



## EXECUTIVE COMPENSATION: THE FINANCE PERSPECTIVE

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### Abstract

This paper is a survey of the research on executive compensation from the period between 1995 and 2007, focusing on the most important academic publications in the area. The reason for analysing this period of time and these publications is that we believe that 13 years is enough time to cover a set of research studies that are representative of the present lines of investigation on this theme, and that the most important findings in terms of executive compensation are published in these high quality scientific publications.

**Key words:** executive compensation; literature review

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## 1. INTRODUCTION

Executive compensation is presently one of the most interesting and innovative fields of investigation in the finance area. It was only in the 1990s, with the growth of the world economy, that shareholders felt the need to contract executives and give them incentives to make firms' stock market growth increasingly faster each year. Academics and researchers started searching for the best form of compensation to motivate these executives. It was not only the values that mattered but also the way in which executives were paid: with more short term compensation (salary or bonus) or more long term compensation (stock options, restricted stocks, long-term incentives plans) or even with other forms of compensation like perks, and the impact of these compensation policies on all the fields of finance.

In this paper we describe the literature review on executive compensation from the period between 1995 and 2007. The reason for choosing this period of time is that we believe that 13 years is enough time to cover a set of research studies that are representative of executive compensation investigation lines.

To better understand the state of the art in terms of executive compensation we aggregate these investigations by topics. First, we describe the evolution of executive compensation in America since 1936. After that we describe the different relationship between executive compensation, firm performance and relative performance, agency theory (asymmetric information: adverse selection, moral hazard and double moral hazard), mergers and acquisitions, dividend policy, capital structure and also risk.

## 2. EXECUTIVE COMPENSATION TRENDS AFTER 1930 IN THE USA

The number of empirical studies on executive compensation has increased exponentially since the beginning of the nineties. Before this period, there is little knowledge about executive remuneration in America and worldwide.

The most important study that collected information on executive compensation evolution in America for a long-term period was undertaken by Frydman and Sacks (2005) based on data since 1936. The authors divide and analyse the period in three important groups: after World War II, executive compensation decreases slightly; from the 1940s until the 1970s executive compensation grows slowly, and after the 1990s we see a fast growth in executive compensation. To these findings we can also add the information that the NASDAQ crash in 2000 stopped this growth.

There is a generally accepted idea that until the end of the 1980s, probably the beginning of the 1990s, executives were paid only with salary and bonus and

that other compensation components, like executive stock options or restricted stocks, were then created in this period to satisfy an increasing desire for pay by firms' performance, essentially because shareholders wanted executives to maximise the firms' values, and indirectly maximise their wealth. But this is not true. Frydman and Sacks (2005) documented that between 1934 and the 1950s executives were paid mainly with cash compensation and in some cases with bonuses. Stock options appeared in 1951 and 18% of the analysed executives received this kind of compensation component<sup>1</sup>. Due to advantages in terms of taxes, restricted stock was also introduced at this time in the USA as a compensation component. Until the 1970s, this kind of compensation component was used by shareholders to motivate executives to expand the firm's production capacity. This was the shareholders' main goal: to have big companies with high production capacity. But with the significant economic changes that occurred in the USA at this time, large organisations found themselves with production excess, which, indirectly, led to significant falls in the firms' market value. With these losses in terms of the firm's value, shareholders felt the need to contract executives and motivate them to increase shareholders' wealth again. If shareholders motivate executives based on firm performance, by giving part of their compensation in stock options, they give them the possibility of owning a small part of the firm's capital in the future. In this way, it is understood that executives will make greater efforts to increase the firm's stock market value to exercise their stock options, and at the same time increase shareholders' wealth.

It was only in the nineties, with a significant growth in the world-wide economy, and with the sprouting of companies associated with new technologies, also called "new economy" firms, that the academic community, at world-wide level, focused its interest on the executive compensation problem, first essentially for CEOs and then for the remaining employees.

With the market in expansion, and great worldwide expectation created for the stock return of the companies associated with new technologies, the market value of these companies continued to rise. Financial analysts found strong incongruence between the market value of these firms and traditional model evaluations. It became urgent to develop new evaluation models that would determine the real value of the stocks of this new concept of organisation, which works at world-wide level and generally does not have a significant sales force. Some authors, like Sanders and Boivie (2004), also defend that in the case of US Internet firms, market valuation was strongly associated with the level of executive stock-based incentives compensation.

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<sup>1</sup> The authors report that a small number of companies give stock options to their executives but in the analysed sample, no executive receives these.

The new economy firms' stock prices grew so much that, predictably, in the year 2000, the NASDAQ crash occurred.

Most of the compensation plans based on stock options are now out-of-the-money and the reason for granting them to executives – to motivate them- has disappeared.

In an attempt to retain good executives and other employees, many shareholders reformulated the stock option plans, readjusting the exercise price to an attractive value. Others opted to attribute new stock option plans.

The first few years of this new century were characterised by a significant number of fraudulent firm bankruptcy cases and this bankruptcy was, in most cases, related to compensation policies based on stock options. Executives wanted to increase the firm's value so much, in order to exercise their options, that they sometimes lied to the market and manipulated the firm's accounting data to achieve their goals. To solve these problems, in 2002, the Sarbanes-Oxley act was created in the USA, which introduced a significant number of changes in terms of corporate governance.

