Does Say-on-Pay Matter? Results from Large European Banks and the Financial Crisis

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Title of thesis: Does Say-on-Pay Matter? Results from Large European banks and the Financial Crisis

Abstract: This thesis studies the effects of Say-on-Pay in large European banks during the 2007-2011 financial crisis from bank performance and CEO compensation perspectives.

The sample set and data on bank performance (ROA) and total assets were collected from Orbis database. The total sample included an average of 82 yearly bank observations. Data on CEO compensation was hand collected from banks’ annual reports and other documents disclosing compensation data. For data availability reasons, fixed, variable and other benefits was possible to gather only in aggregate.

The three hypotheses expected: 1) higher ROA, 2) better link between variable compensation and ROA, and a 3) lower use of other benefits in banks from countries with Say-on-Pay in place. Hypotheses were tested using linear regression models. Significant relationship was found between ROA and Say-on-Pay but the relationship was negative. Other hypotheses were not supported. The group of banks that did not disclose compensation data were found to have lower ROA than those that did report it. This might affect the results between SOP and compensation.

The above results and the lack of earlier studies suggest that the adoption of Say-on-Pay in Europe is not based on strong empirical background. Even theoretically it is unclear what SOP legislation is aimed to achieve. Caution should be taken when making further conclusions from this thesis due to various data collection issues. With more accurate data set or larger sample set, the results could be dissimilar. In any case, more studies on the subject should be performed before making any final conclusions about the effects of Say-on-Pay on CEO compensation or bank performance.

Keywords: Say-on-Pay, CEO Compensation, Financial Crisis, Bank Industry, Europe, ROA
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1 INTRODUCTION

1.1. Background of the study

By any standard, one of the most important events in the recent financial history is the banking crisis that started in 2007. While probably many things led to the initial crisis, one thing that has kept raising eyebrows across the board is executive compensation in banks. Some feel that reckless incentive structures for the executives were “one of [the] most fundamental causes” for the crisis (Blinder 2009). Timothy Geithner, US Treasury Secretary has commented that: “…We need to help encourage substantial reforms in compensation structures particularly in the financial industry” (Reuters 2009). Financial regulators as well as some in the academia seem to be backing this idea as well (Bebchuk and Spamann 2009; IMF 2010; Board of Governors et al. 2010). To tackle this problem, countries in Europe have adopted, or are considering of adopting, a Say-on-Pay (SOP) type of legislation, where shareholders could directly vote over the compensation structure of the CEO.

1.2. Motivation for and purpose of the study

The financial crisis that has raged since the early 2007 has had a tremendous cost to the taxpayer. Paper by a former UK treasury adviser suggests that the crisis cost the UK taxpayer between 11 and 13% of GDP (Curtis 2011). If indeed there are banks that are “too-big-to-fail” and the taxpayers have to step in to pay the bill when they go under, then it is important that their executives do not have incentives to use such bargaining power. Bank CEO compensation is one of the possible sources where such incentives could arise.

The corporate scandals of Enron and WorldCom still fresh in mind, the media and political leaders have offered the most outrageous compensation agreements in the banking sector as proof that bank executives’ incentives are not well aligned. The academia agrees, in the sense that they feel that well aligned incentives are important and that at least some of the current contracts are poorly drafted, but the variety of solutions offered (of size and form) shows that the issue is a very complicated one.

From midst of this bank CEO compensation debate, SOP has arisen as a de facto solution to all these problems. However, some feel “that Say-on-Pay has become a lightning rod for shareholder protest” (Hodgson, 2009). At first thought, SOP seems
like a strange cure for the problem. Why would the shareholders have better knowledge on how to set optimal bank CEO compensation arrangements than the Board of Directors who is immersed in the banks’ day-to-day activities and is the governing mechanism set by shareholders over management?

There are currently no empirical studies on the effects of SOP and the financial crisis. Even empirical studies on the overall effects of SOP in countries where it has been adopted are scarce. A total of one study looks at SOP and banks, with very small sample set. Also, with two exceptions, all of the studies on SOP have been done with compensation data from US or UK (where such data is abundant). Generalizing the results to the rest of the Europe seems unfair given the differences in pay practices (Conyon et al. 2011) and the influential codifications of best practices to corporate governance that come from UK (Balanchadran et al. 2007).

This thesis will pool the previous empirical research and contribute to this empirical literature by adding the first cross-country study on the effects of SOP and the financial crisis. Large European banks, which were at the heart of the financial crisis in Europe, will form the sample set and their CEOs’ compensation agreements will be evaluated to see if there are differences in performance between countries that had adopted SOP before the crisis and countries that hadn’t.

The timeframe of my study is also exceptional, as previous SOP studies have not covered it. Its relevance is however clear, as it is the financial crisis period that really “sold” the idea of SOP to lawmakers all around. If SOP didn’t stop this crisis, why would it stop the next one?
2 THEORETICAL FRAMEWORK

2.1. Agency theory in economics

Formalized by Berle and Means (1932) the principal-agent problem in economics (or agency theory) arises from the development of separate ownership and control over the corporation. Shareholders (principals) believe that CEOs (agents) have superior talent or information in making investment decisions and thus entrust them with control of the company (Murphy 1998). However, CEO’s incentives are not freely observable and he may pursue private goals that are not efficient from the shareholders’ point of view.

To reduce this problem, shareholders may monitor CEO’s actions. In corporations with highly dispersed ownership, it would be an inefficient strategy for the shareholders to monitor the CEO themselves. CEOs and shareholders also hold dissimilar levels of information about the company, making it hard for the shareholders to evaluate whether the CEO is acting in the best interest of the shareholders.

For this reason, shareholders nominate a board of directors to represent them in monitoring the CEO (Fama and Jensen 1983). The board of directors is the primary internal control mechanism to better align the different interests of shareholder and top management (Boyd 1994). In order to align the incentives of the CEO and the shareholder, the board will attempt to design an optimal incentive contract through executive compensation plan.

However, the assumption that boards engage in arm’s-length transactions with executives over compensation has been challenged. Probably the most prominent challengers, Bebchuk and Fried (2004) argue in their managerial power theory that this rarely happens because of specific structural and social-psychological mechanism have an important influence over board-level decision-making processes about executive compensation.
2.2. Theoretical approaches to CEO incentive structure

The literature on the differences in behavior of the shareholder and the manager has a long history in economics. One of the early contributors to the literature of manager’s utility maximization, Williamson (1964) suggests that there are at least two ways in which the manager can direct the firm’s resources to increase his own utility but at the same time hurting the company profits. First, by increasing his salary at the expense of a decrease in profits. This can be done, for example, by maximizing the total assets of the company (firm size is positively correlated with salary) instead of profits. Second, the manager can sacrifice some increments to stockholder profits in order to increase expenditures for his own non-pecuniary emoluments within the firm. Thus, we expect managers to be risk-averse and rather receive a smaller but a certain income than a somewhat larger but an uncertain one (risk-neutral).

Early contributors to the CEO incentive literature, Jensen and Meckling (1976) noted that optimal executive compensation contract needs to align the interests of risk-averse managers and the risk-neutral shareholders by giving incentives to the managers to commit to risk-increasing but positive net present value (NPV) projects.

Milgrom and Roberts (1992) identify four principles of contract design.

1. Informativeness Principle, developed by Holmström (1979), states that any measure of performance that reveals information about the effort level chosen by the agent should be included in the compensation contract. This will filter out effects that the agent has no control over and thus increases his ability to bear risk.

2. The incentive-Intensity Principle states that optimal intensity of incentives depends on four factors: the incremental profits created by additional effort, the precision with which the desired activities are assessed, the agent’s risk tolerance, and the agent’s responsiveness to incentives.

3. The Monitoring-Intensity Principle states that there is a high correlation between situations where the optimal intensity of incentives is high and the optimal level of monitoring is high. In practice, principal has to choose from a “menu” of monitoring/incentive intensities.

4. The Equal Compensation Principle states that equally valuable activities from principal’s point of view should be equally valuable to the agent as well. When certain activities are monitored and others, equally important, are not, this can lead to those being neglected that are not being monitored.
The four principles can be summarized in a linear formula that takes the following form:

\[ \text{wage} = a + b(e + x + gy), \]

where \( a \) represents fixed salary, \( b \) measures the intensity of incentives, \( e \) effort level, \( x \) random events and \( g \) the weight given to \( y \) which is information variable.

Uncertainty about the production function which links CEO actions to firm value leads to contracts that are based on principal’s objective (maximizing shareholder wealth) rather than measures that are informative about CEO actions (Muphy 1998).

According to Jensen et al. (2004) a well-designed remuneration package for executives accomplishes three objectives: attracts the right executives at the lowest cost; retains the right executives at the lowest cost; and motivates executives to take actions that create long-run shareholder value and to avoid actions that destroy value. Since there is an active market for managers, the remuneration package has to be attractive enough for the CEO to accept it in the first place. This will most likely mean that the company has to offer an above average total compensation package for the CEO to accept it. When the company has found the right manager, the remuneration package has to have a high enough switching cost for the manager to not go to another company.

From the manager’s point of view, maximizing his utility is the overall goal. If the compensation package is set correctly, this will be the same as the manager maximizing his total wealth (and company profits). According to Agrawal and Mandelker (1987), total managerial wealth can be defined by the following formula:

\[ W = W_s + W_h + W_o, \]

where \( W_s \) is the managers holdings in the firm stock or options, \( W_h \) is equal to the present value of future earnings from the employment; and \( W_o \) is the manager’s holdings of assets unrelated to the firm. The compensation package can only affect the first two parameters but can take the third one into an account when designing the compensation plan.

To set a compensation plan that optimizes the goals of both, shareholders and CEO, Jensen and Murphy (1990) offer a combination of three policies. The first, quite unlikely in large companies, is to make the CEO a substantial shareholder in the
company. As Fama (1980) points out, the absence of ownership creates “an incentive to consume more on the job than is agreed in CEO’s contract”. Since the levels of CEO stock ownership have fell drastically over the years, companies started to tackle this “problem” by adopting stock and option plans that bind CEO actions to his wealth.

Second, is to structure compensation in such a way that gives big rewards for superior performance and big penalties for poor performance. According to the authors, these payments should be in cash compensation (bonus compensation).

Third, is to make real the threat of CEO dismissal for poor performance. The number of CEOs being dismissed for poor performance has increased two fold between the period of 1971-1982 and 1983-1994 according to evidence by Huson et al. (2001) with the successor more likely coming from outside the company. This suggests that there is an effective market for talented CEOs.

