Firm financial performance and CEO compensation in the banking industry

Master Thesis Accounting

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Abstract

Using a sample of banks from nine different countries over the 2005-2009 period, I investigate whether there is a relation between firm financial performance and CEO compensation. Furthermore, I also test whether this relationship is affected by financial reporting transparency and ownership structure. A positive relation between firm financial performance and CEO compensation is found. This pay for performance seems to be driven for the greatest part by banks from countries with high financial reporting transparency. This finding is consistent with the expectation that firms which have high financial reporting transparency have better abilities to tie CEO compensation to firm financial performance, as well as it is easier for stakeholders to monitor these firms. Since firms know that they are better monitored, they will show stakeholders some pay for performance sensitivity for CEO compensation. I do not find evidence that dispersed ownership leads to higher pay for performance sensitivity.

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Introduction

The topic of this study is the relation between firm financial performance and total compensation of top executives in the banking industry. An important matter in business is called the principal-agent problem (Jensen, 1976). This problem arises when ownership and control of a firm are separated. The principal hires an agent to perform specific tasks. However, there is information asymmetry between the principal and the agent, resulting from the inability of the principal to monitor all the actions taken by the agent. Furthermore, the interests of the principal and the agent need not be the same; i.e. the principal wants firm profits to rise and the agent wants his own benefits to be as high as possible. Therefore, contracts are set in order to align the interests of the agent with those of the principal. The aim of performance-based compensation is to present the agent incentives to, for example, maximize firm profits and thus principals' wealth. This alignment is mainly established with the intention to protect the principal from undesired behavior by the agent[1]. The firms' pay for performance sensitivity can be measured as the change in CEO remuneration compared to the change in shareholders' wealth (Jensen and Murphy, 1990).

However, practice can differ from this compensation theory as shown by research at Bear Stearns and Lehman. Bebchuk (2010) shows that top executives received from cash bonuses and equity sales during the 2000-2008 period, a total of $ 1.4 and $ 1 billion respectively in this period. When those firms where financially constraint, not a dollar of the granted bonuses floated back to the firms (Bebchuk, 2010). In the end, Bear Stearns was forced to sell itself to JP Morgan and Lehman Brothers collapsed during the financial crisis in 2008. As argued in the research of Webb (2008) on banks in the US in the 1992-2004 period, executive compensation remains a controversial topic in the press. Numerous stories of high bonuses and high total compensation, as well as stories about so-called "golden parachutes" after dismissal of top executives appear in the press. It is argued there is no link between the compensation of top executives and firm financial performance. Bebchuk and Fried (2004) argue that the goal of the CEO is to gather as much as possible personal gain without provoking social outrage. This suggests that CEO compensation has little to do with solving the principal-agent problems and more with enriching the CEO. Bertrand and Mullainathan (2001) label this as 'skimming'.

There has been some research on the pay for performance sensitivity of CEOs in the banking industry in the US and the UK (E.g. Jensen and Murphy, 1990 and Gregg et al., 2011 and Perry and Zenner, 2001). Research on the pay for performance sensitivity the banking industry in continental Europe and the rest of the world is less extensive. According the agency theory, shareholders try to tie executive compensation with firm financial performance in order to align their incentives. Such alignment of incentives would be positive from a shareholders' perspective, as the upward potential of rewards is unlimited and the risks taken are limited by the investment in the firm. As a consequence, the shareholders like the CEO to take risks for the firm. In the banking industry, an industry with a central position in society, this might not be a desirable effect. When managers take excessive risks it can possibly result in bankruptcy, which is particularly problematic for society as it is the people with saving accounts at the bank that lose their money. So in case it goes wrong, the unsuspecting victims are the people with saving accounts. This is known as the risk-shifting problem, as the risks are borne by the debtholders while the shareholders get the benefits.

[1] It should be cited that the principal and the agent are proxies for possibly high numbers of similar shareholders and managers with conflicting interests.

I test whether there is a positive relation between CEOs compensation and firm financial performance. Next to this hypothesis, I test whether there is higher pay for performance sensitivity in countries with high disclosure transparency than in countries with less disclosure transparency. An explanation for this hypothesis is the better monitoring position of stakeholders. Relating pay to performance is easier in a country with more financial transparency. The third hypothesis tested in this study is whether dispersed ownership in the banking industry is accompanied by higher pay for performance sensitivity, while banks with dispersed ownership would have better monitoring by e.g. the government.

The compensation data to test the hypotheses is collected manually from the annual reports. Other accounting information is collected from the Bankscope database. The methodology used to test these hypotheses is as follows. A model is composed to test the pay for performance sensitivity. This model has CEO compensation as dependent variable, the CEO compensation in this study comprises of base salary, bonus pay and other annual compensation. The part of total compensation that arguably is most strongly related to financial performance is bonus compensation. In additional analysis I therefore focus solely on this part of pay. The proxies used for financial performance of the firm are ROA and annual stock return. In the analysis I control for other variables besides financial performance indicators which have been identified to explain CEO pay.

The results indicate that ROA has a significant positive effect on total compensation of the banks' CEO; indicating a positive relationship between pay and performance of the CEO. Further analysis reveal that this positive pay for performance sensitivity is likely to be driven by countries with higher financial transparency. Firms from countries with less transparency do not have a significant pay for performance sensitivity. Ownership structure does not appear to have a significant influence on the pay for performance sensitivity. Compensation of top executives in the banking industry has often been criticized (e.g. by Bebchuk and Fried, 2004). The contribution of this study is the indication of a positive relationship, especially at firms in countries which are considered to be more transparent, between firm financial performance and the CEO compensation. This finding might partly encounter the arguments of Bebchuk and Fried (2004) that state CEO compensation has little to do with aligning shareholders and top executives interests.

