear during the recent global financial crisis where a number of banks were liquidated. These typical economic and financial shocks can happen again if banks cease to perform their central role in the economy, and it is therefore imperative that banks maintain their future growth. Wellink (2010) supports this statement by saying that since the banking sectors are at the centre of the credit intermediation processes and infrastructures, banks need to increase their long-term growth. In order to strive towards this goal, it is necessary that banks be aware of their risk exposures and how to mitigate these risks effectively. Operational risk is one of these risks that must be understood and managed. This requires a clear understanding of an acceptable definition of operational risk. According to the Basel Committee on Banking Supervision (2003), it is also critical that the definition considers the full range of material operational risks facing banks and

that it captures the most significant causes of severe operational losses. In this regard, most South African banks accepted the Basel Committee's definition for operational risk, namely that it is the risk of losses due to inadequate or failed internal processes, people or systems or external events (Basel Committee on Banking Supervision 2005). In order to manage operational risk effectively in terms of this definition, most banks also adopted the primary principles for managing operational risk, which were identified by the Basel Committee (2003; 2004). These principles (illustrated in Figure 1) are divided into four main sections, namely:

- risk environment
- risk management process
- role of the supervisor (the South African Reserve Bank)
- role of disclosure

Each section consists of a set of principles that was formulated by the Basel Committee on Banking Supervision (Basel Committee on Banking Supervision, 2003).

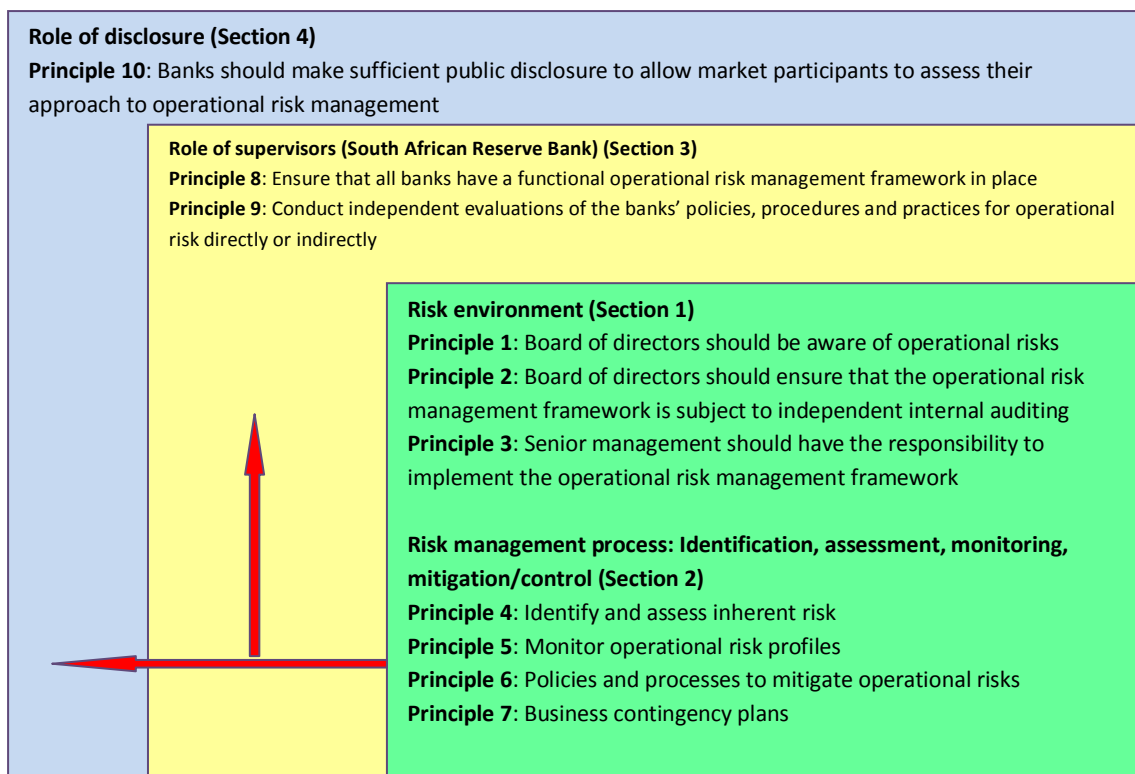


Figure 1. Principles for managing operational risk

Author's own interpretation based on the Basel Principles (Basel Committee on Banking Supervision, 2003)

According to the detail of the principles, it is apparent that it stipulate a holistic approach to operational risk management. The risk environment (Section 1), firstly, sets the ground rules for the involvement of the board of directors and senior management. An important aspect is the clarification of the role of internal audit, where it is clearly stated, "the internal audit function should not be directly responsible for operational risk management" (Basel Committee on Banking Supervision, 2003). The principles furthermore emphasise the empowerment of top management to ensure that an operational risk management framework is implemented.

Secondly, Section 2 of the principles deals with the risk management process, which starts with risk identification and assessment of the inherent risk exposures, which will lead to a risk profile that should be monitored continuously.

Principles 6 and 7 deal with the mitigation and controls of the risks by means of policies, procedures and contingency plans to ensure that the organisation can still operate after a major operational risk incident.

The role of the supervisor is emphasised in the third set of principles, stipulating the important role of a central bank to ensure that operational risks are managed by all banks.

Lastly (Section 4), the principles relate to the disclosure by a bank of their approach to manage operational risks. This approach requires that banks disclose their ability to manage operational risk to all market participants in order to allow these potential investors to determine a bank's efficiency in managing these risk exposures.

Operational risk has been around for a long time and has been closely monitored by banks, although factors such as fraud, client claims, internal control failures and system failures have been treated separately and differently. The Basel II approach endeavours to combine all these elements into an integrated management framework. In addition to the abovementioned management principles, which can be regarded as the platform for the management of operational risk management, Basel II proposed a three-pillar approach to manage operational risk. Pillars 2 and 3 relate directly to the principles concerning the role of supervisors and the role of disclosure respectively (Basel Committee on Banking Supervision, 2006). Figure 2 illustrates the relationship between the Basel II pillars and the management principles for operational risk. The 1st pillar, which is applicable for this article, refers to a regulatory capital allocation for operational risk.

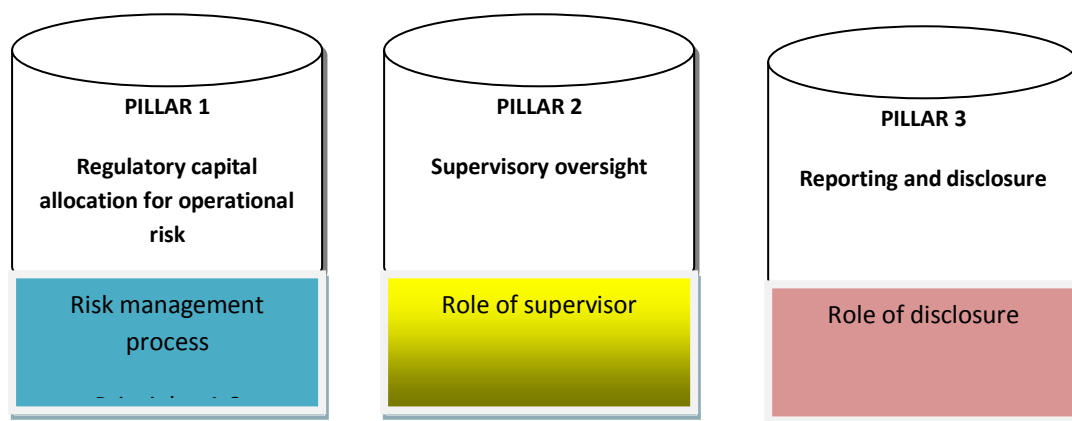


Figure 2. Relevance between the Basel II capital framework and the management principles for operational risk

Author's own interpretation based on the Basel Committee's capital requirements (Basel Committee on Banking Supervision, 2006)

In recent years, the Basel Committee on Banking Supervision aimed to secure international convergence on revisions to supervisory regulations governing the capital adequacy of internationally active banks (Basel Committee on Banking Supervision, 2006). Wellink (2010) states that the Basel Committee's Framework is implemented to address shortcomings by establishing a more flexible banking sector that can support long-term sustainable growth. According to the Institute of International Finance (2005), the implementation of Basel II will result in a stronger, more resilient banking system. The closer alignment of capital regulation with sophisticated internal processes could contribute to robust, mutually reinforcing internal risk management and external controls that will enable the system to accommodate constant financial innovation and therefore facilitate overall economic growth.

From an operational risk perspective and as part of the 1st pillar, the Basel Committee's Accord for capital allocation, permits three main optional approaches for calculating the minimum capital charges for operational risk in a continuum of increasing sophistication and risk sensitivity. These approaches allow banks to select an appropriate approach to calculate a capital charge for their operations. The approaches available to banks to calculate a capital charge for operational risk are:

- **The Basic Indicator Approach.** Banks using this approach must hold capital for operational risk equal to the average over the previous three years of a fixed percentage (denoted alpha) of positive annual gross income.