Until now, the real impact of these new corporate governance rules in terms of executive compensation is not clear and investigating this is one of the goals of this investigation.

After this brief description of the evolution of executive compensation since 1936 in the USA, we next describe a group of research studies that relate executive compensation to different fields in the finance area.

The majority of the studies on executive compensation to date have been based on data from only one country, and do not compare executive compensation in different parts of the world; see for example, Lowe *et al*, 2002. One of the reasons for this is because in most countries the information about executive compensation is scarce, disperse and is aggregated to all the boards and not described for each top executive.

### **3. EXECUTIVE COMPENSATION, FIRM PERFORMANCE AND RELATIVE PERFORMANCES**

The relationship between executive compensation and firm performance has been widely analysed in academic publications in the area of accounting, essentially comparing executive compensation methods with vast groups of accounting items, but it has not been so much looked at in the financial area that focuses on firms' stock market price. Some of the finds in this area are described by Devers *et al*, 2007, Bebchuck and Fried (2004) and Murphy (1999).

Firms that implement executive compensation plans based on performance generally create more ambitious and difficult strategies (Dow and Raposo, 2005)

than companies that do not give this kind of compensation to their executives, and when the adoption of these compensation plans for CEOs is announced to the market, shareholders' wealth generally increases (Morgan and Poulsen, 2001). In most cases, the market will respond positively because it believes that the CEO will develop efforts to increment the firm's stock market value to the level that will guarantee that stock options will be exercised.

Short term executive compensation components have been reported as being negatively related with firms' corporate social performances and positively related with long-term executive compensation items (Deckop, Merriman, Gupta, 2006). Conversely, authors like Sanders (2001), found better firm performances when firms adopt year-end readjustments of executive compensation than when firms adopt executive compensation contracts with predominant long term compensation components, like stocks, restricted stocks, etc. In other words, executives, essentially CEOs, will secure better performances for the firm if they know that the company will readjust their compensation in positive terms at the end of the year, and performances will be less good if this compensation is based on long term compensation components.

Better performances were also achieved in US multinational firms when they contract CEOs with international experience (Carpenter, Sanders and Gregersen, 2000 and 2001). It has also been reported that when a CEO is at the same time the Chairman of the Board, this situation influences, if only in small terms, the firm's long term performances (Baliga, Moyer and Rao, 1996).

Another interesting find about firm performances and executive compensation is that in firms that are controlled by the owners, or in firms where the owner is also the manager, the relationship between pay and firm performances for all the employees is higher than other cases (Wener, Tosi and Gomez-Mejia, 2005). But if the CEOs are family CEOs, in family-controlled firms or the firms have stakeholder management, they generally receive less total compensation than outsider CEOs. The compensation increases when family ownership also increases (Gomez-Mejia, Larrasa-Kintana and Makri, 2003) but the gap exists even when firms' performances increase (Coombs and Gilley, 2005). Performances, in the case of banks, have being reported by Magnan and St-Onge (1997) as being associated more with executive compensation in a high managerial discretion context than in a low managerial one.

The relationship between the change in CEO compensation and firm strategy has been described as positive when firm performances are low, and negative when firm performances are higher (Carpenter, 2000). Firms that use defensive strategic orientations have better firm performances when they pay their executives in cash and bonuses, and when they evaluate the firm performances based on accounting items. Firms that adopt prospector strategic orientations will have better performances if they pay their executives in stock, or stock options,

and when they use market measures to evaluate managerial performance. Furthermore, firms that adopt governance reforms have being reported as achieving higher levels of market performances than firms that do not adopt governance reforms (Tuschke and Sanders, 2003).

Generally, in firms where agency problems are higher, the performance levels are lower and these firms pay more to their CEOs than companies with low agency problems (Core, Holthausen and Larcker, 1999 and Adams, Almeida and Ferreira, 2005). If CEOs' actions are not monitored, they will try to extract higher compensation from shareholders than in companies where the monitoring process is efficient. Pay to board members based on firm performance has also been described as reducing the likelihood of "White-Collar" crimes being committed (Schnatterly, 2003).

At present, it is generally accepted that compensation based on performance is more common for CEOs than for other executives (Ang, Lauterbach and Schreiber, 2002 and Aggarwall and Samwick, 2003), because they have more power than other low level executives to influence a firm's stock price. The amount that is paid to executives to motivate them is important, but more important than that is to choose what percentage of total compensation stock options should represent (Kole, 1997 and Mehran, 1995). Some executives may develop maximum efforts just with a small number of stock options, but to motivate others, it is necessary to give a significant amount of this compensation component. But future firm performance was not only dependent on the total compensation, or the percentage of stock options received, but also on how much is paid to the other members of the top management team (Carpenter and Sander, 2002, 2004). In other words, if the CEO receives a lot more than other top management executives, the latter will probably not be actively involved in the goal of increasing firm performance and will pass this responsibility to the CEO. The behaviour and economic view of gap in terms of executive compensations between CEOs and other top executives is described as balanced as predictors of firm performance by Henderson and Fredrickson (2001). When a firm makes changes in the top management team, the gap between the CEO and other top management team members' compensation is positively related with the number of participants in the firm tournament but the changes in terms of how much is paid to the executive team has only a small influence on determining company performance (Canyon, Peck and Sadler, 2001). Essentially, this gap must exist but the differences should not be very significant in order to guarantee that all the members of management team will be motivated to increase firm performance. It is logical that hierarchical firm position influences not only the design of the executive compensation plan but it is most important that the hierarchical position is related to the level of interaction of each member with the strategic firm orientation (Boyd and Salamin, 2001). Top executives, generally, will receive more total compensation and have more influence

in strategic firm decisions than low level executives. Total compensation, and also long term compensation, of top executives that are not CEOs is positively related to firm performances (Carpenter and Sanders, 2004)