Naturally, optimal CEO incentive structure will also take into account the specific characteristics of the company. Things like regulation, investment opportunities, product differentiability, industry structure, demand instability and capital intensity play a role in setting the correct contract. These will affect the level of managerial discretion and pay of the CEO (Boyd and Finkelstein, 1998).

Overall, setting an optimal compensation plan, one, which will satisfy the differences in taste for risk between the manager and the shareholder, and takes into account the distinctive qualities of the firm and the manager, will most likely result in a very sophisticated and complex set of incentives. If designed well, the compensation plan can serve as a key component in value creation, and if flawed, can lead to value destruction. Either way, such contract is likely to be challenging to objectively evaluate by someone outside of the company.
3 CEO COMPENSATION IN BANKS

3.1. Forms of CEO compensation

The components of CEO compensation can be listed as follows:

1. Basic salary
2. Bonus payments
3. Options
4. Stocks
5. Pension commitments
6. Other benefits

The most common form of compensation is basic salary, which practically all CEOs receive. Basic salary is usually fixed and its amount derived from what competing companies of same size and industry pay (Murphy 1998). According to Murphy, basic salary constitutes an important part of the compensation setting procedure, as the size of other components are measured relative to it.

Parts of basic salary can also be linked to certain performance goals that the board has set but in practice this has no difference with a bonus payment. Bonus payment is a cash award that is either paid out immediately or in the future. Bonus payment is paid in relation to certain performance target(s), with a threshold to pass in order to receive bonus and “cap” above which it cannot go (Murphy 1998). The performance targets can include accounting and/or share based measures with (or without) industry benchmarking. Most widely used performance measures are accounting based and thus backward looking (according to Murphy). Together, basic salary and bonus payments are known as cash compensation.

Most of the bonus payments are paid out immediately and are a form of short-term compensation. A bonus payment that is not paid out immediately is called a deferred bonus and the period between granting it and paying it out is called a vesting period. The same terminology holds for options and stocks as well.
Instead of paying compensation in cash, companies (especially large publicly owned ones) often pay parts of the compensation in the form of stocks and options. Practically all CEO compensation options (often called Employee Stock Options, ESOs) have a “call” property, giving the owner a right to buy the underlying stock (but not the requirement). Options are usually granted with the same exercise price as the current stock price, or “at-the-money” (Hall 2000). According to Hall, the idea behind granting stock options to CEOs is to tie their pay to the company’s long-term performance by using a forward-looking performance measure (stock price).

Paying out compensation in the form of stocks (known as restricted share plans) is another widely used form of compensation. While the overall idea is the same as in options, to tie CEO pay to long-term goals, share plans often defer the payment for an even longer period than options. Bebchuk and Fried (2004) argue that restricted share plans can thus complement the overall pay structure. In the US the trend since the early 2000s among S&P 500 firms has been an increased usage of restricted stock grants and the number of CEOs that receive restricted stock grants has surpassed those that receive stock options (Conyon et al. 2011). Together, option and share plans are called equity compensation and with bonus payments form the performance based pay component of the compensation plan.

In addition to this, companies often provide management with additional pension contributions. The majority of pension plans are either defined benefit or defined contribution plans. In a defined benefit pension plan the eventual benefit payments are set by certain formula that usually comprises of employees compensation history, tenure of service and age. In a defined contribution pension plan the contributions to the plan are defined through chosen formula but the actual benefit payments are unknown in advance. The pension funds can be managed by the company itself or by a third party.

CEOs can also receive compensation in a form that is often labeled as “other benefits”. This can include the company paying for the CEOs mobile phone bills, lunches, insurance or offer a company car (or even a jet) for the CEO to use. These items are usually quite modest compared to items like “welcome awards” or “severance payments” which also fall under the same category. Welcome award (also known as Golden hello) is often paid when CEO is hard to obtain (due to the situation of the company) or because CEO has incentives to stay in the old company (unvested
compensation). According to Bebchuk and Fried (2004) they have become larger and more common since mid 1990s.

The use of severance payments (imaginatively known as Golden parachute or Golden handshake) is often justified by the active market and turnover of top CEOs. CEOs would be reluctant to take a high-end position if their tenure could end up being very short, with them receiving no compensation for the dent in their résumé for being let go. Empirical literature on severance payments suggest that they do more harm than good for the company and recently Switzerland banned them completely (Roth 2013).

3.2. CEO compensation in banking sector

A bank’s business model is based on having a large base of debt compared to equity. Given the call properties of equity (simply meaning that the downside for equity holders is limited but the upside is limitless), shareholders of the bank benefit more from high-risk strategies that increase volatility of the banks assets than shareholders in firms with less leverage (John and John, 1993, Noe et al, 1996). The presence of deposit insurance and the implicit guarantees of a bailout by government (too-big-to-fail) further aggravate the shareholders' incentives to increase risk (John et al. 2010).

If we look at two components of the CEO remuneration, salary and performance-based compensation, in light of the bank’s business model, we can easily see that bank CEO incentive structure is dissimilar from those of many other markets. If the CEO compensation is provided only in salary, the bank CEO is tempted to be conservative in risk-taking and simply maximize bank assets (with the cost of diminished profits) to maximize his compensation. If, on the other hand, the remuneration was offered only in performance-based compensation, the CEO’s incentives could be perfectly aligned with those of the bank shareholders but might lead the CEO to take excessive risks from a social point of view (Faulkender et al. 2010).

Because of this, shareholders of a bank might be tempted to use their power over the composition of the CEO compensation contract to encourage excessive risk-taking and shifting part of the risk to the financial authorities and bondholders (Benston and Evan, 2006). Since the government acts as an insurer for the banks assets, it should be able to place restrictions on unhealthy risk-taking. For example, John et al. (2000) have shown that if this insurance incorporates incentive features of top-management
compensation, the bank owners would likely choose a CEO compensation structure that would keep the bank activities at a socially desirable level of risk.

The importance of regulation is noted by Webb (2008) as well. He suggests that as regulatory monitoring weakens, the bank executives become less risk averse. Indeed, following deregulation, Chen et al. (2005) found that banks increasingly employed stock option-based compensation and DeYoung et al. (2010) point that after the introduction of Gramm-Leach-Bliley Act of 1999 (which permitted commercial banks in the US to engage into non-traditional activities), CEOs with higher pay-risk and pay-performance sensitivity were more active in pursuing new growth opportunities. Thus, the current regulatory framework has an important role in keeping the incentives optimal for all parties.

3.2.1. Components of bank CEO compensation

Results from studies on the bank CEO pay for performance sensitivity are mixed but could be explained by cultural/national differences. While John and Qian (2003) find that bank CEOs in US have lower performance-based pay sensitivity than non-financial firms, a study from UK by Gregg et al. (2011) concludes that bank CEO pay-performance sensitivity does not differ significantly from other industries. Overall, looking at the structure of bank CEO compensation before the crisis in Europe, Ferrarini and Ungureanu (2011) write that large European banks had adopted remuneration policies that were fairly balanced between fixed and variable pay, and included long-term incentives.

The individual components of bank CEO compensation have also been a target of previous empirical research. Studies on the effects of bank CEO bonus payments seem to suggest that it is an important part of bank CEO compensation. Balachandran et al. (2010) offer evidence that the sum of bonus and other cash incentives reduce the probability of bank default. Vallascas and Hagendorff (2012) go as far as linking the size of bonus compensation in the banking sector to financial stability. They however point out, that such risk-deducing effect disappears when banks are distressed or when regulatory regime is weak.

As early as 1976, Jensen and Meckling formalized the importance of inside debt (deferred compensation and pension benefits) to CEOs. Since inside debt has debt-like
payoffs, it has special importance to banks as they hold large amounts of debt, and using inside debt as part of the compensation, can better align the CEO's incentives with those of debt holders as well. However, it has to be remembered that pension plans are often shielded from general creditors in case of insolvency and offering compensation in the form of debt security would seem more effective (Bebchuk and Jackson 2005).

A paper by Belkhir and Boubaker (2012) suggests that using inside debt mitigates bank CEO risk-taking incentives when measured by hedging against interest rate risk. Papers by Sundaram and Yermack (2007) and Gerakos (2007) find similar results. When measured by distance-to-default and credit rating, CEOs with more inside debt have better numbers.

As earlier noted, regulation should play a part in aligning bank CEO incentives with those of the shareholders and society at large, and the authorities do give suggestions on how bank CEO compensation policies should be drafted (Board of Governors et al., 2010; CEBS, 2010). These suggestions include paying bonus in equity-based instruments (stocks and options), deferring part of the payment and making vesting performance-contingent (they are only paid out if certain criteria is met). Nearly all of the banks follow these suggestions to at least some extent.

3.3. The financial crisis and bank CEO compensation

Early in 2007, several large banks, mostly from US at that time, announced huge write-downs in their subprime mortgage portfolios. It did not take long for the effects of this to escalate into European banks since banks around the world are very interconnected. As trust between the banks disappeared, so did the liquidity. This was the start the financial crisis. After several bank runs, bankruptcies, take-overs and nationalizations in US and Europe, the worst of the financial crisis is probably behind us. However, in the aftermath the search for something or someone to blame still continues. Why were banks entangled in these risky assets in such proportions?

Support for housing initiatives by the government and loose money policies with the nature of banking business (high leverage) led banks to chase extra yield for their money from the housing market. The innovative mortgage-backed securities offered an option with high credit rating and banks bought them with affection. However, the high
ratings rested on untested statistical models or the valuation of the rating agencies with their own incentive problems (Faulkender et al. 2010). This resulted in a situation where the financial institutions had been taking too much risk and the bubble burst.

Especially in the media, bank CEO compensation has been accused for being the source of this risk taking in banking sector. However, the details of this bank CEO compensation discussion are unclear. Exactly what in the bank CEO compensation is at the heart of this problem and how?

The possible relationship between bank CEO compensation and financial crisis quickly received the attention of the academia. Without a doubt, the most quoted paper on Bank CEO compensation and the financial crisis is by Fahlenbrach and Stultz (2009). Their study into 98 US Bank CEOs' incentive structures and share ownership found no evidence that CEOs whose incentives were better aligned with the interests of their shareholders performed better during the crisis, and some evidence that these banks actually performed worse both in terms of stock returns and accounting based measures (ROE). Their conclusion from this is that CEOs focused on the interests of their shareholders and took actions that they believed the market would welcome. The poor results were a surprise and costly to the CEOs.

Bebchuk et al. (2010) and Bhagat and Bolton (2011) took a different approach. By using more limited samples, Bechuk et al. looked at the most affected banks in US (Bear Sterns and Lehman Brothers) while Bhagat and Bolton focused on the largest banks in US (top 14). Their findings are at odds with the results by Fahlenbrach and Stultz. They conclude that bank CEO incentives in these banks could have been involved in the formation of the financial crisis. Bhagat and Bolton (following Bhagat and Romano [2009]) suggest that the structure of the remuneration was at the heart of this and according to the authors, the performance-based compensation should consist of only restricted equity.