Theoretical background and hypotheses

The goal of this study is to examine whether there exists a relation between CEO compensation and firm financial performance. A relation between CEO compensation and firm financial performance can be expected when ownership and control of a firm are separated and principal-agent problems arise. Principal-agent problems arise when there is information asymmetry between the principal and the agent. This information asymmetry comes from the inability of the principal to monitor the actions taken by the agent. The interests of the principal and the agent need not be the same; the agent can have personal goals that interfere with the goals set by the principal. As the principal-agent theory suggests, the agent will try to maximize its own profits and utility, which may be harmful to the principal. This is called a moral hazard problem. The executive can try to do so as he has an information advantage over the principal. To prevent the agent from taking undesired actions from the principals' perspective, contracts are set in order to align the interests of the agent with those of the principal. The aim of performance-based compensation is to provide the agent extra incentives to, for example, maximize firm profits and thus principals' wealth. This alignment is established with the intention to protect shareholders from undesired behavior by managers.

These principal-agent problems therefore do have a positive effect on the pay for performance sensitivity of the CEO. In case a positive relationship between CEO compensation and firm financial performance is found, shareholders might benefit as incentives of the shareholders and top executives are arguably better aligned. The principal-agent theory hypothesizes that the compensation contracts of top executives should be based on observable performance indicators in order to maximize firm value. Therefore a positive link between CEO compensation and firm financial performance can be expected (Doucouliagos, 2007). A strong relation between firm financial performance and CEO compensation can indicate that the incentives of the principal and agent are aligned. This relationship is positive from a shareholders' perspective, but this might be undesirable from other stakeholders' perspectives as explained by the risk-shifting problem. The risk-shifting problem argues that the risks are borne by a party that does not yield the benefits of the risks.

The banking industry is often specifically left out in research because of the banks' unique balance sheet and claim structure. This structure might give rise to the risk-shifting problem between shareholders and debtholders. Basically management, on behalf of the shareholders, can take excessive risks in order to meet its high-set targets while they do not bear all risks. Creditors, in case of the banking industry often people with savings accounts, provide capital to the banks at a certain rate of return. This rate is partly related to the level of expected riskiness of their investment, the securing of their savings. Banks however will try to invest in risky projects as these projects can possibly lead to higher rates of return and therefore to higher profits. An important factor is that banks have high debt ratios, sometimes up to ninety percent. Also important is that firms in the banking industry have significant different transactions than firms in other industries. Unlike in other industries, debtholders of banks are many small parties; this makes it harder for this group to monitor the banks well (Webb, 2008). Managers could choose to take excessive risks for the firm, at the expense of debtholders so at the expense of people with saving accounts, in order to get possibly higher returns, with limited risks for themselves. The risks are for the greatest part borne by the debtholders while the shareholders get the benefits (John and Qian, 2003).
Because of the weak monitoring of banks by debtholders and the central position of banks in society, regulators have incentives to monitor the banking industry (John et al., 2007 and John et al., 2010). Moreover, in case banks appear to fail, despite the monitoring, authorities may choose to save banks because they are 'too big to fail' (Gropp, 2004 and Stern, 2004). This deposit insurance for debtholders is a main difference with other industries (Mulbert, 2010). John and Qian (2003) find evidence that the pay for performance sensitivity in the banking industry is lower than in other industries in the US. A theory on how an optimal executive compensation structure is derived for highly levered firms states it has to have low pay for performance sensitivity in order to control for risk-shifting incentives of executives on behalf of the shareholders. Chourou et al. (2007) support the idea that less pay for performance sensitivity should be expected due to the heavy regulation in the sector, as fewer incentives are needed to motivate top executives.

Due to the risk-shifting problem it is not certain there will be a positive relation between CEO pay and firm financial performance. There will be a tradeoff between the principal-agent problem and the risk-shifting problem. The first problem can be solved by aligning the interests of the shareholders and management. However, when their interests are aligned, the risk-shifting problem might arise as managers will possibly have incentives to take excessive risks to maximize firm value, which can be at the expense of debtholders.

According to Schaefer (2008) the larger the firm, the bigger the variance of shareholders' wealth is. Therefore, if pay of the CEO is tied to annual stock return, the risk for a CEO of a larger firm to miss a target

is greater. This implicates it would be costly for a large firm to set highly sensitive incentives in the compensation contract because the CEO needs to be compensated for this greater 'variance in shareholders' wealth'-risk. This is a reasonable explanation for the finding of Schaefer (2008). He found a negative relationship between firm size and pay for performance sensitivity. An alternative explanation for this inverse relationship might be that, if the assumption that larger firms have larger executive teams holds, the CEO represents a smaller part of the team and therefore has smaller influence on firm financial performance.