Generally, top executives that have a strong professional reputation are paid more in terms of performance (Milbourn, 2003) because shareholders know that their decisions and actions will directly influence a firm's stock market price. They also receive more total compensation than non-certified CEOs in cases where firm performance was high, but less remuneration when performance was poor (Wade *et al*, 2006). CEOs who are considered celebrities will internalize such celebrity and tend to be overconfident about the efficacy of their past actions and their future ability to increase firm performances (Hayward, Rindova and Pollock, 2004).

Granting stock options to executives is a way for shareholders to guarantee that if they lose wealth, so will the executive. Narayanan (1996) also points out that when executives are remunerated essentially with cash, in the long term they will make fewer firm investments than optimal, but if they are essentially remunerated with stock options, the firm's investment will be higher than optimal value in the long run. Because of this, the authors defend that the best way to guarantee that executives will make the optimal firm investment is to create compensation contracts with both restricted stocks and cash.

As previously said, the shareholders' main intention, in giving their executives these kinds of compensation components, is to motivate them to make the firm's stock price grow to the desirable level where they will be able to exercise the stock options and, at the same time, increase shareholders' wealth. But this is not always the only reason why stock options are given to executives. Authors like Core and Guay (2001) also argue that companies give stock options to their executives when they are facing capital requirements and financing constraints, because this is an expert way to pay executives without cash. On the other hand, Kato *et al*, 2005, documented that companies with more future growth perspectives also give stock options to their executives. The reason for this is not only associated with the fact that they might have to face small cash flows in order to pay in cash or bonus, but also because pay based on the firm's stock price will motivate executives to increase the size of the firm.

If companies give stock options, or restricted stocks<sup>2</sup>, to their executives to increase firm performance, what happens if these executives cannot make the firm's stock grow to the desirable value that will give the capacity to exercise the options? Generally, in order not to lose their executives, firms with a low level of performance use repricing, also called resetting, of stock option plans (Chen,

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<sup>2</sup> Restricted stocks are stocks with restrictions on when they can be exercised. The restriction usually lifts in 3 to 5 years when stock vests.

2004 and Brenner, Sundaram and Yermack, 2000). In other words, companies will reduce the actual exercise price to a more attractive value where the probability of stock options being exercised is higher in the future. What shareholders want is to motivate executives again to increase the firm's stock market value and, indirectly, their wealth.

Stock option repricing is more common in not only firms with low performance levels (Chen, 2004 and Brenner, Sundaram and Yermack, 2000), but also in small companies and firms that have low market notoriety; young firms and companies associated with new technology (Carter and Lynch, 2001), and firms where boards are essentially composed of insiders (Chance, Kumar and Todd, 2000). The latter authors also find that some companies use stock option repricing more than once, and when this happens firms generally have lower performance in the first year but in the second year the stock option plans are mostly in-the-money. If companies must change the exercise price more than once, the desired incentive effect on the executive is reduced, and this price will be close to the present market stock price of the firm. This is the reason why the options are generally in-the-money within two years. Pollock, Fisher and Wade (2002) also note that more visible CEOs, and CEOs with high stock firm ownership, will have less power to negotiate small spread between new exercise price and firm stock market value because the market will think that they will be extracting personal benefits with these changes. Grossman and Cannella Jr (2006) add the information that CEOs/Chairs that have a significant ownership tend to maintain the reward policies based on fixed compensation across the years.

There are some companies that do not contemplate the possibility of being repriced in their stock option plans. What happens in these situations when the firm's stock market price falls to a level at which executives cannot exercise these options and the desirable incentive effect disappears? Do companies lose their executives? In most cases, when firms do not want to lose their executives, they give them a new stock option plan with a more attractive exercise stock price (Chen, 2004).

Some authors defend that stock options repricing must not be used because firms are paying bad executives, and shareholders are giving these executives a second chance to get a remuneration that they do not deserve. This is the case of Garvey and Milbourn (2006), who defend that executives are sometimes paid for "luck" and sometimes for firm performance. In most cases when companies have bad performances, shareholders make arrangements to pay these executives and for them to stay in the job. In the case of emerging markets the situation is different. Executives from firms with bad performances generally do not have a second chance and lose their job (Gibson, 2003). In this way, with the exception of emergent markets, the number of years that a CEO remains in his job (tenure) can be conditioned by firm performance, and, according to Gomez-Mejia, Nunez-



Nickel and Gutierrez (2001), by the business risk and whether the company is a family company.

Whether repricing is a good or bad methodology to motivate executives again is not consensual in terms of finance investigations. We know that in some cases the reason why companies present low performance is not associated with bad management but due to external factors that the CEO cannot influence and this must be one of the reasons why some authors defend that the repricing methodology must continue to be considered in executive compensation contracts (Acharya, John and Sundaram, 2000).

