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**"CEOs BANK REMUNERATION AND THE FINANCIAL CRISIS"**

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A handwritten signature in cursive script that reads 'Bruno Parigi'.

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*Alla mia famiglia*

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## INTRODUCTION

Bank managers' compensation is a topic that has become of considerable importance due to the economic and financial crisis of 2008; in fact, possible connections between the structure of executive remuneration and the economic depression itself could be found.

In recent decades a fervent international debate has grown around the theme of the multimillion-dollar remuneration paid to Chief Executive Officers of the largest multinational companies and especially of the major banking institutions.

The events that have occurred during the 2008-2011 period have profoundly marked the current world economy and have seen the international banking sector play a leading role. The interventions of the Central Banks to restore liquidity in the banking sector, has made it clear to the whole world what role held the banking system in determining the fate of the entire planet and have focused the attention on the strategic and operational choices made by financial managers these last years.

In the aftermath of the financial crisis of 2008, the international debate was focused on finding those responsible for the most severe recession that the world was facing since 1929. The argument concerned the wild remuneration attributed to executive and top managers, which have been definitely recognized, by the G20 in 2009, as one of the underlying causes of the crisis.

With executive compensation we generally refer to the remuneration policy for top management. Usually, executive remuneration link to firm performance in its various forms (for example, stock options, equity plans or bonuses related to firm value) has become a commonly used tool for the managerial remuneration in all sector, especially in banking. Given the growing importance of CEOs' variable compensation, we need to understand its impact on risk in banks (Cerasi and Oliviero, 2015).

Indeed, there is the idea that banking remuneration practices had induced the executives to engage excessive risk and imprudent attitudes (with the "risk" term, I am referring to a potential loss due to a negative result caused by an uncontrollable event). This risky behavior could have led to resounding failures, like those of Bearn Sterns and Lehman Brothers, and jeopardized the survival of a large number of other banks, who often have had to resort to public intervention to avoid the financial collapse. Therefore, the excessive risks taken under the impetus of distorted incentive systems have not only damaged the world economy, but

they ended up rapidly deteriorating the economic-financial and equity conditions of the same financial institutions that had promoted.

The period that preceded the global financial crisis has been characterized by excessive risk-taking in the financial sector. The causes of this situation are many and complex, but, in the financial sector, the public sector and in academia there is a general consensus on the important role played by incentive structures in financial institutions.

The sub-prime financial crisis has reignited the debate on the subject of remuneration, on the relationship between short-term incentives and goals, as well as on need for new rules for listed companies. The issue of managerial compensation, especially for the members of the board, executive or not, has been the subject of deep-level international reflections.

The main point was that the executives' compensation was not properly related to long-term performance, and this led to find a solution and discuss how to solve this problem. In fact, incentive structures should reflect long-term targets closely aligned with performance. Furthermore, the whole culture of bonuses has also been questioned by those arguing that performance-related financial incentives are not necessary to induce high-quality work (Marshal, 2009).

The use of bonuses was believed to be an effective compensation system that was designed to incentivize managers to perform better and work harder. However, bonuses seem to have encouraged the wrong type of motivation (De Cremer, 2010). Incentives led CEO to take too much risk and to focus on the short run (Fahlenbrach and Stulz, 2009).

The truth is that a good incentive pay system needs to target the optimal trade-off between performance and pay (Efing et al., 2014).

Usually, CEOs' pay is set by a compensation committee and may be ratified by the shareholders meeting. In fact, shareholders use pay to limit the moral-hazard problem caused by the low ownership stakes of CEO's (Bertrand and Mullainathan, 2000). Through incentives such bonuses, options, or long-term contracts, shareholders can motivate CEO to maximize firm wealth.

However, Fahlenbrach and Stulz (2009) results show that there is no evidence that banks with a better alignment of CEOs' interests with those of their shareholders had higher stock returns during the crisis. In fact, there have been evidences that banks which had shareholders and CEOs' interests aligned, had worse return on equity and worse stock returns.

So, we cannot argue that executive compensation is responsible for this crisis, however, it has been blamed as being an aggravating factor (Marshal, 2009).

Then, the purpose of my work is to give a synthetic overview of theoretical knowledge in the field of executive pay and try to understand how bank executives, during the sub-prime crisis, were paid and which kind of link their remuneration could have had with the banks' performances.

My study will try to provide answer on what actually was the main cause of the devastating outbreak of the 2008 financial tsunami. I will show how the problem of banks' compensation practices had a huge role in the matter and I will explain this through a basic empirical analysis. The main message that arises from my investigation is the clear correlation between the compensation dynamics that were widely in vogue in the banking sector in the four years mentioned (2008-2011) and the bank financial results that were therefore achieved in the same period.

In particular, I'm looking forward to examine the problem from two points of view. The first is a profitability viewpoint of the compensation paid to the executive. The second consists of the conditions of profitability which characterized the banking groups examined in the 2008-2011 period.

The thesis is organized as follows:

The first chapter analyzes the problems traditionally associated with banks and addresses issues such as Principal Agent Model, Agency Theory, Moral Hazard, managers' risk aversion and risk taking. I will try to propose a review of the academic literature on Executive compensation, beginning with seminal works of Jensen and Meckling (1976), passing through Barro and Barro (1990) and Houston and James (1992) which have been one of the few scholars that have focused their studies on CEO compensation in the banking sector, up to the most recent literature on the financial crisis.

After analyzing the literature and the agency problems, we need to address the issue of moral hazard. A key component that should not be underestimated is the role that moral hazard, has played in the evolution of financial pay in the last few years. Specially, moral hazard played a central role in the events leading up to the crisis.

Later, I shall undertake a brief analysis and explanation on how the crisis of sub-prime broke out.

I'm going to analyze which are the incentives for risk-taking. The common idea among scholars, as a result of the sub-prime crisis, is that banking bonuses and executive compensation arrangements created incentives for excessive risk-taking in the banking sector and this seems to be one of the greatest causes of the meltdown of the world financial markets (Bebchuk and Spamann,2009). Finally, I will try to give some ideas on the role of regulators in the compensation packages. In fact, the aim of regulators should not focus on



compensations' amount, but it should concentrate on the structure of the compensation with the purpose of reducing the excessive risk taking choices made by the CEO. So, the subject of this chapter is to clarify how the international debate on the issue of link pay-performance has evolved.

The second chapter aims to explain the techniques and tools used world-wide for the remuneration of the executive, examining the advantages and weaknesses of each form. For this purpose, I will focus on the executive compensation structure. The reward system goes beyond the simple concept of compensation. In fact, the structure of the reward package should also try to incorporate the long-term strategic object that the company has set itself.

I'm going to analyze the two different key components of the executive's remuneration package, the fixed part and the variable one. I will analyze how the variable compensation is splitted in short-term part and in the medium/long-term one. Then I'll make a brief excursus on stock options history, tax rules affecting stock options compensation and managerial benefits.

Finally, I will explain the different kind of CEOs performance parameters that affects executives compensation.

In the third chapter I shall conduct a basic empirical work of the performance of three banks (two European and one American) and the compensation of their executives during the crisis of sub-prime for the period between 2008 and 2011. I will examine: Deutsche Bank (Germany), Goldman Sachs (USA) and HSBC (UK). I'll study the different remuneration policies of the three chosen banks.

All this analysis has the aim to understand if the trend of banks performance during the crisis can justify the compensation of their executives, or if the high compensation of the latter can be justified by a good performance of the bank. We will understand if there is a positive relation between pay and performance through the trend of the bank performance indicators, such as Net earnings, ROE and EPS.

# CHAPTER 1

## **Executive compensation theory**

The issue of executive compensation has always been the focus of academic debates and has assumed a vital role in the economic literature.

The standard economic theory of executive compensation is the principal-agent model. In this model, shareholders act as principals while the role of the agent is taken by the executives.

Agency theory is based on the premise that principals delegate duties to an agent (the CEO), who is expected to act in the best interest of the principal, rather than acting in self-interest. On one hand, shareholders, for maximizing their wealth, want the firm to perform as well as possible. On the other hand, CEO wants to maximize his/her financial and non-financial benefits (Yang, Dolar and Mo, 2014).

Risk-averse CEOs may have aims and goals that do not coincide with those of shareholders. In fact, the interests of the shareholder-principals and manager-agents are not perfectly aligned (Bebchuk, Fried and Walker, 2002). So, the board of directors comes in the game, for finding the right balance between optimal compensations and incentives, that allows the CEO to operate in shareholders' best interest.

As in any agency relationship, there is the risk that the agent will expend too little effort on the principal's behalf and that executives might make decisions that maximize their own utility but that fail to maximize shareholder value (Bebchuk, Fried and Walker, 2002). Therefore, CEO incentive contracts are used to solve the agency problem and allay the conflict of interest between executives and shareholders.

The principal-agent model assumes that the agents are risk averse, that their interests may differ from those of the principal. For instance, a CEO may move the company into an aggressive diversification program of mergers and acquisitions, with modest or perhaps even negative returns to stockholders, increasing firm size and salary and reducing business risks. Thus, the principal may incur some losses, referred to as "agency costs". According to agency theory, mechanisms that align the interests of managers with those of shareholders increase the value of a firm (David, Kochhar and Levitas, 1998).

Shareholders face at least three problems in reducing agency costs. First, owners can't easily structure and closely supervise the activities of top executives. Second, executives know more about organizational processes and the appropriateness of business decisions than

stockholders. Third, executives are in a position to use organizational resources to pursue objectives that may not be compatible with the best interests of stockholders. The challenge from an agency perspective is how to induce self-centered, utility-maximizing, risk-averse agents<sup>1</sup>, to act on behalf of the principals who want to increase the value and the performance of the firm.

The theoretical work on the agency contract indicates that when agent efforts are not observable by the principal and information asymmetries are high, the principal has to transfer risk to the agent by basing the contract on observed performance outcomes. Agency theorists refer to this alternative as the “second best” solution to the issue of control in principal-agent relations.

## **1.1 Review of the literature**

In the past decades, economists tried to understand if CEO worked to maximize shareholders' wealth. Executive compensation, in fact, has come under an intense academic scrutiny. Some scholars believe that CEO's pay are excessive, while others don't agree with this view.

I would like to make a quick excursion into the “history” of economic literature on this issue. Beginning with seminal works by Berle and Means (1932) and Jensen and Meckling (1976), researchers have addressed the agency costs incurred by the separation of ownership and control (Hubbard and Palia, 1995).

One of the most important empirically studies on CEO compensation is the one of Jensen and Murphy (1990). They use a least squares regression to calculate the relation between the dollar change in salary and bonus and in the shareholder wealth for all companies with at least seven years of pay-change data from 1975 to 1988. By doing this, they found that there is a significant positive relationship between firm performance and CEO pay. Jensen and Murphy (1990) found an average increase in CEO compensation of \$3.25 for every \$1,000 increase in shareholder wealth and the elasticity of CEO salary and bonus with respect to firm market value is only 0.1. By this, the authors concluded that the sensitivity of CEO pay to firm performance was quite low. Since Jensen and Murphy's 1990 work remains the seminal pay-performance sensitivity study, it commonly serves as a benchmark against which other findings are compared. However, depending on the variables included, the sample used and the time frame studied, the levels of pay-performance sensitivity observed appear to vary widely. For example, using a new 15-year panel data set of CEOs in large U.S. firms from

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<sup>1</sup> Managers who want to pursue their own interests while minimizing the possibility of personal losses.

1980 to 1994, Hall and Liebman (1998) concluded that CEO pay–performance sensitivity was about four times higher than Jensen and Murphy’s theory<sup>2</sup>.

Most scholars focused their studies on CEO compensation in industrial firms and only few of them have focused on remuneration in the banking sector. Barro and Barro (1990) and Houston and James (1992) are exception.

Barro and Barro (1990) use the Jensen and Murphy (1990) methodology to confirm a positive relation between pay and performance using a sample of commercial banks. They find that bank CEOs’ pay-performance sensitivity diminishes with CEOs experience (Brewer, Hunter and Jackson, 2003).

Houston and James (1995) compare banks with nonbanking firms, and find no evidence of greater compensation-performance sensitivity in banks than in nonbanking firms. They show that while bank CEOs receive a smaller percentage of their total pay from equity-based rewards than CEOs in other industries, compensation policies in banking are more sensitive to firm performance (Bliss and Rosen, 2001). They also find little evidence that bank compensation is designed to encourage risk-taking. As bank risk increases, the proportion of equity-based CEO compensation also increases (Brewer, Hunter & Jackson, 2004).

Also the studies of Saunders, Strock, and Travlos (1990) find some evidence that the ownership structure of a bank holding company affects certain aspects of its risk-taking behavior. In particular, they discover that larger ownership positions by executive managers and the board of directors are associated with increased risk-taking (Harjoto and Mullineaux, 2003). Saunders et al. (1990) find a positive and statistically significant relation between risk and the percentage of stock held by the CEO. In particular, they find a positive relationship between insider holdings and firm-specific risk. However, Mullins (1992) argues that Saunders et al. findings are largely attributable to their failure to adequately control for bank size.

Demsetz and Lehn (1985) and Smith and Watts (1992) papers highlight a new problem of the relationship between bank risk-taking and compensation policies. Indeed, they argue that the firm's asset mix and investment opportunities influence the firm's ownership structure and compensation policies.

In particular, Smith and Watts (1992) hint that compensation policies are structured to minimize agency costs, which are in turn determined by the firm’s asset mix and investment policies. They also suggest that is more difficult, for shareholders and boards of directors, to monitor managers’ actions.

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<sup>2</sup> This sensitivity was increasing because of the increased use of stock options.

Gorton and Rosen (1995) have focused their studies on risk and ownership structure in large bank holding companies. They assume that as insider ownership increases, risk first increases and then decreases.

Years later, Cornett et al. (2010) explained that equity ownership of executives can help align managers' interests with those of shareholders. If managers have larger equity stakes, they will behave more like principals and less like agents (De Haan and Vlahu, 2012).

Murphy's (1999) idea is that the interest of risk-averse executives should be put in relation with those of shareholders through an optimal compensation plan. Through a base salary, an annual bonus tied to accounting performance, stock options, and long-term incentive plans, shareholders will reward executives for their overinvestment of human capital in a single firm and their undiversified personal wealth portfolios (Acrey, McCumber and Nguye, 2011).

Bryan, Hwang, and Lilien (2000) suggest that restricted stock fails to induce risk-averse CEOs to accept riskier projects that should increase value, while later Douglas (2006) shows that value-maximizing compensation contracts induce bank managers to pursue riskier profits from opaque investments with high levels of information asymmetry<sup>3</sup>(Acrey, McCumber and Nguye, 2011).

Crawford, Ezzell and Miles (1995) and Hubbard and Palia (1995) analyzed the effect that the banking industry's deregulation had on CEO compensation. Both find a more sensitive pay for performance relationship after deregulation. Both papers note that the observed increase in pay for performance sensitivity is consistent with theoretical research on the principal-agent relationship (Bliss and Rosen, 2001).

Hubbard and Palia (1995) tried to focus on the connection between interstate banking laws and executive compensation. They find evidence of a stronger pay for performance relationship in states where interstate banking is permitted. So, they attribute this results to a more active corporate control market in states that permit interstate banking. Practically, they find stronger pay-performance relationships in deregulated interstate banking markets because investment opportunities are greater (Brewer, Hunter and Jackson, 2003).

The latest literature dwells on the financial crisis caused by the sub-prime.

A number of researchers have tried to demonstrate the relationship between the structure of executive pay and the performance of banks during the Global Financial Crisis.

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<sup>3</sup> During a financial crisis, the opacity and complexity of assets become a liability when a firm need to raise capital.

In 2006 Chen, Steiner and Whyte have demonstrated the impact that deregulation had on the US banking sector. Using a sample of 68 commercial banks, they showed that between 1992 and 2000, these institutions had grown compensation based on stock options, which in turn had encouraged taking risks.

Starting from a similar sample of banks, Mehran and Rosenberg (2007) observed that the increase in stock options in the remuneration packages was associated with a greater volatility of the equity and asset and had led to replace debt with a greater amount of risk capital. Thus, the ex-post budget resulting from the use of stock options seems to have been negative from the point of view of the increase of equity risk. Although in 1997 Schleifer and Vishny had praised the ability of stock options and stock grants to motivate managers to adopt behaviors in line with the interests of shareholders. In fact, these instruments seem to have resolved just apparently the agency problem.

For Kirkpatrick (2009) there is no association between remuneration of executives in financial institutions and risk-taking.

Also Fahlenbrach and Stulz (2011) investigate whether the degree of CEO-shareholder alignment before the crisis can explain bank performance during the Crisis and they find no evidence that banks with CEO whose incentives were less aligned with the interests of their shareholders performed worse during the crisis. They conclude that high levels of insider ownership did not lead the banks to take excessive risk. Bank CEOs suffered large losses during the crisis, indicating that while executives maintained well-aligned equity ownership stakes they may have misunderstood the risk occurring within the banking system (Acrey, McCumber and Nguye, 2011).

Of the opposite view, instead, were DeYoung, Peng and Yan (2010) that in a sample of US commercial banks examined between 1994 and 2006 found a strong empirical evidence to support the argument that bank CEOs have responded positively to contractual incentives for hiring more risk.

Bebchuk and Spamann (2009) maintain that the principal-agent conflict between bank owners and managers and the compensation structures have strongly affected managers' risk preferences. They speculate that shareholders approved without any problem CEO's bank projects and that they were aware of what CEO were doing, much to pay them with large sums. If this thought is correct, managerial interests were properly aligned with the risk appetites of their common shareholders (Acrey, McCumber and Nguye, 2011).

Conventional wisdom holds that executive compensation takes only two basic forms: cash and equity. However, a nascent literature shows that firm managers hold significant amounts of inside debt in the form of pensions and deferred compensation. So, as the proportion of CEO wealth held in the form of inside debt increases relative to CEO equity holdings, risk taking declines (Tung and Wang, 2011).

## **1.2 Moral hazard problem**

A key component that should not be underestimated is the role that moral hazard, associated with the banking sector, has played in the evolution of financial pay in the last few years (Bell and Van Reenen, 2010). Specially, moral hazard played a central role in the events leading up to the crisis and to understand how the economy works is necessary understanding this problem (Dowd, 2009).

In economics, moral hazard is a situation in which there are two parties: one party gets involved in a risky event knowing that it is protected against the risk and the other party will incur the cost (Thoma, 2013). Moral hazard occurs under asymmetric information, when the action taken by the agent is not observable to the principal. The agent is responsible for the interests of the principal, but has an incentive to put its own interests first (Thanassoulis, 2011). The agent's action is hidden and this means that he knows what kind of action he has taken but the principal can not directly observe those acts (Caillaud and Hermalin, 2000). The decision is based not on what is considered right, but on what provides the highest level of benefit. So, the action of the agent affects the well being of the principal.

Paul Krugman described moral hazard as "any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly."<sup>4</sup> Some possible financial examples are: the agent could pay her/himself excessive bonuses out of the funds that he/she is managing on the principal behalf; a subject might sell a financial product to another part although knowing that it is not in his/her interests to buy it; the agent could take risks that then the principal have to take (Dowd, 2009). Those examples are an inevitable factor in the financial system and it should be up to the institutions being able to moderate these behaviors.

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4 <http://www.policonomics.com/moral-hazard/>

Holmström (1979) suggested that investing resources for monitoring bankers' actions and using these information (obtained from the monitoring process) to formulate contracts, could have been a possible solution to the moral hazard problem. But, unfortunately, this proposal could never be successful. In fact, generally, full observation of actions is impossible or excessively costly. Whenever people are protected from the downside of their choices, they will tend to take on additional risk (Thoma, 2013). But if it's the person itself to pay the consequences of his/her own actions, certainly will place greater emphasis on its choices and will act more responsibly. If the behavior of taking on extra risk could have the power to impose costs and risks on other people, or even worse, produce a financial system breakdown, then some mechanism is needed to temper the risk-taking and protect individuals in good faith from the consequences of morally hazardous behavior (Thoma, 2013).

### **1.2.1 Subprime financial crisis**

The case in point is precisely the one of the subprime scandal.

Originally, a bank would grant a mortgage with a view to holding it to maturity. If the mortgage holder defaulted, then the bank would make a loss (Dowd, 2009).

From this perspective, the bank has an incentive to pay attention to whom grant the mortgage. However, if a bank decides to securitize a mortgage, it will not make a big selection on who could access the loan and who does not. In fact, if the bank sells to another subject the mortgage, it will be concentrated mainly on the payments that it gets for originating the loan and will have no interest in whether the mortgage defaults or not (Dowd, 2009). So, by doing this, the banks grant loans to any individual, regardless of the minimum requirements needed to obtain the mortgage and not worrying about the risks.

Mortgage securitization enables mortgage originators to pass on the risk that the mortgages they originate might default and not hold the mortgages on their balance sheets and assume the risk. In one kind of mortgage securitization default risk is retained by the securitizing agency<sup>5</sup> that buys the mortgages from originators.