In line with the previous authors, Erkens et al. (2009) found in their large study of 306 banks worldwide between 2004 and 2008, that companies whose share of performance-based compensation to the CEO comes more from bonus than equity compensation suffered losses during the crisis and took higher risk before the crisis. Also Suntheim (2010) found evidence from a sample of major international banks, that those banks that endowed their CEO with high risk taking incentives performed worse
after the Lehman collapse in terms of accounting performance while those which granted more stocks performed better.

The effects of inside debt to CEO incentives during the financial crisis have been studied by Tung and Wang (2011) in US commercial banks. They found that the CEOs with more aligned incentives reduced bank risk taking and improved bank performance in the crisis. Bennett et al. (2012) with a sample of US bank holding companies found similar results.

The possible connection between board of directors and bank CEO compensation during the financial crisis has been studied by Erkens et al. (2009) and Suntheim (2010). Erkens et al. found in their cross-country study that institutional ownership and board independence, measures traditionally connected with good governance, were positively related to bank losses. As an explanation, they suggest that pressure for short-term profits from institutions and outside directors led to excessive risk-taking by offering higher cash bonus compensation. Suntheim looked at the board and compensation committee structure. He concludes that banks associated with weaker board tend to grant contracts with larger pay-for-performance components and banks with weak compensation committee tend to give the CEO options with shorter vesting period and a lower exercise price.

Papers on bank CEO compensation and the financial crisis in that concentrate on Europe are scarce and in the only paper that I could track down, Conyon et al. (2011) found that bank CEO bonus payments took a deep reduction between 2006 and 2008 (average 30%, median 84%), as did CEO wealth (median 46%). The sample set is however very small (42 to 48) and given the rigorous requirements of the data quality by the authors, the sample set consists probably mostly of UK banks (details of the sample set are not disclosed in the paper).

In conclusion, we can find support both against and for the premise that banks with high risk taking incentives were taking larger losses during the crisis. The regulation and board of directors seem to be playing a part in the process as well. One thing is clear from the studies of Fahlenbrach and Stultz (2009), and Conyon et al. (2011), the CEOs themselves took a sharp hit in both salary and wealth due to the crisis both in Europe and US.
4 Say-On-Pay

4.1. Say-On-Pay and its history

Say-on-Pay (SOP) is a legislation that gives shareholders a vote over executive remuneration policy at general meetings. The legislation comes in several different variations that go by the same name. The SOP vote can be; 1) advisory or binding, 2) targeted to executives or directors, 3) be on the exact structure of the remuneration or the overall pay policy, and 4) the vote frequency can vary. Table 1 shows some of the variation between countries and the year of adoption. The first country to adopt Say-on-Pay in legislation was UK in 2002. In Europe, Netherlands (2004) and the Nordic Countries (Sweden 2006, Norway 2007 and Denmark 2007) followed shortly after.

Table 1 Variations of Say-on-Pay

<table>
<thead>
<tr>
<th>Country</th>
<th>Adopted</th>
<th>Target</th>
<th>Pay policy or structure</th>
<th>Type</th>
<th>Frequency</th>
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<tr>
<td>UK</td>
<td>2002</td>
<td>Directors</td>
<td>Structure</td>
<td>Advisory</td>
<td>Annually</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2004</td>
<td>Executives</td>
<td>Policy</td>
<td>Binding</td>
<td>Upon changes</td>
</tr>
<tr>
<td>Australia</td>
<td>2005</td>
<td>Directors</td>
<td>Structure</td>
<td>Advisory</td>
<td>Annually</td>
</tr>
<tr>
<td>Sweden</td>
<td>2006</td>
<td>Executives</td>
<td>Policy</td>
<td>Binding</td>
<td>Annually</td>
</tr>
<tr>
<td>Norway</td>
<td>2007</td>
<td>Executives</td>
<td>Policy</td>
<td>Binding</td>
<td>Annually</td>
</tr>
<tr>
<td>Denmark</td>
<td>2007</td>
<td>Executives</td>
<td>Policy</td>
<td>Binding</td>
<td>Upon changes</td>
</tr>
<tr>
<td>US</td>
<td>2011</td>
<td>Executives</td>
<td>Structure</td>
<td>Advisory</td>
<td>Voted on</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2013</td>
<td>Directors</td>
<td>Structure</td>
<td>Advisory</td>
<td>Annually</td>
</tr>
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</table>

Adapted from Stanford (2012)

Since the management structures of companies vary across countries (e.g. UK vs. Germany), different variations of the legislation can have the same effect. Countries might also have previous legislation in place that covers some aspects of the SOP and thus the effects of implementing SOP legislation can vary.

One example is US, where SOP is not the first instance where shareholders vote on corporate practices that affect executive compensation. Rules by Securities and Exchange Commission (SEC) from 2003, required that companies listed in NASDAQ or New York Stock Exchange needed to obtain shareholder approval for any new equity
compensation plan or when materially amending an equity compensation plan (SEC 2003). Before this, such votes were necessary only when changes or proposals were considered “non-routine”. While the SOP legislation that came in force in 2011 calls for advisory votes, the 2003 rules require binding votes.

Also, it is not always necessary to have a code of law in place to have companies adopt SOP. Trottier (2011) reports that all five large Canadian banks adopted SOP almost simultaneously in 2009 (while there is no such legislation in Canada even today). Some companies in US (like Aflac and Verizon) have also adopted SOP before the 2011 legislation.

Say-on-pay legislation has not only given the shareholders a vote on CEO compensation practices, but has also increased the transparency over the executive compensation contract. Public companies in US have to submit their annual report in SEC form 10-K that has to include “clear, concise and understandable disclosure about compensation paid to CEOs, CFOs and certain other high-ranking executive officers” (SEC 2011). In the UK, the 2002 legislation “Director's Remuneration Report Regulations” or DRR (DRR 2002) requires “detailed information about directors' remuneration”.

As the legislation calls for both (better disclosure and voting), then any changes in pay practices could come from either or both. In the only paper to touch this issue, Deloitte & Touche (Deloitte 2004) asked the UK institutional shareholders which aspects of the DRR have had the most significant impact on the attitudes and behaviors. They found that 70% felt that voting was very significant factor while only 25% found details on the service contracts to be very significant.

It has to be made clear, that the idea behind say-on-pay was never to actually set the absolute levels of compensation but rather to end “rewarding for failure” (Green Paper 2003). The actions by European Union and US government have however gone against this premise by setting absolute levels of pay in banking sector (e.g. US has set limits to bonus payments for TARP funded banks at 500,000 dollars). This seems odd, as the average and median CEO pay peaked already in 2000 and 2001, respectively (Kaplan 2007). This has also caused the early exit of many banks from TARP (Wilson and Wu 2010).
4.2. Theoretical foundations of Say-on-Pay

The proponents of SOP argue that under the current director election system, it is often the manager, instead of the shareholders, who decides the composition of the board of directors (Bebchuk 2003). If the managers have influence over board nominations, then the board may have incentives to design a compensation plan that serves the manager’s interests rather than those of the shareholder.

Also known as managerial rent extraction, the field has been studied quite extensively. Core et al. (1999) find that if board governance structures are less effective, then CEOs receive more in compensation and the firm has poorer operating and stock return performance. However, if the cause of the misalignment in CEO compensation contract were the structure of the board, would it not be more effective to set a legislation that would affect the board itself?

Bebchuk et al. (2002) look from a more empirical perspective and conclude that managerial power and rent extraction is a better explanation for the empirical evidence on CEO compensation practices than optimal contracting approach. As an answer to this problem, SOP would shift some of the power of setting CEO compensation from the manager to the shareholder. But is this really ideal in the case of a bank, if (as earlier discussed) the shareholders could be eager to shift part of their risk to debt holders and the government, and could do this through CEO compensation arrangements? Thus, if there is a shift towards letting shareholders set CEO compensation in banks, then proper regulatory regime to support this shift is as important.

Like any new legislation or regulation, SOP doesn’t come without costs. Companies already have an agency structure where shareholder’s interests are guarded by the board of directors. If shareholder's vote on compensation policies, then this will undermine the authority of the board of directors and the compensation structures that they have put in place (Bartl 2009). Also, as earlier discussed, given the complexity of compensation arrangements, it is unclear whether individual shareholders without deep knowledge of the company can evaluate the compensation contract objectively. In companies that have received a negative SOP vote, shareholders have tended to change their minds after receiving more details of the compensation plan.
In cases where the SOP vote is advisory (e.g. UK), there is always a threat that nothing is done to the issue after a failed vote. As Gordon (2006) points out, a negative remuneration vote must be costly to disregard. Otherwise the board won’t react. Walkling (2008) points out that academic research generally finds little market reaction to advisory vote initiatives and indeed, Conyon and Sadler (2010) report (with UK data) that “there is little evidence that CEO pay is lower in firms that previously experienced high levels of shareholder dissent”. Where the vote is advisory (or SOP system does not exist), shareholders can of course indirectly show their discontent at the director elections and vote so as to remove directors at the remuneration committee (Ekwegh 2012).

Instead of voting on the compensation policy, Kaplan (2007) fears that the SOP votes may be used to make political statements regarding other issues in the company or that the fear of a vote may hamper the market for CEOs in public companies and drive them to private companies, which Kaplan reports to have already happened. Shareholders may also vote on CEO compensation in light of their own experiences or situation. Also known as anchoring, this could lead the shareholders to consider CEO compensation levels as unreasonable even if they were to optimally align the incentives of the CEO and the shareholder.

Even when the “no” votes are cast with the best interested of the company, there could be a negative signaling effect if the media presents the case to the public in bad light and the result can be a loss of firm reputation and value (Davis 2007).

One of the strong supporters of SOP has been the proxy advisory companies (e.g. Institutional Shareholder Services [ISS]) who give recommendations on how to vote in shareholder's meetings. Their view is that the legislation will improve current situation, as companies are largely reluctant to adopt advisory vote on executive compensation upon shareholder proposals. There is however a risk, that these organizations would gain too much power if a vote on CEO compensation is adopted.

Their double function, providing advice on voting as well as consulting companies on pay policies, could result in conflicts of interest (Cntr. 2011). One-size-fits-all solutions could be forced on companies, again undermining the expertise and power of the board (Bainbridge 2011). They could also lead to inflating the CEO compensation because of their knowledge of the “median” package offered to other CEOs, and considering anything below this un-competitive (known as Ratchet Effect) (Ekwegh 2012). On the
other hand, the remuneration consultants give advice over board of directors’ salaries as well and it is unclear whom the consultants are really working for (the board or the manager) (Padgett 2012).