One of the fields of investigation where the relationship between executive compensation and performance was also analysed was in Hedge Funds, because the compensation of these executives (also called fund advisors) is, in part, related to fund performance. The fund advisors will receive an additional compensation when the fund market price is higher than a certain level called the "high-water mark". In this way, executives will try to develop efforts to receive additional compensation and will sometimes make speculative investments to guarantee that the fund price will rise to the desirable values that will guarantee they receive this additional compensation. To achieve these goals, executives sometimes develop speculative investments. The existence of speculative investments was detected by Golec and Starks (2004) when they investigated the effect of the introduction of regulation, by the American Congress, to control fund advisors' compensation and found that after the legislation, most of the mutual funds changed their risk positions. Authors like Goetzmann, Ingersoll and Ross (2003) also add that the existence of "high-water marks" in hedge funds' compensation contracts can be a limit of the performance fee because fund advisors will probably only develop efforts to achieving this established limits.

Another interesting investigation associated with hedge funds was developed by Khorana (2001), who analysed the effect of fund managers' replacement in future hedge fund performance. When managers that have implemented low quality decisions that lead to low fund performance are replaced, hedge fund performance improves. When managers who have implemented good quality decisions and funds have better performance than average market funds are withdrawn from the management of these funds, hedge fund performance decreases.

Executive compensation has also been analysed, not only in relation to firms' performances, but also to firms' relative performances<sup>3</sup>. Traditional models of pay for performance give additional remuneration to executives when companies have better results than the previous year, and to evaluate firms' performance a vast group of variables is generally used (Hermalin and Wallace, 2001). In a pay for

<sup>3</sup> Relative performances are the firm's performances compared not with the performances of the firm in the last few years but with the performance of the main rivals on the market.

relative performance model, the firms' performance is compared not to last year's firm results but to the performance of the main rival firms. The pay for relative performance methodology is a more demanding model of compensation than the simple traditional method. In the first case, executives only receive additional compensation if the firm where they work is one of the best in their area of the market. But the situation can be difficult when the company has products with a high level of market competition. Generally, these firms are forced by the market to have low performance and this can negatively affect executive compensation (Aggarwal and Samwick, 1999).

Pay in terms of relative performance has been defended by authors like Garvey and Milbourn (2004) as a mechanism for removing the influence of the market-wide on executive compensation, and young and less wealthy executives have been reported as delegating the stock options risk immunization to their company. But at present, Rajgopal, Shevlin and Zamora (2006) and the same authors Garvey and Milbourn (2006) defend that this theory is not credible because executives can replicate such indexation in their private portfolios and do not need the help of the companies to fix the risk associated with receiving compensation based on stock options.

Also regarding executive compensation and firm relative performance, Yermack (2006) documents that firms that give their CEOs the possibility of using firm airplanes for their private benefit, present, on average, 4% lower performance than the market average. Perry and Zenner (2001) also report that the introduction of legislation in America in 1992 limiting the deductibility of executive cash compensation greater than 1 million dollars (Internal Revenue Code 162 [m]), has made the affected companies change to a compensation policy based on firm performances. If executives can extract higher compensation from firms based on salaries without being indexed to efforts to making firm stock price rise, this will generally be the best compensation policy for executives. It does not matter what performances firms have because they will get the same fixed amount in money. This new legislation introduces a fairer way of paying top executives. They will receive higher fixed compensation in cash, up to one million dollars, but the other part must be indexed to their personal effort level to make the firm grow.

In companies where layoff policies are announced, the CEOs receive, on average, 20% more compensation than companies that do not adopt these policies (Brookman, Chang and Rennie, 2007). Essentially, CEOs that have the hard job of reducing human resources costs to improve firm performance will receive more than other CEOs. Another interesting study was developed by Brickley, Linck and Coles (1999), which documents that a good way of inducing CEOs to increase firm performance is to give them the possibility of being on the company board after their retirement. Bernartzi (2003) analysed why firm employees place a significant part of their compensation in the firm's stock and found that, gen-

erally, they make these investments because they believe that good past firm performance will continue in the future, but, according to the author, past firm performance is not an index of good future firm performance.

Controlling for firm size, performance, and other factors, Balkin, Markman and Gomez-Mejia (2000) document that CEO short-term compensation was related to the innovation degree, measured by the number of patents and R&D spending, and in the case of low-technology firms no relationship exists between innovation and short, or long-term CEO compensation. Makri, Lane and Gomez-Mejia (2006) also find that when firm technological intensity increases, the total CEO compensation incentive will be more closely aligned with the impact of the firm invention on other related inventions and with the firm's commitment to scientific research, and bonus compensation will be more related to financial results.

Tosi *et al*, 2000, report that firm performance variance only explains less than 5% of CEO total compensation and it is effectively the size of the firms that has the biggest influence on executive wealth (40%). Authors like Beer, Cannon *et al*, 2004, report that some firms are abandoning pay-for-performance policy, because the costs of these programs will be higher than the associated benefits, and are using other methodologies like effective leadership, clear objectives, coaching, or training because, in their point of view these are better and more efficient investments.