But let's analyze more critically this point.

It is important to analyze how banks operated in that period, to understand the mechanisms of the financial crisis that started from sub-prime mortgages.

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<sup>5</sup> Fannie Mae and Freddie Mac.



A person who wanted to buy a house without any financial resources, obtained a mortgage loan from the bank. The mortgage lasted on average 30 years and was at fixed rates. The bank earned on the interest rate and fees related to disbursement of the loan, so it was essential that the borrower was able over the years to return the installments plus the interest (Lupoi, 2012). The technical tool is called *securitization* which is the process that transforms the loans in financial products (debt securities) traded on the market. This happens by moving pools of loans off-balance sheet by selling them to a special purpose vehicle (SPV), which in turn finances the purchase of the portfolio of loans by selling securities in the capital markets (Gorton and Metrick, 2012).

The bank gives to a special purpose vehicle a mass of mortgages. The SPV issues debt securities, called mortgages backed-securities (MBS), which more or less replicate the performance of the underlying mortgages, and using the money raised from the placement of such securities, pays at the bank the purchase of mortgages.

In this way the bank does not have to account on its balance sheet those credits and can grant new loans to customers. In fact, traditionally, financial intermediaries originated loans that they held on their balance sheets until maturity, but with securitization the loans can be financed off-balance sheet (Gorton and Metrick, 2012).

The increase in demand for MBS, led banks to lower the quality of the debtors, starting to provide mortgages to sub-prime borrowers.

Securitizing MBS on sub-prime mortgages proved to be a lucrative business, in fact, these titles still enjoyed a triple A rating and offered higher interest rates than previous MBS. Different interest rate was precisely due to the sub-prime quality of the original debtor, which it paid for the money lent, higher committees and interest rates (Lupoi, 2012).

MBS are based on loan pool and are collected by the bank that originated them and by the SPV, with the investment banks assistance. The pool can hold mortgages of different types (for interest rate, time period, client characteristics). The investment bank calculates, for the entire pool of loans, the related cash flows and then it divides the MBS in various parts, called tranches. Pooling and tranching correspond to different types of risk. Pooling minimizes the potential adverse selection problem which can take place during the selection of the assets to be sold to the SPV. Instead, tranching divides the risk of loss due to default based on seniority. Since tranching is based on seniority, the risk of loss due to default of the underlying assets is stratified (Gorton and Souleles, 2007).

The first tranche is the safest of the lot, while the last is the risky one, as it will receive for last financial flows. Because statistically there is always some mortgage of the pool that will not

be paid, the latest tranches offer higher returns than the first tranches, to make them attractive to the market. For all those reasons, the 2008 financial crisis was a bank-run crisis that occurred in a “securitized banking system”(Gorton and Metrick, 2012)<sup>6</sup>.

Summing up, in the years before the crisis (2006-2007), about 80% of the sub-prime mortgages were financed via securitization, that is the process by which a mortgage was sold in as part of a residential mortgage-backed security (RMBS), which involves pooling thousands of mortgages together, selling the pool to a special purpose vehicle (SPV) which finances their purchase by issuing tranches of investment-grade securities in the capital markets (Gorton and Metrick, 2012).

The market demand for high-risk MBS seemed insatiable, and to satisfy it the mortgage banks delivered continuously, investment banks securitized them, the ratings agencies evaluated them as solid titles and thus were sold. Unfortunately, this giant Ponzi scheme worked until real estate prices collapsed. Once interest rates started to rise and house prices started to fall, then the whole edifice began to fall in on itself (Dowd, 2009).

From this analysis we can understand how the problem of moral hazard has arisen. On one hand lenders make risky lending decisions under the assumption that they would be able to avoid holding the debt through its entire maturity. On the other one, banks underwrote loans with the expectation that another party would bear the risk of default, creating a moral hazard. Implicit government guarantees on bad loans also created a moral hazard for financial institutions. Government-sponsored agencies (GSA) such as Fannie Mae and Freddie Mac implicitly supported lenders underwriting real estate loans and those actions and claims influenced lenders to make risky decisions.

But the real moral hazard problem that has been one of the causes of the sub-prime financial crisis was that the financial institutions believed that the regulating authorities would not allow them to fail due to the systemic risk<sup>7</sup> that would have spread around the global economy. In fact, there was this general presumption that in case of a seriously bad situation those institutions would have received special treatment and protection from the authorities. In fact, there was the widespread idea that the banks were “too big to fail” because they were considered too vital to the economy.

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<sup>6</sup> Usually, a traditional banking run (a traditional banking system is characterized by making and holding loans) is driven by the withdrawal of deposits, while a securitized-banking run (a securitized banking system is the business of packaging and reselling loans) is driven by the withdrawal of repurchase agreements.

<sup>7</sup> Systematic risk: the risk that affects the overall market. This kind of risk is really difficult to avoid. It can be mitigated by hedging and through diversification.

Bankers effectively have government insurance against losses if the authority is forced to bail out "too big to fail" banks to avoid catastrophic consequences for the entire economy. This gives them the incentive to take more risks and that increases the chance of a financial crisis (Thoma, 2013).

As Thoma (2013) wrote, the only way to avoid moral hazard in financial markets is to make sure that those who are making the decisions about how to invest other people's money face and pay the consequences of their bad actions. If the government simply bails out "too big to fail" banks, the agents won't face large consequences for their actions and they will have no incentive to moderate their risky behavior.

### **1.3 Incentives for risk taking**

The common idea among scholars is that banking bonuses and executive compensation arrangements created incentives for excessive risk-taking in the banking sector and this seems to be one of the greatest causes of the meltdown of the world financial markets (Bebchuk and Spamann, 2009).

CEO risk-taking incentives depend crucially on the firm's decision to compensate him or her with equity-based awards. The literature on equity-based compensation suggests that such pay is dependent on several factors such as: risk, growth opportunities, leverage, marginal tax rate, firm size and regulation. The amount of risk facing a bank should impact the risk-taking incentives provided to the CEO. From one side, greater risk may cause a decrease in the pay-performance sensitivity. From the other side, less risk-averse executives may self-select into high-risk firms. If this is true, higher risk firms may provide greater risk-taking incentives. The evidence suggests that managerial risk-taking incentives are an empirically important determinant of corporate risk management behavior (Cooper, Gulen and Rau, 2009)<sup>8</sup>.

Fahlenbrach and Stulz (2011) explain that even if incentive, such options<sup>9</sup>, have been blamed for leading to excessive risk-taking before the crisis, there is no evidence that greater sensitivity of CEO pay to stock volatility led to worse stock returns. Furthermore, their results indicate that bank CEOs did not reduce their stock holdings in anticipation of the crisis

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8

Perhaps, provide bank managers with more equity-based compensation may be a way to encourage risk taking in banking. Usually executives are risk-averse towards their own companies' stock-price performance. But, managers who hold a part of the bank's properties will have a different attitude at risk than those who does not and that receives only a salary as a form of compensation.

9

Options are derivative contracts that give the right, but not the obligation, to buy a share of stock at a pre-specified "exercise" price, or strike price, for a pre-specified term.

(obviously, if CEOs would have taken excessive risks, we would expect them to have sold shares before the crisis. But this didn't happen and therefore, CEOs made large losses).

If managers receive a significant part of their compensation in performance-based schemes with short-term targets, they will have a greater tendency to choose riskier investments and to increase bank's leverage, since this will increase share prices (De Haan and Vlahu, 2012). The reduction of debt reduces the risk of the shareholders and leads to a decrease in the rate of return required from them. Leverage does not affect the risk or the expected return of the assets of a business but raises the risk of shares. Shareholders therefore require proportionally a higher yield due to the financial risk. Therefore, to the extent that the ROI is higher than the cost of the debt, increase leverage allows for an increase of the shareholder yield. Typically, the ROI increases in a less than proportional increase in investment, while the cost of debt increases disproportionately with increasing leverage. It is therefore to find a balance in terms of the financial structure that maximizes the return on shareholders (Borsaitaliana.it).

Through this view, Mehran (1992) documents a positive relationship between the firm's leverage and the executives' compensation in incentive schemes.

Bank managers may be encouraged to take risk if that risk increases the value of their equity-based compensation (Houston and James, 1995).

Economists like Peng and Röell (2008) and Bebchuck and Spaman (2010) demonstrate that stock-based compensation causes executives to focus on the short-term stock price developments.

In contrast to this, however, we can say that performance-based compensation linked to long-term stock performance may help to dampen the problem of the agency costs by better aligning managers and shareholder interests (De Haan and Vlahu, 2012).

On one hand, options create an incentive to take risk because managers share in the gains but not all of the losses. On the other hand, because options contain a leveraged position in the bank's equity, they also have the potential to magnify a risk-averse manager's exposure to the bank's risk and thus reduce the manager's appetite for risk taking (Gormley, Matsa and Milbourn, 2013).

Incentive compensation can create incentives for risk-taking when bonuses are paid out on the basis of inappropriate performance measures. For example, Washington Mutual excelled at providing loans and home mortgages to individuals with risky credit profiles. In fact, its brokers were rewarded for writing loans with little or no verification of the borrowers' assets or income (Conyon, Fernandes, Ferreira, Matos and Murphy, 2011).

The basic incentive problem at Washington Mutual and others banks was a culture and reward system that paid people to write loans rather than to write “good loans” (Bebchuk, 2009).

The reality is that most incentive plans do exactly the opposite of what their designers intend. They are the cause of insecure behavior of managers. In fact, when the options are out of the money and CEO are paid through them, they will have a higher incentive to take higher risk.

Therefore, we should create a system of incentives that is able to merge the interests of shareholders with those of managers, in such a way as to create an environment in which managers work always in the best way and at maximum.

From an agency perspective, a CEO, whose compensation is strongly linked to his bank's performance, has the incentive to take less risk compared to that accepted by diversified shareholders. On the one hand, risk-neutral shareholders would like the CEO to undertake all positive Net Present Value projects, while, on the other hand, risk-averse CEO are likely to avoid some risky but positive NPV projects (Grant, Parbonetti and Markarian, 2009). This means that often the Net Positive Value projects can be risky and not always the desired risk levels of CEOs and shareholders coincide. Therefore, sometimes, the wishes of both parties are not realized because of this different risk aversion.

Shareholders will have incentives to engage in negative Net Present Value projects only if those project will increase their options value. This happens because shareholders keep all the gains if the investments are winners, and they share the losses with creditors if the investments are losers (Brewer III, Hunter and Jackson III, 2003).

According to Tanaka and Thanassoulis (2015) we may encounter three types of agency problems which might lead to remuneration contracts that incentivise excessive risk-taking.

First, the agency problem between *shareholders and bank executives*, in which executives could not appropriately take the shareholders' long-term interests into account. This problem can be solved through deferred equity-linked pay, that is by making sure that part of the bonus is paid in equity that vests<sup>10</sup> at some pre-specified future date.

Second, the agency problem between *executives and debt holders*, where executives rewarded in equity-linked bonuses may have incentives to take excessive risks at the expense of debt holders. This issue can be solved if banks regularly issue debt and so constantly return to the judgment of the debt market.

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Become exercisable.

Third, the agency problem between *executives and taxpayers* that springs when there is an implicit possibility of government bailouts. Here, higher risk-taking does not lead to a higher cost of debt funding and so risk-taking is effectively subsidized.

From a society's point of view, remuneration policies designed to correct the agency problem between executives and shareholders and debt holder, may still incentivise excessive risk-taking.

An idea for reducing the excessive risk-taking caused by implicit and explicit guarantees on bank debt and deposits, could be to expose the executives to the possibility of a financial loss through bonus malus and clawback (Tanaka and Thanassoulis, 2015).

Clawbacks are defined as the ex post adjustments to already paid bonuses, since the company is "clawing back" rewards that had already been paid. Clawbacks are financial instruments under which bankers are asked to pay back their bonuses if certain circumstances materialise at a future date. In the United States, clawbacks were introduced in the 2002 Sarbanes-Oxley Act and significantly expanded in the 2010 Dodd-Frank Act (Conyon, Fernandes, Ferreira, Matos and Murphy, 2011).

Malus adjusts variable pay that has not yet vested, while clawback adjusts variable pay that has already vested. Should be emphasized the fact that malus and clawbacks efficiency depends on how bankers expect them to be carry out. A well-designed remuneration regulation should lead the executives to believe that they will be penalised proportionately for losses that occurred because of their poor risk management, but not for losses that occurred in spite of good risk management (Tanaka and Thanassoulis, 2015).

But malus and clawbacks could work imperfectly on incentives when bankers, even if their risk behavior has been correct, assume that these bonuses can be used in the case their bank suffers losses. On one hand, if bankers believe to have only small losses in the event of bad outcomes, then they end up being insufficiently risk averse. But, if the executives expect to suffer large losses when their bank performs poorly, then they end up being excessively risk averse (Tanaka and Thanassoulis, 2015).

#### **1.4 The role of regulators**

The aim of regulators should not focus on compensations' amount, but it should concentrate on the structure of the compensation with the purpose of reducing the excessive risk taking choices made by the CEO. In this way, regulators will address bank executives to work for, not against, the goals of banking regulation (Bebchuk, 2010).

Without any doubt, a good executive compensation structure, will bring managers to pursue shareholders' interests. Shareholders, by making managers' compensation depend on bank's performance, can offer incentives for the management through a direct way, by exercising voting rights, or through an indirect one, by the board of directors (De Haan and Vlahu, 2012).

It is more than logical to think that until executives receive rewards for upside risk, but are not penalized for downside risk, they will continue to take greater risks. The pay-performance classic example of asymmetries<sup>11</sup> in stock options is the one that provide rewards for stock-price appreciation above the exercise price, but no penalties<sup>12</sup> for stock-price depreciation below the exercise price (Conyon et al, 2011). Executives will have strong incentives to gamble with shareholders' money when their options are close to maturity that are out of the money, while executives with options that are well in the money have lower incentives to act like this<sup>13</sup>.

For these reasons it is necessary a good bank regulation, so that it might have a significant impact on CEO pay-performance. The regulation of bankers' pay, and so of bankers' risk, could also reinforce the regulation of banks' activities, by reducing the risk-taking behavior of banks which affects the whole economic environment (Bebchuk, 2010).

Banking theory shows that bank regulations influence owners' risk-taking incentives differently from those of managers, while corporate governance theory suggests that ownership structure and shareholder protection laws affect the ability of owners to influence risk (Laeven and Levine, 2008).

Shareholders with larger voting and cash-flow rights have accordingly greater power and incentives to influence and affect corporate behavior with respect to smaller owners. From this point of view, ownership structure influences the ability of owners to change bank risk. Laeven and Levine (2008) find that banks with more powerful owners tend to take greater risks, but the relation between ownership and risk is weak in economies with stronger shareholder protection laws. In fact, we can point out that equity holders have stronger incentives to increase risk than non-shareholding managers and debt holders. Also large owners with substantial cash flows have the power to induce bank's managers to increase risk

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Also known as "convexities"

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Below zero

13

Gambling

taking, but an effective legal protection for small shareholders reduces the need for large owners to mitigate agency problems.

Contrary to this perspective, opponents of regulating executive pay in banks could argue that: pay regulation will drive talent away, and because of this, financial firms will lose valuable employees; regulators may abuse their increased power (Bebchuk, 2009).

So, in brief, compensation structures for financial executives should be redesigned in order to avoid excessive incentives for risky decisions. Furthermore, it is necessary that regulators undertake to ensure that such changes take place.

In summary, scholars believe that there is a positive relationship between bankers' bonuses and risk-taking and so controls on bonuses will also control risk-taking.

Bankers were cited as the main villains of the great recession, but on balance, executives' pay is not the only cause of excessive risk-taking, and without any doubt, a good regulation could have helped to mitigate some of the risk-taking behavior generated by the creation of 'too big to fail' policies (Matthews and Matthews, 2013). From this point of view, in fact, bankers' bonuses can be seen as an effect and not a cause of excessive risk taking by banks.

## **CHAPTER 2**



## **Executive remuneration structure**

The reward system goes beyond the simple concept of compensation. In fact, the structure of the reward package should also try to incorporate the long-term strategic objective that the company has set itself.

Further, the definition of the remuneration schemes can not fail to consider the level of risk assumed by each employee. The riskiness of their duties, should be adequately reflected in the agreed reward, especially through the variable component of salary paid (Core, Guay and Larcker, 2003).

### **2.1 Remuneration packages vs risk**

It should be emphasized that the composition of the remuneration packages can influence the types of executives that the company can attract. For example, on the one hand the package with a higher retirement benefits will attract executives willing and mentally prepared to remain in that firm for a long time, on the other hand a package with higher bonus opportunity will catch executives who are less risk-averse and so more likely to create value (Jensen and Murphy, 2004).

As I have already mentioned, if shareholders are neutral-risk and diversified, while executives are risk-averse, they will prefer, instead of a risky package, a fixed base salary one (considering the same expected value). Executives will demand higher expected pay, for covering the risk that they bear; in this way the firm will face a trade-off between attracting, at the lowest cost, the right quality executives and having better-motivated employees working hard toward the right outcomes. For these reasons, companies that introduce risks on executives' pay packages must be sure that the associated incentive benefits exceed the increased expected cost of the package (Jensen and Murphy, 2004).

All company activities, because of their uncertain outcomes, involve risk. Instead of entirely eliminate risk, each firm must decide how much risk it is willing to assume given its risk tolerance.

Once established, the board devises a compensation program that provides incentive to management to pursue the company's objectives according to this risks' view. In this way, compensation not only encourages performance but influences the way in which financial results are achieved (Larcker, et al., 2014).

Furthermore, designing an effective equity-based compensation plan (a plan that motivates long-term value) is not a simple task (Hall, 2003). Moreover, most stock options are worth considerably less to the executives than to the shareholders of the firms that grant them.

Brian J. Hall (2003), found that to design a good compensation packages, that correctly align managerial incentives with the pursuit of shareholder value, is necessary to:

1. **Matching time horizons.** A well-designed incentive plans motivate long run value creation. Stock prices reflect expectation about the future. But precisely because of that, managers might be tempted to fool the market by temporarily affect their stock prices and then cash out their equity holdings. That's why, options are often criticized for encouraging executives to manage short-term earnings instead of managing for long-run value creation. This problem could be solved by using a slow "vesting period" (the period of time over which the options/stock become owned by executive).<sup>14</sup> In this way we will increase CEOs time horizon.
2. **Gaming.** If stock market is efficiently informed, then options and stockholdings will lead managers to make good long-run decisions. This could be a good parameter for judging the outcome of executive decisions. But what if the stock market can be tricked? Then paying in stock or options it would not be a sensible idea because larger option and stock packages incentivize CEO's to spend time trying to push up the stock price. More generally, the temptation to game the system increases with the potential rewards associated with gaming. Managing the gaming problem requires boards and companies to devote resource for reinforcing corporate systems.
3. **Value-cost "wedge".** An important problem is the potentially significant disparity between the real cost of an equity and the value of the grant to the executive. For the firm, the market represents the economic cost of the equity. Executives, generally, value equity-based pay at less than its market value because they are risk averse and tend to hold personal asset portfolios that are undiversified. Usually, the executives' equity pay value is generally lower than the cost to the company's shareholders<sup>15</sup>. And the value to cost ratio depends on the degree of diversification in the executive's holdings, the risk aversion of the executives, the volatility of the stock and the vesting period of the equity.

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There has never been a clear mathematical proof that awarding slowly-vesting options, typically with exercise prices equal to the current stock price at the time the options are awarded, does induce the proper amount of risk-taking by executives.

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In general, when the current stock price is far below the option exercise price, then options have little motivating power.

Generally, the executives' remuneration package is split up in two key components: a fixed salary and variable one. The fixed monetary compensation is agreed by the contract in which are often added some benefits, such as those non-monetary forms that can be perceived by managers in the form of insurance, services and goods for the person. Fixed remuneration, or basic pay, is determined to remunerate the work associated with a specific position. It is composed of a minimum contract, seniority allowances, and any contingencies. From the individual's point of view is the secure part of the remuneration and as such it provides financial security (Balachandran, Kogut and Harnal, 2010).

The variable remuneration may be linked to various aspects, such as the evaluation of the results related to specific predetermined objectives and the overall ex post evaluation of the behavior. It is that part of the remuneration which, established on the basis of rules of the game known a priori, is paid to the achievement of agreed targets. Its meaning is associated with incentives. The *incentive* is defined as a stimulus that serves to direct and enhance people's behavior. So a system of variable remuneration, to constitute incentive system, it must meet the prerequisites as trading and sharing objectives, which are essential to ensure the commitment of individuals in relation to the objectives. Setting up a system of incentives with objectives that the worker can not influence, creates frustration and still does not generate commitment.