Many firms use incentive-systems which reward top executives with large bonuses if targets are met. These incentive systems thus give incentives for the top executives to act opportunistically and to take risks; they will be rewarded with bonuses in case of positive results and in the worst case getting fired when results are negative (Crotty, 2009). Thompson (2005) supports the critics while some of the less performing CEOs received substantial pay-offs as well. This leads to the following phrase: "Heads they win, tails they win as well". For example in the banking industry in the United States, many firms gave out incentive packages to encourage loan-managers to increase effort (i.e. underwrite more loans) in order to report higher profits. Besides higher accounting profits, these incentives encouraged giving loans to unqualified borrowers as well. These short-term incentive packages for top executives at banks, together with greed of these top executives are seen as a major cause of the financial crisis (Agarwal, 2007). Alan Blinder agrees as he writes in the Wall Street Journal (May 28, 2009): *"Despite the vast outpouring of commentary and outrage over the financial crisis, one of its most fundamental causes has received surprisingly little attention. I refer to the perverse incentives built into the compensation plans of many financial firms, incentives that encourage excessive risk-taking with OPM -- Other People's Money".*

Based on previous research it is not clear what relationship between firm financial performance and executive remuneration can be expected in the banking industry. One might expect a positive relationship in case shareholders are able to exert more power over the contract negations with the CEO in order to align the incentives of the CEO and the interests of the shareholders. On the other hand no significant relationship between pay and performance might be expected in case debtholders are better protected. In this study I expect shareholders to exert more influence over the remuneration policy of firms, leading to the expectation of a positive relationship.

> *Hypothesis 1: There is a positive relation between CEO pay and firm financial performance in the banking industry.*

Next to differences between Europe and the US, there are also differences between countries within Europe. Roughly there are two groups in Europe with respect to disclosure of executive pay in the financial statements. On the one hand there is a group of member countries which tries to give optimum transparency about executive compensation in their financial statements; these are for example the UK, Ireland and the Netherlands. On the other hand there is a bigger group which consists of member countries which have a more reluctant attitude in reporting executive compensation in their financial statements, this group consists of for example Spain, Portugal and Greece. However, these countries also move to a more transparent reporting of executive remuneration, as is set in the "Executive Remuneration Recommendation" of October 2004 (Ferrarini and Moloney, 2005). These developments should make it easier to gain information about executive compensation and firm ownership in EU member states. From the 2004 Recommendation onwards, countries in the EU have adjusted their corporate governance in order

to align the interests of executives and shareholders. However, there still appear to be significant differences between the regulatory regimes within the EU. Despite the intentions of the European Commission, only a disappointingly low number of EU countries implemented the 2004 Recommendation. Therefore, the European Commission recommended a shareholder vote for the remuneration policy in 2007. New codes in different countries were implemented following these new recommendations, for example in the Netherlands and Sweden firms require to submit the remuneration policy for approval to the general meeting ex ante, such that shareholders have their influence in the remuneration process. Comparable actions are undertaken by Spain and Germany (Ferrarini, 2010).

For the second hypothesis the sample can be divided in two groups of countries, with one group of countries with in general high financial reporting transparency and the other group with in general countries with low financial reporting transparency. This division is based on studies about financial reporting transparency of Bellver and Kaufmann (2005) and Drabek and Payne (2002). In these studies countries are ranked based on their institutional and political transparency. When firms have high financial reporting transparency, it is easier to tie pay to performance. Also stakeholders can relatively easy monitor the financial activities and transactions of a firm with high financial reporting transparency, which will arguably give more incentives to link CEO pay to firm financial performance. This leads us to the following hypothesis.

> *Hypothesis 2: Banks in countries with high financial reporting transparency have a higher pay for performance sensitivity than banks in countries with low financial reporting transparency.*

Jiang et al. (2009) find in New Zealand, a country in which listed companies have a very poor pay for performance relationship, an important role for large blockholders to explain the poor pay for performance sensitivity. They point at the managerial entrenchment hypothesis. This theory originates from the 1980s, a period in which hostile takeovers of firms were common. By the end of the 1980s, companies got very sophisticated in defending themselves against these takeovers. Managers are, according this theory, highly motivated to exert antitakeover effort in order to keep their jobs, rather than they are motivated to increase shareholders' wealth. Research showed that firms with dispersed ownership are better represented in countries with better shareholder protection (i.e. common law countries) than in countries with low shareholder protection (i.e. civil law countries). The representation of dispersed owned firms in these countries is, according to La Porta et al. (1999), 48% and 27% respectively. This finding implies a relationship between dispersed ownership and shareholder protection (La Porta et al, 2002 and Busta, 2009). Combining this with the findings of Jiang et al. (2009) that blockholder ownership explained poor pay for performance sensitivity in New Zealand, one might expect firms with dispersed ownership to have better pay for performance sensitivity than firms with blockholder ownership.

In the UK, France, Germany and Italy, the occurrence of dispersed ownership across the twenty largest listed companies in these countries is 100%, 60%, 50% and 20% respectively. When firms have dispersed ownership, there is not a single shareholder holding more than 20% of the shares (Enriques and Volpin, 2007). A trend in the ownership structure of banks in the EU is a growing number of foreign and institutional investors (ECB, 2008). A consequence of this trend is a decrease in the principal-agent problem between managers and shareholders due to greater monitoring incentives and monitoring ability of institutional investors. These investors are arguably less averse against possible takeovers, which will increase the efficiency of the market mechanism in the banking industry. However, another type of agency problem may arise. In case of blockholder ownership, the agency problems can occur between the blockholder and the

minority shareholders. As the blockholders have incentives to maximize their own profits at the expense of the smaller shareholders who do not have the ability to monitor for that behavior (Kohler, 2009).