4.3. Empirical research on Say-On-Pay

For the reader, it is important to note that with few exceptions, all of the studies on SOP have been done on US or UK data (as is the case for most of the CEO compensation literature in general). This is quite natural, as the availability of data (due to disclosure requirements), and the size of the economy and sector make the samples sizable and easily comparable to each other. Given this and the similarities between these two economies, any generalizations to the whole European context should not be taken without care.

There are two ways in which SOP legislation can affect CEO compensation. First, the shareholder's can vote against the remuneration package.

An analysis into the first year of Say-on-Pay voting in US (Equilar 2011) found that 38 companies failed a vote from a sample of 2,252 companies. 75% of the companies received more than 90% support for the executive compensation plan. However, poorly performing companies with “excess” executive pay, low total shareholder return and negative ISS voting recommendations experienced greater amount of “against” votes than other firms (Cotter et al. 2013).

Studies with UK data give a similar picture, as a total of 8 negative votes were given in the first six years of UK Say-on-Pay voting (Gordon 2009). However, two of the companies that failed a vote in UK, GlaxoSmitKline and Royal Dutch Shell, were widely reported in the financial media (Timmons 2003, Pagnamenta and Power 2009) and such negative publicity often results in loss of reputation.

Naturally, a company does not necessarily need to have a failed vote in order for the “no” votes to have an effect. A paper by Ferri and Maber (2011) found that firms with high amount of “no” votes were clearly more active in reducing severance contracts to 12 months of pay (widely suggested length of such contracts) after the first Say-on-Pay vote than those with “low dissent”. “High dissent” companies were also more active in shortening or removing the retesting provisions (a method of altering the threshold after which CEOs incentive payment would be granted or increased) after the first Say-
on-Pay vote. This paper and the paper by Conyon and Sadler (2010) however found no evidence that the total CEO compensation in “high dissent” companies would have gone down during the first six years of Say-on-Pay in the UK. Results on the CEO pay sensitivity and Say-on-Pay voting in the two papers are mixed due to different approaches.

A study into FTSE 350 index companies voting practices (Alissa 2009) suggests that shareholders vote more against the compensation report when excess compensation is high and CEO turnover is increased in companies with high shareholder dissatisfaction. The same study also finds evidence that boards respond to shareholders’ dissatisfaction by reducing the compensation for CEOs with above mean excess CEO pay.

Finally, Davis (2007) reports that in UK: “[SOP] votes on compensation policy resulted in a marked rise in dialogue between corporate boards and management on the one hand, and institutional investors on the other. This transformed the way compensation policies are constructed”.

Second, is by the company voluntarily changing the remuneration policy in order to avoid possible negative votes and the ensued negative media coverage.

Ferri and Maber (2011) found that companies with “low dissent” in their first Say-on-Pay vote were more active in changing severance payment contract to 12 months and removing retesting provisions before the actual vote than those companies with “high dissent”. In connection to this, Deloitte & Touche in their 2004 report (Deloitte 2004) on FTSE 100 companies found that severance payment contracts with compensation that exceed one year fell from 32% in 2001 to 1% in 2004. During the same period, they also found that provisions banning retesting jumped from 10% to 43%. If the rate continues, the whole practice of retesting will disappear in a few years, the study says.

Balsam and Yin (2012) found in their paper, that companies in US with overpaid CEOs reacted by lowering their compensation already in 2010, before the adoption of the legislation. Liu (2012) concentrated on the changes in total cash compensation (salary plus bonus) in US, finding that companies reduced total cash compensation between 2009 and 2010, possibly expecting the new legislation.

However, a study by Larcker et al. (2011) found contradicting evidence. Their paper on the executive compensation and market returns before the adoption of SOP in US
found negative excess returns for companies with high executive compensation on days when it looked like SOP was going to be included in the legislation. One line of thought that could solve this discrepancy is that since companies were already preparing for the SOP, the only companies left with high executive compensation were the ones with good performance, which would be in line with the aim of SOP.

A study with US data between 2006-2008 on the changes in pay practices after receiving a SOP proposal (Burns and Minnick 2010) found that while there was no significant difference in total compensation between companies in SOP or non-SOP samples, the SOP companies do use more incentive based compensation (and less cash based compensation) and a decreased amount of bonus compensation.

Studies on the market reaction to SOP announcement in UK (Ferri and Maber 2011) or passing the legislation in US (Cai and Walkling 2009) have found that companies with low pay-for-performance sensitivity and weak penalties for poor performance have experienced a positive market reaction after the event, giving support to the hypothesis that SOP might be an effective tool to align CEO compensation with performance.

Studies in smaller markets (and with smaller sample sets) have found mixed results for SOP announcements. An event study on the impact that SOP had on the Canadian banks’ market price after the adoption found positive relationship with the announcement (Trottier 2011). A similar event study in Switzerland (Wagner and Wenk, 2013) around the date to February 28th 2008 (a day when it became public that more than 100,000 Swiss voters had signed the “Anti-Rip-Off-Initiative”) found that of the stock prices of the largest 100 firms, 70% reacted abnormally negatively, the stock return being negative 1.88% and statistically significant.

Overall, previous research on SOP suggests that SOP would better align the CEO compensation with performance and remove forms of compensation that are considered questionable. It seems that the threat and adoption of the law has more effect than the actual voting. There are no extensive studies on the effects of SOP on the banking sector.
5 RESEARCH HYPOTHESES

In light of the theoretical approaches to bank CEO compensation and SOP, it is far from clear what benefits the adoption of SOP would bring to the banking sector. On one hand, the stronger link between the shareholders and the board in compensation issues could strengthen the board’s role in setting and negotiating CEO compensation with managers. On the other hand, it could lead to a situation where the shareholders’ preference for high-risk strategies could be transferred to excessive risk taking by the bank through CEO compensation plan (Bebchuk and Spamann 2009).

Previous research on the effects of SOP seems to suggest that it is a useful tool to better align CEO compensation plans with company performance. However, research that would concentrate on the banking sector is missing. Since previous research on the bank CEO compensation and the financial crisis seems mixed, but leave open the possibility that it was one of the causing factors, I want to know how banks from SOP and non-SOP countries faired during the crisis and how bank CEO compensation has contributed to this.

If SOP is the answer to the possible misalignment in bank CEO compensation, then it seems valid to expect that if CEO compensation is one of the causes of the financial crisis, then banks which are from countries that have adopted SOP before the crisis, should have faired better. Thus, the first hypothesis is formulated:

Hypothesis 1: Banks from countries that had adopted SOP before the crisis performed better than banks from other countries during the crisis

Since the idea of SOP was never to cap the salaries but to “not reward for failure”, then one would also expect that CEO compensation in banks from SOP countries would more closely follow the changes in company performance during the financial crisis. Thus, the second hypothesis is formulated:

Hypothesis 2: CEO pay performance sensitivity in banks from countries that had adopted SOP before the crisis is higher than those from other countries during the crisis

If shareholders don’t want to reward for failure, one of the first things to get rid of according to theory is large severance payments. The Deloitte (2004) study showed a
rapid decrease in high severance payments for managers in the UK after the adoption of SOP. Thus, one would expect the SOP group of banks paying less to managers in payments not related to salary, variable compensation or pension benefits. Thus, the third hypothesis stands:

**Hypothesis 3:** “Other benefits” payments to CEOs are smaller in banks from countries that had adopted SOP before the crisis than in banks from other countries

As earlier mentioned, it is a well-known fact that CEO compensation is tied to the firm size (Kaplan 2007). Gabaix and Landier (2006) show that CEO pay should rise with the firm size since a talented CEO can create more value to the firm, as it gets bigger. Thus, bank size, measured by total assets of the bank, is used as a control variable in all of the hypotheses.
6 DESCRIPTION OF DATA

6.1. Sample set

The sample of banks for this thesis will include “large European banks”. There are three reasons why these matter most for the crisis. First, the larger banks are more likely to have taken part in buying US mortgage-backed securities (since their scope of operations is more global) and thus adding to the demand of these assets, and at least partly causing the crisis. Second, banks of medium and large size were more affected by the crisis (Eken et al. 2012). Third, these banks’ failure or bailout would cause more damage to the taxpayers and depositors because of their size.

I have chosen 40 billion euros in assets as definition for “large” and consequently banks with less than 40 billion euros in assets in 2006 were excluded from the sample. The sample was gathered from Bureau Van Dijk's Orbis database. The company identifiers were set at Euro Bank and narrowed down by using Total assets more than 40 billion euros in 2006 as a limiting factor. The sample was then manually examined and banks that did not fit the study purpose (central banks, government investment organizations, co-op central banks where central bank is not a governing body) were removed.

After this, another run was done for the database with same settings except with changing the year to 2011, in order to have those banks in the sample that merged during the 2007-2011 period and were in the new sample with a new name. Country codes and Total assets data were collected from Orbis database for these banks. Banks with country codes UK, IE, SE and NL (the countries with SOP in place in 2006, see Table 1) formed the SOP group and the rest the non-SOP group.

In this thesis, the fact that certain countries joined the “SOP group” during the period (namely Norway and Denmark) is not taken into account. Looking at the CEO compensation numbers, the compensation is very steady on the whole period for the CEOs of these banks.
If a bank in the sample merged with another bank, then the last data point for that bank was the year preceding the merger. Where two or more banks had a merger, their first new data point was the year of the merger.

The sample size ranged between 79 and 85 during the study period (2007-2011) with an average of 82 samples per year.

6.2. Data on bank performance

There are several different approaches to measuring bank performance. Some of them give more detailed information of a certain aspect while others try to capture more general features. For the purpose of this thesis, measurement of the overall performance of the bank is needed since the individual bank’s business models can vary.

For publicly traded banks, the share price of a bank is a measure that combines the current state (earnings, assets) and the future expectations (risks) of the bank. However, a sizable part of large European banks are not listed in a stock exchange and thus, this measurement cannot be utilized.

Since it is not possible to use market-based measurement, one has to be derived from financial statements. The measurement also needs to capture the size differences between the banks. Most commonly used measurements of bank performance, which are derived from the financial statements, are Return on Assets (ROA) and Return on Equity (ROE). They are calculated the following way:

\[
\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}
\]

\[
\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}
\]

Traditionally, ROA is considered to be a more reliable profitability indicator than ROE, in terms of efficiency performance, since it is adjusted for the leverage effect (ROA=ROE/ leverage). On an individual basis, banks with the highest ROA proved to be the most resilient amid the crisis. It is also worth noting that the ROA of investment-oriented banks (unlike ROE) was consistently lower than that of universal banks (ECB 2010). Jenkins (2011) also comments: “Looking at a number of those banks destined
for the dust bin shows that in the years preceding the bust, ROA was falling even as ROE was rising.”