However, not all variable pay systems are incentive. In particular, a system is all the more able to provide incentive the closer it gets to the work of the individual. The correlation between individual pay and corporate performance does not necessarily reflect a degree of influence of the executives on the banks' performance. Nevertheless, many companies discover in retrospect that their incentive systems are not effective, inadequate to the intended purposes, or do not achieve the desired objectives.

Finally, within the compensation package benefits are also included. As regards the benefits, they allow the individual to obtain not monetary remuneration, but they respond for instance to requirements of the combination of working and private life, or of saving on some costs.

But let me analyze the different forms of compensation in a more specific and analytical way.

## **2.2 Fixed remuneration**

The fixed component is the basis of the remuneration package, even if is not the most important item in terms of money, especially for managers, who get most of their wealth through the system of incentives (Balachandran, Kogut and Harnal, 2010).

It has to be seen as the minimum value that the reference organization attaches to a particular subject, in line with the professional skills required for the role and the professional spent.

Fixed remuneration is a form of compensation that is paid in cash and guaranteed despite the type of performance (Balachandran, Kogut and Harnal, 2010). However, we use, for high-level executive payment contracts, the term "remuneration" rather than salary to indicate that a total compensation package can consist of more than just wages.

The determination of the fixed remuneration is the result of a market and objective evaluation and a subjective assessment by the internal organs of the company (such as, the Remuneration Committee).

Therefore, the fixed remuneration is determined on the basis of:

- the economic situation and on the relevant labor market;
- the specific individual's value, considering his professionalism, his skills and expertise; (but it's also influenced by its contractual power which in turn depends on the nature of the type of work, the skills required by the firm and the conditions of market).
- the value attributed to the organizational position, the role and tasks, which reflect the characteristics in terms of size and complexity of the entity;

Despite the importance of the fixed salary, it is known that the key part of the rewards is occupied by the variable compensation. Indeed, already in 1986, among a random sample of American firms, Gomez- Mejia, Tosi, and Hinkin (1987) found that firms tend to pay managers more on the basis of bonuses and long-term income rather than salary to achieve better and more efficient results.

### **2.3 Variable remuneration**

The variable remuneration includes all remuneration elements that go beyond the basic salary. In most cases, it is decomposed on the basis of the time-horizon. There are short-term variable compensation and long-term. The formers are called "bonuses" and are bestowed based on the achievement of specific annual or interim results (Young, 2009). They concern the so-called awards that the company decided to give their employers ex post, in view of the results achieved, and usually of budget availability; the latter are linked to the realization of long-term goals. The long-term incentive schemes involve the provision of incentives related to the medium-term performance. Examples of long-term incentives are: stock options, shares, company shares, phantom stocks. In particular, the Financial Stability Board has prompted legal-regulatory and supervisory authorities to strengthen the long-term incentive based, since

the short-term incentives were considered the main responsible for the management risk taking behaviors (FSB, 2009).

The object of offering variable remuneration is twofold. First, companies can lower their initial costs for hiring employees. Second, employees often work harder to achieve pay goals, which benefits both the firm and the employee. The real purpose of this remuneration package is to create competitive pay.

This fact has not often taken into account, since it was the perverse incentive mechanisms that has encouraged the hiring hazardous risks.

The variable remuneration is often divided into basic time horizon in which it is bestowed, but this is not the only form of classification. In fact, one can distinguish at least three other classification methods, based on (Sigler, 2011):

- The *recipients of variable instruments*, which can be individuals (as top managers, for which the compensation package is heavily customized), professionals' groups or segments, or all kind of staff (broad based schemes).
- The *type of benefits*. Usually we identify at least three forms of payment of variable benefits: the monetary form (sums of cash *una tantum*), equity (share-ownership plans, stock option plans, share-based profit sharing) and bond (based profit sharing, when the employee becomes vested<sup>16</sup> with a right embedded in the bond assigned credit).
- The *source of initiatives*: the variable fraction can be added on the proposal of the management, the trade unions in collective bargaining, the national and/or supranational legal framework.

### **2.3.1 Short-term variable compensation**

The variable short-term incentives, also known as annual bonuses, have the fundamental function of rewarding individual performance that gave birth to a performance improvement at the end of the administrative year. Instead, incentives in the long run are paid to the results obtained from a certain line of business.

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When a stock option can be exercised, then the option is said to be vested.

Several studies have examined the influence of short-term bonus plans<sup>17</sup> on CEOs' motivation to manipulate earnings and in taking discretionary decisions. The results of these studies are mixed due in part to the limitations of using aggregated financial data from a large cross section of firms that have varying forms of incentive compensation (Guidry, Leone and Rock, 1998). Some economists support the idea that managers' incentives influence their accounting choices. Others report evidence that managers make income-decreasing discretionary accruals after they reach their maximum bonus level. Instead, others scholars find no evidence that managers make income-decreasing discretionary accruals when earnings are below the minimum necessary to earn a bonus. So there are various opinions on this subject that do not seem to agree (Guidry, Leone and Rock, 1998).

It was found that in the period before the outbreak of the financial crisis, the short-term incentive systems were primarily used with a distribution and internal equity purposes. In fact, monetary prizes were often recognized to the vast majority of employees to promote "social peace" (Bebchuk, Cohen and Spamann, 2010).

After the financial crisis, it was realized the need to adopt a budget for programming and containing the expenses for performance bonuses. So, national and international regulatory authorities supported the possibility of completely revising the logic underlying the incentive systems.

### **2.3.2 Medium and long-term variable compensation**

The orientation of the legislative bodies (such as the Financial Stability Board and Basel Committee) was to promote the adoption of long-term compensation forms to limit the damage caused by the maximization of financial results instigated by the forms of short-term incentive. The result was that the implementation of rewarding remuneration structures in the long-term has spread especially for workers in the risk position and for those with high managerial responsibilities such as top management and executive.

In fact, we can consider a wide range of factors that triggered the review of unprofitable long-term plans such as: changes in international accounting standards in Europe, financial innovation on derivatives, reform of corporate governance codes, more shareholder activism and sensational financial failures, like those of Lemman Brothers, Meryll Linch and others (Bebchuk, Cohen and Spamann, 2010).

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Bonus plan is use for creating incentives to improve business; the main idea is that if managers understands that bonus are related to a determinate event (ie. Performance), then he/she will try to do his/her best to achieve that outcome determining the success of the event.

Given the greater effectiveness of these plans of aligning the management experience with the interests of the stakeholders, it has gone from closed plans to rolling plans.

A rolling plan is one in which every year takes place an assignment that gives life to a sub-plan that flows from year to year. A N-period program is worked out after which it is replaced by a new N-period program, and the procedure repeats. The rolling annual plans provide for a new assignment every year. The liquidation of the award is foreseen at the end of each year of vesting (Kaganovich, 1994 ). Instead, a closed plan is a program that starts in a given year and then takes a certain period of time (formerly three years) to be accomplished before a follow up plan can begin.

The logic behind the closed plan is the following: it processes the three-year plan, it communicates to the market, it is pursued on time and at the end of three years the firm experiences the results and delivers the bonus. Instead, the rolling plan divided over several years the allocation and supply of the potential award, creating a discrepancy between the business plan and the incentive system horizon (Kaganovich, 1994).

In practice, the bonus award does not happen one shot at the end of three years, but periodically, for example at the end of each year.

Assuming the firm start a plan at the end of each fiscal year, it shall make payment for the plans of previous years, creating a certain discrepancy between multi-year business plans and disbursed incentives. In fact, with this tool, it would diminish the link between the market and the variable remuneration as would be reduced by far the issue of stocks' volatility.

Traditionally the short-term bonuses were disbursed in liquid form, while the long-term awards were distributed through equity instruments. To induce management to make more far-sighted choices, it was decided to distribute equity type instruments, leaving the market to indirectly judge the work of raising or depressing the value of share prices.

However, the distinction between annual cash bonus and stock allocation plans of actions and /or stock options on more dilated horizons is no longer the practice observed in the American and European markets today. Remuneration policies have resulted in compensation systems far more sophisticated. The award mechanisms in the medium and long-term are usually classified into three major categories.

The first is represented by *equity-based traditional instruments*, or based on the allocation of shares. In turn, these instruments are divided into:

- **Stock options:** are derivative contracts that give the right, but not the obligation, to buy a share of stock at a pre-specified “exercise” price, or strike price, for a pre-specified term. The option is exercised when the strike price is below the market price

of the security (Abowd and Kaplan, 1999); Furthermore, stock options give executives the right to purchase a certain number of shares at a predetermined price within a given time period. This price, usually, represents the market value at the time the stocks are granted.<sup>18</sup> Stock options have been criticized for having encouraged executives to manipulate short-term earnings and stock prices. After options vest, executives have an incentive to push up the firms' share price<sup>19</sup>. However, this incentive can be altered by forcing executives to retain most of their shares obtained through options for several years or until they retire (Pozen, 2014).

- **Performance stock options:** are company stock given to managers only when certain targets are achieved. They are very similar to stock options, with the difference that are characterized by a double guarantee: the strike price, as profitable price for the purchase, and other performance indicators.
- **Performance shares:** assign a bonus in shares to managers who have contributed to important results in the medium-long term. In fact, they are shares guaranteed by virtue of achieving precise results. The term "performance share" is a generic term referring to a share that has limited rights unless and until a nominated performance milestone is achieved (ASX Linstin Rules, 2014).
- **Restricted shares:** Restricted stock operate in much the same manner as stock option plans. They are another form of stock ownership of a company which allows the interests of the executive and shareholder to converge. Restricted stock refers to stock of a company that is not fully transferable until certain conditions have been met. When this condition are satisfied, the stock is no longer restricted, and becomes transferable to the person holding the award. With restricted stock, an executive will be assigned ordinary shares subject to restrictions on the sale. These restrictions shall expire in a period of years, provided that the executive remain with the firm (Westphal and Zajac, 1994).

Typically, restricted stock awards endow executives with a fixed quantity of shares that have restrictions on resale or transfer (Bryan, Hwang and Lilien, 2000). They prevent the holder of such shares from exercising the related sale and trading rights on

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If stock price declines, the executive still receives substantial economic gain from the share grant. By contrast, firms' shareholders, due too the stock price fall, have lost economic value. To achieve better alignment of shareholder and executive interests, companies should grant restricted shares that vest only if certain performance conditions are met (Pozen, 2014).

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So they can exercise their options and immediately sell their shares.



the market before the end of the vesting period<sup>20</sup>. When the vesting period ends, the restricted shares “belong” to the executive that is free to cash them out (Fried and Bebchuk, 2010). Typically, this period is at least three years. In one respect, restricted stock is similar to a stock option, since it can be viewed as an option with a zero strike price. They also supply a tax deduction and provide CEOs with the privileges of stock ownership, including dividends and voting rights (Bryan et al., 2000). Restricted stocks have limitations on the shares. One of the most common restrictions requires a period of time to pass or for a certain goal to be achieved before the executive can sell the stock (Sigler, 2011).

The second category are the *equity-linked cash-settled instruments*, which provide for payment in monetary terms of the amount of conditioning scale the performance of the stock market. More specifically:

- **Phantom options:** is a compensation plan that confers the right to receive cash at a future point in time. The amount of cash is linked to the value of the company’s stock or the appreciation in the value of the stock after the date of the phantom stock award (King, 2013). So, they give the right to receive, at the end of the fixed period, a prize, in shares and /or cash, calculated on the basis of the increase in value recorded by the shares between the start and the end of the period, increased by any dividend distribution. Thus, the amount of the payout will increase as the stock price rises, and decrease if the stock falls, but without the recipient actually receiving any stock. Phantom stock is like a cash bonus deferred until the future, but typically much bigger than an annual bonus (King, 2013).
- **Performance unit:** is a simulation of a performance share plan, where, however, the actions are only virtual. They tie financial rewards to long-term, individual achievements, yet they don't entail prolonged financial obligations the way many phantom-stock do (Fraser, 1991). If the executive achieves his or her performance unit goals over a defined period, each unit will increase in value to the point where it can be redeemed for its new value, in effect as a cash reward (Fraser, 1991).

The tools belonging to the first two categories have overlapping technical aspects, although administrative aspects, different contributions and corporate governance.

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The "Retention period obliged" in the portfolio.

Finally, the third category includes *non-equity instruments based or cash*. Non-Equity based incentive compensation is typically derived from a predetermined agreement that specifies the payment of a bonus conditional on the achievement of goals typically measured using accounting number such as earnings, or revenues. They are divided into:

- **Long-term money plans or cash:** is a bonus plan that extend the performance over years (usually, it's paid over three years) and is based on the achievement of predefined performance targets (Balachandran, Kogut and Harnal, 2010). It is a methodology in vogue especially in unlisted companies.
- **Deferred bonus:** one of the most important innovations in vogue since the financial crisis in the remuneration package of the executive. In fact, many public companies and investment managers have increased the portion of the cash bonuses that is deferred for several years (Pozen, 2014). The bonus is often assigned in shares and once spent a minimum period of time (at least three years) during which you can take better account of a greater number of risks that depress financial results. What I mean is that all or a part of bonuses are deferred for longer than one year. This delayed part of bonuses is correlated to future performance. So, an executive will receive a bonus if the level of company performance is reached and maintained for an extended period of time. So deferred bonus can extend the time horizon of the compensation plan and it may also influence executive behavior by reducing the probability to manipulate bonuses.<sup>21</sup>

To sum up, firms by adopting Long-Term compensation have the intention to align the interests of top management with those of the firm's owners. In fact, stock options, bonuses and performance shares should improve the relationship between compensation and the financial performance of the company (Westphal and Zajac, 1994). However, poorly designed equity-based plans can yield excessive levels of compensation and provide incentives to destroy rather than create (Jensen and Murphy, 2004)

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Furthermore, in most cases, deferrals of cash bonuses are combined with provisions that allow firms to “claw back” a deferred bonus if certain adverse events occur. In fact, firms may usually claw back a deferred bonus if the relevant executive is later found to have engaged in illegal or unethical activities. Thus, bonus deferrals and associated claw backs are an effective way to encourage a longer perspective than one year. (Pozen, 2014).

**Table 2: Summary of the various types of medium-long term variables compensations.**

<i>Equity-based traditional instruments.</i>	<i>Stock options</i>	Derivative contracts that give the right, but not the obligation, to buy a share of stock, at a strike price, for a pre-specified term.
	<i>Performance stock options</i>	Stock given to managers only if they meet certain performance targets
	<i>Performance shares</i>	Shares that have limited rights unless and until a nominated performance milestone is achieved
	<i>Restricted shares</i>	Restricted stock that is not fully transferable until certain conditions have been met. When this conditions are satisfied, the stock is no longer restricted, and becomes transferable to the person holding the award.
<i>Equity linked cash-settled instruments</i>	<i>Phantom options</i>	Compensation plan that confers the right to receive cash at a future point in time
	<i>Performance unit</i>	Simulation of a performance share plan, where the actions are only virtual.

<i>Non-equity instruments based on cash</i>	<i>Long-term money plans or cash</i>	Bonus plan that extend the performance over three years and is based on the achievement of predefined performance targets.
	<i>Deferred bonus</i>	Often assigned in shares

Source: Own elaboration data form: Pozen, 2014, Balachandran, Kogut and Harnal, 2010 and King, 2013.

### 2.3.3 A Brief on Stock Options

Stock options are incentive contracts that are granted to senior management and members of the board. These plans assigned to the employee the right to obtain, in case of using shares issued previously, or to subscribe, in case of using newly issued shares, securities representing the company's risk capital.

Studies provides several possible reasons behind a firm's decision, as a part of executives' compensation, to adopt stock options.

First of all, stock options have a non-negative asymmetric payoff that produces monetary gains only after the share price exceeds the exercise price. This convex payoff function provides an incentive to managers to become less risk-averse (Tzioumis, 2011). Let me explain in a clearer way this point. The intrinsic value of stock options is a nonlinear function of share price. The value moves with stock price when the option is "in the money" (when stock price is above exercise price). However, the value is unaffected by stock price when the option is "out of the money" (when the stock price is below the exercise price). This means that when stock price rises above the exercise price the executive has unlimited potential upside. While, when stock price falls below the exercise price, the executive is protected on the downside. This fact, encourages risk taking. Stock options link the value of executive wealth to changes in stock price volatility. Studies shows that executives understand that the expected value of a stock option increases with the volatility of the stock price. So, executives tend to respond to stock option awards by investing in riskier projects. Second, stock options operate as an attraction for specific types of managers. In addition, these latter, would have an incentive to stay in the firm and hold their stock options instead of lose them by leaving the firm (Tzioumis, 2011).

If we consider a simple stock valuation model, for example the Gordon Model<sup>22</sup>, we can draw the following discussion. Stocks' value is proportional to the expected dividend to the next period, and is inversely proportional to the difference between the risk-adjusted cost of capital and the rate of future dividend's growth. Some scholars argue that managers' incentives can lead the latter to manipulate the market perception of the level of earnings of the firm by altering the earning report (Kandle, 2009). Since the previous year's performance is used as an indication of future earnings' growth rates, CEO, desiring an increase in the current stock price, is encouraged to show high growth for as long as possible, at the expenses of the long-term performance<sup>23</sup>. Manager can hide a drop in growth rates, by hazarding into risky projects with negative NPV. As long as the outside market does not fully observe the riskiness of these investment, stocks' price stays high, and in this way manager is compensated accordingly (Kandle, 2009).<sup>24</sup>

However, the incentives provided by stock options have also been criticized. Those against stock options believe that the gains from stock options have been overrated (Kedia and Mozumdar, 2002). Stock option plans are complex financial instruments. The difficulty is to identify and understand how the incentive should work. In fact, it is possible that once the options are exercised and CEOs come into possession of the shares, they may adopt a line of conduct designed to protect only the gain, no longer developing an entrepreneurial risk-oriented behavior.

The determination of the exercise price is not a little problem: setting a too low price in a rising market is likely to facilitate the exercise of the option; on the contrary, an excessively high strike price in excess phases can demotivate managers. Companies, acknowledged the impossibility of being able to predict and affect the performance of financial markets, have developed tools to overcome these forward difficulties. First, by considering the premium price of stock options that follow a steady increase of the exercise price during the life of the plan, based on an assumption of bull market. Secondly, they bring the attention of the indexed stock options, which accommodate both bullish and bearish market hypothesis proceeding

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Gordon Model: method for estimating the intrinsic value of a stock based on the discounting of dividends.

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Obviously, CEOs compensated with current earnings are not affected by this consideration. While, managers compensated through stock price want to exhibit growth, as their compensation today crucially depends on the market perception of future earnings.

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This behavior is caused by the need to maintain the appearance of growth in the eyes of the investors, which is driven by the desire to maximize the current stock price.

with a regular update of the price attached to some stock market indices. It seems clear that in this case you can not reap the biggest gains resulting from unexpected positive equity market trend (Romano and Bhagat, 2009).

## **2.4 Managerial benefits**

Benefits are a component of the compensation package that is acquiring an increasingly important value, not only because sometimes preferred by employees in lieu of the traditional short and long-term bonuses and equity instruments, but also because they often allow a more effective recognition of performance. Benefits allow the individual to obtain a remuneration "in nature", ie not monetary, while allow the organizations to give good or service at a price lower than the real value; this is the case of the so-called flexible benefits (such as agreements with wellness centers, gyms, kindergartens) where for companies do not necessarily involve an outlay, but for individuals involving actual savings. But often the benefits are awarded on a hierarchical basis and do not necessarily meet the needs of individuals.<sup>25</sup>

In the Anglo-Saxon culture, benefits typically include: access to pension funds, reimbursement of health costs programs, the risk of death.

Less known, however, are the non-traditional benefits and known in practice as "perquisite", such as personal loans at subsidized rates; the possibility of using the canteen and special conventions of access to health funds, medical specialist; access to sports facilities, wellness, kinder gardens and babysitting. To these are added some typical benefits reserved exclusively for top management, certainly proportionate to the turnover of the company in question, such as the personal chauffeur, helicopter or private jet and tax consultancy legal and financial.

In determining the articulation of the benefits package delivered to executive we should follow a series of steps starting from the identification of reward strategy that justifies the inclusion of some of these rather than others. Usually a primary reason is the need to align the remuneration practices in vogue in the reference market, so as to deliver a competitive remuneration compared to that promised by competitors.

However, the emulation of best practices should always deal with the structure of the internal costs, trying to choose, for example, those benefits that allow to achieve a tax saving.

## **2.5 CEOs performance parameters**

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In this case the goal of attraction and retention is not fully achieved.

In the 3rd chapter I will try to relate performance measures for banks, which allow us to go back to the turnovers of the latter, with the compensation of the highest managerial positions of the latter, to try to understand whether or not there is a correlation between performance and pay.

Below I will explain and give brief definitions of the business metrics that I'm going to use in the next chapter.

When determining the amount of variable remuneration, an important element is represented by the choice of the parameters that are used to capture the performance according to which the sums of varying amounts are paid. This is a crucial step in the construction process of the compensation package, as is the appropriateness of those indicators in capturing the actual efforts of the managers who will motivate the management towards achieving the corporate goals.