In the period before the "Executive Remuneration Recommendation" was recommended in 2004, Ferrarini (2005) found a relationship between director remuneration structures and regulation, as well as a relationship between directors' remuneration and ownership regimes. He found that regulation of directors' remuneration is relatively simple at blockholder regimes and regulation for a dispersed ownership regime seemed to have a much closer focus on the remuneration policy. Faccio and Lang (2002) reported that, based on a sample of over 5000 publicly traded firms in thirteen western European countries, over 60 percent of the firms had blockholder ownership. Thomsen et al. (2005) find a negative correlation between blockholder ownership and firm value, as well as he found a negative relationship between blockholder ownership and accounting returns in continental Europe for a sample of firms in the 1990-1998 period. On the other hand, Iannotta et al. (2007) find no significant difference in profitability between blockholder and dispersed ownership in large banks in fifteen European countries over the 1999-2004 period.

Differences between blockholder and dispersed ownership might lead to differences in the way banks compensate their top executives. Shareholders might benefit more when pay of executives is linked to firm financial performance, while a stronger relationship between pay and performance aligns their interests more with the interests of top executives. Dispersed ownership tends to be more common in countries with strong shareholder protection and Jiang (2009) find blockholder ownership to be the cause of little pay for performance sensitivity in New Zealand. Therefore I will investigate whether dispersed ownership of a firm, independent in what country the firm is operating, leads to higher pay for performance sensitivity. The third hypothesis is as follows.

> *Hypothesis 3: Dispersed ownership in the banking industry leads to a better link between pay and performance than blockholder ownership does.*

Research method

The methodology which is used in this study is as follows. All information with respect to top executive compensation has been manually derived from banks' annual reports. Information about firm financial performance is derived from the Bankscope database. A model has been constructed to test whether executive pay is related to firm financial performance.

The equations used for the hypotheses are as follows.

(H1) LN total compensation / LN bonus compensation = $\alpha_0 + \beta_1$ ROA + β_2 return on annual stock +β_3 LN total assets + β_4 leverage + β_5 BM + β_6 BM*return + β_7 ownership + β_8 LN board of directors + β_9 LN independent directors + ε

(H2) LN total compensation / LN bonus compensation = $\alpha_0 + \beta_1$ ROA + β_2 return on annual stock +β_3 LN total assets + β_4 leverage + β_5 BM + β_6 ownership + β_7 LN independent directors + ε

(H3) LN total compensation / LN bonus compensation = $\alpha_0 + \beta_1$ ROA + β_2 return on annual stock +β_3 LN total assets + β_4 leverage + β_5 BM + β_6 BM*return + β_7 ownership + β_8 LN board of directors + β_9 LN independent directors + β_{10} ownership*ROA + β_{11} ownership*return on annual stock + ε

In each equation dummy variables to control for country fixed effects are added.

The dependent variable to test the hypotheses is the natural logarithm (LN) of total compensation of the CEO. Total compensation in this study consists of a base salary, bonuses and other (annual) compensation. For each bank in the sample I collected the remuneration data from the annual reports. Stock based compensation is omitted from the dependent variable total compensation in this study, due to difficulties valuing this type of compensation. Next to the LN of total compensation, another dependent variable which is used to test the hypotheses is the LN of bonus pay of the CEO. Bonus pay is the variable part of compensation and would arguably be the most related to firm financial performance. The variables used to measure firm financial performance are return on operating assets (ROA) and return on annual stock. ROA is an (accounting) performance indicator, i.e. it is calculated as net income divided by total assets. According to Shaw and Zhang (2010), a positive effect of this performance indicator can be expected. Return on annual stock on the other hand reflects the direct benefits (or losses) of the shareholders during the year, as regards their share holding. This variable is calculated as the value of the adjusted share price at the end of the year minus the adjusted share price at the beginning of the year, where this outcome is divided by the adjusted share price at the beginning of the year. Stock-based compensation is introduced to align the interests of the CEO with the interests of the shareholders. However, this part of compensation is excluded from this study due to valuation difficulties. Therefore it is uncertain what to expect from this performance indicator. Previous research has shown that a positive relation exists between firm size and disclosure because shareholders have greater incentives to monitor a bigger firm (Hope, 2003). The variable which is normally used to control for firm size is revenue. However, according to Gregg et al. (2011), revenue in the banking industry understates the firm size. Therefore, like Gregg et al. (2011) I will use total assets to control for effects of firm size to the pay for performance sensitivity. The variable leverage is set as long term debt divided by total assets. Leverage should control for effects from the amount of long term debt to the pay for performance sensitivity. Book to market ratio (BM) compares the company's book value of net assets per share with the share price of the firm. This variable has to control for possible effects on the pay for performance sensitivity of the under- or overvaluation of the bank by investors. "BM * return on annual stock" is used to control for the market value of the return to shareholders. I expect ownership to have its influence in the pay for performance sensitivity of compensation of top executives. In this study only distinction between blockholder and dispersed ownership has been made. In case of blockholder ownership, i.e. one shareholder holding more than twenty percent of the shares, it gets a 0, in case of dispersed ownership the variable gets a 1. Some corporate governance variables are added to the model as well, which would be the board size and the number of independent directors in it. Research by Ozkan (2007) has shown that firms with a larger board of directors compensate their CEOs with higher amounts. However, Yermack (1996) found higher market valuations for firms with smaller boards. To control for country specific effects on CEO compensation, dummy variables of the countries are added to the model.
To test whether pay for performance sensitivity is related to financial reporting transparency, the sample is divided in a group of firms in countries considered to have high financial reporting transparency and a group of firms in countries considered to have less financial reporting transparency. As stated in hypothesis 3, I expect to find dispersed ownership having a positive impact in the pay for performance sensitivity of CEOs at

banks. To test this hypothesis two variables, which represent the interaction of ownership and performance, are added to the model of the first hypothesis.