- **The Standardised Approach.** In terms of the Standardised Approach, banks' activities are divided into eight business lines: corporate finance, trading and sales, retail banking, commercial banking, payment and settlement, agency services, asset management, and retail brokerage (Basel Committee on Banking Supervision' 2006). Within

each business line, gross income is a broad indicator that serves as a proxy for the scale of business operations and thus the likely scale of operational risk exposure within each of these business lines. The capital charge for each business line is calculated by multiplying gross income by a factor (denoted beta) assigned to that business line. Beta serves as a proxy for the industry-wide relationship between the operational risk loss experience for a given business line and its aggregate level of gross income (Basel Committee on Banking Supervision, 2006). It is clear from the way a capital charge is calculated that actual risk management plays a small role during the process and is therefore risk-insensitive. Therefore, this approach does not contribute to the actual management of operational risk exposures.

- **The Advanced Measurement Approach (AMA).** Under the AMA, the regulatory capital requirement will equal the risk measure generated by the bank's internal operational risk measurement system using the quantitative and qualitative criteria for the AMA discussed below. The use of the AMA is subject to supervisory approval (the South African Reserve Bank) and it is therefore important that banks adhere to the qualitative and quantitative requirements.

It seems that most banks in South Africa (especially the four largest banks) are opting to implement the AMA to calculate a capital charge for operational risk. According to Lubbe and Snyman (2009), a reason for this might be that the AMA option is the most complex and refined approach, which also allows different banks to calculate their regulatory capital charge using the banks' internal measures. These measures are based on internal risk profiles and variables of the bank, which can ensure that the operational risks are identified and managed. The next section deals with the specific requirements of the AMA, which is the main focus of this article.

2. The Advanced Measurement Approach

The AMA allows, to some degree, risk sensitivity, as it is the only method that considers actual risk-mitigating techniques during the process of calculating a capital charge for operational risk. The other approaches are based on the gross income as a proxy to calculate a capital charge, which eliminates the effects of risk-mitigating techniques and methodologies. However, to comply with the AMA proved to be quite a challenge, as it requires a

risk-modelling approach to be able to determine a value for unexpected losses for which capital must be allocated. According to Lubbe and Snyman (2009), the AMA necessitates the implementation of risk management processes that support accurate risk measurement, reporting and management systems. According to the Basel Committee on Banking Supervision (2006), a bank must adhere to certain criteria in order to use the AMA, which can be divided into general, qualitative and quantitative criteria, illustrated in Figure 3.

General criteria	
<ol style="list-style-type: none"> 1. The board of directors and the senior management are actively involved in the overall process of the operational risk management framework. 2. The bank has implemented a theoretically sound operational risk management system with integrity 	
Qualitative criteria	Quantitative criteria
<ol style="list-style-type: none"> 4. There is an independent operational risk management function, responsible for the design and implementation of the operational risk management framework, including policies and procedures, measurement methodology, reporting system and operational risk management process. 5. The operational risk management system is closely integrated into the daily risk management processes of the bank. 6. The allocation of operational risk capital to major business lines. 7. Incentives to improve the management of operational risk. 8. Regular reporting of operational risk exposures and procedures for taking appropriate action. 9. The operational risk management system is well documented. 10. There is a routine in place for ensuring compliance with internal policies, controls and procedures. 11. Regular reviews of the operational risk management processes and measurement system by internal and external auditors. 	<ol style="list-style-type: none"> 1. Risk measurement system aligned with the loss event types. 2. Regulatory capital calculated as the sum of expected losses and unexpected losses. 3. The measurement system is granular to capture the tail losses. 4. Use of internal data reflects the business environment and internal control systems. 5. Use of relevant external data reflects the business environment and internal control systems. 6. Use of scenario analysis reflects the business environment and internal control systems. 7. A credible, transparent and well-documented and verifiable approach for weighting fundamental elements is used to calculate a capital charge for operational risk.

Figure 3. Criteria for the use of AMA by banks

Source: Adapted from the Basel Committee on Banking Supervision (2006)

Although most of these requirements may seem straightforward, it is not always the case and each requirement needs to be analysed in detail and to be clearly understood in order to determine the implications of implementation. Another important factor that should be considered is the level of knowledge and skills of those employees responsible for implementing these requirements. Usually, implementation of new processes and systems involves employees operating at junior and middle management. It is therefore important that

these employees understand the processes and systems and have the required skills to implement it according to the required requisites. Similarly, it is imperative that junior employees be knowledgeable and skilled to implement the Basel criteria. This could be a determining factor in the state of preparedness of a bank to implement the Basel criteria for the AMA to calculate a realistic capital charge for operational risk. If a bank is fully prepared to implement the AMA criteria, there are a

number of benefits, which could be enjoyed such as:

- a positive impact on the perception and reputation of the bank by its stakeholders;
- a more advanced and sophisticated risk management system, which sends a clear message to all shareholders and stakeholders of which the bank is serious to manage their risk exposures;
- the effective implementation of internal measures that may lead to a reduction in economic and regulatory capital; and
- an improved risk management approach and process.

However, it is crucial that the implementation of the AMA in a banking system is carefully planned and implemented. For instance, banks must make sure that every employee from top, middle to junior management is well informed, aware, trained and skilled to implement the AMA. Following on this the next section deals with an empirical analysis of the status of banks to implement the AMA criteria.

3. Research methodology

In order to determine the current preparedness and knowledge base of bank employees to implement the AMA with the aim to manage operational risk, it was decided to use a questionnaire to collect information. The target group was identified as junior and middle managers of a large bank in South Africa. The respondents mostly consisted of risk managers and business managers who represented the important role players involved in managing a bank's operational risks. The reason for using this target group was furthermore based on the fact that it is usually at this level where processes and systems are physically implemented

and where the success of new implementations is determined. Therefore, the response can be accepted as a reasonable reflection of the status of AMA implementation by the bank. As the identified bank is one of the largest banks in South Africa, the response can, to a degree, be accepted as representative of the general banking industry in South Africa.

The aim of the questionnaire was, firstly, to introduce the seventeen primary criteria of the AMA, which were deduced from the criteria listed in Figure 3 and divided into qualitative and quantitative criteria. The questionnaire included the AMA criteria illustrated in Figure 3 above.

The questionnaire requested respondents to indicate on a 4-point Likert scale their views and experiences regarding specific questions on the status of the compliance of the bank with the AMA criteria. The response was analysed in terms of descriptive statistics according to the following scale:

1. Fully compliant
2. Partly compliant
3. Not compliant
4. Do not understand the criteria

In the rare case of a respondent not selecting one of the four options, it was assumed that he or she did not understand the criteria.

4. Research results

A questionnaire was distributed to a population of 50 junior and middle managers of the identified bank. A total of 19 questionnaires were returned on the due date which represented a 38% response rate.

The results from the questionnaires indicating the overall compliance with the qualitative criteria are reflected in Figure 4.

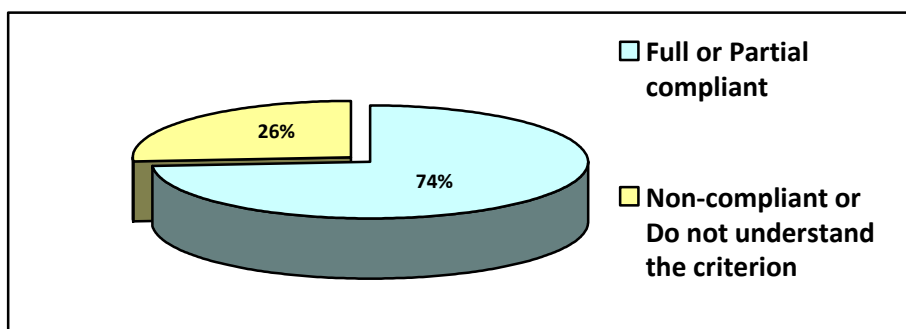


Figure 4. Compliance with qualitative criteria

According to the results of the response, it can be concluded that 26% of the managers viewed the status of the bank as being non-compliant with the qualitative criteria of the AMA, while 74% indicated that the bank was compliant to a full or partial degree.

Figure 5 illustrates the overall compliance with the quantitative criteria, which indicates 52% non-compliance and 48% compliance with the AMA criteria.

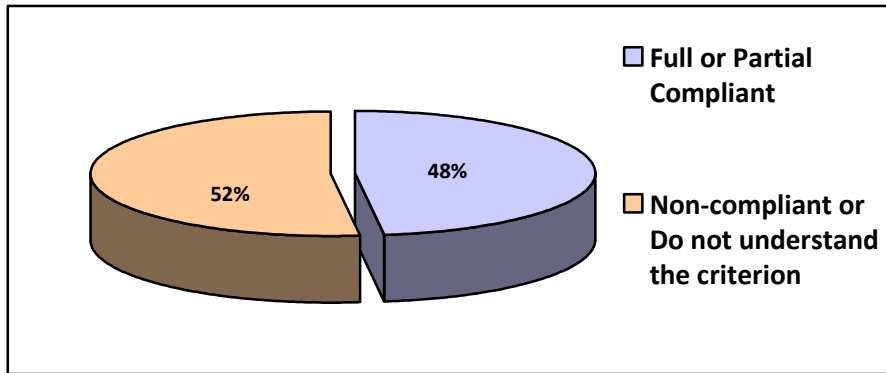


Figure 5. Compliance with quantitative criteria

In comparing the response for the qualitative and quantitative criteria, it is clear that the bank is more prepared to comply with the qualitative AMA criteria than with the quantitative criteria.