To conclude on executive compensation and firm performances it may seem that pay in terms of performance is one of the best methodologies when shareholders want to increase their health because this will reduce agency cost. But this is not true. Most cases of fraudulent bankruptcy which have occurred in America since the NASDAQ crash were indirectly related to executive stock options. Some of these executives had such a large part of their compensation indexed to firm stock market price that they made fraudulent account movements and lied to the market with the intention of successively raising the firms' stock price to the level where they could exercise their stock options and receive the high amounts of compensation. The Sarbanes-Oxley Act has become an important instrument in correcting some of the problems involved. Because of the associated problems, the use of stock options is decreasing and the use of other long term compensation components is increasing, like restricted stock. Restricted stocks differ from stock options in the sense that they are stocks that are granted to executives but which can only be sold in the long term. They are less "dangerous" than stock options because executives will incorporate the new price of firm stock price daily and in the case of the stock options they can lose everything if they can not raise the firm stock market price to the level where stock options can be exercised and this is, in our point of view, the principal problem behind those cases of executives lying to the market and making fraudulent accounting movements. Quite simply, if they cannot exercise the options they will get nothing.

#### 4. EXECUTIVE COMPENSATION AND AGENCY THEORY

Regarding exchanges where principal delegates work for agents, the agency theory precursors try to develop methods to solve contractual problems associated with opportunistic agents.

In recent years, agency theory has been analysed in a vast number of situations in the area of executive compensation following the analyses of Ross (1973) and Jensen and Meckling (1976). Most of these studies investigate the executive opportunism associated with the existence of asymmetric information between the executive and shareholders.

The asymmetric information problem can be categorised in the following ways: hidden information, also called the Adverse Selection Problem, and hidden actions, also called the Moral Hazard Problem. The Moral Hazard Problem may also appear as the Double Moral Hazard Problem<sup>4</sup>.

Adverse Selection is associated with the fact that executives sometimes have hidden information that can be omitted when the company makes the compensation contract to get personal advantages in the future. This hidden information can generally be associated with the following: executives have access to privileged information about the firm's environment; they are experts in the area and shareholders cannot evaluate their personal knowledge, or it can be associated with the fact that the cost that the shareholder must pay to get this information is higher than the associated benefits.

Hidden actions, also called moral hazard problems, are described by Katz and Rose (1998) as: one party, the agent, performs actions that affect the other party (principal); the principal can not observe the agent's actions and also the principal and agent agree as to what action the executive must develop. The real difference between the moral hazard and the adverse selection problem is based on the fact that in moral hazard, executives will develop actions that the principal cannot observe or measure, and this action makes the principal lose money, and in an adverse selection problem, executives have more information than shareholders on some points, which they can use for their own benefit during the contractual time.

The moral hazard problem can also assume the form of a Double Moral Hazard problem. Gupta and Romano (1998) define this problem with the example of a production process involving two parties, where it is difficult to know what the contribution of each party is to the final product, and each of the parties, during the production process, may develop a group of actions that cannot be observed by the other party.

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<sup>4</sup> The two terms have been adopted from literature on insurance.

If executives have information that shareholders do not have, shareholders incur the risk that executives opt not to inform, inform partially or falsify the information and this will influence executive pay (Goldberg and Idson, 1995).

A significant number of mechanisms have been described to reduce agency problems between executives and shareholders: the existence of institutional investors in the company or a large number of blockholders; the use of outside directors on the boards; the existence of debts in the firm; the managerial labour market and market for corporate control (Agrawal and Knoeber, 1996). Authors like Burns and Kedia (2006) defend that the use of stock options is also a good mechanism to align shareholders' and executives' interests, reducing agency costs. Authors like Ang, Cole and Lin (2000) have described measures of absolute and relative agency costs to firms with different ownership and management structures.

One of the above mentioned mechanisms to reduce the agency cost is the existence of institutional investors, or blockholders, in the firm. They will defend their interest more than individual shareholders because their power in terms of firm ownership is greater. They will also have more control over executive acts and make an effort not to increase the level of executive compensation (Hartzell and Starks, 2003). The authors also describe that institutional investors are generally attracted to companies where there is a strong relationship between pay and performance.

Another mechanism for reducing agency problems related to executive compensation is the presence of outside directors on the company Board or Compensation Committees. The theories that argue that executives that are on the Board, or Compensation Committee will try to extract personal benefits in terms of compensation are not consensual. Authors like Hallock (1997) effectively found that when executives are on two different boards at the same time (interlocked), they can positively influence their personal compensation and gain more than non-interlocked executives. On the other hand, Anderson and Bizjak (2003) document that executives that are also on the Compensation Committee do not experience a decrease in their personal compensation when they leave these Committees, meaning that they do not extract opportunistic advantages in terms of compensation. If agency problems exist in the firm, one of the solutions presented by Borokhovich, Brunarski and Parrino (1997) is to have boards with more outside than inside directors. When CEOs are less related to the other board elements, the probability of them influencing the other members of the board to increase their personal compensation is less than when boards are composed essentially of inside directors.

Bank loans have also been defended by authors like Almazan and Suarez (2003) and Elston and Goldberg (2003) as another mechanism for monitoring executive opportunism and reducing agency costs. According to the former au-

thors, optimal executive compensation contracts must be created based on three essential elements: firm performance, incentives that can highly motivate the executives and bank loans. If banks give loans to the company, they will frequently monitor the executives' actions to guarantee that that money will be paid in the future. They will also force executives not to extract high compensation from companies to guarantee that firms will have enough money to pay the loans.