The aim of this empirical research is to determine whether there is a relationship between top executive remuneration and firm financial performance in the banking industry for the 2005-2009 period. Data concerning executive compensation and ownership structure are obtained by analyzing annual reports of the 2005-2009 period of firms in the banking industry. Data concerning firm financial performance is derived from the Bankscope database. Only banks of which all compensation information has been found are in the final sample. This left 158 observations of total compensation of the CEO and 99 observations of CEO bonus compensation in banks spread over nine different countries.

Empirical results

Table 1 *Descriptive statistics*

Variable	N	Mean	Std. Deviation	Minimum	Median	Maximum
ROA	186	2,0518	4,33270	-6,71	,9700	22,44
Annualstockreturn	162	,1042	,55756	-,95	,0783	1,89
LNtotalassets	186	17,4765	2,25244	12,19	17,8213	21,45
Leverage	186	,1243	,14061	,00	,0564	,64
BM	185	,9603	,93219	,00	,6634	7,30
BMreturn	186	-,0454	,74663	-4,05	,0000	3,81
Ownership	186	,32	,467	0	,00	1
LNnrofdirectors	186	2,5137	,33853	1,79	2,4849	3,22
LNnrindepdirectors	182	1,8358	,43588	,69	1,7918	2,71
Belgium	186	,0914	,28895	,00	,0000	1,00
Norway	186	,1022	,30366	,00	,0000	1,00
Sweden	186	,1989	,40027	,00	,0000	1,00
France	186	,1075	,31062	,00	,0000	1,00
Austria	186	,0269	,16217	,00	,0000	1,00
Canada	186	,0269	,16217	,00	,0000	1,00
India	186	,0753	,26454	,00	,0000	1,00
SouthAfrica	186	,2366	,42612	,00	,0000	1,00
Malaysia	186	,1344	,34201	,00	,0000	1,00
Ownershiproa	186	,5117	2,09401	-,59	,0000	22,44
Ownershipstockreturn	186	,0103	,20565	-,81	,0000	,85

In table 1 the descriptive statistics are presented. The performance indicators ROA and returns on annual stock show numbers from little negative up to larger positive numbers, the means of both variables are slightly positive. The medians are little below the means which indicates there are some high observations compared to the rest of the sample, as is indicated by the relative high maximum and standard deviation of ROA. This variable seems to be skewed to the right. The natural logarithm of total assets, the variable that is added to control for differences in firm size, seems to be normally distributed. Leverage has a relative high maximum observation; this seems to be an outlier relative to the other observations. The overall leverage

ratios indicate that the amount of long term debt related to total assets is not so high at the firms in the sample. The mean of the book to market ratio indicates that on average the book value is quite similar to the market value of the net assets of the firm. The median and maximum on the other hand indicate that the book to market ratio is skewed to the right. The interacted variable book to market times annual stock return seems to be normally distributed round zero. The ownership variable indicates that one-third of the observations are from firms with dispersed ownership, two-thirds come from blockholder owned firms. The natural logarithms of the number of directors are normally distributed. Data from banks of South Africa and Sweden are best represented in the sample. The interacted variable of ownership and ROA is strongly skewed to the right, interaction between ownership and annual stock return appears to be normally distributed round zero. Due to missing data, there are 158 valid observations for the multivariate analysis.

Table 2a *Correlations in total compensation model*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	1,000											
(2)	,032	1,000										
(3)	,004	**,105**	1,000									
(4)	**,460**	**-,434**	**-,112**	1,000								
(5)	,001	**-,104**	-,095	**,292**	1,000							
(6)	-,052	-,035	**-,272**	-,007	,024	1,000						
(7)	-,026	,051	**,769**	-,058	-,078	**-,389**	1,000					
(8)	**,214**	-,083	-,090	**,220**	**,318**	-,072	-,035	1,000				
(9)	**,512**	**-,137**	-,042	**,692**	,050	-,045	-,008	,003	1,000			
(10)	**,443**	**-,221**	,033	**,318**	,036	**-,191**	,028	**,312**	**,399**	1,000		
(11)	,002	**,366**	,024	**-,163**	,072	-,061	,028	**,358**	-,043	,028	1,000	
(12)	,062	,057	**,391**	-,018	,031	**-,154**	**,363**	,074	,022	-,001	**,166**	1,000

Table 2b *Correlations in bonus compensation model*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	1,000											
(2)	,017	1,000										
(3)	-,061	,127	1,000									
(4)	**,433**	**-,511**	**-,210**	1,000								
(5)	-,059	-,015	-,087	**,308**	1,000							
(6)	,035	-,015	**-,319**	-,057	-,061	1,000						
(7)	-,023	,092	**,714**	**-,178**	-,088	**-,516**	1,000					
(8)	**,136**	-,041	-,044	**,235**	**,271**	**-,177**	,072	1,000				
(9)	**,535**	**-,260**	-,095	**,755**	**,214**	-,051	-,045	,056	1,000			
(10)	**,346**	**-,297**	,057	**,436**	,033	**-,157**	,130	**,307**	**,508**	1,000		
(11)	,037	**,437**	,028	**-,164**	,105	-,056	,063	**,415**	-,053	-,013	1,000	
(12)	,062	,076	**,274**	-,058	**,159**	-,108	**,189**	**,225**	,006	,035	**,248**	1,000

(1) Lntotalcompensation / LnBonus
(2) ROA
(3) Annualstockreturn
(4) Lntotalassets
(5) leverage
(6) BM
(7) BMreturn
(8) Ownership
(9) LNnrdirectors
(10) LNindepdirectors
(11) Ownershiproa
(12) Ownershipstockreturn