A more detailed analysis of the response of the qualitative criteria (see Figure 6) indicates that the bank is fully compliant with 32% and partially

compliant with 42% of the criteria. Only 12% of the criteria are non-compliant. However, 14% of the response indicated that respondents did not understand the criteria, which could be an indication that there is a lack of knowledge and/or skill to implement some of the criteria.

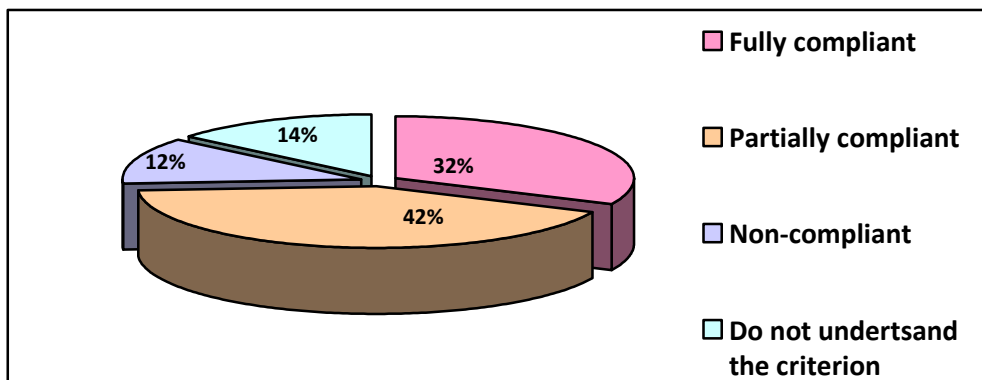


Figure 6. Detailed analysis of compliance with qualitative criteria

A similar analysis of the quantitative criteria (see Figure 7) shows that 13% and 35% of the criteria were being fully complied with and partially complied with, respectively. However, a 42%

response indicated that the detail of the criteria was unknown or unfamiliar. This illustrates that there is a definite lack of knowledge and resultant skills to implement some of the quantitative AMA criteria.

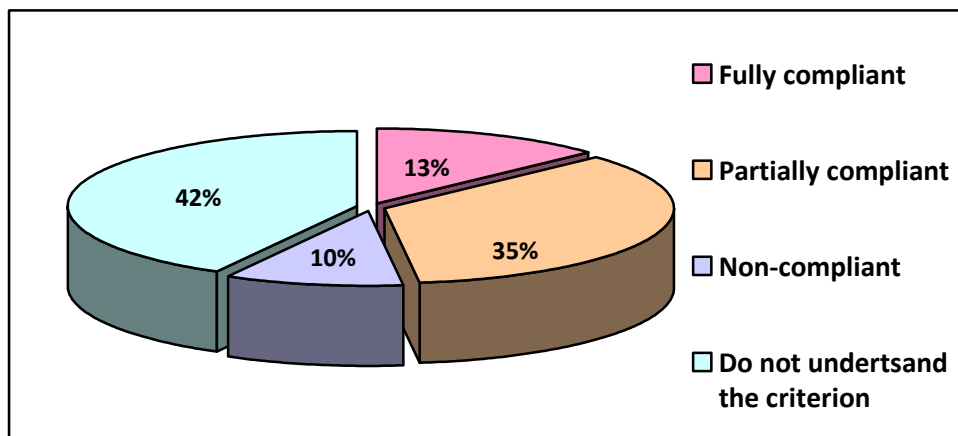


Figure 7. Detailed analysis of compliance with quantitative criteria

When analysing the detail of the qualitative and quantitative criteria per question (see Figures 8 and 9 respectively), the most important conclusion is on the non-understanding of various criteria, which indicates specific focus areas for banks in preparing to be AMA compliant. From a qualitative perspective, the following criteria require attention:

- Question 7: Incentives to improve the management of operational risk

- Question 12: Validation of the operational risk measurement system by supervisory bodies

However, both these criteria involve action from top management and the supervisory body (the South African Reserve Bank), and should therefore not have a negative influence on the bank being compliant with the AMA criteria.

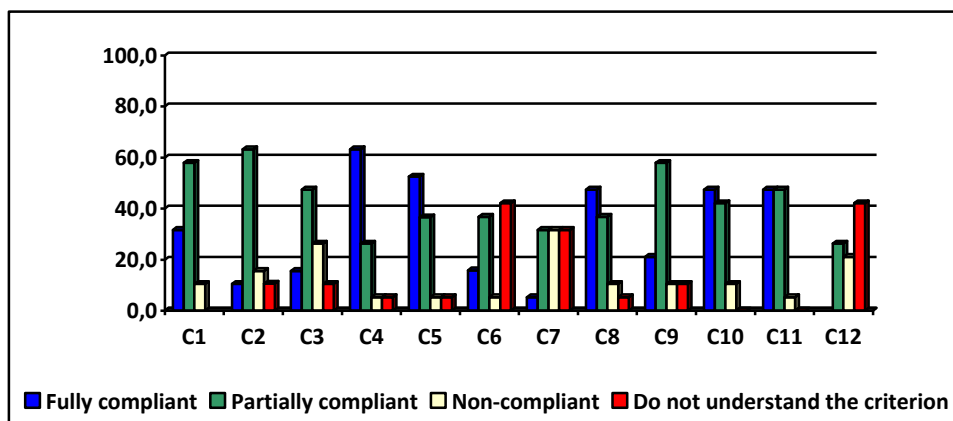


Figure 8. Detailed analysis of compliance with qualitative criteria per criterion (Criterion 1 – 12)

According to the quantitative criteria, the following questions on the criteria were indicated as potential focus areas to be compliant with the AMA:

- Question 2: Calculate regulatory capital as the sum of expected and unexpected losses
- Question 3: The measurement system is granular to capture tail losses
- Question 5: Use of relevant external data reflects the business environment and internal control systems

- Question 6: Use of scenario analysis reflects the business environment and internal control systems
- Question 7: A credible, transparent and well-documented and verifiable approach for weighting fundamental elements is used to calculate a capital charge for operational risk

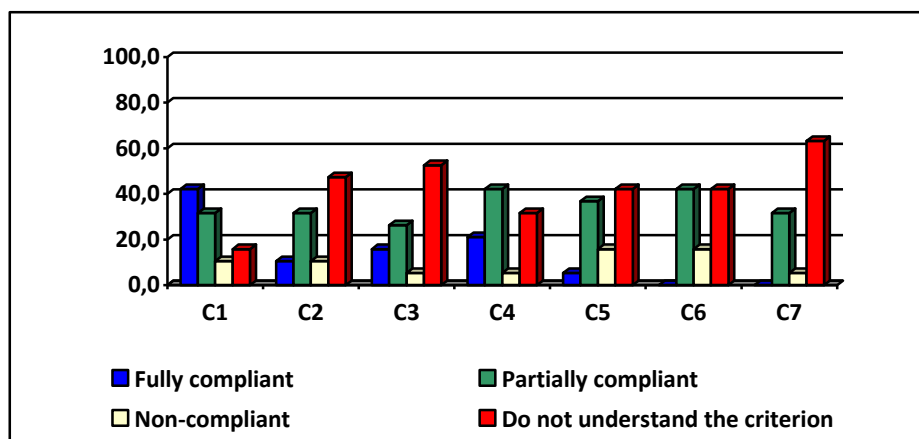


Figure 9. Detailed analysis of compliance with quantitative criteria per criterion (Criterion 1 – 7)

Regarding question 2, the Basel Committee on Banking Supervision (2006) states that a bank's measurement system must be able to estimate unexpected losses based on a combined use of internal and relevant external loss data, scenario

analysis and bank-specific business environment and internal control factors. The system must therefore be capable of supporting an allocation of economic capital for operational risk across business lines in a manner to improve operational

risk management. According to the response, 42% of the respondents indicated that this criterion is unclear. Firstly, the criterion indicates that a bank's measurement system must estimate unexpected losses, and secondly, it calculates capital for operational risk. Both these activities are directly linked to calculating capital for operational risk, which makes it an important part of the AMA. It is therefore crucial that this criterion is clearly understood and incorporated into the risk management processes of a bank.

Question 3 related to the capturing of "tail" losses. These losses are usually in the category of high impact/low frequency loss incidents and are indicated in the "tail" of a typical loss distribution curve. According to the Basel Committee on Banking Supervision (2006), a bank must be able to demonstrate that its approach captures potentially severe "tail" loss events. According to 50% of the response, this criterion was not clear and therefore should be clarified as part of being prepared to comply with the AMA requirements.

According to the Basel Committee on Banking Supervision (2006), a bank's operational risk measurement system must use relevant external data when there is a reason to believe that the bank is exposed to infrequent, yet potentially severe, losses. These external data should include data on actual loss amounts, on the scale of business operations where the event occurred, and on the causes and circumstances of the loss events. According to the response, 30% of the respondents indicated that they were not familiar with this criterion, which illustrates that this criterion should also be considered during the implementation process of the AMA. According to the criteria a bank must have a systematic process for determining situations for which external data must be used. The conditions and practices for external data use must be documented and subject to periodic independent review (Basel Committee on Banking Supervision, 2006).