The ability to reward the company's management with respect to the achievement of predefined results is crucial especially in public companies, characterized by the presence of a host of small shareholders with divergent interests, which is that of maximizing profit. The form for "public company" is very widespread in the Anglo-Saxon world, thanks to the presence of an efficient capital market. It comes from the pulverization of ownership between a very large number of shareholders, none of which holds a significant equity shares for control purposes.

Contrary to what happens in the Anglo-Saxon model, in the European model shareholders actively participate in the daily management of the enterprise alongside the managers. In fact, the control of enterprises is concentrated in the hands of a few shareholders. In societies that have a share capital owned by a few large shareholders, shareholder can better monitor the work of managers.

It seems reasonable that the compensation package of executives depend on the company's market value<sup>26</sup>. However, even when we consider the maximization of share price as a basic parameter for determining the variable remuneration, we can reflect on the fact that the CEO and other executive actually are not completely able to influence this dynamics<sup>27</sup> (Koller, Goedhart and Wessels, 2010).

Now, I will briefly explain the meaning of the indicators that I'm going to use in the third chapter: ROE, EPS and Net Income.

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Stock based value

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Quotes often suffer from mood swings caused by market agents, sometimes not justified rationally.

- **ROE<sup>28</sup>** (Return on Equity) focuses on risk capital (equity) and expresses how much is the return generated by each of reinvested currency units or directly invested by shareholders. ROE measures also the ability to remunerate the venture capital that the shareholders, or the owner, took; in other words, is the amount of net income returned as a percentage of shareholders' equity.

Return on equity measures a corporation's profitability by revealing how much profit the investment of shareholder has created to the firm.

- **Net Income** is represented by the firm's total earning. It is the total revenue in an accounting period minus all expenses during the same period.
- **Earnings per share (EPS)** are the profits that a company has generated parameterized to the number of shares issued by the company itself. In other words, are the portion of a firm's profit allocated to each outstanding share of common stock. It is calculated as the ratio of the difference between Net Income and dividends on preferred stock divided by the average outstanding shares.

So, in conclusion, the performance management system is nothing but the complex mechanisms and methodologies that lead to the identification of the measures of performance criteria, which are a crucial choice for the effectiveness of the pay system as compared to conduct management that are intended to achieve. Market indicators may suffer from market euphoria or depression and uncontrollable by managers; the accounting indicators are affected by arbitrary national accounting practices.

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It's an economic index calculated by dividing the net profit for equity:  $ROE = \text{Net Profit} / \text{Net equity} * 100$ .



## **CHAPTER 3**

### **Empirical analysis**

In this chapter I will analyze the performance of three banks and the compensation of their managers during the crisis of sub-prime for the period between 2008 and 2011. Since the crisis broke out in America, but it spread globally, I decided to analyze not only an American bank (Goldman Sachs) but also two of the most important European banks: Deutsche Bank (Germany), and HSBC (UK).

The purpose of this analysis is to try to figure out if there is a correlation between executive remuneration and bank's performance during the crisis.

The chapter is structured as follows: with the first section we will explain how the model is structured, or how it will be carried out the analysis, the next 3 paragraphs present data analysis and the results for each individual bank; the last paragraph seeks to draw some conclusions.

### **3.1 The structure of the model**

The model is constructed as follows:

- We will analyze 3 banks, one at the time; on the one hand we will determine the compensation of top managers, while the other will analyze the performance of the bank;
- The analysis is constructed over a period of 4 years (2008-2011);
- We will try to determine how the total remuneration of top managers are structured (for each individual bank). Once we have determined this point, to have a more precise analysis, we will divide the analysis for components of remuneration and we will calculate the total average for each type of compensation. The remuneration arrangements vary from bank to bank;
- To determine the performance of the bank I use three indicators: EPS, ROE and Net Income<sup>29</sup>;
- The first step will be, through the statistical program R, to determine the various coefficients of correlation. So, I will examine the linear relationship between variables (the performance indicators and the various types of compensation) by the coefficient of Pearson. In fact, this coefficient is used to determine the strength of the linear relationship between two variables. The coefficient of linear correlation can range in value from -1 and +1. The larger the absolute value of the coefficient, the stronger the relationship between the variables. A correlation close to 0 indicates no linear relationship between the variables while an absolute value of 1 indicates a perfect linear relationship.
- To determine whether the correlation between variables is statistically significant, we compare the p-value to our significance level. I will use a significance level of 0.05. An  $\alpha$  of 0.05 indicates that the risk of concluding that a correlation exists (or does not exist), even if it does not exist (or exists), is 5%. If  $P\text{-value} \leq \alpha$ , then the correlation is statistically significant. While if  $P\text{-value} > \alpha$ , the correlation is not statistically significant.
- Finally, after having computed the correlation coefficient, we can calculate the regression line with the slope, the intercept and the R-squared statistic (which provides a measure of how well the model is fitting the actual date). It always lies between 0 and 1. If the R-squared is really close to 1, then the model is robust.

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The significance of EPS, ROE and Net Income were already explained in chapter 2.

With this type of analysis, I will not be able to determine a cause and effect relationship between the variables, therefore I will not speak of dependent and independent variables. However, I will try to understand, despite the paltry number of observations, if there is some sort of relationship between managers' remuneration and the performance of banks. We will not be able to determine the direction of causality. So, the type of methodology that I'm going to use does not allow to determine whether CEO's remuneration influences the bank's performance indicators, or vice versa. I am aware of the limitations of this analysis. However, it may help us to determine whether there is a sort of relationship between the variables. Then, through the data, we could understand whether high compensations are somehow justified by a good performance.

### **3.2 Deutsche Bank: description and data.**

In Germany, the Supervisory board determines and reviews the policies and plans of compensation. In particular, a deep restructuring of the elements of the pay structure has been implemented since 2009.

Deutsche Bank (DB) announced in its Compensation Report that the total remuneration of the Management Board shall be distributed as follows:

- *Non-related remuneration* components with the performance, i.e. the base salary paid monthly and other benefits; Other benefits comprise reimbursement of taxable expenses and the monetary value of non-cash benefits such as company cars and driver services, insurance premiums, expenses for company-related social functions and security measures (Deutsche bank management report 2008, 2009, 2010, 2011);
- *Related remuneration* component with performance, characterized only by long-term incentives deferred or not. For 2009, forms of compensation based on performance consisted in payment of a bonus as "restricted incentive awards", which are "target bonus" paid based on the achievement of the ROE planned; a medium-term incentive ( "MTI", bestowed on the basis of the achievement of a target ratio between their total shareholder return and the average TSR<sup>30</sup> of a group of competing banks<sup>31</sup> calculated for a period of

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Total shareholder return is the total return of a stock to an investor, or the capital gain plus dividends.

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Six banks considered in the comparison: Banco Santander, BNP Paribas, Barclays and Credit Suisse, Goldman Sachs and JP Morgan Chase

two years); The MTI were gradually replaced (starting from 2010) with the "Long-Term Performance Award" ("LTPA"), i.e. long-term incentive payments subject to deferral and structured according to precise targets (Deutsche bank management report 2008, 2009, 2010, 2011).

In particular, if the Total Shareholder Return of the Deutsche Bank is less than the average of the group of competitors, payment of LTPA is reduced, which is then deleted if the TSR is maintained below the predetermined minimum. These incentives are deferred for at least 50% in equity form, the remainder is monetary.

Deferred shares in 2009 were distributed according to price' assets at the time of their delivery. From 2010 at the expiration of the vesting period it was added an additional "holding period", after which managers can have full use of the shares received (Deutsche bank management report 2008, 2009, 2010, 2011).

In the case of Deutsche Bank, the total compensation of top executives is determined by the sum of basic salary, benefits, long term incentives and restricted equity, as explained in Table 3.2.

**Table 3.2: CEOs' remuneration composition**

Variable	2008	2009	2010	2011
Basic salary	3,950,000	5,950,000	9,412,500	8,550,000
Benefits	526,684	849,346	795,338	879,591
Long-term incentives	0	18,637,000	17,816,227	17,194,081
Restrict equity	0	9,587,269	5,206,109	700,000
<b>Total amount</b>	<b>4,476,684</b>	<b>35,023,965</b>	<b>33,230,174</b>	<b>27,323,672</b>

*Notes: Information obtained from the Deutsche Bank Annual reports from 2008 to 2011. These data are in €. This table represents the various components of the pay of the 8 top managers of the bank. Top managers considered are: Josef Ackermann (Chief Executive Officer), Anshuman Jain (Co-CEO), Hugo Banziger, Herman-Josef Lamberti Stefan Krause, Michael Cohrs, Juergen Fitschen (joined the Management Board in 2009) and Rainer Neske (joined the Management Board in 2009).*

*The basic salary is the sum of the basic salary of the 8 top managers for the four years. The same is true for the benefits, the long-term incentive and restricted equity.*

Table 3.2 shows the different components of the executives' remuneration system in Deutsche Bank. We can see that the pay is composed by a fixed and a variable part. What emerges is that there is an increase through the four years of the basic salary. No long-term incentive and restricted equity were granted during 2008, but since 2009 there has always been a decline in these fees.

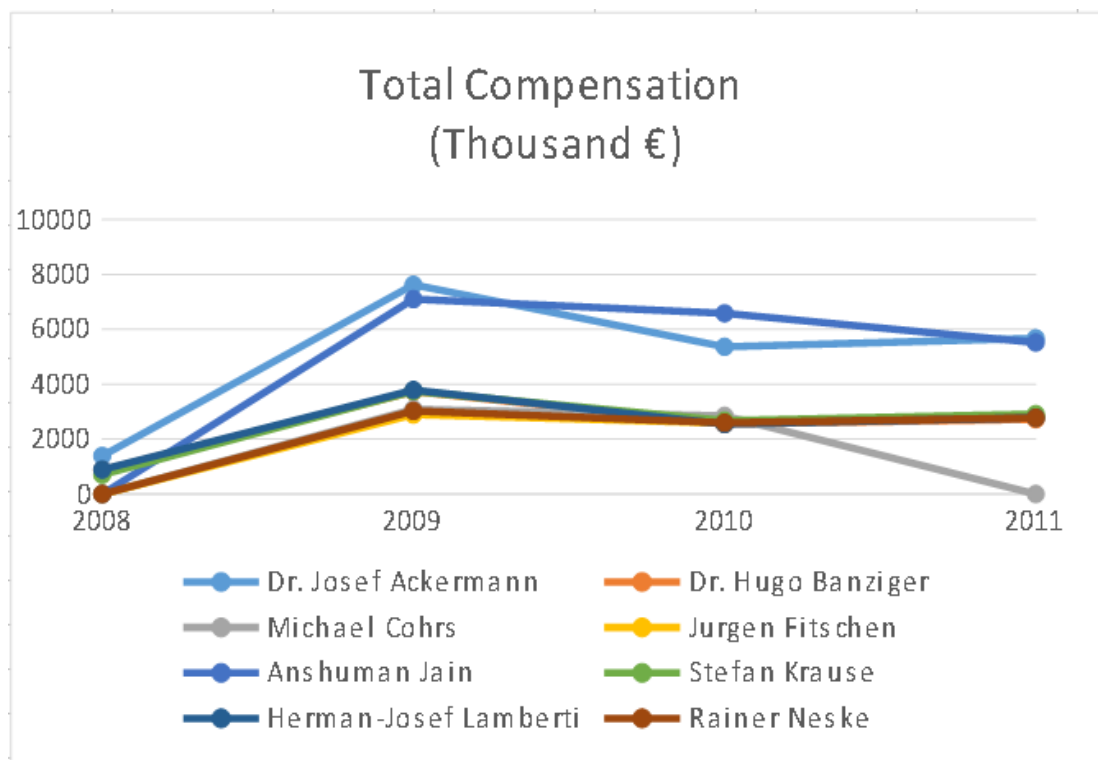
In essence, from 2009 to 2011, there has been a decline in the total remuneration amount for top managers.

To determine which managers, among the eight, has been paid more during the four years, the most effective way is through a chart. In fact, from figure 3.1 we can see that the highest paid CEO in the space of four years were Josef Ackermann (Chief Executive Officer) and Anshuman Jain (Co-CEO). Ackermann has increased its pay from 2008 to 2009 and then, in the next two years, have seen it fall, in any case not substantially. Jain, however, having become Co-CEO in 2009, immediately saw a very high pay.

Also Juergen Fitschen and Rainer Neske have joined the Management Board in 2009.

It should be emphasized that in 2010 and 2011 all seven executives received the same fixed salary of € 1,150,000, while Ackerman took € 1,650,000. In fact, Hugo Banziger, Jurgen Fitschen, Stefan Krause, Rainer Neske and Michael Cors have almost a similar rewards' trend.

**Figure 3.2: Executive Total Compensation at Deutsche Bank in 2008-2011.**



*Note: the graph represents the total remuneration for each of the individual top managers, from 2008 to 2011. Source: own elaboration of Deutsche Bank data.*

### 3.2.1 Empirical Results

After this background, I will now analyze whether and how the different types of remuneration of the CEO can in some way be related to bank performance.

So, I tried to divide the total compensation in the various parts, and I computed the average for the fixed salary, the benefits, the long-term incentives and equity restrict. In doing so, I will analyze how the basic salary, the benefits, the long-term incentives and the restricted equity behave in relation to the business indicators such as ROE, EPS and Net Income.

So, we calculate the average of each remuneration component and we relate it with the 3 performance indicators.

**Table 3.2.1: Average components of remuneration vs. performance indicators.**

Variable	2008	2009	2010	2011
Mean Basic Salary	418,75	743,75	1176,562	1069,875
Mean Benefits	377,182	113,011	99,417	109,948
Mean Long-Term Inc.	25,02	1198,4	650,76	87,5
Mean Rest. Eq	3,25	2329,66	1543,726	1885,234
EPS	-7,61	7,21	3,07	4,45
ROE	11,33	14,75	5,4	8,08
Net Income	-3896	4958	2330	4326

*Note: average components of remuneration is derived by a calculation from a own elaboration data of the Deutsche Bank Annual reports from 2008 to 2011. The average of the various compensation was calculated by the sum of each item for the 8 top managers and is expressed in thousands of euro. The values of the performance indicators have been obtained from Deutsche Bank Annual reports from 2008 to 2011. The EPS (Earnings Per Share) and Net Income are expressed in euro, while ROE is expressed as a percentage. Net Income is expressed in millions of Euro.*

**Table 3.2.2: Summary Statistics**

Variable	Mean	N. Obs	Min	Max	St. Dev.
Mean Salary	852,23	4	419,15	1176,56	343,05
Mean Benefits	175,29	4	99,417	377,18	136,39
Mean Rest. Eq	1440,47	4	3,25	2330,07	1011,13
Mean Long-Term Inc	490,42	4	25,02	1198,41	549,51
EPS	2,18	46 4	-8,01	7,21	6,49
ROE	9,89	4	5,4	14,75	4,04
Net Income	1929,5	4	-3896	4958	4042,34

*Note: the sample consists of data of the mean of the different compensation components and the bank's performance indicator. Data are for the 4<sup>th</sup> fiscal year of Deutsche Bank from 2008 to 2011. The results have been calculated through the statistic program Gretl.*

So, with the data obtained in Table 3.2.1, we begin our correlation analysis between the variables using Pearson's coefficient. We relate, one at a time, the average of the different components of remuneration with the banks' performance indicators. Let's start with the average of the basic salary, up to conclude with the average of the long-term incentives. As can be immediately seen from the Table 3.2.3, not all of the variables listed have a relationship between them. In fact, calculating the linear correlation coefficient, only the Mean Benefits and Restricted Equity related with both EPS and Net Income are significant. In addition, through the P-Value, we can confirm what was said, or the robustness of our results.

**Table 3.2.3: Linear coefficient and P-Value results**

	<u>Linear Coefficient</u>	<u>P-Value</u>
Mean Salary		
EPS	0,6714	0,3286
ROE	-0,7216	0,2784
Net Income	0,6855	0,3145
Mean Benefits		
EPS	0,9894	0,0106
ROE	-0,0975	0,9025
Net Income	0,9934	0,0066
Mean Rest. Eq		
EPS	0,9979	0,0021
ROE	0,0801	0,9199
Net Income	0,9932	0,0068
Mean Long.Inc		
EPS	0,6863	0,3137
ROE	0,4167	0,5833
Net Income	0,5934	0,4066

*Note: these results were obtained through the use of the statistical program R.*

Once we have determined the variables related to each other, we can finally calculate the regression line with the slope, the intercept and the R-squared statistic (which provides a

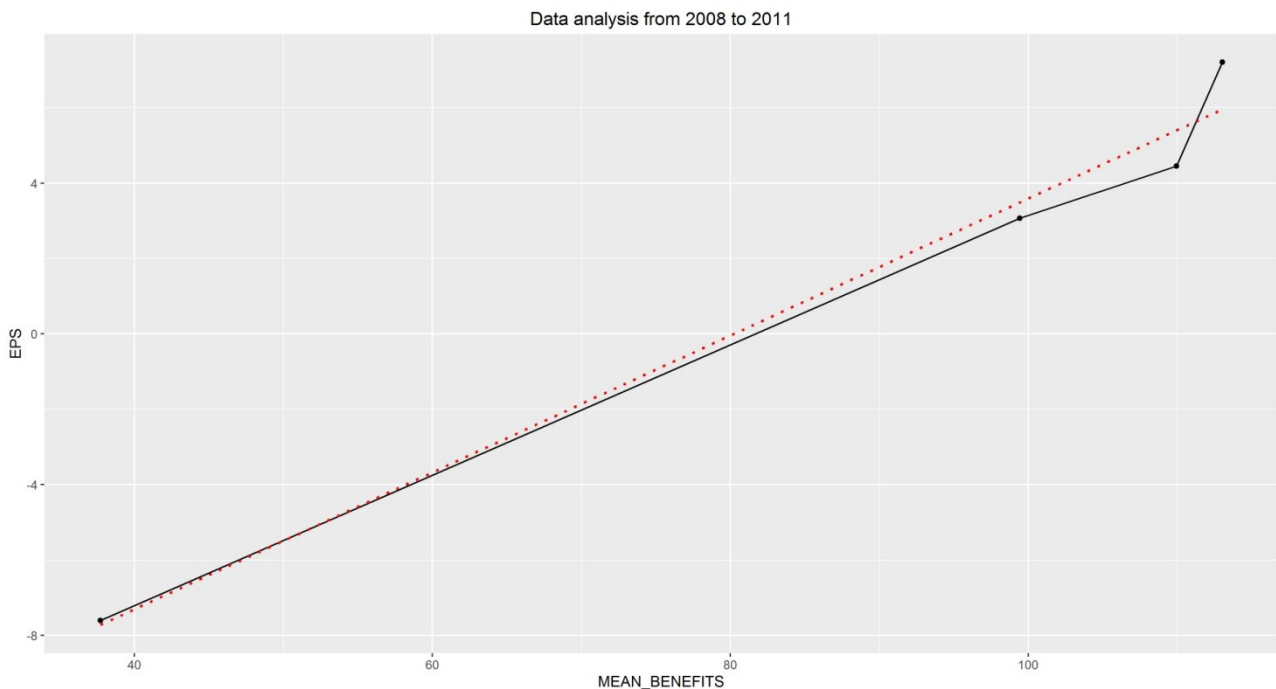
measure of how well the model is fitting the actual data). The analysis will consider only cases in which there is a strong correlation between data. The only statistically evaluable reports are summarized in the following Table 3.2.4.

**Table 3.2.4: Regression of the statistically significant coefficients.**

	I	II	III	IV
Slope	0,1817	113,5703	0,0064	3,9718
Intercept	-14,5773	-8294,53382	-7,4532	-3791,8101
R <sup>2</sup>	0,97	0,97	0,97	0,97

Column (I) refers to the relationship between the EPS and average of the benefits; Column (II) takes into account the ratio between Net Income and the average of benefits; Column (III), however, refers to the EPS and the average of the Restricted Equity; finally, Column (IV) refers to the relation of the average of Restricted Equity with Net Income.