Another investigation that relates executive compensation and bank loans was carried out by Osano (2002), who documents that an interesting way to reduce the number of bank loans that are vested but not paid, and increase the bank market value, is to give stock options to the executives because they will make efforts for these to increase the bank stock market price and exercise stock options.

The managerial labour market is another way of reducing agency costs related to executive compensation. The value that executives receive as compensation must be congruent with their ability and knowledge and the existence, or not, of workers with the same knowledge on the market. If there are a significant number of experts in the area, executives will probably act more in line with shareholders' interests and will accept less compensation, because they will know that a lot of other executives want their job. When the number of workers on the labour market with the same knowledge is small, executives will probably ask for better compensation because they know that just a small number of people have the same knowledge. Murphy (2003) complements this information by saying that if a large group of big companies competes on the market for high quality executives, the compensation contracts that they give to their executives force the other companies to use the same compensation structure.

The market for corporate control has also been defended as a mechanism to align shareholders' and executives' interests in the sense that if executives are not supervised by the market, they can probably extract higher compensation than when the market monitors their actions (Agrawal and Knoeber, 1996). Rajan and Wulf (2006) also complement this information by saying that if there is high external monitoring, shareholders will not need to offer their executives perks because their interests will be aligned with executives' interests (Rajan and Wulf, 2006).

The use of stock options has also been defended as a mechanism to reduce agency problems because it forces executives to not misreport (Kedia, 2006). If executives receive a significant part of their compensation in stock options, they will try to develop the best practices to align shareholder and executive interests, and increase the firm's stock price to the level at which they will be able to receive this compensation component in the future. But can we increasingly motivate the executive to the level where agency problems disappear? If shareholders give their executives more stock options than they want, in order to motivate them to

increase firm performance, they will diversify their personal portfolio by selling firm stock that they already have (Ofek and Yermack, 2000).

The main problem is how executives can increase the firm stock market price to the necessary level to exercise the options. Executives sometimes manipulate the firm's accounting, or the reported earnings, to influence the firm's stock price in positive terms and achieve their goals, and these situations are more frequent in companies where CEO compensation is indexed to firm stock price (Bergstresser and Philippon, 2006). Povel, Singh and Winton (2007), Yermack (1997), Hu and Noe (2001) and Narayanan (1999) also document that some executives choose the time to send positive information to the market to get personal benefits, and that this occurs more frequently in good times. The relationship between fraud and good times is stronger when investors' monitoring is low. In an IPO context, Lowry and Murphy (2007) show that executives can also influence the IPO offer price and its timing.

The relationship between asymmetric information and executive compensation has also been analysed in a hedge fund context. This is the case of Coles, Suay and Woodbury (2000), who investigated the closed end-funds advisors' premiums and detected that some premiums were higher when the executive, also called fund advisor, was related to fund performance, when the fund assets managed by the fund advisor were highly concentrated in this fund, and when the executive managed other funds with a weak relationship between executive compensation and fund performance.

A small group of other investigations associated agency problems with executive compensation. This is the case of Bernardo, Cai and Luo (2001) and Bernardo (2004), who describe that there are agency problems associated with division managers' compensation. Division managers sometimes omit the quality of their projects to the CEO to increase their reputation when this project exceeds expectations and ask for better compensation in the future. Generally, it is the senior executives who receive more compensation based on firm performance, who have greater ownership and are involved in projects that can more greatly influence firm stock price (Barron and Waddell, 2003). Another study was developed by Goldman (2004), who found that when the CEO makes the financial budget distribution to the firm department, agency problems can exist. The reason for this is associated with the fact that when CEOs receive a significant part of their compensation in stock options, they will send the highest part of the financial budget to departments that will guarantee that the firm's stock price will rise and they can exercise their stock options.

Finally, Aboody and Lev (2000) also describe that one of the biggest sources of agency problems is the Research and Development department (R&D). Researchers from these departments can have a significant amount of information about the products or services that they are developing that nobody else knows,

not even the firms' CEOs. If they believe that this product, or service, will be a success in the future, they will buy a significant amount of company stocks and will sell these shares at a good profit when this information is sent to the market.

## 5. EXECUTIVE COMPENSATION AND MERGERS AND ACQUISITIONS

Interest in the way firms pay their executives and their relationship with firm mergers and acquisitions has been increasing over the last few years. The existing literature is essentially related to the use of some compensation components as a mechanism to defend the company, or the executives, from takeover. This research has made the following findings: it is not indifferent to give stock or stock options in terms of executive effort to firm's acquisitions; some of the executives can benefit in financial terms from successful acquisitions, and the threat of takeover is a mechanism to reduce, or control, the level of executive compensation. There is further research that points out the firm's benefits from the use of stock options to guarantee successful acquisitions and the importance of the existence of outside directors on the board as an element to control executive compensation and reduce the takeover hypothesis. Next, we will describe each of these investigations.