The AMA criteria also stipulate that a bank must use a scenario analysis of expert opinion in conjunction with external data to evaluate their exposure to high-impact events. According to the Basel Committee on Banking Supervision (2006), the scenario analysis approach draws on the knowledge of experienced business managers and risk management experts to derive reasoned assessments of severe losses. Scenario analysis should, furthermore, be used to assess the impact of deviations from the correlation assumptions embedded in the bank's operational risk measurement framework to evaluate potential losses. It is clear that scenario analysis forms an integral part of the AMA and, according to the response, 40% of the respondents indicated that this criterion was still unfamiliar to them. As such, it is recommended that the use of scenario analysis

during the operational risk management process be carefully planned and embedded to be AMA compliant.

According to the respondents, 60% indicated that they did not understand the criterion for question 7 was unknown. According to the Basel Committee on Banking Supervision (2006), to qualify for regulatory capital purposes, and in addition to using loss data, a bank's firm-wide risk assessment methodology must capture key business environment and internal control factors that can influence their operational risk profile. These factors will add value to a bank's risk assessment in that it will be forward-looking and reflect the bank's quality of risk management objectives. To qualify for regulatory capital purposes, these factors must meet the following criteria:

- Each factor must be justified as a meaningful driver of risk, based on experience and involving expert judgment and, where possible, be measurable.
- The sensitivity of a bank's risk estimates to changes in the factors and the relative weighting of the various factors need to be well reasoned. The framework must be able to capture potential increases in risk due to a complexity of activities and/or business volume.
- Over time, the process and the outcomes need to be validated through comparison to actual internal loss experience and relevant external data, which must lead to adjustments where required (Basel Committee on Banking Supervision, 2006).

It is clear that this criterion is an important part of the AMA and therefore requires the attention of a bank in preparing to be compliant with the AMA requirements.

Final conclusions and recommendation based on the above empirical analysis will be summarised in the next section.

5. Conclusion

Operational risk management should be an integral part of a bank's management strategy, especially now that the South African Reserve Bank is following suit in regulating risk management. These regulatory requirements are based on the risk management principles of the Basel Committee on Banking Supervision as well as the three-pillar framework to allocate a capital charge for operational risk (the Basel Capital Accord for Operational Risk). The AMA is currently the best approach as it incorporates a form of risk sensitivity. The significance of risk sensitivity is that the actual risk exposures must be managed according to specific criteria and standards, before a capital amount can be accepted as a capital charge.

As such, it will add value to the calculation of a realistic capital allocation for operational risk. However, the development and implementation of these guiding principles and criteria for the AMA are not clear-cut and could be problematic for some banks. Therefore the purpose of the research on which this article is based was to determine how prepared South African banks are to use the AMA to calculate a capital charge for operational risk, specifically from a knowledge and skills perspective in terms of those employees who have to implement the criteria.

The article provided some insight into the principles for managing operational risk proposed by the Basel Committee on Banking Supervision. Four sets of principles were identified, forming a platform for a sound operational risk management framework, namely:

- the risk environment;
- the risk management process;
- the role of supervisors (the South African Reserve Bank); and
- the role of disclosure.

Based on these four sets of principles, the Basel Committee proposed a three-pillar approach for risk management. The first pillar concerns the allocation of a regulatory capital charge for operational risk, using three methods, namely the Basic Indicator Approach; the Standardised Approach and the Advanced Measurement Approach.

Most banks are striving towards the AMA, which requires banks to adhere to specific qualitative and quantitative criteria. These principles were used to construct a questionnaire to collect information for an empirical analysis on the overview of the preparedness of banks to comply with these criteria in order to be Basel II compliant for operational risk. The questionnaire was constructed in such a way that it allowed for conclusions on the level of knowledge of the criteria by junior and middle managers.

According to the results of the empirical analysis, the following main conclusions were made:

- Banks seemingly tend to be more compliant with the qualitative criteria than with the quantitative criteria for the AMA.
- Junior and middle managers seem to be knowledgeable about the qualitative criteria, but apparently, there is a lack of knowledge regarding the quantitative criteria.
- The criteria, which were indicated as the most problematic, seemed to be related to the determining of a capital charge for operational risk. As the main objective of the AMA is to determine a realistic capital charge for operational risk, the high level of unpreparedness of these criteria could be a concern for banks.

Founded on the findings of the analysis, the following recommendations can be useful for banks to consider when developing and implementing the criteria for the AMA:

- More attention should be given to develop and embed the quantitative criteria when opting for the AMA to calculate a capital charge for operational risk. Specific attention could be given to the following:
 - the system for capturing of “tail” loss events;
 - the use of relevant external loss data;
 - the use of scenario analysis during the assessment of the impact of potential risk events; and
 - the actual calculation of a capital charge for operational risk.
- Junior and middle management should receive training in order to ensure that they are knowledgeable about the principles and criteria for managing operational risk. This could include theoretical training and practical development of skills to implement and use the operational risk management systems and processes. This can be regarded as a crucial element in the successful implementation of the AMA.

The analysis was restricted to and based on a limited number of junior and middle managers of one major bank in South Africa. Consequently, any generalised deductions and conclusions could not be applicable to the whole banking industry of South Africa. Therefore, it is recommended that this article be used as a starting point and guideline for more detailed research regarding the various practical aspects of the criteria for applying the AMA.

Notwithstanding the limitations of this article, it is crucial that banks ensure that sound principles and criteria for managing operational risk be embedded and that all involved employees are knowledgeable and therefore prepared to manage the operational risk exposures within the ambit of the regulatory (Basel II) requirements.

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A REFLECTION ON THE EVOLUTION OF RELATIONAL DYNAMICS IN NEW SYSTEMS OF GOVERNANCE APPLIED TO THE HEALTH SECTOR

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Abstract

This research paper is concerned with the development of relational dynamics in new governing systems in the health sector. Changes brought about in this domain in decision and management structure lead to a reconsideration of relations between the different players in the system, in particular in terms of power and operational approach. This article uses a case study to analyze this new reality and shows how these developments can be sources of value creation and vehicles of a cooperative, productive approach. This article intends to show the interest and scope of the cognitive governing approach applied to the hospital sector. To this aim, the research has three objectives to provoke reflection and discussion: to investigate conflicts between health and administrative staff; to understand how they come about; and finally to determine the actions that enable the management of these conflicts, with a view to establishing a cooperation of creative value and sense between the medical and administrative domains.

Keywords: Governance, cognitive conflicts, behavioural bias

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1. Context of the research

1.1 The general setting: principles and defining cognitive governance

Cognitive theories of governance have been developed and improved by many authors (Aoki, 2000 ; O'Sullivan, 2000 ; Charreaux, 2005). The cognitive approach is thus in keeping with a procedural logic that leads to value creation. Cognitive theories of governance give particular attention to the notion of cognitive conflicts, which are not to be confused with conflicts of interest, as considered by the shareholder theories of governance. While conflicts of interest are linked to the division of income, cognitive conflicts result more fundamentally from a difference in cognitive or axiological orientation (to do with values), in

other words, a different representation of the world, as the one specified by Charreaux (2002). These conflicts appear particularly in social interactions within a decision-making group of people. Charreaux (2002) states that these cognitive conflicts “*take place when the strategic relevance of investment opportunities is being constructed and evaluated. Directors, administrators or significant shareholders can make incompatible propositions, or disagree when it comes to assessing the industrial viability of a project based on the same information because they do not share the same cognitive models*”. (ibidem, p. 30) According to the author, value conflicts go well beyond questions of interests or cognitive models, in that they can guide preoccupied directors' decisions to preserve, for example, ecological risk

principles or principles of equity. The cognitive approach is concerned with issues of cognitive conflicts in terms of collective collaboration and value creation. Charreaux (2002) explains that while it is preferable to reduce conflicts of interest – a source of loss in efficiency, it is entirely otherwise as regards cognitive conflicts. Innovation, or even basic adaptation, is favoured by the joint existence of different cognitive systems.

Alongside the cognitive and value conflicts that form part of company governance, other authors have taken an interest in the notion of socio-cognitive conflicts anchored more in a sociological approach (Moscovici and Doise, 1992). These conflicts arise when different ideas or incompatible options are suggested in a group before making a choice. This conflict qualifies as social in that each individual must defend his position in front of the other members of the group. The decision process within the group will be all the more complex depending on how diverse the opinions are among those involved and how much is at stake. This applies even more so if the relations are informal; if they are governed by a low number of rules; and if the members in a minority are more inclined to interact with each other (Moscovici et Doise, 1992). In this perspective, and following the example of Charreaux (2002), the existence of divergent propositions can favour the creation of innovative solutions. In this way, socio-cognitive conflicts seem *a priori* beneficial for the creation and exchange of cognitive resources. However, as Stevenot-Guéry (2007, p. 158) explains, in a study conducted on capital investment and publication issues for directors, socio-cognitive conflicts appear in practice to be “difficult to regulate and lead, through lack of governing efficiency, to impasses and tensions that threaten the very foundations of cooperation.”

1.2 The field of the study: new hospital governance and the evolution of the powers that this entails

In the French context, the term *gouvernance hospitalière* - hospital governance, often refers to decree n°2005-406, passed on the 2nd May 2005, which imposed a reorganisation or restructuring of hospitals as ‘activity clusters’, at the latest by December 31st, 2006. The boards of directors of hospitals thus had to discuss in particular the setting up of these clusters (length of terms of office, internal contract and profit sharing policy, performance evaluation criteria) and their governing bodies (representing the electoral colleges, ballot terms, conditions of functioning and organization). The objective of this reform was firstly to strengthen coordination between the administrative and medical bodies and secondly to increase the medical bodies’ involvement and

responsibility with regard to the contractual management of the hospitals via the clusters.