The use of ROE as a performance indicator in compensation agreements has also been criticized. Haldane (2011) points out that if the CEOs of the seven largest US banks had in 1989 agreed to index their salaries not to ROE, but to ROA, their compensation would not have grown tenfold. Instead it would have risen from $2.8 million to $3.4 million.

Thus, for the purpose of this study, ROA seems to be a more suitable choice of ratio as it captures the return to the depositors (and indirectly to the tax payers) as well. The data on ROA was collected from the same Orbis database. Instead of Net Income, Orbis uses Profit (or loss) before taxes as numerator when calculating ROA.

### Table 2 Bank Return on Assets

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>20</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Mean</td>
<td>0.681</td>
<td>0.002</td>
<td>-0.095</td>
<td>-0.030</td>
<td>0.185</td>
<td>0.148</td>
</tr>
<tr>
<td>Median</td>
<td>0.665</td>
<td>0.210</td>
<td>0.070</td>
<td>0.365</td>
<td>0.400</td>
<td>0.342</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.392</td>
<td>0.777</td>
<td>0.701</td>
<td>2.058</td>
<td>1.088</td>
<td>1.003</td>
</tr>
<tr>
<td>Min</td>
<td>-0.210</td>
<td>-1.710</td>
<td>-1.720</td>
<td>-8.300</td>
<td>-3.740</td>
<td>-3.136</td>
</tr>
<tr>
<td>Max</td>
<td>1.410</td>
<td>1.050</td>
<td>1.180</td>
<td>2.610</td>
<td>1.700</td>
<td>1.590</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>62</td>
<td>63</td>
<td>62</td>
<td>59</td>
<td>59</td>
<td>61</td>
</tr>
<tr>
<td>Mean</td>
<td>0.724</td>
<td>0.011</td>
<td>0.197</td>
<td>0.414</td>
<td>-0.602</td>
<td>0.148</td>
</tr>
<tr>
<td>Median</td>
<td>0.675</td>
<td>0.100</td>
<td>0.325</td>
<td>0.378</td>
<td>0.120</td>
<td>0.319</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.644</td>
<td>0.829</td>
<td>0.631</td>
<td>0.291</td>
<td>2.337</td>
<td>0.946</td>
</tr>
<tr>
<td>Min</td>
<td>-1.260</td>
<td>-2.240</td>
<td>-2.660</td>
<td>-0.260</td>
<td>-12.560</td>
<td>-3.796</td>
</tr>
<tr>
<td>Max</td>
<td>2.120</td>
<td>1.900</td>
<td>1.100</td>
<td>1.160</td>
<td>0.870</td>
<td>1.430</td>
</tr>
</tbody>
</table>

Table 2 summarizes the ROA data for the sample of banks. As we can see, mean, median and standard deviations between the SOP and the non-SOP groups are quite similar. However, there is a clear outlier in the non-SOP group in 2010 (min. -12.560).

### 6.3. Data on CEO compensation

The data on annual CEO compensation was hand gathered from the companies’ annual reports, corporate governance reports, management reports, remuneration reports and 20F filings. Priority was given to the 20F filings for standardization purposes. The
levels of CEO pay disclosure vary widely across European countries (as noted by Vallascas and Hagendorff [2012] as well).

Where information was not available or incomplete and/or unclear, an email was sent to the investor relations department of such company for more details. Not all of the messages went through, as some of the contact formulas provided by the companies did not work. Majority of the emails got a response but with the exception of one company, the emails held no new information that was not already presented in the company's webpage (though on certain cases the companies kindly pointed out where the information was available if the I had not found it).

If a company had two different CEOs during a year, their combined compensation is used in the data. Also, if the new CEO had prior functions in the bank before his tenure as a CEO, only the compensation for the time he was a CEO is used. In some cases, these two amounts are offered only in aggregate. In such case, the CEO’s annual compensation is reduced by the amount of months he did not work as a CEO.

Where a bank does not have a CEO, managing director, general manager, chairman of the management board or interim-CEO (because a new one hasn't been appointed or because of the company structure), the compensation for the chairman of the supervisory board is used instead.

Not all of the banks in the sample operate or pay compensation in euro. In order to convert these values to euro, a year-end interbank bid exchange rate is used for conversion. The used exchange rates were gathered from OANDA currency converter (OANDA 2013), which compiles currency information from leading market data contributors.

The CEO compensation includes basic salary, variable compensation and other benefits.

CEO basic salary includes salary from the company and its subsidiaries as well as possible director's fees (from the company or from its subsidiaries). Table 3 shows the CEO basic salary for the whole sample.
Table 3  CEO Basic Salary

<table>
<thead>
<tr>
<th>in EUR 1,000's</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>07-11 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>53</td>
<td>52</td>
<td>54</td>
<td>54</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>Mean</td>
<td>1,045</td>
<td>1,083</td>
<td>1,025</td>
<td>1,066</td>
<td>1,107</td>
<td>1,065</td>
</tr>
<tr>
<td>Median</td>
<td>956</td>
<td>957</td>
<td>840</td>
<td>864</td>
<td>987</td>
<td>921</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>496</td>
<td>579</td>
<td>688</td>
<td>684</td>
<td>622</td>
<td>614</td>
</tr>
<tr>
<td>Min</td>
<td>320</td>
<td>344</td>
<td>371</td>
<td>360</td>
<td>300</td>
<td>339</td>
</tr>
<tr>
<td>Max</td>
<td>3,511</td>
<td>3,942</td>
<td>4,052</td>
<td>4,054</td>
<td>4,037</td>
<td>3,919</td>
</tr>
</tbody>
</table>

As earlier mentioned, CEO basic salary should be correlated with the size of the company. To see if this holds for the sample set of banks as well, I have put CEO basic salary in 2011 on the y-axis and bank total assets in 2011 on the x-axis. As we can see, as the bank’s total assets increase, the CEO basic salary increases as well.

Figure 1  CEO fixed salary and bank total assets in 2011

Variable compensation includes compensation that is paid in reference to bank performance and can be paid in cash, stocks or options. Some banks in the sample report variable compensation only in aggregate form.

The IFRS accounting standards require that companies expense the full amount of their share-based payments at grant-date fair value (Ernst and Young 2009). It is not
specified which valuation method to use so companies can use their own discretion over what method to employ. For employee stock options (ESO) currently the most widely used model (Abudy and Benninga 2009) is Hull and White (2004). If compared to the most widely used market-based stock option valuation method, the Black and Scholes (1973) model, the generated option prices differ substantially with Black and Scholes giving much higher values. Black and Scholes is a model for the market-based options, which does not take into account things like non-transferability, exercise before maturity or employee exit rate (which are meaningful for ESO valuation). Thus it is considered a poor choice for valuing ESOs (Finch et al. 2007). There are other similar models to Hull and White but the pricing differences between them are negligible (Ammann and Seiz 2004).

If the company offers a valuation of the stock and option awards (i.e. fair value of these awards), then that valuation is used. By and large, the banks have valued these awards with Hull and White model. Only in a few cases the option awards value was not enclosed. In these cases their number was very small in relation to the total variable compensation and the companies provided so little information regarding them that their valuation was practically impossible with either of the above-mentioned methods. Thus, these values are missing from the sample set.

The time perspective of the variable compensation (long-term compensation or short-term compensation) is not taken into account, as the companies do not disclose such information in enough detail. Thus, deferred compensation is calculated to the grant year's compensation. Variable compensation for the whole sample is laid out in Table 4.

### Table 4  CEO Variable Compensation

<table>
<thead>
<tr>
<th>in EUR 1,000's</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>07-11 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>53</td>
<td>52</td>
<td>54</td>
<td>54</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>Mean</td>
<td>2,147</td>
<td>659</td>
<td>995</td>
<td>1,023</td>
<td>1,004</td>
<td>1,166</td>
</tr>
<tr>
<td>Median</td>
<td>1,000</td>
<td>32</td>
<td>184</td>
<td>233</td>
<td>164</td>
<td>322</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>2,915</td>
<td>1,660</td>
<td>2,172</td>
<td>1,696</td>
<td>2,024</td>
<td>2,094</td>
</tr>
<tr>
<td>Min</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max</td>
<td>12,679</td>
<td>9,395</td>
<td>11,837</td>
<td>7,043</td>
<td>9,719</td>
<td>10,135</td>
</tr>
</tbody>
</table>

Other benefits include any payments that are not included in fixed, variable or pension compensation. If data on other benefits was missing for a given year (and available on
another) but there is information that such has been given in similar form (e.g. company car) and the sum is relatively small, then data from another year are used. The following table (Table 5) summarizes the other benefits paid to CEOs in the sample. A clear outlier can be spotted in both 2009 and 2010 (max. 8,690 and 38,000, respectively).

Table 5  CEO Other Benefits

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>07-11 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>in EUR 1,000’s</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>52</td>
<td>51</td>
<td>53</td>
<td>53</td>
<td>57</td>
<td>53</td>
</tr>
<tr>
<td>Mean</td>
<td>179</td>
<td>209</td>
<td>285</td>
<td>818</td>
<td>190</td>
<td>336</td>
</tr>
<tr>
<td>Median</td>
<td>39</td>
<td>41</td>
<td>24</td>
<td>25</td>
<td>27</td>
<td>31</td>
</tr>
<tr>
<td>Std.Dev.</td>
<td>412</td>
<td>520</td>
<td>1,211</td>
<td>5,160</td>
<td>534</td>
<td>1,568</td>
</tr>
<tr>
<td>Min</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Max</td>
<td>2,384</td>
<td>2,589</td>
<td>8,690</td>
<td>38,000</td>
<td>3,271</td>
<td>10,987</td>
</tr>
</tbody>
</table>

The dataset does not include any possible compensation that the CEOs might have gained from subsidized company loans for them. Data on pension payments and stock ownership of the CEO was collected but there is too little information available regarding these, and any comparisons done with this data would have little value. Thus, compensation in the form of virtual increase in value from stock holdings of the company (or from actual sales of the company stock) or from pension payments is not included in this thesis.