**Figure 3.2.1: EPS and Mean benefits (linear regression is red dotted).**



*Note: Data were obtained from Deutsche Bank Annual reports from 2008 to 2011. The chart was created from data processing and via the statistical program R.*

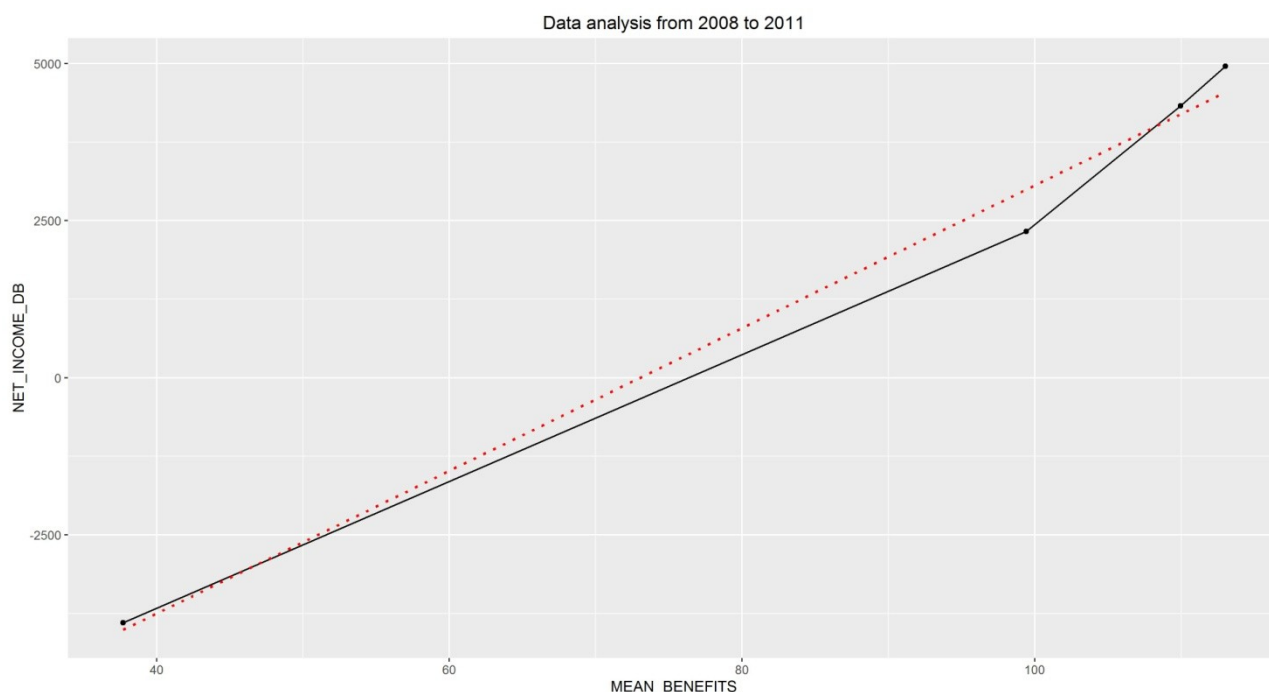
The linear correlation coefficient between Mean Benefits and EPS is 0.9894. Among the data analyzed, it is possible to envisage a strong linear correlation, as our result is very close to 1.



To determine the robustness of our results, we calculate the p-value, and we find that it is 0.0106. This result is statistically significant, as it is less than 0.05. Being the correlation coefficient statistically significant, we can calculate the regression line which has a slope equal to 0.1817 and an intercept of -14.5773. The coefficient R-squared is 0.97.

So, in our case R-squared is really close to 1, then the model is robust.

**Figure 3.2.2: Net Income and mean benefits (linear regression is red dotted).**

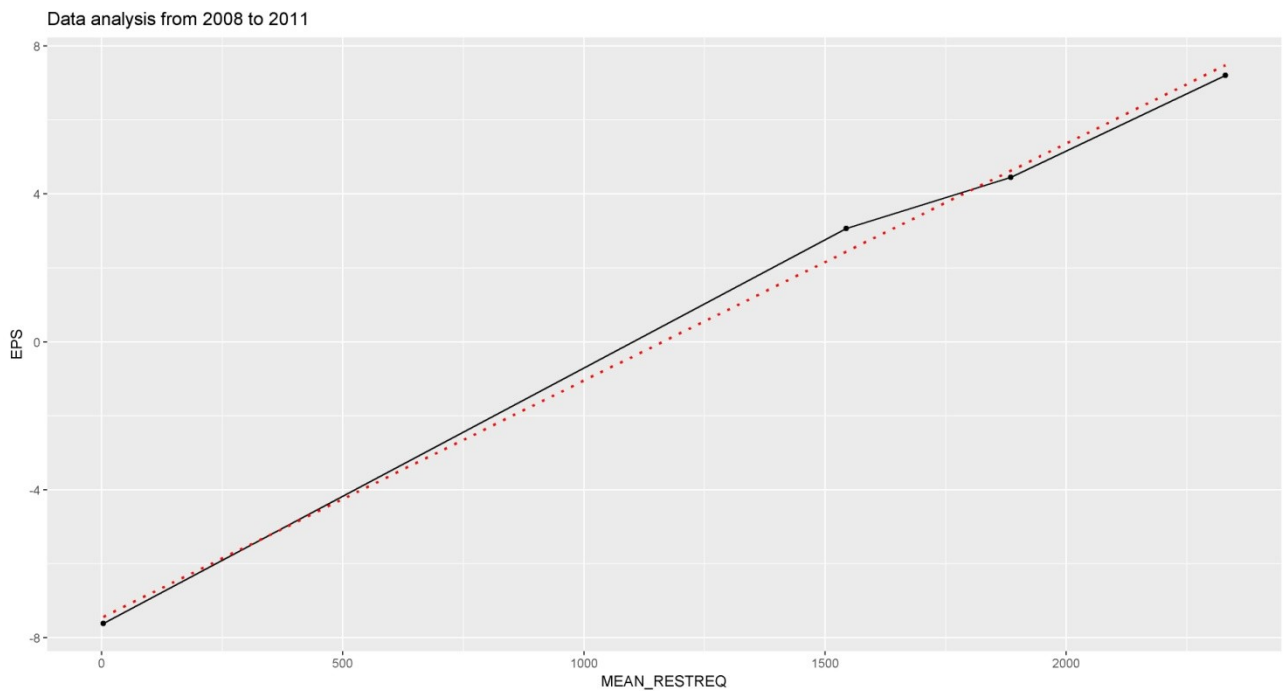


*Note: Data were obtained from Deutsche Bank Annual reports from 2008 to 2011. The chart was created from data processing and via the statistical program R.*

The linear correlation coefficient that we get between Mean Benefits and Net Income is 0.9934. It's indicating that among the analyzed data is possible to envisage a strong linear correlation. P-value is 0.0066, then, statistically the result is significant (the probability that it is due to chance is less than 5%).

Being the correlation coefficient statistically significant, we calculate the regression line which has a slope equal to 113.5703 and an intercept equal to -8294.5382. The coefficient R-squared is 0.97. Again, we can support that there is a strong correlation between average benefits and the net income of the bank.

**Figure 3.2.3: EPS and mean Restricted Equity (linear regression is red dotted).**

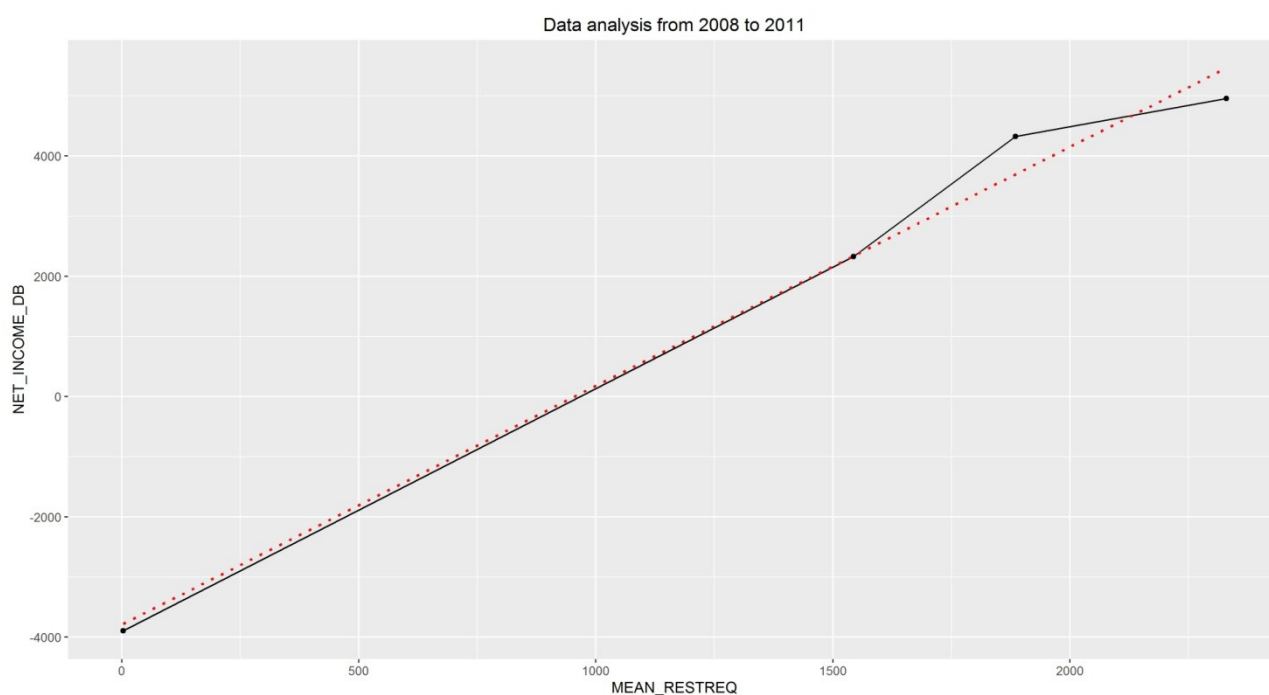


*Note: Data were obtained from Deutsche Bank Annual reports from 2008 to 2011. The chart was created from data processing and via the statistical program R.*

We relate Mean Restricted Equity with EPS. The linear correlation coefficient between the two variables is 0.9979. To determine whether the result that we have obtained is statistically significant, we calculate the p-value that is 0.0021.

Being the correlation coefficient statistically significant, we can calculate the regression line that has an angular coefficient of 0.0064 and -7.4532 intercepts. The coefficient R-squared is 0.97, so we can say that the observed data are robust to support that there is a strong correlation between average restricted equity and EPS of the bank.

**Figure 3.2.4: Net Income and mean restricted equity (linear regression is red dotted).**



*Note: Data were obtained from Deutsche Bank Annual reports from 2008 to 2011. The chart was created from data processing and via the statistical program R.*

Finally, the linear correlation coefficient between Mean Restricted Equity and the Net Income is: 0.9932 and is possible to envisage a strong linear correlation. We calculate the p-value that is 0.0068. Statistically, then, the result is significant.

The regression line which has a slope of 3.9718 and intercept of -3791.8101. The coefficient R-squared is 0.97. Again, being the R-square close to 1, we can say that the observed analysis is robust enough to support that there is a strong correlation between the average number of restricted equity and the Net Income of the bank.

In summary, the variable components compensation, of the 8 top managers of Deutsche Bank, for the four years of the crisis (2008-2011), are related to the performance indicators. Indeed,

benefits and restricted equity are statistically related with EPS and Net Income. Instead the fixed salary component of the executives does not have any type of correlation with the performance indicators. Furthermore, we do not find any kind of relationship, nor with the variable part, nor with the fixed one, with ROE.

Nevertheless, we can say that, when the performance of the bank are positive, also top managers are paid more.

### **3.3 Goldman Sachs: description and data.**

The Board and the Compensation & Management Development Committee of Goldman Sachs have attempted over the years to build balanced compensation programs that absolve the fundamental task to attract, motivate, retain top talent, focusing on plans that promote long-term profitability in line with the long-term strategies.

The US banking group does know that its pay decisions are not based on the results achieved in the short-term. It follows that a high proportion of the compensation package is composed by equity instruments that vest after a number of years. These instruments are attributed to senior management based on the achievement of specified ROI values, taking into account some other measures "risk adjusted" and the creation of value in the long term. The bank wants to optimize the link between management compensation and performance, searching to avoid all forms of incentives that make a lean performance with excessive risk-taking.

The US bank draws up its compensations' policy and plans looking to its main competitors and other major industries. In addition, performance is measured also by establishing a set of performance measures to assess the individual contribution in terms of management control, risk management and innovation (Goldman Sachs' annual report 2008-2011).

Goldman Sachs adopts the Total Reward System which is divided into an appropriate mix of fixed (the salary) and variable remuneration elements, the latter paid in cash and short and long-term incentives based on shares. More than 90% of total remuneration for the top managers in 2011 was variable, of which over 65% paid in equity instruments related to long-term performance.

Since 2009 Goldman Sachs has tried to increase fixed salary and gradually reduce short-term incentive component, while increasing the long-term variable portion paid in the form of share capital (at least 75% for executives).

In the case of Goldman Sachs, the total compensation of the top executives is determined by the sum of the basic salary, bonuses, change in pension value, other compensation and stocks.

Other compensation includes: life insurance and medical plan. All this is explained in Table 3.3.

**Table 3.3: CEOs' remuneration composition**

Variable	2008	2009	2010	2011
Basic salary	2440	3000	3000	9400
Total Bonus	0	0	27000	15000
Total change in pension value	0	0	10037	21036
Other compensation	2,873,429	2,025,822	1,416,042	1,308,428
Total Stocks	5,911,429	0	38,250,065	53,550,365
Total amount	11,184,555	5,025,822	79,703,107	100,294,793

*Notes: Information obtained from the Goldman Sachs Annual reports from 2008 to 2011. These data are in \$. This table represents the various components of the pay of the 5 top managers of the bank. Top managers considered are: Lloyd C. Blankfein (Chief Executive Officer), Gary D Cohn (COO+ President), David A. Viniar (CFO), J. Micheal Evans (Vice Chairman) and John S. Weinberg (Vice Chairman). The basic salary is the sum of the basic salary of the 5 top managers for the four years. The same is true for the total bonus, the total change in pension value, the other compensation and the total stock.*

Table 3.3 shows the fixed and variable payments to "NEOs" ("Named Executive Officers") of Goldman Sachs. So, what emerges is a very clear evolution of pay progression. No incentive plan awards and bonuses were granted to them during 2008 and 2009 (exactly in the heart of the crisis years), while in 2010, bonuses were paid for 27 million dollars and in 2011 to 15 million dollars. In fact, in 2010 and 2011, the variable component was restored and greatly increased the pay package. Over the same period the stock awards came respectively \$38,250,065 and \$ 53,550,365, a huge increase over previous years. Finally, even the base salary has grown exponentially over the course of the four years.

From Figure 3.3 we can see that for the first two years, the five top managers' compensations differ between them, while in the past two years the remuneration are almost identical. In the three years from 2008 to 2010 it was paid only the fixed salary of \$ 600,000 to each of the top five executive. NEOs salaries' were increased beginning in 2011<sup>32</sup>. It should be emphasized

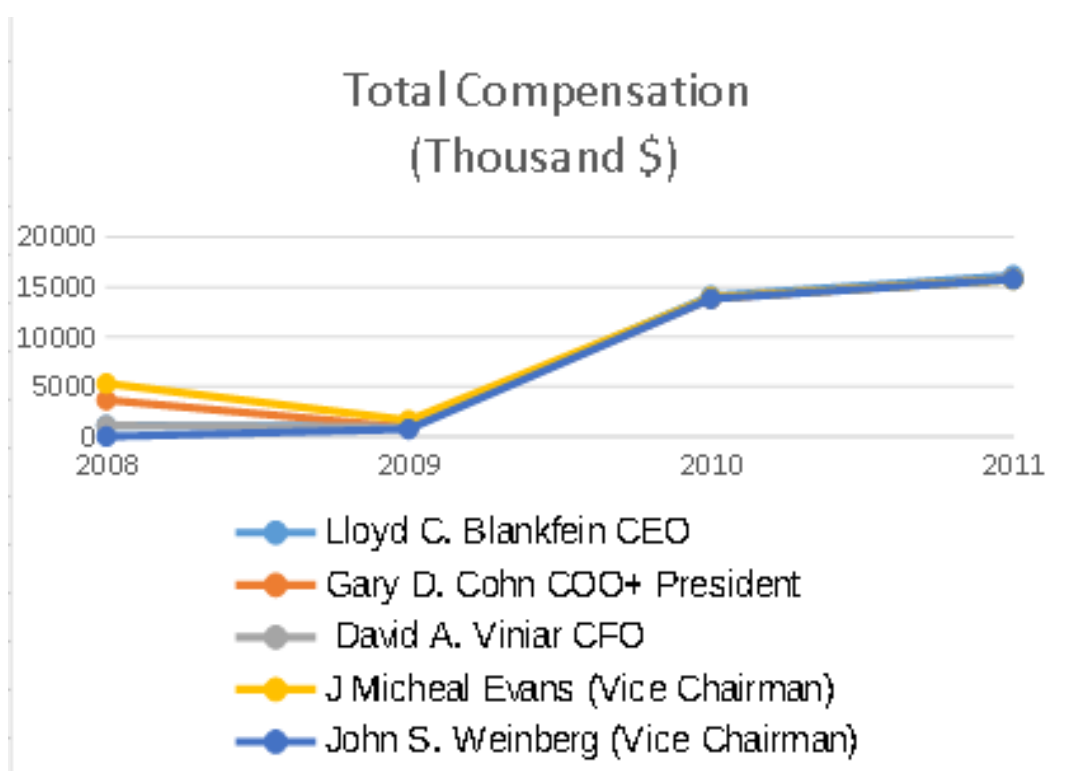
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Before this adjustment, all of them had been receiving the same \$600.000 salary since 1999, when Goldman Sachs became a public company.

that in 2011 all four executives received the same fixed salary of \$1.85 million, while Mr Blankfein took \$2 million (the compensation committee believes that these salary levels provide the appropriate balance between fixed and variable compensation).

**Figure 3.3: Executive Total Compensation at Goldman Sachs in 2008-2011.**



*Note: the graph represents the total remuneration for each of the individual top managers, from 2008 to 2011. Source: own elaboration of Goldman Sachs data.*

### 3.3.1 Empirical Results

After this background, I will now analyze whether and how the different types of remuneration of the CEO can in some way be related to bank performance.

So, I tried to divide the total compensation in the various parts, and I computed the average for the fixed salary, the bonuses, the change in pension value, other compensation and stocks. In doing so, I will analyze how the basic salary, bonuses, change in pension value, other

compensation and stocks behave in relation to the business indicators such as ROE, EPS and Net Income.

**Table 3.3.1: Average components of remuneration vs. performance indicators.**

Variable	2008	2009	2010	2011
Mean Basic Salary	480	600	600	1880
Mean Bonus	0	0	4500	3000
Mean change in pension value	0	0	2007,4	4207,2
Mean other compensation	574,625	405,16	283,2	261,685
Mean Stocks	1182,28	0	7650,013	10710,073
EPS	4,67	23,74	14,15	4,7
ROE	4,9	22,5	11,5	3,7
Net Income	2232	13385	8354	4442

*Note: average components of remuneration is derived by a calculation from a own elaboration data of the Goldman Sachs Annual reports from 2008 to 2011. The average of the various compensation was calculated by the sum of each item for the 5 top managers and is expressed in thousands of dollars. The values of the performance indicators have been obtained from Goldman Sachs Annual reports from 2008 to 2011. The EPS (Earnings Per Share) and Net Income are expressed in dollars, while ROE is expressed as a percentage. Net Income is expressed in millions of dollars.*

**Table 3.3.2: Summary Statistics**

Variable	Mean	N. Obs	Min	Max	St. Dev.
Mean Salary	890	4	480	1880	662,42
Mean Bonus	1875	4	0	4500	2250
Mean $\Delta$ in pension value	1553,7	4	0	4207,02	2006,02
Mean other comp.	381,17	4	261,69	574,63	143,61
Mean stock	4885,06	4	0	10710	5136,05
EPS	11,815	4	4,67	23,74	9,1165
ROE	10,65	4	3,7	22,5	8,6122
Net Income	7125,8	4	2322	13385	4863,7

*Note: the sample consists of data of the average of the different compensation components and the bank's performance indicator. Data are for the 4<sup>th</sup> fiscal year of Goldman Sachs from 2008 to 2011. The results have been calculated through the statistic program Gretl.*

With the data obtained in Table 3.3.1, we can make our correlation analysis between the variables using Pearson's coefficient. We relate, one at a time, the average of the variable components of remuneration with the banks' performance indicators. I will begin with the average of the basic salary, up to conclude with the average of stocks.

From this first analysis we can see that it seems there is no kind of relationship between our variables. To be absolutely certain and to determine the robustness of our results, we calculate the p-value, to determine if the correlation coefficients are statistically significant.

**Table 3.3.3: Linear coefficient and P-Value results**

	<u>Linear Coefficient</u>	<u>P-Value</u>
Mean Salary		
EPS	-0,4549	0,5451
ROE	-0,4839	0,5161
Net Income	-0,2958	0,7042
Mean Bonus		
EPS	-0,176	0,824
ROE	-0,2843	0,7157
Net Income	-0,0769	0,9231
Mean $\Delta$ in pension value		
EPS	-0,4598	0,5402
ROE	-0,5303	0,4697
Net Income	-0,3015	0,6985
Mean other comp.		
EPS	0,1212	0,8788
ROE	-0,0257	0,9743
Net Income	-0,2762	0,7238
Mean Stock		
EPS	-0,4751	0,5249
ROE	-0,5596	0,4404
Net Income	-0,3339	0,6661

After having analyzed our variables also with the p-value, we can definitely say that there is no kind of possible correlation between executives' compensations and bank's performance indicators in Goldman Sachs. In fact, none of the results obtained approaches to 0.05.