Interesting to see is the small correlation between the performance indicators and CEO compensation. There is only a small positive but far from significant correlation between ROA and CEO compensation. Consequently, this table alone suggests that no evidence to confirm the first hypothesis exists. Previous research indicated that the size of the firm has a positive effect on the height of CEO compensation, while being a CEO of a bigger firm entails bigger responsibilities that have to be compensated. This table confirms that finding. Leverage has, based on these tables, no significant correlation with CEO compensation. Previous research indicated that the more levered the firm is, the less the pay for performance sensitivity would be, as there is a greater risk for risk-shifting incentives. However, no evidence concerning leverage and pay for performance sensitivity is found in table 2. The book to market ratio and its interactive variable with annual stock return do not have significant correlations with CEO compensation either. The kind of ownership does on the other hand seem to have its influence on compensation. Dispersed ownership appears to have a positive effect on the amount of CEO compensation. As found in previous research, the number of (independent) directors in the board appears to be positively correlated with the amount of CEO compensation. The kind of ownership interacted with both firm financial performance indicators are not significantly correlated to compensation based on these tables. None of the correlations appear to be problematic with respect to the models used in the analysis. The only correlations that are near the rejection area of 0,8 are between annual stock return and the interactive variable between that variable and book to market ratio as well as the correlation between the LN of the number of directors and the LN of total assets. The first one can be explained while both the variables contain the annual stock return. The strong correlation between the size of the board and firm size could be explained by the fact that usually the size of the board of the directors is an indicator of the size of the firm. With respect to the second hypothesis, the interactive variable BMreturn and the LN of the number of directors are omitted from the model due to too high correlation in those models.

Table 3 *Regressions for H1*

	(1) LN Bonus Compensation CEO		(1) LN Total Compensation CEO	
Intercept	2,482	**	2,738	***
	1,067		0,846	
ROA	0,021		0,44	***
	0,019		0,015	
Annualstockreturn	0		0,099	
	0,153		0,142	
Lntotalassets	0,182	***	0,166	***
	0,061		0,046	
Leverage	-1,855	***	-1,124	**
	0,563		0,453	
BM	-0,059		-0,027	
	0,081		0,064	
Bmreturn	-0,014		-0,103	
	0,14		0,106	
Ownership	0,236		0,056	
	0,178		0,14	
Lnnrofdirectors	0,515		0,312	
	0,599		0,398	
LNnrofindependentdirectors	-0,239		0,449	**
	0,331		0,227	
Belgium (Base country)				
Norway	-1,052	**	-0,504	
	0,529		0,41	
Sweden	-0,637		-0,308	
	0,442		0,35	
France	-0,716	**	-0,68	***
	0,349		0,258	
Austria	1,075	*	0,28	
	0,589		0,475	
Canada	0,097		0,564	
	0,592		0,457	
India	-1,912	***	-1,582	***
	0,432		0,368	
South Africa	0,04		-0,423	
	0,339		0,28	
Malaysia	-1,146	***	-0,838	**
	0,403		0,326	
Adjusted R Squared	0,674		0,557	
N	99		158	
Model significance	F=12,901	***	F=12,635	***

***, **, * are statistically significant at the 1%, 5% and 10% levels, respectively

Appendix 1 contains explanations of variables used in regression model.

Results from testing the relation between firm financial performance and total compensation of the CEO show a significant positive correlation. ROA does have a highly significant positive effect on total compensation of the CEO. This finding proofs the first hypothesis to be true.

Variable compensation (i.e. bonuses) on the other hand can arguably be expected to be even more related to firm financial performance. This variable part of compensation gives more incentives to top executives to exert their effort to maximize firm profit and therefore shareholder value. However, the results from the model with bonus pay as the dependent variable do not show a significant positive effect of the performance indicators to the height of bonuses. Neither ROA nor shareholders return has a significant influence on CEO bonus compensation. As a consequence the first hypothesis, where is argued that I expect to find a positive relation between CEO compensation and firm financial performance, seems not to be supported by the data concerning variable pay.

As previous research showed, firm size, as proxied by the natural logarithm of total assets, has a significant positive effect on the height of CEOs bonus and CEOs total compensation. This positive relation can be arguably caused by the higher responsibilities of the CEO in a bigger firm. As the more responsibilities the CEO has, the better he has to be compensated. Leverage in turn is significantly negatively related to the amount of variable compensation as well as to total compensation. The book to market ratio, the interactive variable of the book to market ratio and annual stock return and the number of directors seem to be insignificantly related to CEO compensation. The numbers of independent directors in the board however turn out to have a significant positive effect on total compensation of the CEO. This can arguably be attributed to the use that the bigger the firm, the more directors the firm will have. This makes it likely that a bigger firm will also have more independent directors. Furthermore, based on the results, there appear to be differences in compensation between the different countries in the sample.