The new governance project integrated into the 2007 Hospital Plan responds to the need to combat the rigidity and barriers that are a hindrance to the functioning of hospitals (Vincent, 2005). The aim is to involve doctors in the management of the health institutions, as well as carrying out an audit and evaluation of their activities. In order to do this, the 2007 Hospital Plan specified two reforms: the decision structure reform and the internal contract reform.

In principle, health institutions must have two co-existing roles, each with different practices and values: on one hand the health staff must receive, take care of, and console the suffering; and on the other hand the management has to deal with the finance side of things, the accounts, etc. They have distinctly different values. The role of the health staff engenders a feeling of reservation towards profitability. Conversely, for the administrator, profitability is constantly being measured in relation to the resources being used. That said, both roles complement each other in that both make resources available that are necessary for each to function. This complementarity was minimal up to relatively recently (Dumond, 2003).

Methodology

The approach taken focuses on the study of one case in particular: a private non-profit organisation which agreed to be a Participant in the French Public Hospital Service (PSPH). The case in question is that of a PSPH clinic (referred to henceforth as clinic A). A PSPH clinic has the peculiarity of being a private but non-profit establishment. This kind of hospital appeared to be a favourable field for investigation for two reasons. Firstly, it is a field not yet delved into by research specifically focussed on the study of hospital governance. Secondly, the PSPH status is distinctive in that it is managed by the Management Committee, ‘relatively’ independent of the political power – in clinic A’s case, the financing took place via pension fund schemes. The Management Committee appoints the director of the clinic and is in charge of legal matters. In contrast to public hospitals, this committee has real power, with sufficient freedom to exercise it.

Three main sources of data were gathered for this research. Fifty five interviews, each lasting an hour and a half, were conducted following an interview schedule. Fourteen internal documents were also consulted, (including PSPH statutes, clinic internal regulations, write-ups of executive meetings, the annual report) and sixteen external documents (including the legal ruling regarding health institutions, the circular pertaining to the establishment of the new hospital governance

system, the guide available to health institutions to examine their own management practices, etc.). Finally, the non-participant observation completed the gathering of data.

2. Analysis of the case

2.1 Case description

The example studied is a geriatric-oriented clinic which welcomes patients aged sixty and over, working and retired, and offers full hospital services with 24 hour care. The clinic is composed of 325 professionals.

The authority with the real power within the clinic is the Management Committee, followed by the Director-General. This non-profit organisation is therefore administered by a Management Committee, composed of sixteen members elected for a four year term by the General Assembly members. The majority of the latter are pension funds administrators who were involved in the creation of the clinic and its funding. The Management Committee is the equivalent of a Governing Body and has voting rights. It nominates a President, a Vice-President, a Secretary and a Treasurer for a two-year period. The Management Committee meets at least once every six months or when required, at the request of the President or the majority of its members. The Management Committee has extensive powers to manage and administer the association. Notably, they appoint and dismiss all clinical staff, set the salaries and decide on the required qualifications. They collect all funds owed to the clinic, ensure that all receipts are properly recorded, control and manage expenditure in line with the budgetary provisions and close the accounts which must then be submitted to the General Assembly. The President of the Management Committee also appoints the clinic's Director-General.

The management of the clinic (Director-General and Assistant Director-General) is at the centre of operations and reports back to the Management Committee. The President of the Management Committee and the Director-General of the Clinic meet in a more or less informal manner.

The role of the director is to manage the clinic for and in agreement with the Management Committee (or Board of Directors). He is responsible or co-responsible legally, in that the President of the Management Committee also bears responsibility for this. The Director is answerable to the Board of Directors for the smooth operation of the establishment and for its financial and social health.

2.2. Conflict identification and analysis

The clinic found itself faced with an obligation, to convert to T2A (an activity-based funding scheme introduced to the French Hospital System with the 2007 Hospital Plan), and an option – to change its governance. The clinic decided not to create an executive committee. The explanations given for their decision are twofold: the over-restrictive nature of the new governance and the uselessness of the interactive equipment when compared with the existing technical equipment in the clinic. Similarly, the decision not to set up activity clusters as defined by the 2005 2nd May ruling was a deliberate choice by the clinic.

Regarding the implementation of the T2A funding scheme, this was a positive step for the management as it obliged doctors to become more involved in financial concerns. While the management welcomes the scheme, doctors consider that its implementation is far too complex. Firstly, it asks them to carry out administrative work in conjunction with a precise formalization of their activities. In their opinion this procedure does not coincide well with their professional culture. The doctors feel that they are now being asked to become “accountant-minded” in order to combine economics and patient care, an apparently “impossible combination”. The results of the hospitals' exercises are in fact henceforth subject to the value given to the activity or treatment. According to the doctors, it is no longer the patient that is taken into consideration but the effect of the patient's pathology on the budget.

Consequently, the conflicts between management and doctors became serious on account of their different roles and priorities. Management started to complain that doctors were not respecting any of the procedures; the activity reports were illegible, the pathology codes were often omitted etc. The administrative staff worked harder to gather the missing medical information from the doctors.

Furthermore, the number of meetings increased and started to become more concerned with good management and activity planning. These meetings were periodic evaluations of the proper use of the available resources (staff, material, time management) which put doctors in a contractual system in terms of defined health objectives. This measure seemed to offend a large portion of the doctors who saw these decisions as a complete failure to understand the specificity of their work, which demands on one hand autonomy in their judgements and decision-making and on the other hand a very particular time management system which oscillated between reflection and action / detachment and urgency.

Paradoxically, the doctors also criticised the fact that they were consulted less and less about

decisions that they considered fundamental, particularly the recruitment or conversely the dismissal of a member of the care team. Previously, they had the right to meet the candidates. Management no longer consulted them and imposed their choice of staff on the doctors. The doctors felt the need to clearly protect their individual decision-making and areas of action. Consequently, management's intervention in the recruitment and dismissal of health staff became a particularly sensitive issue for them.

In June 2007, management and the Management Committee met and outlined the non-compliance of actions taken to achieve the intended objectives: the administrative delays, no proposals for new medical projects, necessary for the clinic's reputation and the increasing number of conflicts between administrative and medical staff. The conflicts were particularly related to the perceived devaluation of the role of a doctor, the loss of their margin for manoeuvre in the daily management of activities and the lack of influence that doctors had on the recruitment process.

2.3 In search of another route: towards cooperation

In July 2007, faced with this inertia and the environmental pressures, the management and the Management Committee invited the doctors to meet with them to begin a consultation process to re-launch the clinic's activities. The three parties together decided to propose new solutions, based on areas of collaboration between doctors and management. Since July 2007, the management of the clinic plan monthly meetings between the clinics' doctors and management. These meetings try to ensure open exchanges and close and on-going collaboration between doctors and the management. This initiative is particularly appreciated by doctors as the meetings are not too frequent.

The organisation of these meetings was a decision made by the clinic, not an obligatory ruling. Management voluntarily initiated these meetings in order to increase the number of meetings with the healthcare personnel but also to provide regular updates on new regulations, strategic action plans etc. These meetings called 'management meetings' (administrative managers and doctors) come from a willingness to have a clear and shared policy promoting and taking into account the interests of doctors, management and patients. All the points tabled are debated, discussed and decisions are generally made by majority rule.

If agreement cannot be reached, the Chief Executive has the deciding vote. The meeting begins with administrative items, the monthly agenda, training offered to staff and

communications. There then follows an agenda item relating to the "work" in progress in the clinic (particularly the implementation of the 2007 Hospital Plan). Following this, there is an agenda item on quality (for example, the rewriting of the client questionnaire, the implementation of new quality procedures or the use of new medical software). During each meeting, a new regulation to be implemented in the clinic is discussed. There is an open debate with all members on each point in order to propose and create an action plan. This structured and equal collaboration allows for items to be prioritised, for compromise and for information exchanges. In March 2008, during one of these meetings, the Head of the Medical Team gave details of a request by one of the clinic doctors: for the funding of a new technique for the treatment of complex geriatric wounds. This medical project was subsequently submitted to management at the initiative of the doctors.

In terms of discussions and knowledge sharing, management and doctors' concerns have ultimately converged. Progressively, doctors and the Director-General have realised that they share the same concerns: to have the project accepted at the highest level of the clinic governance, the Management Committee. By proceeding in this way, they created a common interest, they understand and accept each other's concerns. The creation of a space for dialogue, exchange and a space to build projects and also the concrete implementation of a unifying project has facilitated cooperation between the medical and administrative teams. This renewed dialogue has facilitated the better understanding/explanation of the challenges associated with the T2A funding scheme and in changing the terms of the debate, from a purely financial argument to an issue that relates to the clinic as a whole and to management through partnership. Consequently, the association of the doctors with the management of the health care establishment is seen as a joint venture to decide upon and design medical projects.

3. Discussion and implications

From the analysis carried out, it is possible to characterize the conflicts which set doctors apart causing the cognitive and socio-cognitive conflicts as outlined by Charreaux (2002) and Moscovici and Doise (1992) consecutively. Each present and interpret the situation differently. The difficulties of setting up the T2A funding scheme, the power struggle between doctors and administrators (with regard to the appointment and dismissal of health staff, for example) can be attributed to the medical sphere's lack of involvement in governance, an absence of power supervision and of decisional organization. Also, the clinic had to reinvent solutions *ad hoc*, as in the creation of a place for

dialogue, the focussing on a symbolic federative project. The latter did not aim to resolve conflicts of interest in the agency theory's sense of the term but rather cognitive conflicts (Charreaux, 2002).