6.4. Control Variables

Since company size and compensation are strongly linked, I will use bank total assets as a control variable in all hypotheses. The data for total assets was gathered from Orbis database. For an unknown reason, the database is missing information for certain banks in certain years and these were hand collected from the bank annual reports.
Table 6  Bank Total Assets

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>07-11 average</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>21</td>
<td>21</td>
<td>22</td>
<td>20</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Mean</td>
<td>547,323</td>
<td>575,013</td>
<td>518,270</td>
<td>582,532</td>
<td>615,165</td>
<td>567,660</td>
</tr>
<tr>
<td>Median</td>
<td>201,981</td>
<td>225,137</td>
<td>212,262</td>
<td>241,531</td>
<td>270,071</td>
<td>230,196</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>683,755</td>
<td>734,714</td>
<td>584,510</td>
<td>614,833</td>
<td>652,131</td>
<td>653,989</td>
</tr>
<tr>
<td>Min</td>
<td>50,117</td>
<td>38,984</td>
<td>39,829</td>
<td>52,613</td>
<td>47,918</td>
<td>45,892</td>
</tr>
<tr>
<td>Max</td>
<td>2,586,444</td>
<td>2,515,722</td>
<td>1,907,161</td>
<td>1,836,107</td>
<td>1,975,097</td>
<td>2,164,106</td>
</tr>
<tr>
<td>non-SOP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>64</td>
<td>65</td>
<td>62</td>
<td>60</td>
<td>60</td>
<td>62</td>
</tr>
<tr>
<td>Mean</td>
<td>348,564</td>
<td>382,894</td>
<td>349,941</td>
<td>369,811</td>
<td>377,115</td>
<td>365,665</td>
</tr>
<tr>
<td>Median</td>
<td>167,885</td>
<td>188,022</td>
<td>172,867</td>
<td>173,870</td>
<td>186,537</td>
<td>177,836</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>415,668</td>
<td>471,816</td>
<td>416,977</td>
<td>451,280</td>
<td>478,682</td>
<td>446,884</td>
</tr>
<tr>
<td>Min</td>
<td>43,627</td>
<td>32,507</td>
<td>34,030</td>
<td>31,431</td>
<td>31,593</td>
<td>34,638</td>
</tr>
<tr>
<td>Max</td>
<td>1,925,003</td>
<td>2,202,423</td>
<td>2,057,698</td>
<td>1,998,158</td>
<td>2,164,103</td>
<td>2,069,477</td>
</tr>
</tbody>
</table>

Table 6 offers bank total assets statistics for SOP and non-SOP sample. As we can see, the banks in SOP group have slightly higher mean and median values for total assets. Larger variation (standard deviation) of the SOP group is explained by the smaller sample.
7 METHODOLOGY

Hypotheses 1 – 3 (H1 – H3) predicted the following differences between SOP and non-SOP banks; a difference in return on assets (ROA), a difference in CEO variable compensation in relation to ROA and a difference in other benefits (OB). To study these relationships, a multiple regression analysis is employed.

Multiple regression analysis studies the relationship between a dependent variable and two or more independent variables. Independent variables can be further divided into explanatory variables (variables I expect to be explaining the phenomenon) and control variables (variables I want the test to be controlled for) but their treatment in the regression is identical. For the type of data that is used in this thesis (unbalanced panel data with time series observations), ordinary least squares regressions (OLS) are used for analysis. The OLS creates a linear relationship between one explained and one or more explanatory variables. Multiple regression analysis tests for overall model significance (f-test) and individual independent variable significance (t-test).

The model significance is represented by R square. I will use adjusted R square when presenting model significance as it attempts to take into account the automatic and spurious increase in R square when extra independent variable is added. The individual independent variable significance is represented by p-value.

For example in hypothesis 1, the null hypothesis is that there is no change in dependent variable (ROA) with respect to independent variable (SOP). The alternative hypothesis is, that there is a positive or negative impact between the variables. These can be formulized as:

\[ H_0: \beta_1 = \beta_2 \]

\[ H_1: \beta_1 \neq \beta_2 \]

The most major conceptual drawback of the regression model is that it shows whether there is correlation between dependent and independent variable, but does not give information about the possible causality or the direction of that causality.
7.1. Regression model

For the hypotheses 1 to 3, a typical multiple linear regression model is suitable tool for analysis. Typical multiple linear regression model for the hypotheses 1 and 3 takes the following form:

\[(H1): \text{ROA} = \alpha + \beta_1 D_{\text{sop}} + \beta_2 X_{ta} + \varepsilon\]

\[(H3): \text{OB} = \alpha + \beta_1 D_{\text{sop}} + \beta_2 X_{ta} + \varepsilon\]

In the formula for hypothesis 1 for example, ROA is explained by \(\alpha\) as the intercept, \(D_{\text{sop}}\) as the explanatory dummy variable for SOP, \(X_{ta}\) as the control variable (total assets), \(\beta_1\) through \(\beta_2\) as the respective slope coefficients and \(\varepsilon\) as the random term.

Whether a company is from SOP country or not is a qualitative variable. Thus, a dummy variable is used that gets a value 1 when bank is from SOP country and 0 when it is from non-SOP country.

For the hypothesis 2, a slightly different formulation is necessary since I am looking at the relationship between ROA and variable compensation in relation to SOP:

\[(H2): \text{ROA} = \alpha + \beta_1 X_{vc} + \beta_2(D_{\text{sop}}X_{vc}) + \beta_3 X_{ta} + \varepsilon\]

Here I need to add a term for this interaction which is \(\beta_i(D_{\text{sop}}X_{vc})\), where \(D_{\text{sop}}\) is the dummy variable for whether the bank is from SOP or non-SOP country and \(X_{vc}\) represents the explanatory variable (in this case; variable compensation) and \(\beta_i\) is the respective slope coefficient.

7.2. Multicollinearity and centering

Multicollinearity is a statistical phenomenon in which two or more explanatory variables in the multiple regression model are highly correlated. In other words, one can be linearly predicted from the others with great accuracy. If multicollinearity is present, the predictive power of the whole model is not reduced, but the results for individual predictors or their relationship with each other may not be valid.
There are different ways to analyze whether multicollinearity poses a problem. One simple way is to look at the correlation between the factors. Different sources offer a variety of thresholds after which one should be worried about multicollinearity. These range between 0.7 and 0.9. Underneath in Table 7 I have gathered the correlations between the independent variables.

**Table 7  Correlations between explanatory variables**

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP/Total Assets</td>
<td>0.156</td>
<td>0.135</td>
<td>0.159</td>
<td>0.185</td>
<td>0.195</td>
</tr>
<tr>
<td>SOP/Variable Compensation</td>
<td>0.047</td>
<td>0.189</td>
<td>-0.068</td>
<td>0.187</td>
<td>0.291</td>
</tr>
<tr>
<td>Variable Compensation/Total Assets</td>
<td>0.628</td>
<td>0.214</td>
<td>0.369</td>
<td>0.629</td>
<td>0.599</td>
</tr>
<tr>
<td>Other Benefits/Total Assets</td>
<td>-0.080</td>
<td>-0.088</td>
<td>0.074</td>
<td>0.098</td>
<td>-0.025</td>
</tr>
</tbody>
</table>

As we can see from the above table, there is some correlation between variable compensation and total assets but nothing that would trigger concern for multicollinearity.

In all of the hypotheses I use a dummy variable. In such cases, it is meaningful to center the data in order to have a meaningful intercept for the regression line and help interpreting the regression results. After centering the data, the intercept term is interpreted as the expected value of $y$ when the predictor values are set to their means. Otherwise, the intercept is interpreted as the expected value of $y$ when the predictors are set to 0. Centering also reduces multicollinearity in the sample. Centering is done by simply calculating the average of given variable and deducting it from each single variable.
8 Results

8.1. Bank performance in SOP and non-SOP banks

The relationship between bank performance (measured by ROA) and Say-On-Pay, was tested by running regressions for each individual year between 2007 and 2011. This time period saw large variations in ROA between years and between companies, and since the timeframe of one year might be too short to capture the whole picture, a regression for the average values during the time period was run as well.

Table 8 underneath presents the results of the regressions. For the hypothesis 1, ROA was used as dependent variable, SOP as explanatory variable and Total Assets as a controlling variable. The results were analyzed at 5% and 10% significance intervals.

Table 8  Bank performance and SOP and non-SOP banks regression results with 2007-2011 data

<table>
<thead>
<tr>
<th>Dependent</th>
<th>SOP</th>
<th>Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>coefficient</td>
<td>-0.013</td>
<td>-0.1426</td>
</tr>
<tr>
<td>p-value</td>
<td>0.858</td>
<td>0.278</td>
</tr>
<tr>
<td>adj R square</td>
<td>-0.008</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>coefficient</td>
<td>-0.013</td>
</tr>
<tr>
<td>p-value</td>
<td>0.900</td>
<td>-0.1948</td>
</tr>
<tr>
<td>adj R square</td>
<td>-0.007</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>coefficient</td>
<td>-0.152</td>
</tr>
<tr>
<td>p-value</td>
<td>0.071*</td>
<td>0.0707</td>
</tr>
<tr>
<td>adj R square</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>coefficient</td>
<td>-0.243</td>
</tr>
<tr>
<td>p-value</td>
<td>0.084*</td>
<td>0.1995</td>
</tr>
<tr>
<td>adj R square</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>coefficient</td>
<td>0.319</td>
</tr>
<tr>
<td>p-value</td>
<td>0.249</td>
<td>0.6406</td>
</tr>
<tr>
<td>adj R square</td>
<td>0.027</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>07-11</td>
<td>coefficient</td>
<td>-0.025</td>
</tr>
<tr>
<td>avg p-value</td>
<td>0.756</td>
<td>0.1210</td>
</tr>
<tr>
<td>adj R square</td>
<td>-0.016</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>84</td>
<td></td>
</tr>
</tbody>
</table>

***" and **" represent statistical significance at 5% and 10% level, respectively.
The regressions show a significant relationship (at 10% level) between SOP and ROA for the years 2009 and 2010. The adjusted R square for both years is 0.017. This means that 1.7% of the variation in the dependent variable is accounted for by the independent variables in each year. Thus the overall explanatory value of the model is quite low.

The relationship between bank performance and SOP was negative, indicating that being part of the SOP group of banks in 2009 and 2010 meant for those banks to have on average a lower ROA (on average, 0.152 and 0.243 lower, respectively). This allows for rejecting the null hypothesis but runs counter to the expectation that being part of the SOP group would *increase* ROA. Regressions for the other years or the average values showed no significant relationship. From this we can interpret that being part of the SOP group of banks did not help to avoid the effects of the financial crisis, and for the years 2009 and 2010, made things only worse.

There was no significant relationship between the control variable and ROA in any of the years or for the average values during the same time period. In order to help interpret the results and table, total assets are multiplied by a trillion in table 9.