Table 4 *Regressions for H2 with respect to the transparent sample*

	(2) LN Bonus Compensation CEO		(2) LN Total Compensation CEO	
Intercept	2,746	**	3,482	***
	1,307		0,765	
ROA	0,027		0,072	***
	0,072		0,02	
Annualstockreturn	-0,042		-0,062	
	0,184		0,104	
Lntotalassets	0,173	*	0,14	***
	0,094		0,046	
Leverage	-1,444		-0,116	
	1,151		0,591	
BM	-0,071		0	
	0,198		0,088	
Ownership	-0,304		-0,297	*
	0,329		0,17	
LNnrofindependentdirectors	0,679		0,79	**
	0,637		0,336	
Belgium				
Norway	-1,633	***	-0,839	***
	0,473		0,311	
Sweden	-1,099	**	-0,534	**
	0,413		0,261	
France	-0,77	*	-0,679	***
	0,423		0,235	
Austria	-0,016		-0,176	
	0,729		0,472	
Canada	-0,478		0,602	
	0,778		0,475	
Adjusted R Squared	0,573		0,561	
N	49		86	
Model significance	F=6,368	***	F=10,047	***

***, **, * are statistically significant at the 1%, 5% and 10% levels, respectively

Appendix 1 contains explanations of variables used in regression model.

As is concluded based on table 3, there is a significant positive relation between CEOs total compensation and firm financial performance. Based on tables 4 and 5, it appears to be that the countries which belong to the transparent group of the sample have great influence on the overall significant positive pay for performance sensitivity. Performance indicator ROA has a significant positive effect on total compensation in this group. The performance indicators of the firms in the countries belonging to the less financial reporting transparent group on the other hand do not appear to have significant influence on total compensation of the CEO. This is in line with the expectation that in firms which have high financial reporting transparency it is easier to tie pay to firm financial performance. It also makes these firms to be easier to monitor by stakeholders as more information is available.

Table 5 *Regressions for H2 with respect to the less transparent sample*

	(2) LN Bonus Compensation CEO		(2) LN Total Compensation CEO	
Intercept	0,541		1,115	
	1,202		1,311	
ROA	0,022		0,032	
	0,02		0,022	
Annualstockreturn	0,064		0,164	
	0,166		0,189	
Lntotalassets	0,253	***	0,21	**
	0,074		0,084	
Leverage	-1,592	**	-1,778	**
	0,666		0,854	
BM	-0,049		0,024	
	0,083		0,096	
Ownership	0,395	**	0,42	*
	0,183		0,219	
LNnrofindependentdirectors	-0,186		0,486	*
	0,269		0,284	
India				
South Africa	1,983	***	1,169	***
	0,221		0,254	
Malaysia	0,736	**	0,683	**
	0,293		0,303	
Adjusted R Squared	0,769		0,558	
N	50		72	
Model significance	F=19,115	***	F=10,950	***

***, **, * are statistically significant at the 1%, 5% and 10% levels, respectively

Appendix 1 contains explanations of variables used in regression model.

Another notable finding is that the height of compensation in the transparent countries is significantly higher than in the less transparent countries. This is likely to be driven by the higher cost of living in the more transparent countries. Firm size turns out to have a positive impact on (variable) compensation of the CEO in both groups. Leverage on the other hand has only a significant negative relation with (variable) CEO compensation in the less transparent group. Book to market ratio has no clear relation with compensation. A noteworthy finding is the significant positive impact of dispersed ownership to the heights of both variable and total compensation of the CEO in the less transparent group, where on the other hand dispersed ownership has a slightly significant negative relation with total CEO compensation in the transparent group. This finding might possibly indicate that dispersed owners in transparent countries have better protection than dispersed owners in less transparent countries have. The number of independent directors seems to be positively related to the total compensation of CEOs in both the transparent as the less transparent group.

Table 6 *Regressions for H3*

	(3) LN Bonus Compensation CEO		(3) LN Total Compensation CEO	
Intercept	2,421	**	2,758	***
	1,085		0,849	
ROA	0,025		0,047	***
	0,021		0,015	
Annualstockreturn	-0,013		0,06	
	0,16		0,145	
Lntotalassets	0,177	***	0,163	***
	0,064		0,047	
Leverage	-1,911	***	-1,17	**
	0,582		0,455	
BM	-0,056		0,076	
	0,083		0,159	
Bmreturn	-0,01		-0,115	
	0,142		0,107	
Ownership	0,274		0,076	
	0,213		0,159	
Lnnrofdirectors	0,564		0,323	
	0,624		0,406	
LNnrofindependentdirectors	-0,239		0,46	**
	0,338		0,229	
Belgium (Base country)				
Norway	-1,019	*	-0,479	
	0,542		0,414	
Sweden	-0,615		-0,309	
	0,452		0,355	
France	-0,689	*	-0,666	**
	0,358		0,263	
Austria	1,11	*	0,283	
	0,611		0,486	
Canada	0,067		0,541	
	0,607		0,458	
India	-1,89	***	-1,578	***
	0,442		0,374	
South Africa	0,04		-0,43	
	0,345		0,285	
Malaysia	-1,12	***	-0,841	**
	0,416		0,335	
OwnershipRoa	-0,015		-0,02	
	0,032		0,031	
Ownershipstockreturn	0,134		0,314	
	0,398		0,246	
Adjusted R Squared	0,667		0,557	
N	99		158	
Model significance	F=11,314	***	F=11,399	***

***, **, * are statistically significant at the 1%, 5% and 10% levels, respectively

Appendix 1 contains explanations of variables used in regression model.

To test the third hypothesis there are two interacting variables added to the model of the first hypothesis. Interaction between the kind of ownership and the performance indicators should help to find differences in the pay for performance sensitivity of the CEO due to differences in ownership structure. The addition of these interacting variables has no significant impact on the results from the first model. ROA still has a significant positive effect on executive pay. The added interactive variables do not seem to significantly affect the bonus or total compensation of the CEO. Despite research of Thomsen et al. (2006), who found that dispersed ownership had higher pay for performance sensitivity than blockholder ownership, the data in this study does not show that ownership does have significant influence on the pay for performance sensitivity in the total sample. Therefore this hypothesis cannot be accepted. In this study distinction has only been made between dispersed and blockholder ownership, indifferent in what country the bank is situated. The results seem to indicate that I cannot conclude that dispersed ownership does have better pay for performance sensitivity than blockholder ownership per se.