The use of stock options as a compensation mechanism to defend companies and top executives from takeovers has been analysed by authors like Pagano and Volpin (2005). The reason why stock options are an efficient way to protect companies from takeovers is because when CEOs, and other executives, have company stock options, when the takeover appears they will defend the organisation and CEO stability so as not to lose their future remunerations. Another benefit associated with the use of stock options as a compensation mechanism for top executives is that when they receive this kind of compensation they will be more careful and generally only buy good companies. In other words, if shareholders give their CEO a significant part of their compensation indexed to the firm's stock market price, when CEOs decide to buy a company, they generally only acquire firms with future significant growth perspectives (Datta, Iskandar-Datta and Raman, 2001). Only these companies will guarantee that the firm's stock price will increase in the future and that the stock options the executive has can be exercised. If CEOs buy bad companies, firms' stock price will probably decrease in the future and CEOs will not be able to exercise these options. According to Deutsch, Keil and Laamanen (2007) the better way to improve shareholders' value is to not only give stock, or stock options, to CEOs but also to outside directors of the boards. This will guarantee that not only CEOs, but also other board members, will try to buy only good companies and improve shareholders wealth. If they buy



bad companies their personal wealth will also be penalized and not only that of the shareholders. Sanders (2001) adds that giving stock or stock options to executives has been described as having the same incentive effect but, according to the author, the risk properties of these two compensation components are asymmetrical and they had diametrically opposite effects on firms' acquisition.

In most cases, when CEOs make successful mergers and acquisitions, they receive an additional premium from the company that is generally based on cash, or in some cases, on bonus (Hartzell, Ofecck and Yermack, 2004, Bliss and Rosen, 2001 and Wright *et al*, 2002). The size of this payment to CEOs has been described by authors like Grinstein and Hribar (2004) as related to the power that they have inside the company. High powered CEOs are able to extract significantly higher compensation from shareholders than lower powered executives (Coombs and Skill, 2003) and, in this way, the premium that they receive is related to their power and the intensity of monitoring activities (Wright, Kroll and Elenkov, 2002). In other words, CEOs can extract high premiums associated with successful acquisitions if their power inside the company is higher and if the monitoring level of their actions is small. Otherwise, they can get additional compensations but perhaps not as much as they desired.

When a company buys another company, what happens to the executives of the acquired company? Hartzell, Ofecck and Yermack (2004), describe that if executives from the acquired company stay in the firm, they normally receive more compensation then before the acquisition, but a significant number of these executives leave the company in the next three years and the company gives them severance pay. Most of the other executives that do not stay in the company retire, and only a few continue in other companies with executive functions.

Aggrawal and Knoeber (1998) defend that the threat of takeover is also a mechanism to control the increase in the level of managerial compensation, but this threat can divert managerial effort from productive to defensive activities (Chakraborty, and Arnott, 2001). Essentially, when top executives are afraid that another company will try to buy their company and they will lose their job, they do not try to increase their compensation so much. But if they are protected, especially the "with-collar" worker will try to raise their compensations (Bertrand and Mullainathan, 2002). The fear associated with losing their job makes executives resist tender offers. When takeover occurs and generally when they decide to resist they gain from this situation (Cotter and Zenner, 1994). A methodology for managing executives' fear of takeovers is to adopt anti-takeover mechanisms (Field and Karpoff, 2002; and Borokhovich, Brunarski and Parrino, 1997) as is the case of *golden parachutes*. This is a repellent methodology to reduce the possibility of successful acquisitions in the sense that the acquirer firm must pay, not only the firm's value, but also a significant amount of money to the CEO to leave the company.

The use of *golden parachutes* has been defended as positively related to top executive compensation (Field and Karpoff, 2002 and Borokhovich, Brunarski and Parrino, 1997) in the sense that executives that have this kind of financial protection receive higher compensation than executives without *golden parachutes*. Davidson, Pilger and Szakmary (1998) also document that Compensation Committee composition determines the way the market accepts the adoption of *golden parachutes*. If the Compensation Committee has more insiders or affiliated outsiders, the market reacts negatively, reducing the firm's stock price, but if the Compensation Committee has a higher percentage of independent outsiders, the firm's market stock price generally grows. Boyle, Carter and Stover (1998) also add the information that when executives have small firm ownership, ownership is negatively related to the number of extraordinary anti-takeover mechanisms adopted by firms, but when their ownership is higher, the number of extraordinary anti-takeover provisions is positively related to executive ownership. Essentially, when executives have significant firm ownership, they will try to protect their wealth by introducing alternative choices to get money if takeover is a success.

The use of *golden parachutes* has also been described as a factor that negatively affects the firm's stock price (Borokhovich, Brunarski and Parrino, 1997). The adoption of the *golden parachutes* mechanism can be understood by the market as an act to protect low quality executives. Evans, Noe and Thornton (1997) confirm this idea and document that banks that adopt *golden parachutes*, on average, effectively present lower performance than banks with the same average size that do not adopt this protection. In fact, executives with *golden parachutes* should not be worried either about takeovers or about poor performance. They are protected, in financial terms, from both situations. If the performance is bad and shareholders want to get rid of the executives, they are obliged to pay them the *golden parachute* sum. The same amount will be received if another company buys their company. In other words, with *golden parachutes*, executives will be financially protected from a situation that can negatively affect their wealth.

The existence of a significant outside director on the board of the companies has also been defended by authors like Harford (2003) as an anti-takeover mechanism. Companies with a significant number of outside directors have fewer probabilities of being acquired because they will align the interests of executives more with shareholders' interests, reducing agency costs. If outside directors do not monitor executive actions, takeovers will appear and they will probably lose their board seat in the future. Conversely, Chatterjee, Harrison and Bergh (2003) document that target firms managed by independent directory boards are likely to ignore the takeover attempt and not refocus their firms' strategy.