In addition, a phenomenon known as psychological reactance can be observed among doctors, brought to light by Brehm (1966) and elaborated by Doise *et al.* (1991). In our case study, it seemed to manifest as a reaction on the part of the doctors to a feeling of a loss of independence. In the tradition of the work of Brehm (1966), psychological reactance is all the more pronounced among doctors with a necessarily specialized knowledge of their work. The establishment of these phenomena leads one to think that they could have things in common with one of the conditions leading to cognitive conflicts.

Consequently, in the field of this research, it is above all the permitted supervised confrontation through meetings between doctors and the management that enabled the construction of a new opportunity: the launching of a new medical project. Ultimately, it is the punctual confrontation of wills and interests, but most of all of behaviour between doctors and the management in monthly meetings which led, in part, to favour the image of the clinic and to its notoriety. The sense of this approach can be found in the cognitive theory which gives great freedom of action to those involved, to favour innovation in particular. Following the example of Charreaux's (2002) work, clinic A's case highlights the issues of cognitive conflicts with regard to collective collaboration. It is the existence and joint recognition of different cognitive schemes that makes the launching of a new medical project possible.

We can legitimately think that the establishment of this collaborative space was made possible by the decision of clinic A's management to create meetings, thereby minimising the new mechanisms of governance set up by the 2007 Hospital Plan. All the more so in that dialogue can take place in a formal or informal atmosphere in these meetings and they allow consultation to take place between the different domains.

Moreover, if we refer to the probing work of Charreaux (2005), it would be reasonable to think that the State is trying to 'unbias' the behaviour of doctors in order to limit the significant health expenses. In his analysis of what behavioural finance has to offer and of cognitive models for company governance, Charreaux (2005) highlights the recognition of behavioural conflicts as well as interest and cognitive conflicts. According to the author, behavioural biases are broader than cognitive conflicts, as they encompass emotional and unconscious biases. In addition the author distinguishes individual biases from collective ones within an organisation and underlines the

multiplicity of biases and the difficulty in identifying and defining them precisely. In our case study, the behavioural biases of the doctors could be related to their over-confidence and at times to their pride. In other words, the behavioural biases of doctors are necessary in the practice of medicine: a perfect knowledge that creates an over-confidence. For this reason, the State has a negative view of doctors' behavioural biases and tries to manage, discipline, to free them from bias. The alternative proposition of the PSPH clinic is to integrate the behavioural biases, and let the cognitive conflicts emerge during the consultation meetings. The doctors and the management consult each other, share their knowledge and ultimately unite to "sell" a project to the establishment's governing body, the Management Committee. It follows that the project is accepted (even though for two years no proposition had been made to the Management Committee). The management and the Management Committee congratulate themselves on their accomplishment: the launching of a medical project to improve the clinic's care as well as its reputation.

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BOARD, GOVERNANCE AND FIRM PERFORMANCE: ARE FINANCIAL INTERMEDIARIES DIFFERENT?

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Abstract

Drawing on Agency Theory this article investigates the relationship between board size and European firms' performance. The focus is on the implicit differences between financial and non-financial firms. In particular the paper addresses the following questions: does board size influence firm performance? Is financial intermediaries' corporate governance different from that of non-financial companies? The study analyses the governance of the largest listed European companies which make up the Eurotop 100 index. Companies come from 12 different countries and are subject to different regulatory and self-discipline codes. Referring to the Eurotop index the focus is on the relation between the overall size of the board of directors and the level of performance measured as Tobin's Q and Return on Assets. Diverging results emerge depending on the typology of the firm. In particular, results suggest that for non-financial companies large boards negatively influence firm performance, whereas financial intermediaries seem to be different because of the non-relation between their board size and performance.

Keywords: Corporate Governance; Board Size; Financial Intermediaries; Two-tier Board Structure; Europe.

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Introduction and motivation

The recent financial and economic crisis refuelled the debate on corporate governance (OECD 2009a; 2009b; 2009c; 2009d). In particular, as concerns financial intermediaries, in many countries, recent measures aimed at supporting the economy and banks have attached particular importance to governance practices.

Board composition plays an important role in corporate governance where the objective is to formulate specific structures aligning the interests of management and suppliers of capital (Rose, 2005).

Though coordinated measures at European level have often been suggested, corporate governance systems in Europe remain quite different: in some countries there is the one-tier system and in others the two-tier system²⁸. Given

the importance attributed to corporate governance by regulatory and supervisory authorities, financial intermediaries and especially banks are highly interested in choosing the appropriate governance structure. Indeed, many large financial groups in Europe have recently adopted the *two-tier board* governance structure. While some highlight its advantages, others emphasize the risks of the possible overlapping of functions and roles across different governance layers and of the plethoric multiplication of seats on the boards. The latter implicitly refer to the problems arising from large boards identified by agency theory and discard other possible approaches identified in more recent literature that emphasises the importance of a behavioural approach in board of directors studies (Ees, Gabrielsson, & Huse, 2009; Huse, 2003; Huse, Hoskisson, Zattoni, & Viganò, 2009). This paper pursues a threefold objective:

- a. the analysis of the relation between board size and firm performance;
- b. the investigation of the peculiarities of the corporate governance of financial intermediaries as concerns board size;
- c. the identification, on the basis of international evidence, of elements which

²⁸ There are three different possible structures reflected through the board of directors: the *one-tier board* system, typical of the UK, Spain and many other countries; the *vertical two-tier* system, typical of Germany and of the Netherlands in the case of large companies; and countries such as France and Italy in which companies may choose between different models.

may improve the legislative and self-regulatory framework particularly focusing on the implications that the adoption of the *vertical two-tier* model may have in banks and insurance companies.

The paper draws on the assumption that for financial intermediaries the governance system is all the more important not only because intermediaries are basically in the business of risk acceptance but also due to their special role within the economy in the aggregation and transfer of financial resources.

Basing on agency theory, it seems interesting and useful to address the following research questions:

1. Does board size have an influence on the level of corporate performance?
2. Is the corporate governance of financial intermediaries and banks different from that of other kinds of firms?
3. What is the relationship between board size and firm performance in financial intermediaries?

Prior studies often refer to a single country and a lack of studies that provide international surveys emerges. Moreover, there are few published papers that study the effectiveness of European boards of directors (Denis & McConnell, 2003). To fill this gap, the analysis is conducted on data (from 12 different European countries) extracted in 2007, for companies in the Eurotop 100 index, representative of the largest European listed companies.

Moreover, previous research tends to focus either on non-financial companies or on banks on the assumption that banks are different. Contrary to these studies the present paper investigates the impact of board size on firm performance, taking into account the peculiarities of the corporate governance of financial intermediaries. To date, there are many studies on corporate governance, yet only few of them focus on corporate governance of financial intermediaries (e.g., Adams & Mehran, 2005; Belkhir, 2009; Caprio, Laeven & Levine, 2007; Macey & O'Hara, 2003; Staikouras, Staikouras & Agoraki, 2007), even though the key aspects of corporate governance are just as crucial for financial intermediaries and especially for banks (Andres & Vallelado, 2008).

The results suggest that the relation between board size and firm performance depends on the typology of the firm. In particular we found that board size negatively impacts firm performance (as measured by Tobin's Q and Return on Assets). This is not true for financial intermediaries where having a larger board does not hamper the level of firm performance.

The contribution of the paper is threefold.

First, it contributes to the debate on corporate governance worldwide by clearly focusing on the specific characteristics of financial

intermediaries. Second, it uses data from different countries contrary to the large part of previous studies that analyse firms of a single country. Finally, the paper provides insights which may be useful to improve the legislative and self-regulatory framework.

The paper is structured as follows: the second section summarises the main literature and illustrates the hypotheses; the third section describes the methodology and the fourth the results of the analysis. The main results are discussed in the fifth section. Conclusions and future research directions are presented in the last section.

Literature review and hypotheses development

The most discussed issue regarding boards and governance is whether the composition of the board has a positive or negative effect on the performance of the firm. A great deal of research has been conducted on this relationship over the years, following several theoretical approaches (Daily, Dalton & Cannella, 2003). The most frequent approach is agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976) that focuses on the monitoring role of the board of directors.

In the literature on boards, two commonly investigated issues are the size of the board and its composition and independence (John & Senbet, 1998). In this study, we address the issue of board size.

The empirical literature concerning the relationship between board size and financial performance is relatively large (for a survey of the literature see, for example, Adams, Hermalin & Weisbach, 2010; Johnson, Daily & Ellstrand, 1996). However, these studies are not conclusive. This is due to the fact that the relationship between board of directors and firm performance is not simple and direct and it cannot be covered by any single approach (Nicholson & Kiel, 2007). There is a need to better explore this relationship.

This paper focuses on the link between an important corporate governance issue, such as the size of the board, and firm performance.

Board size and firm performance

The size of corporate boards has received much attention particularly given prominent business failures of large companies. However, there does not seem to be consistent evidence to support that board size or composition affect performance. In fact, while many studies find a positive relation between board size and firm performance (Dalton, Daily, Ellstrand & Johnson, 1998; Forbes & Milliken, 1999; Goodstein, Gautam & Boeker, 1994; Pearce & Zahra, 1992; Van den Berghe &

Levrau, 2004), most researchers have concluded that there is negative correlation between board size and firm performance (Cheng, 2008; Jensen, 1993; Yermack, 1996).