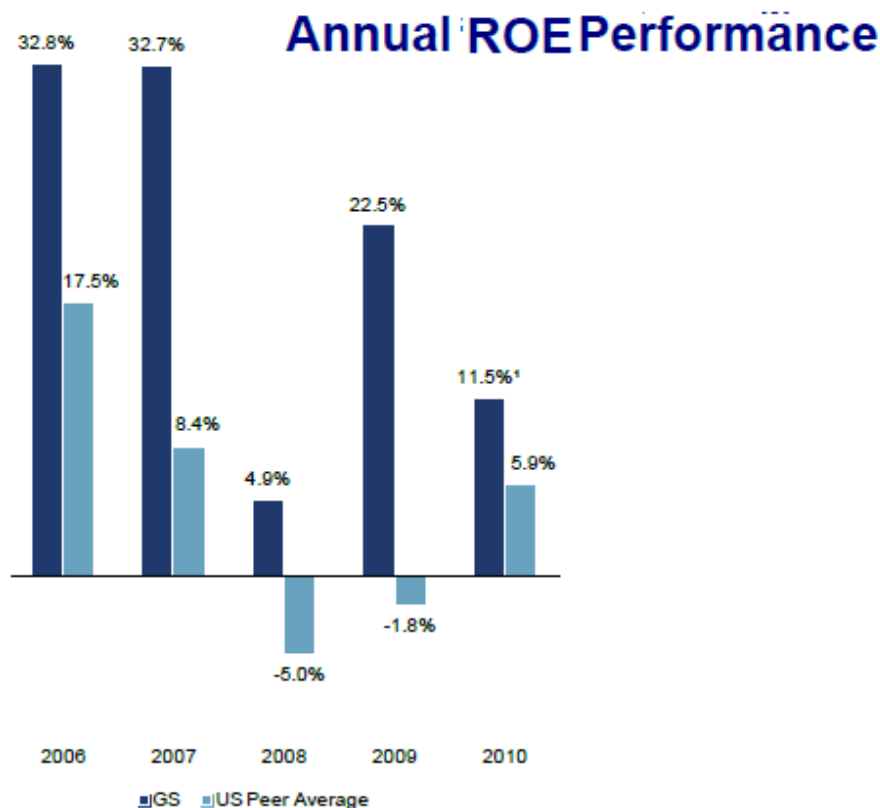


Not only we do not find a correlation between the fixed part of the remuneration and the bank's performance, but also with the variable one. Any type of remuneration presents a correlation with ROE, EPS and Net Income. Then, we can conclude that despite the fact that the bank's performance does not improve, the pay of CEOs, fixed and variable, greatly increases and therefore, even if there is a decline in profits from the bank, we still find an increase in fees for managers.

I want to emphasize the fact that, despite the decline of the ROE and EPS and the decrease of the Net Income through the four years, Goldman Sachs was one of the best performing banks in the US during the crisis' years.

From Goldman Sachs report we can clearly understand that the bank performance has always been superior compared to its competitors. In fact, we can find that the average ROE of Bank of America, Morgan Stanley, JP Morgan and Citigroup, during the first three years of the crisis, was incredibly lower compare to that of GS.

**Figure 3.3.1: Goldman Sachs's ROE vs US Peer Average (JPM, Citigroup, Bank of America and Morgan Stanley)' ROE from 2006 to 2010.**

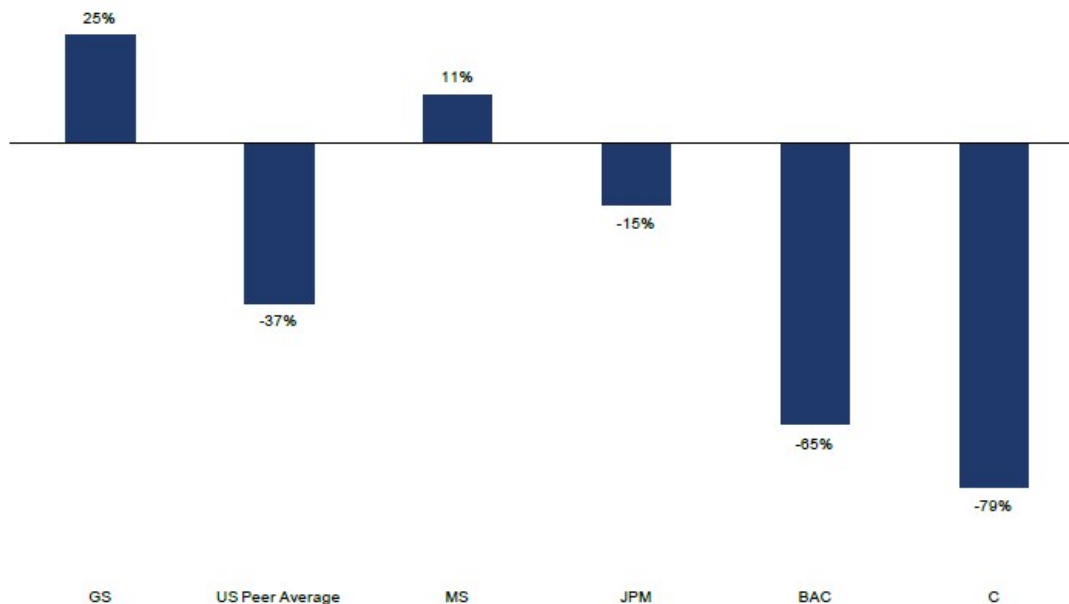


The figure shows the trend of the annual ROE performance, over a period of five years (2006-2010) for Goldman Sachs compared to the average of other 4 Americans' bank. The blue column represents the Goldman

Sachs' ROE performance, while the light blue column represents the US peer averages' ROE performance. We can note that Goldman Sachs' performance was excellent compared to the other. For 2006 we have a performance difference of 15.3% and for 2007 even more, 24.3%. In the middle years of the crisis, we see a decline also for our bank, but still lower than that of others. Finally, in 2010 we can perceive a recovery for the US peer banks, but still there is a gap of 5.6% with GS. Source: The Goldman Sachs Group, Inc. April 2011.

Also from the stock price performance, we can understand that Goldman Sachs has had a better performance than the other US banks.

**Figure 3.3.2: Goldman Sachs's stock price performance vs US Peer Average (JPM, Citigroup, Bank of America and Morgan Stanley)'stock prices from 2008 to 2010.**



The figure shows the trend of the stock price performance (2008-2010) of Goldman Sachs compared to that of the US peer average. We can immediately understand that GS is the best (+25%), followed by Morgan Stanley (+11%). Bank of America, JPM and Citigroup have more than negative results. Source: The Goldman Sachs Group, Inc. April 2011.

Someone could argue that Goldman Sachs CEO deserves that high pay because of the good firm performance compared to those of the other American banks. However, the critical point is to understand why the managers' salaries were so high despite the poor bank performance during the years of the crisis.

For the first two years (2008-2009), as we have already noted, executives only received the fixed salary with no stock and benefits. This was justified by the bank as the right way to get

through the financial turmoil. For the next two years, however, the top NEOs<sup>33</sup> received vertiginous compensation precisely because of the stocks.

Even if Goldman Sachs was the best American bank in performance during the years' crisis, it is still difficult to understand why executives' compensation were so high, even if there's no correlation between the bank performance and their remuneration.

### **3.4 HSBC: description and data.**

HSBC, the first British banking group and second in the world by total volume in 2011, has set itself the objective of structuring a highly competitive compensation package consisting of three basic parts (fixed salary, bonuses and long-term incentives), of which a large portion is deferred and paid according to performance. In fact, the basic starting point for the allocation of bonus is in measuring the contribution to individual performance and group assessed by monitoring the level of achievement of a series of financial and non-financial objectives relating to financial results, processes, learning and innovation (HSBC, Annual Reports and Accounts 2008, 2009, 2010 and 2011).

The purpose of the fixed pay is to attract and retain employees by paying market competitive pay for the role, skills and experience required for the business. These payments are fixed and do not vary with performance. The Group provides benefits in accordance with local market practice. This includes, but is not limited to the provision of pensions, medical insurance, life insurance, health assessment, and relocation allowances.

Bonuses can be up to four times the basic wage and are either deferred or immediately paid.

In 2011 it was launched a long-term incentive plan for top executives based on performance shares (GPS, "Group Performance Share Plan") with a five-year vesting period, that once assigned must be compulsorily kept in portfolio until retirement age. Incentives deferred in the long run can be up to seven times the value of wages. The performance shares are recognized based on the achievement of prescribed values of the earning per share, total shareholder return and economic profit (HSBC, Annual Reports and Accounts 2008, 2009, 2010 and 2011).

In the case of HSBC, the total compensation of the top executives is determined by the sum of the basic salary, bonus, allowances and benefits. All this is explained in Table 3.4.

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Named Executives Officers.

**Table 3.4: CEOs' remuneration composition**

Variable	2008	2009	2010	2011
Total Basic salary	2834	3069	3240	4107
Total Bonus	3294	14248	10579	4082
Total allowances	466	593	781	1785
Total Benefits	916	1126	985	734
Total amount	7510	19036	15585	10708

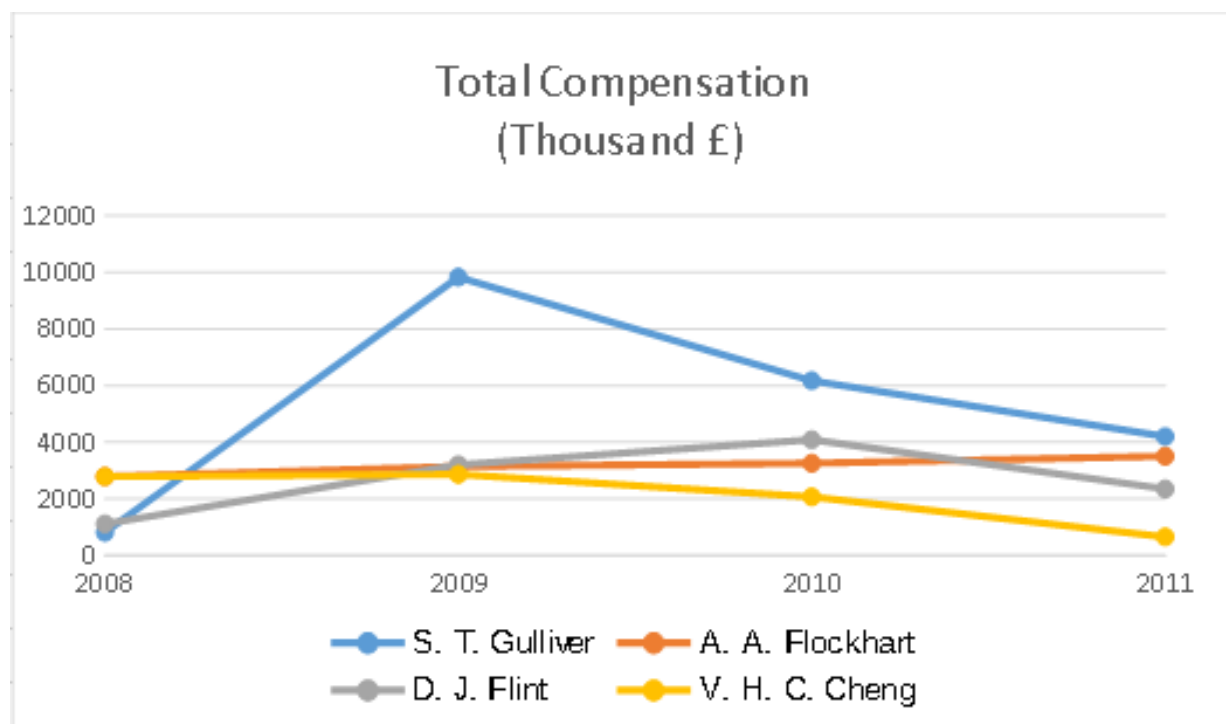
*Notes: Information obtained from the HSBC Annual reports from 2008 to 2011. These data are in thousands of £. This table represents the various components of the pay of the 4 top managers of the bank. Top managers considered are: S. T.Gulliver(CEO), A.A.Flockhart (President and Group Managing Director and Chief Executive Officer of The Hongkong and Shanghai Banking Corporation ), D.Flint (Group Finance Director Chairman of HSBC Finance Corporation) and V.H.Cheng (Executive Director and Chairman of The Hongkong and Shanghai Banking Corporation)  
The basic salary is the sum of the basic salary of the 4 top managers for the four years. The same is true for the total bonus, allowances and benefits.*

Table 3.4 shows the different types of the total compensation for the HSBC's top managers. We can note that the fixed part of the remuneration, namely the basic salary, has seen an increase from year to year. For the variable part, however, we can see the there are contrasting movements. In fact, allowances have had an increasing trend through the four years; instead bonuses and benefits have had a fluctuating trend over the same period of time.

Figures 3.4 shows us that among the four top managers, the luckiest was the Group Chief Executive, Thomson Stuart Gulliver, who, in 2009, has seen boosted his salary to £9,826,000. Subsequently, after 2009, also for him there was a reduction, while still maintaining the highest salary among the top executives. A.A. Flockhart and VHC Cheng in the first two years have had a wage almost identical, but while Flockhart has maintained a trends constant over the years, though still crescent, but at the same time stable, Cheng has seen his salary fall

year after year. Finally, D J Flint, has increased for the first three years his salary, before declining in 2011. The conclusion that can be drawn is that all executives have seen their pay increase from 2008 to 2009, however, there has been a downward trend decline from 2010 to 2011, except for Flockhart. So we can guess that in the following years to the advent of the crisis the wages of the CEO have suffered reductions.

**Figure 3.4: Executive Total Compensation at HSBC in 2008-2011.**



*Note: the graph represents the total remuneration for each of the individual top managers, from 2008 to 2011. Source: own elaboration of HSBC data.*

### 3.4.1 Empirical Results

Now, I will try to analyze how the different types of remuneration are related to bank performance. So, again, I divide the total compensation in the various parts, and I compute the average for fixed salary, bonuses, allowances and benefits. In doing so, I will analyze how the basic salary, the bonus, the allowances and the benefits behave in relation to the business indicators such as ROE, EPS and Net Income.

**Table 3.4.1: Average components of remuneration vs. performance indicators.**

Variable	2008	2009	2010	2011
Mean Basic Salary	708,5	767,25	810	1026,75
Mean Bonus	823,5	3562	2644,75	1020,5
Mean Allowances	116,5	148,25	195,25	446,25
Mean Benefits	229	281,5	246,25	183,5
EPS	0,41	0,34	0,73	0,92
ROE	4,7	5,1	9,5	10,9
Net Income	12479	12198	13125	12400

*Note: average components of remuneration is derived by a calculation from a own elaboration data of the HSBC Annual reports from 2008 to 2011. The average of the various compensation was calculated by the sum of each item for the 4 top managers and is expressed in thousands of pounds. The values of the performance indicators have been obtained from HSBC Annual reports from 2008 to 2011. The EPS (Earnings Per Share) are expressed in US dollars while Net Income are expressed in millions of pounds. ROE is expressed as a percentage.*

**Table 3.4.2: Summary Statistics**

Variable	Mean	N. Obs	Min	Max	St. Dev.
Mean Salary	828,13	4	708,5	1026,08	138,8
Mean Bonus	2012,07	4	823,5	3562	1316,4
Mean Allowat	226,56	4	116,5	446,25	149,99
Mean Benefits	235,06	4	183,5	281,5	40,731
EPS	0,6	4	0,34	0,92	0,272
ROE	7,55	4	4,7	10,9	3,1172
Net Income	12551	4	12198	13125	400,86

Note: the sample consists of data of the average of the different compensation components and the bank's performance indicator. Data are for the 4<sup>th</sup> fiscal year of HSBC from 2008 to 2011. The results have been calculated through the statistic program Gretl.

With the data obtained in Table 3.4.1, we can make our correlation analysis between the variables using Pearson's coefficient. We relate, one at a time, the average of the variable components of remuneration with the banks' performance indicators. I will begin with the average of the basic salary, up to conclude with the average of benefits.

As can be immediately seen from the Table 3.4.3, not all of the variables listed have a relationship between them. In fact, calculating the linear correlation coefficient, only Mean Bonus related with EPS is significant. In addition, through the P-Value, we can confirm the robustness of our results. Through our analysis we can state that there is no relationship between the other variables.

		<u>Linear Coefficient</u>	<u>P-Value</u>
<b>Linear coefficient results</b>	Mean Salary		
	EPS	-0,3491	0,6509
	ROE	0,863	0,137
	Net Income	-0,0617	0,9383
	Mean Bonus		
	EPS	0,9863	0,0137
	ROE	-0,2029	0,7971
	Net Income	0,0324	0,9676
	Mean Allowances		
	EPS	-0,4344	0,5656
	ROE	0,8416	0,1584
	Net Income	-0,0864	0,9136
Mean Benefits			
EPS	0,8886	0,1114	
ROE	-0,6496	0,3504	
Net Income	-0,0357	0,9643	

**Table 3.4.3:**  
**and P-Value**

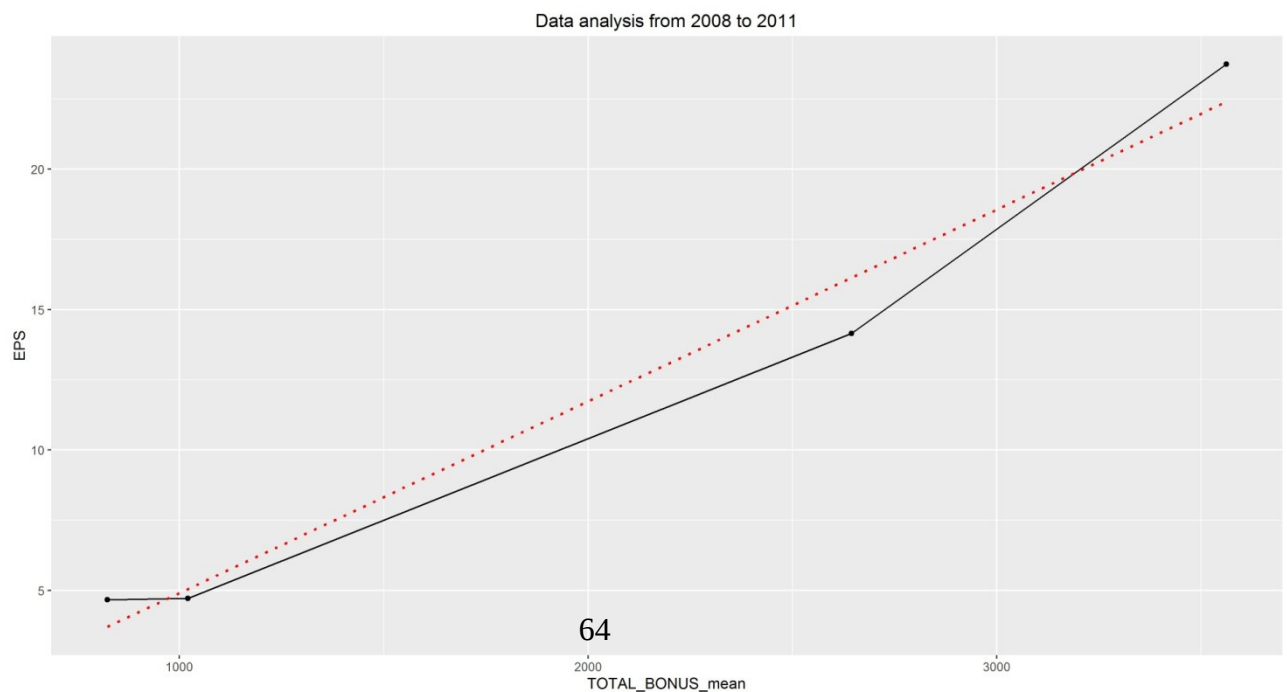
Once we have determined that Mean bonus and EPS are related to each other, we can finally calculate the regression line with the slope, the intercept and the R-squared statistic, summarized in the Table 3.4.4.

**Table 3.4.4: Regression of the statistically significant coefficients.**

	I
Slope	0,0068
Intercept	-1,9261
R <sup>2</sup>	0,97

Column (I) refers to the relationship between the EPS and average of the bonus and indicates the regression line.

**Figure 3.4.1: EPS and Mean bonus (linear regression is red dotted).**





*Note: Data were obtained from HSBC Annual reports from 2008 to 2011. The chart was created from data processing and via the statistical program R.*

The linear correlation coefficient between Mean Bonus and EPS is 0.9863. Among the data analyzed, it is possible to envisage a strong linear correlation, as our result is very close to 1.