Conclusion

In this study I test whether there is a relation between firm financial performance and CEO compensation in the banking industry using 2005 – 2009 data of banks from nine different countries. The principal-agent problem is an important theory to start from when composing a contract for the CEO of the firm. The incentives of the shareholders and the CEO should arguably be tried to get aligned. However the pay for performance sensitivity may not be too high, while, which is especially problematic in the banking industry with its high leverage, this can induce the risk shifting problem whereby the risks shift from shareholders to debtholders. This makes it interesting to test whether there is a positive relationship between firm financial performance and CEO compensation. I run a regression with ROA and annual stock return as performance indicators and a number of control variables. I find a significant positive relation between total compensation of the CEO and firm financial performance. This finding is consistent with our first hypothesis. While the sample consists of data from different countries, differentiation between the countries can be made. Some countries can be considered to be transparent in the sense of financial reporting and others are considered to be less transparent. An important difference between the two groups is found in the monitoring abilities of the banks' stakeholders. I investigate whether the pay for performance sensitivity of CEOs in so called transparent countries is higher than in so called less transparent countries. The sample is divided in two groups and a regression is run on both groups apart. The results are clear; the transparent group in the sample has a significant positive pay for performance sensitivity as regards to total CEO compensation as the less transparent group has not. This is in line with the second hypothesis as this finding corresponds to the expectation that firms which have high financial reporting transparency have better abilities to tie CEO compensation to firm financial performance as well as it is easier for stakeholders to monitor these firms. Firms appear to face different problems due to their ownership structure. As there are dispersed and blockholder ownership structures. When a firm has dispersed ownership, not a single shareholder has more than twenty percent of the shares in its possession. In dispersed owned firms agency problems arise between the shareholders and top executives. However, dispersed owned firms appear to be better represented in countries with good shareholder protection. Blockholder ownership gives rise to agency problems between the blockholder and minority shareholders. I investigate whether dispersed ownership leads to better pay for performance sensitivity due to the better shareholder protection by adding interactive variables of the ownership structures with the performance indicators. These results however do not show significant evidence to support the hypothesis.

To conclude, there is a significant positive relation between total compensation of CEOs and financial performance of firms in the banking industry. This positive relation appears to be mainly driven by banks in the more transparent countries. Banks in the less transparent countries do not have a significant pay for performance sensitivity and ownership structure does not seem to have a significant effect on the pay for performance sensitivity.

In this study, CEO compensation consists of a base salary, an eventual bonus and other non-incentive compensation. CEO compensation on the other hand can also contain stock-based elements as stock options and restricted shares. These stock-based compensations are instruments to align long term interests of managers and shareholders. Due to lack of data availability, this type of compensation is not incorporated in this study. This would arguably not be problematic in this study, as according to Chourou (2007) less stock based compensation is used in the banking industry due to strong regulation. Bonus compensation gives incentives to perform better as the bonus amount will vary with firm financial performance.

For future research it can be interesting to see what the results will be when values of stock-based compensation of CEOs can be gathered and valued properly of banks all around the world. This can make the research more complete and it can possibly provide more convincing results.

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Appendix 1 – *Variables used*

Variable	Explanation	Source
ROA	Return on Assets, performance indicator. Calculated as net income divided by total assets	Bankscope
Annualstockreturn	Return per share, performance indicator. Calculated as the value of the adjusted share price at the end of the year minus the adjusted share price at the beginning of the year, where this outcome is divided by the adjusted share price at the beginning of the year.	Bankscope
Lntotalassets	Logarithm of total assets to control for firm size	Bankscope
Leverage	Long term debt divided by total assets	Bankscope
BM	Book to market ratio. compares the company's book value of net assets per share with the share price of the firm. This variable has to control for possible effects on the pay for performance sensitivity of the under- or overvaluation of the bank by investors	Bankscope
Bmreturn	Book to market ratio multiplied with shareholder return	
Ownership	Dummy variable; 1 when dispersed ownership, 0 when blockholder ownership.	Annual Report
Lnnrofdirectors	Logarithm of the number of people in the board of directors	Annual Report
LNnrofindependentdirectors	Logarithm of the number of independent directors in the board	Annual Report
Belgium (Base country)	Base country	
Norway	Dummy variable, 1 when data is related to a firm in Norway, 0 otherwise	
Sweden	Dummy variable, 1 when data is related to a firm in Sweden, 0 otherwise	
France	Dummy variable, 1 when data is related to a firm in France, 0 otherwise	
Austria	Dummy variable, 1 when data is related to a firm in Austria, 0 otherwise	
Canada	Dummy variable, 1 when data is related to a firm in Canada, 0 otherwise	
India	Dummy variable, 1 when data is related to a firm in India, 0 otherwise	
South Africa	Dummy variable, 1 when data is related to a firm in South Africa 0 otherwise	
Malaysia	Dummy variable, 1 when data is related to a firm in Malaysia, 0 otherwise	
OwnershipRoa	Ownership structure dummy multiplied with ROA to control for interaction between ownership and performance indicator	
Ownershipstockreturn	Ownership structure dummy multiplied with shareholder return to control for interaction between ownership and performance indicator	