The studies which are relevant to the present analysis follow two opposite views: on the one hand, studies which address board size and composition considering agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976) and on the other hand studies that adopt a resource dependence approach (Hillman & Dalziel, 2003; Pfeffer, 1972).

From a resource dependence theory larger boards have the potential to provide an increased pool of expertise because their members may have a broader variety of backgrounds and may represent more specialized knowledge and skills (Smith, Smith, Olian, Sims, O'Bannon & Scully, 1994). For this reason, larger boards are better equipped (compared to small boards) to process large amounts of information (Eisenhardt & Schoonhoven, 1990). Moreover, the possibility for boards to draw on a larger pool of expertise may contribute to the quality of the discussions in board meetings (Van den Bergh & Levrau, 2004).

According to agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976), the board of directors is seen as the instrument shareholders use to monitor top managers. Nonetheless, boards are not always able to play this role adequately, and their lack of effectiveness require more in-depth analysis of some boards issues such as board size and composition. Jensen (1993), however, contends that board size is not unlimited. There exists a turning point where the benefits of an enlarged board will be outweighed by the costs in terms of productivity losses. As size increases, boards may be confronted with some traditional group dynamic problems associated with large groups. In fact, larger boards of directors become more difficult to co-ordinate and may experience problems with communication and organization, a proposition derived from organizational behaviourists (see for instance Eisenberg, Sundgren, & Wells, 1998; Hackman, 1990). Thus, when boards are too large a fruitful debate may be inhibited. Besides, having a high number of board members around the table may hamper the board's ability to identify, extract and use its members' potential contribution. Given the limited time available during board meetings, there might be too many members to hear and/or persuade (Patton & Baker, 1987).

The empirical evidence supports this last assertion by showing an inverse relationship between firm value and the size of the board (Eisenberg et al., 1998; Yermack, 1996). Yermack (1996) presents evidence that small boards of directors are more effective, and that companies with them achieve higher market value.

According to this last strand of literature we hypothesizes that:

Hypothesis 1. There is a negative relationship between board size and firm performance.

Board size and firm performance in financial intermediaries

Studies on governance of financial intermediaries mainly focus on banks. These studies are considered relevant for the purposes of the present study since banks and insurance companies are: i) active in the risk acceptance business, ii) strongly regulated and capital constrained and iii) offer products which may be substitutes. There are many studies which support the idea that banks should be subject to particular governance provisions due to their greater regulation compared to other sectors (Busta, 2007; Caprio & Levine, 2002; Levine, 2003), or their operating characteristics, namely the deposit guarantee fund, deposit insurance and the systemic risks deriving from the management of payment systems and the transmission of monetary policy (Macey & O'Hara, 2003). Studies which in general show that governance is affected by industry also indirectly support the idea that intermediaries are different (Black, Jang & Kim, 2006; Gillian, Hartzell & Starks, 2003).

Focusing on bank corporate governance, there are a number of recent studies conducted in the financial sector that investigate the influence of board size on banks' performance (e.g., Adams & Mehran, 2005; Belkhir, 2009; Staikouras *et al.*, 2007). In a study of 58 large European banks, Staikouras *et al.* (2007) show that large boards influence negatively bank profitability. On the other hand, Adams and Mehran (2005) did not find a negative relationship between large boards and performance in US banking firms. Likewise and Belkhir (2009), in a study of 174 US financial companies, does not find a positive relationship between board size and performance (measured by Tobin's Q). Additionally, a study on the US context does not find any significant relation between board size and composition and performance (Belkhir, 2006). The numerous arguments supporting the non relation between board size and bank performance lead us to the following:

Hypothesis 2. In financial intermediaries there is no relationship between board size and firm performance.

Methodology The sample

The main objective of this paper is to investigate the relationship between board size and performance in European financial and non-

financial firms. To this aim, we use data from the largest listed European companies which make up the Eurotop 100 index, representative of several industries but in any case comparable in terms of size and complexity. Companies considered come from 12 different countries and are therefore subject to different regulatory and self-discipline codes.

The financial data are drawn from Bloomberg whereas company and board data are hand collected from the official documentation present on the companies' websites (Articles of Association, Corporate Governance codes, Annual reports and other official documentation). The independent variable (board size) is measured in 2005 and the dependent variables (Tobin's Q and ROA) are measured in 2007. Indeed, it seems logical to think that the effect of board size on firm performance requires time; it will not appear immediately, but after a delay. As suggested by Hitt, Tihanyi, Miller and Connelly, (2006), we use a two-year lag for the purpose to overcoming the problems of causality inherent in cross-sectional data (Salomon & Shaver, 2005). Moreover, for the purposes of the present paper the dynamic perspective is obviously preferable to the static perspective of cross-sectional analysis.

Among the 100 European firms included in the analysis 67 are not financial firms and 33 are financial firms (banks and insurance companies).

Non-financial firms have on average a market capitalization of 52,327.29 million euro (Std. deviation 34,652.73) and on average Total assets of 66,672.02 million euro (Std. deviation 53,015.87). 24% of the firms have a two-tier governance system and the rest have a one-tier system. The average board size is of 18.85 members with an average of 11.68 independent directors.

Compared to non-financial firms, financial firms in the Eurotop index have a similar average market capitalization of 54,811.63 million euro (Std. deviation 29,915.21) and far higher average Total assets of 738,779.33 million euro (Std. deviation 453,411.79). 33% of the financial firms has a two-tier governance structure and the rest has a one-tier system. The average board size is of 20.61 members of which an average of 12.78 is independent.

The variables

In the literature on governance and banking, ROA and Tobin's Q are two of the most commonly-used firm performance variables (Adams, Almeida & Ferreira, 2009; Adams & Mehran, 2003). Accordingly we use these two variables as dependent. Bloomberg has been the primary source of information.

ROA is calculated as net income divided to average assets. Tobin's Q is calculated as as the market value of a company divided by the value of the company's assets.

The independent variable is board size calculated as the number of directors.

The control variables are total assets (as proxy of firm size), market capitalization (which is another measure of firm size), governance system (a dummy variable that is coded 1 when the governance system is two-tier; 0 when the governance system is one-tier) and the number of independent directors.

Multiple linear regression analysis

Multiple linear regression analysis was used to test the hypotheses. In particular we split the sample into two sub-samples (financial and non-financial firms). For each of the two samples we made a hierarchical analysis with two steps. In the first step, we run the regressions of Tobin's Q and ROA on the control variables (Model I) and in the second step, we run the regressions entering the independent variable in addition to the control variables a (Model II).

Results

Table 1 and Table 2 present correlations for the dependent, independent and control variables in the two sub-samples.

Insert Table 1 about here

Insert Table 2 about here

Intercorrelations among independent variables were generally low thereby minimising the problem of unstable coefficients (because of collinearity) in the linear regression models. Also the VIF test suggests that multicollinearity does not defect results.

We used SPSS to run the regression analysis. The results of the regression analysis are presented in Table 3 (for non-financial firms) and in Table 4 (for financial firms).

Insert Table 3 about here

Insert Table 4 about here

The results for the non-financial firms are reported in table 3. Model I, on the left side of the table

regressed Tobin's Q on the control variables, the adjusted R² is .22. Model II regressed Tobin's Q on the control variables and the independent variable (board size), the adjusted R² is .28.

Model I, on the right side of the table, presents the regression of ROA on the control variables, the adjusted R² is .14. Model II regressed the ROA on the control variables and the independent variable (board size), the adjusted R² is .21.

The results for the financial firms are reported in Table 4. Model I, on the left side of the table, regressed Tobin's Q on the control variables, the adjusted R² is .12. Model II regressed Tobin's Q on the control variables and the independent variable (board size), the adjusted R² is .14.

Model I, on the right side of the table regressed ROA on the control variables, the adjusted R² is .09. Model II regressed the ROA on the control variables and the independent variable (board size), the adjusted R² is 0.11.

Discussion

The board of directors has long been linked to the reduction of agency problems brought about when managers pursue their own interests at the shareholders' expense. This view is articulated by (Fama & Jensen, 1983; Jensen & Meckling, 1976), who argue that boards of directors can reduce agency costs by separating the management and control aspects of decision making, where control involves ratification and oversight of decisions made by management.

In this paper we have attempted to examine the influence that board size exerts on firm performance following an agency theory approach. We tested hypotheses on the relations between board-size and firm performance for two sub-samples: non-financial firms (H1) and financial firms (H2). In particular, we hypothesize that for non-financial firms larger boards may impact negatively on firm performance, while for financial firms board size does not influence performance.

We found a negative and significant relationship between board size and performance in non-financial firms (the R² is .21). The key argument to better explain this result can be found in agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976). Agency theory is the most important theoretical framework used to link board characteristics and firm performance (Daily et. al., 2003). Following agency theorist, when a board gets too big, agency problems increase. Directors are then less effective in monitoring managers. Previous empirical results clearly support this proposition and suggest that board size and firm value are negatively correlated (Eisenberg et al., 1998; Yermack, 1996).