### 8.2. Bank performance and CEO variable compensation in SOP and non-SOP banks

The relationship between bank performance (measured by ROA) and variable compensation and Say-On-Pay, was tested by running regressions for each individual year between 2007 and 2011, and the average values during this time period.

Table 9 shows the results of the regressions where ROA was used as a dependent variable, and variable compensation and variable compensation interaction with SOP dummy as independent variables. Total Assets was used as a control variable in the regressions. The results were analyzed at 5% and 10% significance levels.
Table 9  Bank performance and variable compensation regression results with 2007-2011 data

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Variable Comp.</th>
<th>Var. Comp. with SOP</th>
<th>Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>2007 coefficient</td>
<td>0.0712</td>
<td>0.0003</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.024**</td>
<td>0.102</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>0.075</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>coefficient</td>
<td>0.1839</td>
<td>-0.0676</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.025**</td>
<td>0.402</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>0.085</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>coefficient</td>
<td>0.1648</td>
<td>0.0874</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.014**</td>
<td>0.157</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>0.080</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>coefficient</td>
<td>0.1446</td>
<td>0.1048</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.342</td>
<td>0.392</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>-0.028</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>coefficient</td>
<td>0.0866</td>
<td>-0.0668</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.599</td>
<td>0.625</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>-0.16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>07-11</td>
<td>coefficient</td>
<td>0.0901</td>
<td>0.0046</td>
</tr>
<tr>
<td></td>
<td>p-value</td>
<td>0.121</td>
<td>0.926</td>
</tr>
<tr>
<td></td>
<td>adj R square</td>
<td>-0.007</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>62</td>
<td></td>
</tr>
</tbody>
</table>

"***" and "**" represent statistical significance at 5% and 10% level, respectively.

For the years 2007, 2008 and 2009, the regressions showed a significant relationship (at 10% level) between bank ROA and CEO variable compensation. The adjusted R square for each mentioned years was around 0.08 which means that 8% of the variation in dependent variable is accounted for by the independent variables. The variable compensation coefficient is multiplied by one million to help interpret the results. So, for each increase of 1,000,000 euros in variable compensation, the bank ROA increased by 0.0712.

For the following years, 2010 and 2011, this relationship was not significant, nor was there a significant relationship for the average values between 2007 and 2011. This suggests that the variable compensation arrangements were efficient as the financial
crisis started. However, it seems the turmoil around CEO compensation during the financial crisis put pressure on the CEOs, boards and supervisors, and led to new contracts that did not ‘pay for performance’.

For the year 2007, there was a significant relationship between bank ROA and total assets as well. This suggests that as banks were going into the crisis, larger banks in the sample were more profitable but this advantage disappeared during the crisis. In order to help interpret the results, total assets are multiplied by a trillion in the table.

The regression shows no significant relationship between ROA and variable compensation in relation to SOP for any of the individual years or for the average values during the time period. Thus, we cannot reject the null hypothesis. Based on these results, being part of the SOP group of banks does not effect the variable compensation arrangements in significant manner. In order to help interpret the results, variable compensation in relation to SOP is multiplied by one million. These results are in line with similar study by Fahlenbrach and Stultz with US data.

8.3. Other benefits in SOP and non-SOP banks

The relationship between other benefits and Say-On-Pay, was tested by running regressions for each individual year between 2007 and 2011, and for the average values between 2007 and 2011.

Table 10 illustrates the results of these regressions, where other benefits were used as a dependent variable and SOP as independent variable. Total assets were used as a control variable. Results were analyzed at 5% and 10% significance levels.
Table 10  Other benefits and SOP and non-SOP banks regression results with 2007-2011 data

<table>
<thead>
<tr>
<th>Dependant</th>
<th>2007 Coefficient</th>
<th>2007 p-value</th>
<th>2007 adj R square</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other benefits</td>
<td>75745.726</td>
<td>0.233</td>
<td>-0.004</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>-0.0824</td>
<td>0.469</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>82348.739</td>
<td>0.311</td>
<td>-0.01</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>-0.1010</td>
<td>0.434</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>-69680.524</td>
<td>0.706</td>
<td>-0.031</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>0.1980</td>
<td>0.557</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>-636913.61</td>
<td>0.445</td>
<td>-0.018</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>1.0000</td>
<td>0.413</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>41890.271</td>
<td>0.621</td>
<td>-0.032</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>-0.0445</td>
<td>0.747</td>
<td></td>
<td></td>
</tr>
<tr>
<td>07-11 avg</td>
<td>-169721.58</td>
<td>0.453</td>
<td>-0.002</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>1.0000</td>
<td>0.216</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"***" and "**" represent statistical significance at 5% and 10% level, respectively.

Regressions for other benefits and SOP and non-SOP banks showed no significant relationship for any of the individual years between 2007 and 2011, or for the average values during the same time period. Since from the data section we could see that there is a clear outlier in the data (other benefits, 2010, max), this was removed and the same regression run again with no marked change in the results. Thus, null hypothesis could not be rejected. This suggests that being part of the SOP group of banks did not reduce the amount of other benefits that were paid to bank CEOs.

The same regressions showed no significant relationship between total assets and other benefits. Larger size of a bank doesn’t seem to be connected with other benefits either. To help interpret the results, total assets are multiplied by one million in the table.
9 CONCLUSIONS

9.1 Summary of results and contribution to existing studies

This thesis studies the effects of SOP in large European banks and the financial crisis (2007–2011). While earlier studies on the effects of SOP and financial crisis do not exist, the studies done on SOP and CEO compensation show some promising results. Earlier studies on the effects of bank CEO compensation to financial crisis show mixed results.

The dataset shows that bank CEO compensation agreements have very large variations. The smaller banks in the dataset often pay remuneration in mostly fixed form (salary and pension) with small amounts of variable pay. The larger banks rely more (relatively and absolutely) on bonus, stock and option payments, with smaller portion of the compensation coming from fixed compensation and pension commitments.

There are large differences between countries as well. Banks from Scandinavia tend to pay mostly in fixed compensation and pensions, where as banks from UK use more variable pay and Spanish banks pay large sums in pension commitments. German banks sit somewhere in between. Clearly, for most of the banks, the CEO compensation contracts are a function of the local pay practices rather than any global benchmarking, with the exception of very large internationally operating banks.

CEO compensation data for the banks in the sample was missing for part of the original sample and the final sample was found to have higher ROA on average than the banks lacking CEO compensation data. The availability of compensation data grows slightly towards the end of the study period. Since many of the banks that are missing CEO compensation data have Spanish or Greek origin, it is quite easy to explain why they have lower ROA, as their financial sector was probably the most affected in Europe. Whether bank CEO compensation had something to do with this is a question that this thesis cannot answer as the compensation data is missing.

To see whether SOP is an effective tool in not “rewarding for failure” and avoiding future financial crises, three tests on the bank performance and CEO compensation structures were employed. Bank performance was tested in relation SOP and non-SOP group of banks, as well as in relation to CEO variable compensation in SOP and non-SOP group of banks. CEO other benefits were tested between the SOP group and non-
SOP group of banks. If the previous research on SOP is applicable in the banking sector, then it was expected that SOP banks would show better performance, more closely linked variable compensation to bank performance and the avoidance of excessive other benefits. OLS regressions were run for each individual year and for the average values during the time period for each of the three hypotheses.

A significant relationship was found for the years 2009 and 2010 between bank performance (measured by ROA) and SOP. The relationship was negative, suggesting that SOP banks performed worse than their counterparts. In light of the bank CEO compensation literature, one possible explanation is the fact that shareholders of a bank have an incentive to take excessive risks because of the call properties of their equity. This could have led the shareholders to set CEO compensation plans that are socially undesirable. It is also possible, that since SOP and non-SOP groups are basically groups of banks from different countries, that SOP has had no effect on these banks and the results are simply a manifestation of the banking sectors in these countries.

The relationship between bank CEO variable compensation and ROA was found to be significant for the years 2007, 2008 and 2009 in the whole sample. This relationship was however not present in the SOP and non-SOP subsamples. This suggests that the link between bank CEO compensation and ROA in the SOP sample does not come from the overall variable compensation.

In the sample of banks with other benefits data, no relationship was found between other benefits and SOP. Since other benefits usually consist mostly of severance payments, this could be explained by the dramatic fall in severance payments already before the crisis as recorded by Deloitte & Touche (Deloitte 2004). If all of the banks across Europe had adopted the suggested policies, then there would have been little that SOP could add to the picture.

From the data we can see that the CEO variable compensation really took a massive fall and has only slightly recovered. Fixed pay being fixed, there’s practically no difference. Other benefits have seen some variation during the period and the average other benefits are surely higher during the crisis period as the CEOs have been let go in masses, which then corresponds to increased amount of severance payments.
In general, bank CEOs in Europe (which were in the sample set) were not rewarded for failure and the regressions showed that there was a link between variable compensation and ROA in the early years of the crisis, before the public outrage and authorities stepped in. Whether this link is desirable in the banking sector from the society’s point of view can be argued both ways.

While the dataset is fairly limited and the accuracy of the data relies on the reporting by the companies themselves, this thesis is the first paper to evaluate bank CEO compensation, SOP and the financial crisis in Europe. It seems highly questionable that SOP is being adopted all around Europe as a mechanism to avoid future financial crises with no empirical studies on its effects to the financial sector before this. In light of this thesis, while its adoption might solve possible problems in CEO compensation in other sectors, its adoption will not solve the problems it is supposed to in the financial sector (and actually only make them worse).

As different parts of the CEO compensation structure play important roles in setting the right incentives, it is possible that this thesis has missed some of those links by not providing a full picture of the compensation agreement due to missing data. Also, as different components of the compensation plan have significantly different sizes across the countries, it would be especially important to have all the elements of the compensation plan to make a more extensive analysis of bank CEO compensation in Europe. I have included an extensive list of suggestions for future research that together with this and other previous studies would offer a much clearer image of the issue at hand.

Since the sample of SOP banks does not differentiate between those regimes that have a binding vote and those that have an advisory vote, it is possible that one regime could be more effective than the other. Previous research on advisory vote initiatives has shown them to be mostly ineffective (Walkling 2008). However, at the same time Faulkender et al. (2010) suggest that if SOP is adopted, it should be advisory, on the grounds that compensation committees should have an understanding of the views of the shareholders but be given the discretion to design sophisticated pay packages that are appropriate for the firm as a whole. The issue is far from clear.

Currently, analyzing the CEO compensation in banks is fairly hard with only few countries in Europe requiring comprehensive reporting. Even with better reporting, it remains a question of how the shareholders would be better informed to make
decisions on bank CEO compensation agreements with large differences in the structure and strategies of the banks, and with shareholders having incentives to push for excessive risk-taking.