To prove with greater certainty whether there is a relationship, we calculate the p-value, and we find that it is 0.0137.

Being the correlation coefficient statistically significant, we can calculate the regression line which has a slope equal to 0.0068 and an intercept of -1.9261. The coefficient R-squared is 0.97. So, in our case R-squared is really close to 1.

All the other variables considered in our model are not statistically significant.

So, even for HSBC, we can say that we haven't find a great relationship between performance and pay, with the only exception of mean bonuses related to EPS. In this way we can assume that although there is a negative performance of the bank, top managers' compensation are not affected.

### **3.5 Findings**

I tried to take as a reference of the analysis three of the most important banks in the Western world. The outlook for the banking industry has been profoundly influenced by the financial crisis. During this time, financial markets underwent a period of extraordinarily turbulent and difficult conditions. Capital markets faced conditions of severe stress and exceptional volatility. These developments also put pressure on bank balance sheets and their liquidity (Financial Report of Deutsche Bank).

Despite this situation of financial hardship, the compensation of bank managers does not seem to have suffered that much.

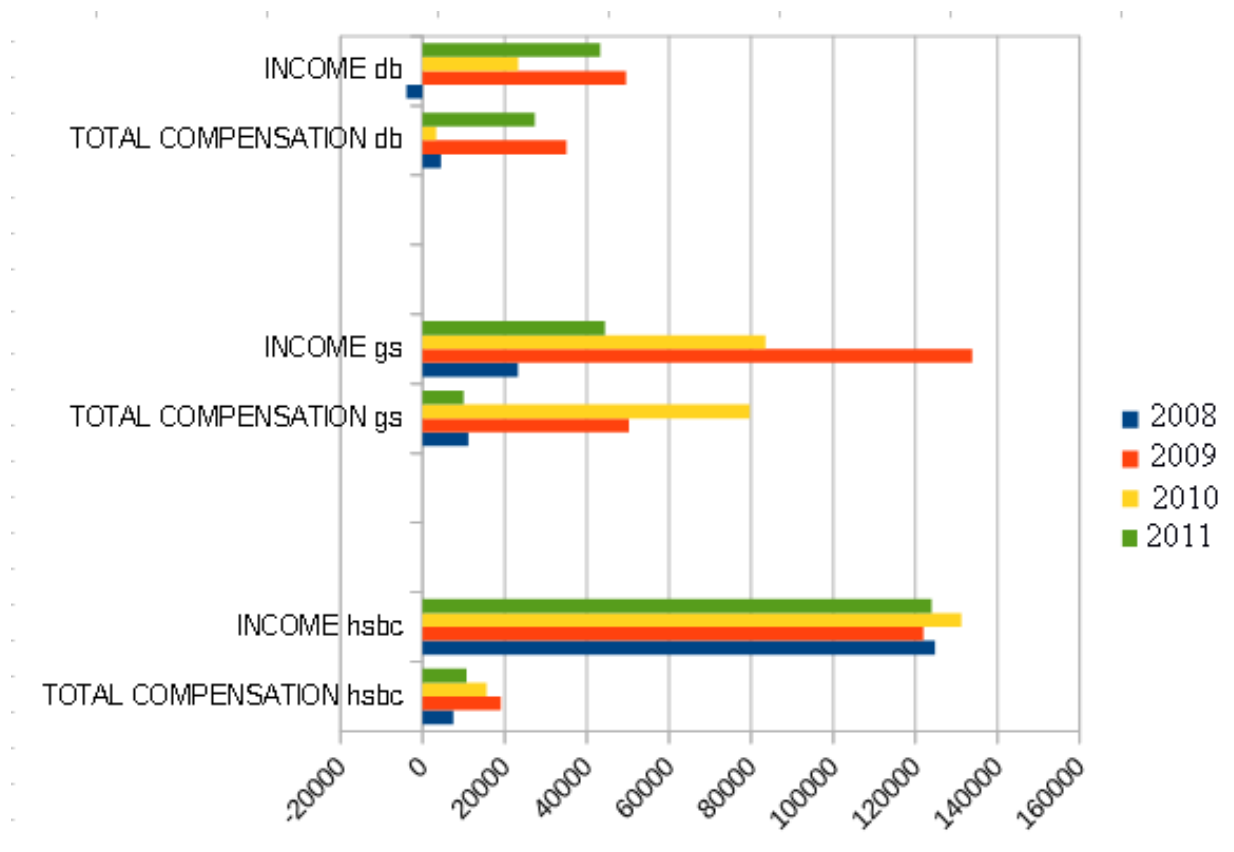
All three banks have seen, over the period of four years, lowered or maintained stable their fixed pay. Actually the fixed component does not seem to be very important in determining a possible link between pay and performance. Instead, the most profitable components, and which have increased dramatically over the years, have been the variable remuneration part, i.e. stocks and bonuses. For Deutsche Bank CEOs, that for the first year (2008) have seen only fixed salary and benefit, and Goldman Sachs executives, that for the first two years (2008-2009) have received neither bonuses nor stock, adding the latter has had more than a positive impact on their final rewards. In fact, we have seen increases of thousands of euro and dollars their salaries.

Unlike the first two banks, HSBC has always paid its executives, in all four years of the crisis, with both fixed and variable remuneration, focusing mainly on bonuses. In 2011, however, it has managed to reduce the flow of the bonuses until getting a match among their remuneration and corporate profit.

From Figure 3.5 we can immediately understand that the most profitable bank among the three in the last four years has been HSBC, while the NEOs of Goldman Sachs are the highest paid managers compared to the other two banks. This makes us think that despite Goldman Sachs in those four years has seen its profits decline, has still paid more its managers.

Instead, HSBC, unlike the other two analyzed banks, maintains a fairly constant trend of the Income and also in rewards. Deutsche Bank seems to be the only of the three banks, to show a related trend, during the four years, between wages and performance.

**Figure 3.5: Total compensation vs Net income of Deutsche Bank, HSBC and Goldman Sachs from 2008 to 2011.**



*Note: Income and total compensation for Deutsche Bank are expressed in Euro, total compensation and Income for Goldman Sachs are expressed in dollars while Income and total compensation for HSBC are expressed in pound. Source: own elaboration of HSBC, Goldman Sachs and Deutsche Bank data.*

In summary: we do not find any kind of correlation between compensation and performance for Goldman Sachs. For HSBC, however, we find a positive relationship between EPS and the average bonus. Instead, for Deutsche Bank we find a positive relationship between EPS and the average of the benefits and restricted equity; and between Net Income and the average of benefits and restricted equity.

Then we can assume that the German bank has a remuneration policy more consistent than the two Anglo-Saxon banks; or it has managed to find an effective strategy to align remuneration with performance the Company's performance.

A good incentive pay system needs to target the optimal trade-off between performance and pay (Efing et al., 2014). For Goldman and HSBC, it seems that their political strategic choices does not reach this optimal trade-off.

So in conclusion, we can say that the high managers' rewards, do not go hand in hand with the income ratio of the bank and, therefore, can not be justified. In fact, from our analysis we can say that pay are not link to performance.

My intention is not at all to do moralism, but simply to raise an important issue and draw some simple reflection. It is correct that, despite numerous layoffs, bankruptcy, those who could prevent or soothe the greatest financial catastrophe since 1929, receive stellar compensations? It is also true that Goldman Sachs, Deutsche Bank and HSBC have managed to come out victorious from the crisis and have once again become the most competitive banks in the financial world. Then, surely some of the credit of the success is also recognized to their executives and managers who have managed to navigate the stormy sea bringing almost everyone out on dry land. But despite everything, are really all these stock and bonuses necessary to encourage the top of the pyramid to "will the good for the bank"?



## CONCLUSIONS

Managers' compensations are one of the topics that, since the Lehman Brothers bankruptcy, still feed the economic and financial debate in media, at conferences and in international fora. The rapid deterioration of the global macroeconomic conditions, especially in the most advanced countries, has led many academics and other scholars to launch a real "hunt down" for those responsible of the crisis. Knowing whom and what to blame is essential to reduce the chances that such a thing happen again and for correcting the dysfunctional aspects of today's financial markets. We must beware of too easy explanations, which often call into question the excessive greed of bankers. Part of it is certainly true, but this hypothesis doesn't provide any element of reform. Banks have behaved so greedy because they were encouraged to do so and no one prevented them to act in that way. So, this is an aspect that we have to change. Moreover, the very essence of capitalism is the pursuit of profit: So must we blame banks for doing what everyone does in a market economy? (Stiglitz, 2010)

Financial institutions have complained that regulators have not prevented them from behaving badly. However, while on one hand the most serious crimes fall on the financial sector, on the other regulators have not done what they should have, that is, make sure that the banks do not behave badly (Stiglitz, 2010). But banks had grown so much that they became not only too big to fail, but also too powerful politically in order to be subject to restrictions (little consideration, if they were too big to fail, should they not be too big to exist?).

Bankers are not born more greedy than other types of workers. They only have more opportunities and incentives to behave badly at the expense of others. When private remuneration is properly aligned to the social objectives, everything works; when this does not happen, things can go wrong.

Normally in market economies, the incentives tend to be properly aligned. In the financial markets, however, the incentives are distorted.

An important example of distortion of incentives is the number of executives who are paid in stock options. In the financial sector, a large part of the remuneration is paid in form of bonus attached to income. According to many, these remuneration systems would build an incentive for executives to work harder. This argument is false because the leaders find a way to get paid well even when the company is in trouble. In fact, we have seen the explicit example of this problem right in Goldman Sachs: the bank was facing a very critical period, and despite that the top managers were receiving exorbitant fees. Indeed, from our analysis, albeit considering a too limited number of variables, we find a little relationship between pay and banks' results, as seen when managers of companies with record losses have earned bonuses by billions of dollars.

If workers are paid by a piece rate system, they will try to produce as much as possible at the expense of quality. After all, they are paid for the amount not for the quality. This phenomenon occurred throughout the financial chain, especially in this crisis, where real estate brokers have sold more mortgages than they could, without worrying about whether they would be paid in a future. Investment banks have created the largest possible number of complex products starting from the toxic mortgages because, very simply, they were paid to do that (Stiglitz, 2010).

Executives paid in stock options had every interest to push up the share price of their company. They knew that the higher were the reported earnings, the greater would be the share price. This obsession of short-term profits has led banks to focus their attention on how to generate more revenue and how to circumvent the accounting and financial rules.

One of the easiest ways to increase reported earnings was to manipulate the financial statements, disappearing losses with one hand by recording profits with the other. Investors and regulators were alerted, but evidently they had not learned the lesson: the "creative accounting" was behind many of the scandals related to the technology bubble "dot com" of the late nineties. Moreover, the innovation that Wall Street was so proud of, consisted in inventing new products that generate significant revenue for companies in the short term. The

problems that would be present due to the high default rates related to some of these innovations seemed an unreal problem (Stiglitz, 2010).

The concept that I want to emphasize is that in the powerful pattern of financial incentives, bankers participate in the division of profits but not losses. Bankers receive bonuses at year-end, based supposedly on results they have reached during the year; these bonuses are much larger than a banker's yearly salary<sup>34</sup> ( Hill and Painter, 2010).

However, bonuses, in financial markets, may encourage risk-taking since such risk-taking is used to create high returns (Bell and Van Reenen, 2010). By taking excessive risks, I refer to those actions that may either increase or decrease the banks' asset value but whose expected effect on bank value is negative (Bebchuk and Spamann, 2009).

Since risk-taking is desirable in financial sector, it is a key reason to encourage performance-related pay (Bell and Van Reenen, 2010). However, executives, that are paid in bonuses on the basis of the annual profits of their book, have only an incentive to look for short-term profits and to maximize risk-taking, at the expense of the long-term interests of the bank (Bell and Van Reenen, 2010). In fact, bankers typically receive stock options that are believed to shorten bankers' time horizons. Shorter time horizons motivate risk-taking (Hill and Painter, 2010).

From this assumption, a large international literature began to investigate the correlation between executive pay and incentives with taking greater financial risks. The international work, carried out so far, show rather discordant empirical evidence, even on some phenomena that seemed to be now undisputed. We saw in the variable remuneration in equity instruments (such as stock options) a useful tool to solve the problem expressed by agency theory relative to the misalignment between the interests of managers and shareholders. In many cases, in fact, precisely such forms of benefit, ended up inducing executives to distorted behaviors.

Inexplicably, executives like to ascribe to themselves the merits of the success, but show little sense of responsibility when it comes to failures. When there were stratospheric profits, bankers claimed the merit of the latter, saying that it was the result of their work; instead, when there were huge losses, everything depended on forces outside of their control (Stiglitz, 2010).

These attitudes are reflected in executives' compensations, that despite the emphasis on incentives, often did not show any link between pay and performance. The remuneration

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Again, bonuses were not based on the results in the long run, but on those shortly.

incentive is high when the results are good, but when they are poor, the difference shall be offset with an incentive to ensure that the executive does not leave the company.

The experts argue that it is necessary to give high compensation to the manager, despite the poor results, because otherwise they could leave the bank for another one. We might have expected that banks wanted to get rid of managers who perform poorly. However, experts reiterate that profits are low not because managers' performance is inadequate, but because of events beyond their control.

The point is that when profits were high, experts should have used the same reasoning (Stiglitz, 2010).

The truth is that, rewarding top managers with different forms of stock compensation may not tie the executive's efforts to company performance closely enough. Stock price may rise or fall regardless of the strategic moves of the company's executives, but simply they change because of market forces. Manager can become wealthy by being in the right place at the right time and not by the merits of his performance. And then, this could offer instead of an incentive, a disincentive to work hard if the stock price moves regardless of effort (Sigler, 2011).

After the financial crisis of 2008, the international debate has called into question the whole organization of internal corporate governance. Also, the fact that the crisis has involved financial banks and that banks rely heavily on bonuses, have led many economists and politicians to consider the fact that bank bonuses could have been one of the causes of the crisis and they could have been the fuel that ignited the fragile economic world (Murphy, 2012). So, managers have got away thanks to an inadequate corporate governance system.

That executives had every incentive to devise a remuneration system that would go to their advantage it seems clear now. The mystery that remains to understand is why shareholders did not have noticed these behaviors. Perhaps the imperfections in the corporate governance system were not allowed to directly change the behavior of the management. However, investors should have punished companies characterized by a structure with perverse incentives by bringing down the share price (Stiglitz, 2010).

Reducing the scope of conflicts of interest, limiting the short-sighted behavior and excessive risk are one of the key aspects of the reforms that should be introduced. If bankers have the wrong incentives, they will endeavor to avoid any other rule. A simple reform like that to base the remuneration on long-term results, making sure that bankers must also assume responsibility for losses, in addition to dividing the gains, could make a big difference. If



companies resort to incentives-based remuneration, that is, but then they should be required to demonstrate that there is a relationship between pay and long-term results.

To effectively deal with the problems of incorrect and distorted incentives, it seems also necessary some corporate governance reforms, to ensure that managers are aware of their responsibility toward shareholders (Stiglitz, 2010).

The conclusions, resulting from the empirical evidence in the 3rd chapter, allow us to say that, between 2008 and 2011, no strong empirical evidence existed at the international level in relation to the phenomena. In particular, there is no evidence, in our sample, of an association between fixed compensation and bank performance. Therefore, although the mutated set of global rules has pushed in the direction of greater correlation "pay-performance", it is believed that we have to wait a few years before being able to see a real connection between these.

In addition, we must reflect on the fact that the non-existence of such empirical evidence is primarily attributable to the fact that the most powerful managers can still influence the amount of their compensation packages. Therefore, it is hoped that in the future the burden of leadership in the self-determination of their pay packages will be attenuated.

From the analysis conducted on the executives' remuneration structures, we see a trend towards the removal of these reward tools and mechanisms merely geared to the maximization of short-term results ("shorterminism"). It is becoming more virtuous practices to improve the pay performance correlation (such as benefits and deferred bonus).

To sum up, compensation incentives should be based on performance and should be aligned with shareholder interests and long term firm profitability; not induce risk-taking in excess of the firms' risk appetite; have a component reflecting the firm's overall results and achievement other goals (Grant, 2009).

This thesis was born with the intention to analyze if there is any evidence that executive remuneration packages in the financial sector might have contributed to the sub-prime crisis.

It is evident that the precise causes of the global financial crisis will be debated for decades. However, the evolving consensus suggests that the crisis was mainly linked to the collapse of the US housing prices and the contribution of risk-taking (Murphy, 2013). Reducing risk-taking is simple. Just put some brakes and making sure that banks have an incentive to do the opposite. Do not allow banks to use incentives that encourage excessive risk assumption and force them to greater transparency would be a good step forward.

Too many people have been led to believe that certain wages reflect a social contribution, coming to the conclusion that those who received such high salaries certainly made a very

important service to society. The high compensation of bank managers were the mirror of the importance of banks.

The way the market has altered our way of thinking is illustrated by the attitude towards incentive pays. A society in which CEO are allowed to give their best performance only if they receive some economic incentives, definitely is not a healthy society.

## References

Aboudy D. and R. Kasznik (2000), “CEO stock option awards and the timing of corporate voluntary disclosures”, *Journal of Accounting and Economics*, [Volume 29, Issue 1](#), Pages 73–100 22 May 2000.

Abowd J.M. and D.S. Kaplan (1999), “Executive Compensation: Six Questions That Need Answering”. Available at: <https://pdfs.semanticscholar.org/1061/e4d49de34bd154b3e1f736e0d0f69f504667.pdf>. April 1999.

Acharya V.V., I. Gujral, N. Kulkarni and H.S. Shin (2011), “Dividends and bank capital in the financial crisis of 2007-2009”, *National Bureau of Economic Research*, Working Paper 16896, March 2011.

Acrey J.C., W. R. McCumber and T. Nguyen (2011), “CEO incentives and bank risk”, *Journal of Economics and Business* 63 (2011) 456–471.

Adams R. and H. Mehran (2003), “Is Corporate Governance Different for Bank Holding Companies?”, *Economic Policy Review*, April 2003.

Adams R. and H. Mehran (2005), “Corporate performance, Board Structure and its Determinants in the Banking Industry”, *Economic Policy Review*, August 8, 2005.

Allen F. and D. Gale (2000). “Financial Contagion”, *Journal of Political Economy*, Vol. 108, No. 1 (February 2000), pp. 1-33.

Ang J., B. Lauterbach and Ben Z. Schreiber (2000), “Pay at the executive suite: How do US banks compensate their top management teams?”, *Journal of Banking & Finance* 26 (2002) 1143–1163, 27 November 2000.

Angbazo L. and R. Narayanan (1997), “Top Management Compensation and the Structure of the Board of Directors in Commercial Banks”, *European Finance Review* 1: 239–259.

ASX Linstin Rules (2014), available at: [http://www.asx.com.au/documents/rules/gn19\\_performance\\_shares.pdf](http://www.asx.com.au/documents/rules/gn19_performance_shares.pdf)

Balachandran S., B. Kogut and H. Harnal (2010), “The Probability of Default, Excessive Risk, and Executive Compensation: A Study of Financial Services Firms from 1995 to 2008 “, May 2010.

Balkin D.B. and Gomez-Mejia L.R. (1987), “Toward a Contingency Theory of Compensation”, *Strategic Management Journal*, Vol. 8, No. 2 (Mar. - Apr., 1987), pp. 169-182

Bebchuk L.A. (2009), “Fixing Bankers’ Pay”, *Harvard University*, Available at: <http://works.bepress.com/bebchuk/1/>, Fall October 20, 2009.

Bebchuk L.A. (2009), “Fixing Incentives”, *Harvard Law School*, Available at: <http://works.bepress.com/bebchuk/1/>, Fall October 20, 2009.

Bebchuk L.A. (2010), “How to fix bankers’ pay”, *Harvard Law School*, National Bureau of Economic Research (NBER) , 7 Set 2010.

Bebchuk L.A., A.Cohen, H. Spamann, “The Wages of Failure: Executive Compensation at Bear Stearns and Lehman 2000-2008”, June 2010.

Bebchuk L.A. and J.M. Fried, “Paying for long-term performance”, Available at: [http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1167&context=penn\\_law\\_review](http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1167&context=penn_law_review), 2010.