This view is also confirmed by Lipton and Lorsch (1992) who argue that directors normally do not criticize the policies of top managers or hold candid discussions about corporate performance. These problems are more pronounced with larger boards. Moreover, when the board is too large, problems of coordination/communication arise. For larger boards, it is more difficult for the firm to arrange board meetings and for the board to reach a consensus. As a result, larger boards are less efficient and slower in decision-making. Lower efficiency in the decision-making process of course influences the level of firm performance.

The effect of board size on the performance of financial intermediaries is less clear. The second hypothesis we tested relates board size and firm performance in a sub-sample of financial firms. The results support our hypothesis suggesting a non correlation between board size and performance for financial intermediaries. This result may be explained looking at banks and financial firms as "special" institutions generating distinct corporate governance challenges (Staikouras et al., 2007).

Financial institutions undertake a number of services that are indispensable for the functioning of modern economy and economic growth. In general terms, financial intermediaries provide access to payment systems, generate liquidity and facilitate transactions by reducing transaction/participation costs and information asymmetries and performing a risk-management role through the offering of financial products which enable consumers to address economic uncertainties by packaging, hedging, pricing and sharing risks (Levine, Loayza & Beck, 2000).

This has long been pointed out by the Basel Committee which in 1999 underlined that "banks are a critical component of any economy. They provide financing for commercial enterprises, basic financial services to a broad segment of the population and access to payments systems. In addition, some banks are expected to make credit and liquidity available in difficult market conditions. The importance of banks to national economies is underscored by the fact that banking is virtually universally a regulated industry and that banks have access to government safety nets. It is of crucial importance therefore that banks have strong corporate governance" (Basel Committee on Banking Supervision, 1999).

Financial intermediaries are unique also from a corporate governance perspective (Llewellyn, 2002).

The Basel Committee (2010) noticed that "effective corporate governance practices are essential to achieving and maintaining public trust and confidence in the banking system, which are critical to the proper functioning of the banking sector and economy as a whole. Poor corporate governance may contribute to bank failures, which

can pose significant public costs and consequences due to their potential impact on any applicable deposit insurance systems and the possibility of broader macroeconomic implications, such as contagion risk and impact on payment systems. In addition, poor corporate governance can lead markets to lose confidence in the ability of a bank to properly manage its assets and liabilities, including deposits, which could in turn trigger a bank run or liquidity crisis. Indeed, in addition to their responsibilities to shareholders, banks also have a responsibility to their depositors". Following this view we found that while for non-financial firms board size negatively affects firm performance, for financial firms it seems that board size does not directly affect the performance. This result also appears consistent with previous studies that found no significant relation between board size and performance in banks (Adams & Mehran, 2003; Brewer, Jackson & Jagtiani 2000).

The non-relation between board size and performance in financial firms is a result that confirms the specificity of financial firms respect to non-financial firms. In order to better understand the role of board of directors in corporate performance it is important to consider several aspects, such as the role of information and the board's various duties: control (explained effectively by agency theory), the support of strategy (outlined by resource dependence theory) (Pugliese, Bezemer, Zattoni, Huse, Van den Bosch, & Volberda, 2009), the decision making process and the dynamics inside the boardroom (Forbes & Milliken, 1999; Huse 2007).

Conclusions and future research directions

In this paper we have used the agency theory to explore the influence of board size on firm performance. Two hypotheses were tested on two comparable sub-samples of non-financial and financial large listed European firms. We found that for non-financial firms having larger board negatively influences performance, whereas for financial firms the negative influence is not confirmed.

The paper is thus in coherence with agency theory when analysing non-financial firms but it does not confirm the agency theory for financial firms. Various studies have illustrated that boards of financial firms tend to be larger than boards in non-financial firms (Adams & Mehran, 2003)

The two-tier model leads to a higher number of board members. The agency theory would therefore postulate that this governance system could be negative for firm performance. However, our results suggest that it may in any case prove to be effective, especially for financial intermediaries, where board size may actually be an advantage if

complementary expertise and backgrounds are present on the board. This is consistent with the resource dependence theory of the firm that considers larger boards to be advantageous for the firm. In sum, while for non-financial firms agency theory may be particularly useful in explaining the influence of board size, for financial firms we need to integrate agency and resource dependence perspectives. This integration may contribute to our knowledge of the role of board of directors on firm performance (Hillman & Dalziel, 2003).

This may be particularly relevant for financial intermediaries in consideration that in "Principles for enhancing corporate governance", issued for consultation in March 2010, the Basel Committee focuses on board competence and independence and pays particular attention to board practices and the role of the board in the oversight of risk management. As concerns composition, the proposed principles specify "the bank should have an adequate number and appropriate composition of board members. Unless required otherwise by law, the board should identify and nominate candidates and ensure appropriate succession planning. Board perspective and ability to exercise objective judgment independent of both the views of executives and of inappropriate political or personal interests can be enhanced by recruiting members from a sufficiently broad population of candidates. Independence can be enhanced by including a sufficient number of qualified non-executive members on the board who are capable of exercising sound objective judgment. Where a supervisory board or board of auditors is formally separate from a management board, objectivity and independence still need to be assured by appropriate selection of board members".

The paper offers various contributions. First, it confirms the importance of corporate governance in finance as pointed out by the OECD, that has recently undertaken a process aimed at reassessing its 2004 principles which was concluded in February 2010 with a series of recommendations including board practices and risk management (OECD, 2010), and the Financial Stability Board, that in addition to including corporate governance in the Compendium of 12 key principles for sound financial systems, has on many occasions described the role of bank governance and compensation practices in the excessive risk taking which was among the causes of the current crisis.

Draghi, Chairman of the Financial Stability Board, which has been charged by the G20 to reform financial regulation, has often stated the importance of bank corporate governance. Draghi (2008). "Alongside adequate capital and organization, the third factor of the stability of the banking system is the quality of corporate governance". As mentioned above, the Basel

Committee proposed a reform of its Principles to enhance corporate governance in mid-March for which the consultation period finished in June 2010.

Second, we fill the gap in the literature calling for more studies on governance of financial intermediaries (Andres & Vallelado, 2008). In fact, while prior research considers alternatively on either financial or non-financial firms, the paper includes both types of companies, showing that some differences exist between financial and non-financial firms.

Third, the paper gives an international view using data from the largest listed European companies which make up the Eurotop 100 index whereas most prior studies offer a single country view (Denis & McConnell, 2003).

Fourth, the paper provides useful insight suggesting that for financial firms having larger boards does not necessarily influence performance negatively, hence suggesting that the two-tier system could be positive for financial firms (where it is also actually more widespread) and confirming current approaches by policy makers and principle setters which tend to focus on what the board should do and the necessary competences of board members as opposed to structural characteristics (Bank of Italy, 2008; Basel Committee on Banking Supervision, 2010).

Finally, the paper also indicates that future research in the field of corporate governance should use an integrated theoretical perspective (agency theory and resource dependence theory) in order to enhance our knowledge of the role of boards of directors on firm performance (Hillman & Dalziel, 2003).

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Table 1. Correlation matrix (67 non-financial firms)

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

	Mean	Std. Deviation	1.	2.	3.	4.	5.	6.	7.
1. Market capitalization	52,327.29	34,652.73	1						
2. Total assets	66,672.02	53,015.87	.63**	1					
3. Governance system	.24	.43	-.18	.07	1				
4. Board independence	11.69	3.10	.41*	.26	-.01	1			
5. Board size	18.85	5.19	.08	.29	.49**	.44**	1		
6. Tobin' s Q	1.14	1.05	.06	-.14	-.17	-.12	-.56**	1	
7. ROA	8.08	7.02	.08	-.40**	-.29	-.06	-.37**	.29*	1

Table 2. Correlation matrix (33 financial firms)

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

	Mean	Std. Deviation	1.	2.	3.	4.	5.	6.	7.
1. Market capitalization	54,811.63	29,915.21	1						
2. Total assets	738,779.33	453,411.79	.74**	1					
3. Governance system	.33	.48	-.13	-.13	1				
4. Board independence	12.78	4.29	.35	.01	.27	1			
5. Board size	20.61	5.40	.03	.05	.31	.13	1		
6. Tobin' s Q	.08	.03	-.14	-.19	.03	-.18	-.09	1	
7. ROA	.71	.36	-.20	-.18	.05	-.17	.05	.85**	1

Table 3. Multiple linear regression (67 non-financial firms)

Control and independent variables	Dependent variable: Tobin's Q		Dependent variable: ROA	
	Model I	Model II	Model I	Model II
Market capitalization	.64*	.46*	.47*	.49*
Total assets	.62**	.42**	.56	.62
Governance system	.48*	.47*	.76	.78
Board independence	.31	.37	.32	.39
Board size		-.49**		-.21*
Adjusted R²	.22	.28	.14	.21
F	6.32***	7.62***	3.15***	3.89***

The level of significance is *<.1, **<.05; ***<.01

Table 4. Multiple linear regression (33 financial firms)

Control and independent variables	Dependent variable: Tobin' s Q		Dependent variable: ROA	
	Model I	Model II	Model I	Model II
Market capitalization	.21	.29	.07	.09
Total assets	.17*	.19*	.42**	.43**
Governance system	.18*	.21*	.65	.68
Board independence	.24	.26	.19	.15
Board size		-.49		.18
Adjusted R²	.12	.14	.09	.11
F	6.29***	7.11***	2.16***	2.19***

The level of significance is *<.1, **<.05; ***<.01

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