Given that total assets showed little correlation with bank ROA in the regressions, it is more likely that the type and business strategy of the bank are more important factors to bank performance than the size of the bank. This further suggests that creating an effective incentive structure for a bank CEO is a complex task for the board, let alone to shareholders, and where one-size-fits-all solutions should be avoided.

Country specific regulation would probably merit better results than SOP as it could be tailored to fix local “inefficiencies” in pay practices (if such exist). On the other hand, like with the proposed EU financial transaction tax, countries with new regulation towards bank CEO compensation could be in a worse position to attract more banking business and best leaders since the board would have less discretion over pay arrangements, and the pay packages could be less attractive.

At the minimum, the regulators should show more evidence between the link of bank CEO compensation and the financial crisis and how SOP legislation is to achieve these changes. While there is some evidence that bank CEO compensation could have been a piece in the puzzle that caused the financial crisis, there is nothing that suggests that adopting SOP legislation would decrease the risk of a banking crisis happening again.

9.2. Limitations and suggestions for future research

Limitations of data availability set several constraints on this thesis. Majority of the following limitations and suggestions refer to this problem. There are also some detailed aspects of bank CEO compensation that would deserve a closer look.

Since remuneration data is reported according to the local disclosure requirements, certain countries lack more data than others. For this reason, interesting country specific variations could be missing. Also, the wide range of different reporting standards make it impossible to data mine the bank CEO compensation information from the companies’ documents. As I had to collect data manually, there is a possibility that error(s) have occurred during the data collection (though, I have double-checked all the data).
Information on the CEO remuneration was not available for many of the banks, which meant that the sample size of this thesis was reduced substantially from the original 88 to 58 at best (see Appendix 1 for the whole sample) in compensation related issues. Even for the banks in the sample, compensation data for the years 2007 and 2008 is missing for many. Since there is a clear increase in the amount of bank CEO compensation data towards 2011 (amount of banks reporting, variety of data reported, accuracy of data), any studies that would be conducted starting from 2011 and on, would automatically have more complete and accurate data sets.

The compensation data in this thesis does not represent what was actually paid to the bank CEOs, but what the compensation package was worth at grant-date in fair value. As Kaplan (2007) points out, this is only an accounting value and can have a large difference with the actual payment (it can be higher or lower). Again, this problem arises from the lack of information reported by the banks. With more accurate data set this aspect could be covered as well.

Data on the stock ownership of CEOs and preferential loans to the CEO by the bank was also only partly available. Their effect on the total compensation of the CEOs could not be reported in this thesis. At least in the US these are very substantial (Bebchuk et al. 2010) and a similar study in the European ground would give a fuller picture of the total compensation.

Studies from US (Sundaram and Yermack 2007, Bebchuk and Jackson 2005) show that pensions can have a large effect on the total compensation. Examples from Spain and UK (Buck and Johnson 2013) also suggest that pensions could form a substantial part of the total compensation in Europe. If data on the pension contributions by the bank for the CEO were available (for the years of this thesis, it was for only some of the banks), then an interesting aspect of study would be to see if these (or the total inside debt) have had an impact on incentives of the bank CEO in relation to financial crisis.

While investors lost huge amounts of money when banks’ share prices collapsed, to the government and taxpayers, the banks that received government support are at the center of the financial crisis in Europe as they might end up paying that bill. It would be interesting to see, if CEOs in the group of banks that received government support, have had remuneration or compensation structures that differ from the rest.
With the governments injecting money into their banking systems, they also set special rules regarding CEO compensation in banks receiving these emergency funding. Thus, the amounts received by the bank CEOs during the crisis are not representation of what the CEOs would have received under market conditions. In order to see whether there were differences between banks in CEO compensation under market conditions, a study into the years preceding the financial crisis would be fruitful, especially in Europe, where such studies do not exist. This data set would also include many smaller banks, which are missing from sample of banks in this thesis. Then again, there is a clear correlation between data availability and the size of the banks, and getting data on the smaller banks could be challenging.

In many of the banks in the sample set, the bank CEO is not the person who gets the largest paycheck (Kirchfeld 2011). The heads of the investment banking division, where the risks and the rewards are the highest, are often the top earners in a bank. While CEO runs the company, heads of the investment banks can make choices that could end up costing the company a lot. Thus it is important that their incentives are set correctly as well. A study with the compensation plans of the head of the investment division or the whole management team would shed light on the broader issue of incentives in the overall top management.

While ROA is a good measure for bank performance, some aspects of a bank (such as changes in the size of the impairment of loans, quality of loan book or changes in the net interest margin) that might affect its value to shareholders, impact ROA with a delay. If a bank is listed in a stock exchange, then the value of the stock and changes in that value should accurately measure all aspects of the banks performance and financial state. With a larger sample of banks listed in a stock exchange, SOP and non-SOP banks could be compared to each other with different performance measures. To this date, No such studies have been done in Europe.
REFERENCES


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Jensen, M.C., Murphy, K.J., Wruck, E., 2004. Remuneration: where we’ve been, how we got here, what are the problems and how to fix them. Finance, Harward NOM working paper no. 04-28.


## APPENDIX 1

### Final data set and comments

<table>
<thead>
<tr>
<th>Bank</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLIANCE &amp; LEICESTER</td>
<td>Taken over by Santander in September 2008.</td>
</tr>
<tr>
<td>ALLIED IRISH BANKS</td>
<td></td>
</tr>
<tr>
<td>ALPHA BANK</td>
<td></td>
</tr>
<tr>
<td>BANCA POPOLARE DI MILANO</td>
<td></td>
</tr>
<tr>
<td>BANCAJA</td>
<td>Part of Bankia since December 2010.</td>
</tr>
<tr>
<td>BANCO DE SABADELL</td>
<td></td>
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<tr>
<td>BANCO ESPIRITO SANTO</td>
<td></td>
</tr>
<tr>
<td>BANCO POPOLARE</td>
<td></td>
</tr>
<tr>
<td>BANCO POPULAR ESPANOL</td>
<td></td>
</tr>
<tr>
<td>BANCO SANTANDER</td>
<td></td>
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<tr>
<td>BANK OF IRELAND</td>
<td></td>
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<tr>
<td>BANKIA</td>
<td></td>
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<tr>
<td>BANKINTER</td>
<td></td>
</tr>
<tr>
<td>BARCLAYS</td>
<td>CEO Bob Diamond has declined to receive bonus for 2009.</td>
</tr>
<tr>
<td>BAWAG P.S.K.</td>
<td></td>
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<tr>
<td>BAYERN LB</td>
<td></td>
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<tr>
<td>BBVA</td>
<td></td>
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<tr>
<td>BELFIUS BANQUE</td>
<td>Formerly Dexia Bank Belgium.</td>
</tr>
<tr>
<td>BFBP</td>
<td>Merged with CNCE to form BPCE in 2009.</td>
</tr>
<tr>
<td>BNP PARIBAS</td>
<td></td>
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<tr>
<td>BPCE GROUP</td>
<td></td>
</tr>
<tr>
<td>BPER</td>
<td></td>
</tr>
<tr>
<td>BRADFORD &amp; BINGLEY</td>
<td>Nationalized in 2008 and split in two in 2010.</td>
</tr>
<tr>
<td>BRITANNIA BUILDING SOCIETY</td>
<td>Part of The Co-operative Banking Group since August 2009.</td>
</tr>
<tr>
<td>CAIXA CATALUNYA</td>
<td></td>
</tr>
<tr>
<td>CAIXA GERAL DE DEPOSITOS</td>
<td>The title of CEO created in 2011.</td>
</tr>
<tr>
<td>CAJA MADRID</td>
<td>Part of Bankia since December 2010.</td>
</tr>
<tr>
<td>CNCE</td>
<td>Merged with BFBP to form BPCE in 2009.</td>
</tr>
<tr>
<td>CO-OPERATIVE BANK</td>
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<tr>
<td>COMMERZBANK</td>
<td></td>
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<tr>
<td>CREDIT AGRICOLE</td>
<td></td>
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<tr>
<td>CREDIT MUTUEL</td>
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<tr>
<td>CREDIT SUISSE GROUP</td>
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<tr>
<td>DANSKE BANK</td>
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<td>DEKABANK</td>
<td></td>
</tr>
<tr>
<td>DEUTSCHE BANK</td>
<td></td>
</tr>
<tr>
<td>DEUTSCHE POSTBANK</td>
<td>Taken over by Deutsche Bank in September 2008.</td>
</tr>
<tr>
<td>DEXIA</td>
<td>2007 to 2009 other benefits do not include insurance payments.</td>
</tr>
</tbody>
</table>
DNB
DRESDNER BANK Bought by Commerzbank in December 2009.
DZ BANK
ERSTE GROUP BANK
EUROBANK ERGASIAS
FINANZGRUPPE HT

HBOS
HELABA
HSBC HOLDINGS
HSH NORDBANK
HYPO REAL ESTATE
IKB
ING GROEP NV
INTESA SANPAOLO
KBC GROEP
LA BANQUE POSTALE
LA CAIXA
LANDES_BANK BERLIN
LBBW
LLOYDS BANKING GROUP
MEDIOBANCA
MILLENIUM BCP
MONTE DEI PASCHI DI SIENA
NATIONAL BANK OF GREECE
NATIONWIDE
NORD/LB
NORDEA BANK
NORTHERN ROCK
NYKREDIT REALKREDIT
OP-POHJOLA GROUP
PERMANENT TSB
RABOBANK NEDERLAND
RAIFFEISEN

RBS GROUP
RZB
SACHSEN-FINANZGRUPPE
SEB
SNS REAAL
SOCIETE GENERALE

STANDARD CHARTERED
SVENSKA HANDELSBANKEN

Value of car allowance calculated in relation to salary.

Value of fixed and variable compensation for 2009 to 2011 is based on total compensation, and the compensation framework, which is mentioned in the 2010 annual report.

Other benefits for 2007 relate to company car. Amount derived from later years.

CEO Stuart Gulliver has declined to receive bonus for 2008.

CEO Jan Hommen has declined to receive variable salary for 2009.

Other benefits do not include car allowance.

CEO Eric Daniels has declined to receive variable salary for 2009.

Nationalized in 2008 and split in two in 2010.
SWEDBANK
Data on CEO Oswald Grüber's compensation in 2009 were not available. CEO has declined to receive bonus for the years 2010 and 2011.

UNICREDIT
CEO Alessandro Profumo has declined to receive bonus for 2008.

UNIONE DI BANCHE ITALIENE
A result of a merger between two banks in 2007.

VOLKSBANK

W & W

WGZ-BANK

ZURCHER KANTONALBANK