- Bebchuk L., J.M. Fried and D. I. Walker, (2002) “ Managerial Power and Rent Extraction in the Design of Executive Compensation”, *Harvard Law School*, 6-11-2002.
- Bebchuk L.A. and H. Spamann, (2009) “Regulating bankers’ pay”, *Harvard Law School*, Discussion Paper No. 641, 6/2009.
- Becher D.A., T.L. Campbell II and Frye M.B. (2005), “Incentive Compensation for Bank Directors: The Impact of Deregulation”, The University of Chicago Press, *The Journal of Business*, Vol. 78, No. 5 (September 2005), pp. 1753-1778.
- Bell B. and J. Van Reenen (2010), “Bankers’ pay and extreme wage inequality in the UK”, *Centre for Economic Performance*, London School of Economics and Political Science, April 2010.
- Bell B. and J. Van Reenen (2010), “Bankers’ bonuses: Claw-back clauses are critical” *Centre for Economic Performance*, London School of Economics and Political Science [3 May 2010].
- Bell and Van Reenen (2010), “Election analysis: Bankers’ Bonuses”, *Centre for Economic Performance*, London School of Economics and Political Science, April 2010.
- Beltratti A. and René M. Stulz (2009), “Why did some banks perform better during the Credit Crisis? A Cross-Country study of the impact of Governance and Regulation”, *Working Paper Series in Finance*, Working Paper N°. 254/2009, July 2009.
- Beltratti A. and René M. Stulz (2012), “The credit crisis around the globe: Why did some banks perform better?”, *Journal of Financial Economics*, 105 (2012).
- Bertrand M. and S. Mullainathan (2000), “Agents With and Without Principals”, *The American Economic Review*, Vol. 90, No. 2, Papers and Proceedings of the One Hundred Twelfth Annual Meeting of the American Economic Association (May, 2000), pp. 203-208
- Blackwell D. W., J.A. Brickley and M.S. Weisbach (1993), “Accounting information and internal performance evaluation: Evidence from Texas banks”, *Journal of Accounting and Economics* 17 (1994) 331-358.
- Bliss R. and R. J. Rosen (2000), “CEO Compensation and Bank Mergers”, *Journal of Financial Economics*, February 2000.
- Boivie S., Lange D., M.L. McDonald and Westphal J.D. (2011), “Me or we: The effects of CEO organizational identification on agency costs”, *Academy of Management Journal* 2011, Vol. 54, No. 3, 551–576.

Brewer E. III and J. Jagtiani (2007), "How Much Would Banks Be Willing to Pay to Become "Too- Big-to-Fail" and to Capture Other Benefits?", *The Federal Reserve of Kansas City*, Economic Research Department, July 2007.

Brewer E. III, W.C. Hunter and W. Jackson III (2003), "Deregulation and the Relationship Between Bank CEO Compensation and Risk-Taking", *Federal Reserve Bank of Chicago*, November 2003.

Brian J. Hall (2003), "Six challenges in designing equity-bases pay", *National Bureau of Economic Research*, NBER working paper series, Working Paper 9887, July 2003.

Browne M.J. and J.S. Trieschmann (1991), "Salary and Benefit Compensation at American Research Universities", *The Journal of Risk and Insurance*, Vol. 58, No. 3 (Sep., 1991), pp. 513-524.

Bryan S., LeeSeok Hwang and Steven Lilien, "CEO Stock - Based Compensation: An Empirical Analysis of Incentive - Intensity, Relative Mix, and Economic Determinants", University of Chicago Press, *The Journal of Business*, Vol. 73, No. 4 (October 2000), pp. 661-693.

Caillaud B. and B.E. Hermalin (2000), "Hidden Action and Incentives", *Journal of Accounting and Economics*.

Calomiris C.W. and R. G. Hubbard (2004), "Options Pricing and Accounting Practice", *American Enterprise Institute for public policy research*, January 8, 2004.

Carter M.E. and Zamora V. (2009), "Shareholder Remuneration Votes and CEO Compensation Design", *Carroll School of Management Boston College*, January 2009.

Cerasi V. and Oliviero T. (2015), "CEO Compensation, Regulation, and Risk in Banks: Theory and Evidence from the Financial Crisis", *International Journal of Central Banking*, June 2015.

Chakhovich T., Seppälä and S. Ikäheimo (2011), "The Relation between Executive Time Horizon and Executive Compensation", Available at: [http://www.virtusinterpress.org/IMG/pdf/Helsinki\\_conference\\_paper\\_19.pdf](http://www.virtusinterpress.org/IMG/pdf/Helsinki_conference_paper_19.pdf), November 2011.

Chance D.M., R. Kumar and R. B. Todd (2000), "The repricing of executive stock options", *Journal of Financial Economics* 57 (2000) 129-154, 17 March 2000.

- Chen C. R., Steiner T. and A. M. Whyte (2006), “Does stock option-based executive compensation induce risk taking? An analysis of the banking industry”, *Journal of Banking and Finance* 30 (2006), 915-945.
- Cohen R.B. , Hall B.J. and Viceira L.M. (2000), “Do Executives stock options encourage risk-taking?”, *School of Business Administration, Harvard University*, March 2000.
- Conyon Martin J., Fernandes N., M.A.Ferreira, P. Matos and K.J. Murphy (2011), “The Executive Compensation Controversy: A Transatlantic Analysis”, *Cornell University*, 2-11-2013.
- Cooper M.J., Gulen H. and Rau P.R. (2009), “Performance for pay? The relationship between CEO incentive compensation and future stock price performance”. Available at: <http://www.davidaspitzley.org/PotatoPatch/uploads/Main/CEOperformance122509.pdf>.
- Core J. and W.Guay (2001), “The Other Side of the Trade -Off: The Impact of Risk on Executive Compensation”, *The Wharton School University of Pennsylvania*, October, 2001.
- Core J. E., W. R. Guay, and D. F. Larcker (2003), “Executive Equity Compensation and Incentives: A Survey “, *FRBNY Economic Policy Review* / April 2003.
- Cutillo G. and F. Fontana (2012), “Manuale di executive compensation e corporate governance”, FrancoAngeli, 2012.
- David P., R. Kochhar and E. Levitas (1998), “The Effect of Institutional Investors on the Level and Mix of CEO Compensation”, *The Academy of Management Journal*, Vol. 41, No. 2, (Apr., 1998), pp. 200-208.
- De Cremer D.(2010), “Voices: Fixing bonuses”, *Business Strategy Review: insight for global business*, Volume 21 - Issue 4 p. 90- 91, 29 December 2010.
- De Haanand J. and R.Vlahu (2012), “Corporate governance of financial institutions: A survey”. Available at: [http://www.dnb.nl/en/binaries/Corporate%20governance%20of%20financial%20institutions\\_tcm47-280454.pdf](http://www.dnb.nl/en/binaries/Corporate%20governance%20of%20financial%20institutions_tcm47-280454.pdf), 2 November 2012.
- DeYoung R., E.Y. Peng and M. Yan (2010), “Executive Compensation and Business Policy Choices at U.S. Commercial Banks”, *Federal Reserve Bank of Kansas City*, January 2010.
- Demsetz R., MR. Saidenberg, P.E.Strahan (1997), “ Agency Problems and Risk Taking at Banks”, *Banking Studies Department Federal Reserve Bank of New York*, September 1997.

Dowd K. (2009), "Moral Hazard and the Financial Crisis". Available at: [http://heionline.org/HOL/Pagehandle=hein.journals/catoj29&div=15&g\\_sent=1&collection=journals](http://heionline.org/HOL/Pagehandle=hein.journals/catoj29&div=15&g_sent=1&collection=journals).

Efing M., H. Hau, P. Kampkötter and J. Steinbrecher (2014), "Incentive Pay and Bank Risk-Taking: Evidence from Austrian, German, and Swiss Banks". Available at: [http://www.haraldhau.com/payincentivesandbankriskv73\\_full.pdf](http://www.haraldhau.com/payincentivesandbankriskv73_full.pdf), August 31, 2014.

Fahlenbrach R. and R.M. Stulz (2008), "Managerial Ownership Dynamics and Firm Value", *Center for Economic Institutions*, Working Paper Series No. 2008-1, Hitotsubashi University, April 2008.

Fahlenbrach R. and R.M. Stulz (2009), "Bank CEO Incentives and the Credit Crisis", *National Centre of Competence in Research Financial Valuation and Risk Management*, Working Paper No. 603, December 2009.

Financial Services Authority (FSA), "The Turner Review: A Regulatory Response to the Global Banking Crisis", March 2009.

Financial Stability Forum, "FSF Principles for Sound Compensation Practices", 2 April 2009, Available at: [www.financialstabilityboard.org](http://www.financialstabilityboard.org).

Fraser I. and Earle J.E. (2011), "Global Update on regulation of Compensation for Financial Services Companies", *Benefits Law Journal*, Vol. 24 n°3, Autumn 2011.

Gabrielli G. (2010), "People Management. Teorie e pratiche per una gestione sostenibile delle persone", *Franco Angeli*, 2010.

Gomez-Mejia L.R., H. Tosi and T. Hinkin (1987), "Managerial Control, Performance, and Executive Compensation", *The Academy of Management Journal*, Vol. 30, No. 1 (Mar., 1987), pp. 51-70

Gormley T.A., D.A.Matsa and T. Milbourn (2013), "CEO compensation and corporate risk: Evidence from a natural experiment.", *the Journal of Accounting and Economics* 56.

Gorton G. B. and N. S. Souleles (2007), "Special Purpose Vehicles and Securitization", *University of Chicago Press*, January 2007.

Gorton G.B. and A. Metrick (2012), "Securization", Working Paper 18611, National Bureau of Economic Research, *Journal of Financial Economics*, December 2012.

J. Grant, A. Parbonetti and G. Markarian, (2009), "CEO Risk-Related Incentives and Income Smoothing", *Contemporary Accounting Research*, Vol 26 No.4 (Winter 2009), pp 1029-65.



- Gregg, P., Jewell, S. and Tonks (2011), “Executive pay and performance: did bankers’ bonuses cause the crisis?”, *International Review of Finance*, 12 (1). pp. 89-122., July 2011.
- Guidry F., A. J. Leone and S. Rock, (1998), “Earnings-based bonus plans and earnings management by business-unit managers”, *Journal of Accounting and Economics* 26 (1999) 113—142
- Hagendorff J. and F.Vallascas (2011), “CEO Pay Incentives and Risk-taking: Evidence from Bank Acquisitions”. Available at: [http://orca-mwe.cf.ac.uk/76284/1/pay%20and%20risk\\_rev2.pdf](http://orca-mwe.cf.ac.uk/76284/1/pay%20and%20risk_rev2.pdf), 18 February 2011.
- Hall B.J. (2003), “Six challenges in designing equity-based pay”, *National Bureau of Economic Research*, Working Paper 9887, July 2003.
- Hall B.J. and J.B. Liebman (2000), “The Taxation of Executive Compensation”, *National Bureau of Economic Research*, Volume 14, January 2000, (p. 1 – 44).
- Harjoto M.A. and D.J. Mullineaux (2003), “The Transformation of Banking and CEO Compensation”, Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=316507](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=316507), March 21, 2003.
- Hayes R.M. and S.Schaefer (2000), “Implicit Contracts and the Explanatory Power of Top Executive Compensation for Future Performance”, *Journal of Economics*, Vol. 31, No. 2 (Summer, 2000), pp. 273-293.
- Hill C. and R.Painter (2010), “Berle’s Vision Beyond Shareholder Interests: Why Investment Bankers Should Have (Some) Personal Liability”, *Seattle University Law Review*, [Vol. 33:4]
- Holmberg S. and M. Umbrecht (2014), “Understanding the CEO Pay Debate: A Primer on America’s Ongoing C-Suite Conversation”, *Roosevelt Institute*, October 23, 2014.
- Hölmstrom B. (1979), “Moral Hazard and Observability”, *The Bell Journal of Economics*, Vol. 10, No. 1. (Spring, 1979), pp. 74-91.
- Houston J. F. and C. James (1995), “CEO compensation and bank risk. Is compensation in banking structured to promote risk taking?”, *Journal of Monetary Economics* 36 (1995) 405-431.
- Hubbard R.G. and D.Palia (1994), “Executive pay and performance: evidence from the U.S. banking industry”, *National bureau of economics research*, Working Paper No. 4704, April 1994, pagg.105-130.

Jensen M.J. and Murphy K.J.(1990), “Performance Pay and Top-Management Incentives”, *The Journal of Political Economy*, Vol. 98, No 2( Apr., 1990), 225-264.

Jensen M.J. and Murphy K.J. (2004), “Remuneration: Where we’ve been, how we got to here, what are the problems, and how to fix them”, Working Paper N°. 44/2004, July 2004.

Kaganovich M. (1994), “Organization Rolling planning: Optimality and decentralization”, *Journal of Economic Behavior and Organization* Vol. 29(1996) 173-185, revised 31 October 1994.

Kedia S. and A. Mozumdar, (2002), “Performance impact of employee stock options”. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.7543&rep=rep1&type=pdf>, August 2002.

King D. (2013), “Why Phantom Stock Can Be Better Than Real Stock”, Forbes, available at: <http://www.forbes.com/sites/dking/2013/10/15/why-phantom-stock-can-be-better-thanrealstock/> Oct 15, 2013.

Kirkpatrick G. (2009), “The Corporate Governance Lessons from the Financial Crisis”. Available at: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.444.6047&rep=rep1&type=pdf>.

Knights D. (2009), “The Failure of Regulation in Banking: Ethical Reflections”, *School of Business, Law and Economics*, Gothenburg University, 6-8 April 2009.

Koller T., M.Goedhart and D.Wessels (2010), “Valuation: Measuring and managing the value of companies”, Published by *John Wiley & Sons, Inc., Hoboken*, New Jersey, 2010.

Kose J. and Y. Qian (2003), “Incentive Features in CEO Compensation in the Banking Industry”, *Economic Policy Review*, April 2003.

Laeven L. and R. Levine (2008), “Bank governance, regulation and risk taking”, Working Paper 14113, *National Bureau of Economic research*, June 2008.

Larcker D., G. Ormazabal, B. Tayan, and D.J. Taylor (2014), “Follow the Money: Compensation, Risk and the Financial Crisis”, *Stanford Closer Look Series*, September 8, 2014.

Lupoi A. (2012), “Lezione di diritto sui mercati finanziari”, C.L.E.U.P., marzo 2012.

Marshall J. (2009), “Executive Remuneration in UK Banking”, *Business and Transport Section*, 16 June 2009.

Matthews K. and O. Matthews (2013), “A cap on bankers’ bonuses will do little to reduce risk-taking in the banking industry”, Blog Admin, Available at: [http://eprints.lse.ac.uk/50184/1/blogs.lse.ac.ukA\\_cap\\_on\\_bankers\\_bonuses\\_will\\_do\\_little\\_to\\_reduce\\_risktaking\\_in\\_the\\_banking\\_industry.pdf](http://eprints.lse.ac.uk/50184/1/blogs.lse.ac.ukA_cap_on_bankers_bonuses_will_do_little_to_reduce_risktaking_in_the_banking_industry.pdf).

Mortreuil L. (2010), “The current crisis: who is to blame?”, *Journal of Management Development*, Vol. 29 Iss 7/8 pp. 646 – 651.

Murphy K.J. (1998), “Executive Compensation”, *Handbook of Labour economics*, Vol 3, April 1998, Pagg.2485-2563.

Murphy, K.J. (2012), “Pay, Politics and the Financial Crisis”. Availbale at: <http://risk.econ.queensu.ca/wp-content/uploads/2013/10/Murphy-PayPoliticsCrisis-2-16-12-1.pdf> February 16, 2012.

Murphy K.J. (2013), “Regulating Banking Bonuses in the European Union: A Case Study in Unintended Consequences”, Volume 30, Issue 4, 18 March 2013.

Pozen R.C. (2014), “Curbing Short-Termism in Corporate America: Focus on Executive Compensation”, *Governance studies at Brookings*, May 2014.

Rajan R., “Bankers’ pay is deeply flawed”. Available at: <http://cocolog-yoshi.cocolog-nifty.com/blog/files/FT080108RaghuramRajan.pdf> ,January 8 2008.

Romano R. and S.Bhagat (2009), “Reforming Executive Compensation: Focusing and Committing to the Long-term”, Yale Law School Legal Scholarship Repository, Faculty Scholarship Series. Paper 1921, 1-1-2009.

Saunders A., E. Strock and N.G.Travlos (1990), “Ownership Structure, Deregulation, and Bank Risk Taking”, Wiley for the American Finance Association, *The Journal of Finance*, Vol. 45, No. 2 (Jun., 1990), pp. 643-654.

Sigler KJ (2011), “CEO Compensation and Company Performance”, *Business and Economics Journal*, Volume: BEJ-31 1 University of North Carolina Wilmington, April 30, 2011.

Stiglitz J.E. (2013), “Bancarotta: L’economia globale in caduta libera”, *Einaudi*, April 2013.

Story L. and E. Dash, “Banks Prepare for Big Bonuses, and Public Wrath”, *The New York Times*, January 10, 2010.

Sullivan R.J. and K. R. Spong (2007), “Manager wealth concentration, ownership structure, and risk in commercial banks”, *Journal of Finance Intermediation*, [Volume 16, Issue 2](#), April 2007, Pages 229–248.

- Telatin R. (2009), “Tutto sugli stipendi dei manager bancari Anno 2009”, *UN magazine* - Speciale retribuzioni dei manager bancari.
- Thanassoulis J. (2011), “Banker’s pay structure and risk”, *Department of economics discussion paper series*, University of Oxford, Number 545, April 2011.
- Thanassoulis J. (2013), “Bank Pay Caps, Bank Risk, and Macroprudential Regulation”, *Warwick Business School*, University of Warwick, December 13, 2013.
- Thanassoulis J. and M. Tanaka (2015), “Bankers’ pay and excessive risk”, *Bank of England*, Staff Working Paper No. 558, October 2015.
- Thoma M.(2013), “Explainer: What is moral hazard?”, Moneywatch, Available at: <http://www.cbsnews.com/news/explainer-moral-hazard/>, November, 22, 2013.
- Tosi H.L., S. Werner, P. Katz and L.R. Gomez-Mejia (2000), “How Much Does Performance Matter? A Meta-Analysis of CEO Pay Studies”, *Journal of Management*, Vol. 26, No. 2, 301–339.
- Tung F. and X. Wang (2011), “Bank CEOs, inside debt compensation and the Global Financial Crisis”. Available at: <http://www.sef.hku.hk/aslea2011/private/paper/7.%20Frederick%20Tung%20full%20paper.pdf>\_March 22, 2011.
- Tzioumis K. (2011), “Why do firms adopt CEO stock options? Evidence from the United States”. Available at: <https://hal.archives-ouvertes.fr/hal-00618795>. 3 Sep 2011.
- Yang F., B. Dolar and L.Mo (2014), “CEO Compensation and Firm Performance: Did the 2007-2008 Financial Crisis Matter?”, *Journal of Accounting and Finance* vol. 14(1).
- Young C. (2009), “What is the Best Approach to Executive Compensation? Dissertation – Post Graduate Category”, *Business Standard*, Indian Institute of Management, September 2009.
- Vallascas F. and J. Hagendorff (2010), “CEO remuneration and bank default risk: evidence from the US and Europe”, *Università Bocconi*, July 2010.
- Van Velzen J. (2015), “The relationship between equity-based compensation and risk-taking behavior”, BSc Finance and Organization, *University of Amsterdam*, February 2015.
- Zajac E.J. and J. D. Westphal (1994), “The Costs and Benefits of Managerial Incentives and Monitoring in Large U.S. Corporations: When is More Not Better?”, *Strategic Management Journal*, Vol. 15, (Winter, 1994), pp. 121-142

## **Financial Reports Management**

Deutsche Bank, Financial report, 2008

Deutsche Bank, Financial report, 2009

Deutsche Bank, Financial report, 2010

Deutsche Bank, Financial report, 2011

Deutsche Bank, Management Report, 2008

Deutsche Bank, Management Report, 2009

Deutsche Bank, Management Report, 2010

Deutsche Bank, Management Report, 2011

Goldman Sachs Group, Notice of Annual meetings of shareholders, 2008

Goldman Sachs Group, Notice of Annual meetings of shareholders, 2009

Goldman Sachs Group, Notice of Annual meetings of shareholders, 2010

Goldman Sachs Group, Notice of Annual meetings of shareholders, 2011.

Goldman Sachs, Annual Report, 2008

Goldman Sachs, Annual Report, 2009

Goldman Sachs, Annual Report, 2011

Goldman Sachs, Annual Report, 2011

HSBC, Annual Reports and Accounts, 2008

HSBC, Annual Reports and Accounts, 2009

HSBC, Annual Reports and Accounts, 2010

HSBC, Annual Reports and Accounts, 2011

## Sitography

<http://www.bancaditalia.it>.

<http://www.borsaitaliana.it>

<http://www.businessdictionary.com>

<http://www.cbsnews.com>

<http://economictimes.indiatimes.com>

<http://www.financeyahoo.com>

<http://www.financialstabilityboard.org>

<http://www.fsa.go.jp>

<http://www.forbes.com>

<http://fortune.com>

<http://www.ilsole24ore.com>

<http://www.inc.com/magazine/19910701/4746.html>

<http://www.investopedia.com>

<http://www.policonomics.com>

<http://smallbusiness.chron.com>

<http://www.wisegeek.com>

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