Kroll *et al*, 1997, further point out that in a manager-controlled firm the acquisition announcements of another firm result in negative excess returns to shareholders, but in the case of firms controlled by the owner, the acquisition

announcements result in positive excess returns to shareholders. This means that when executives control the firm they can extract personal benefits from the acquisition, but not in the other situations.

In a spin-off context, Sewar and Walsh (1996) document that the act of selecting a new CEO to manage the new firm and the design of their compensation contract are not strongly correlated with the positive firm stock price reaction to the spin-off announcements. Certo *et al*, 2001, also report that founder management has been described as having a positive impact on IPO underpricing, and executive stock options and stock options ownership interacted to influence the premiums that investors applied to IPO firms (Certo, Daily, Cannella Jr and Dalton, 2003).

Finally, Hambrick and Finkelstein (1995) document that in management-controlled firms, where a single major firm owner does not exist, the predominant compensation policy is to maximize CEO compensation but when the firms are externally-controlled or have a major non-manager owner, generally the predominant compensation policy is to minimize CEO pay, subject to the ability to attract/retain a good or satisfactory CEO.

## 6. EXECUTIVE COMPENSATION AND DIVIDEND POLICY

Until now there has been little research on the relation between executive compensation and firm dividend policy. The existing bibliography analyses the relationship between executive compensation, dividends and firm growth, the impact of the use of the stock options in terms of dividend policies in the USA and Japan and the impact of the 2003 tax cuts in the USA.

Authors like Smith and Watts (1992) document that those big companies generally pay higher dividends and higher compensation to executives than small companies.

When a firm announces that this year it will pay more dividends than last year, the market normally reacts positively and the firm's stock price increases. What Lippert, Nixon and Pillotte (2000) found is that when executives are paid with a significant part of their compensation based on stock options, the traditional increase in the firm's stock market price is less than in the situation where executives are not paid with stock options. The authors present two explanations for this situation. One explanation is that pay for performance and high dividends are both mechanisms that control executive opportunism. The second reason is based on the behaviour finance theory which says that when executives have a higher financial and psychological investment in a certain project, they are more likely to believe that the project will be a success in the future and will probably inform the market incorrectly about future firm performance. If the market be-

believes that there is incorrect executive signalling, it will discount this information from the firm's stock price and expect the firm's stock price growth, with the associated dividend increase, to be less.

The impact of the use of stock options in terms of dividend policies was also analysed on the Japanese market by Kato *et al*, 2005. Contrary to the results of Lippert, Nixon and Pillotte, 2000, they do not find that the adoption of stock based compensation changed the firm dividend policy.

When top executives have significant ownership, and the firms where they work have a significant level of agency problems, this is an incentive to increase the firm's dividend payment (Fenn and Liang, 2001). If executives have a significant number of stocks from the firms, and agency problems are high, they will be able to extract more money from the company when they increase the dividends. Brown, Liang and Weisbenner (2007) also found that executives with higher ownership were more likely to increase dividends after the 2003 tax cut in the USA.

## 7. CAPITAL STRUCTURE AND EXECUTIVE COMPENSATION

The present research on the relation between a firm's capital structure and executive compensation focuses on the influence of executive ownership in a firm's debt structure, the level of executive compensation and the firm's capital structure, and with the effect of the market as a mechanism of executive control and the firm's value maximisation.

One of the interesting findings that relate executive compensation to a firm's capital structure is that executives with significant ownership generally choose short-term debts for their company and executives with small ownership choose long-term debt (Datta, Iskandar-Datta, and Raman, 2005). Essentially, when part of executives' compensation is dependent on the future evolution of the firm's stock price, they will choose short-term debts because they are afraid that the market will penalise the firm's stock price and their wealth will be negatively affected. Executives that do not hold company stock do not have these preoccupations and can have debts with higher maturity.

In Japan, firms that give stock options to their executives, on average, have lower levels of debt than companies that do not adopt this kind of compensation component (Kato *et al*, 2005). This suggests that firms with high levels of debt avoid stock option compensation so as not to reduce agency costs associated with debt. The authors found only slight evidence that these companies adopt stock option plans to improve firm performance. Calcagno and Renneboog (2007) complement these ideas and defend that when a company has risk debt, it is best to give executives incentives based on the firm's performance, because they will try

to improve the firm's performance to the level where they can exercise stock options, rebalancing the capital structure. Cadenillas, Cvitanic and Zapatero (2004) complement this information, defending that the best way to make executives adopt policies to maximise the firm's value is to grant stock with high leverage to good managers and stock options with low leverage, or unlevered, to not so good managers because the former will have the knowledge and will make efforts to achieve the best methodology to increase firm stock value, while the latter will not. Lewellen (2006) also describes that firm leverage increases stock volatility, and higher stock option ownership tends to increase the volatility costs of debt.

Effectively, optimal capital structure has been defended in corporate finance literature as a way to maximise stock market value, and when companies signal to the market that they are changing the capital structure, this is generally understood as a positive sign of the firm's future performance. These results are congruent with Born and McWilliams (1997)'s findings, which documented that firm performance decreases over the years when the firm changed equity to debt. Authors like Berger, Ofek and Yermack, (1997) also documented that when executives are not monitored by the market, they will not choose the optimal capital structure that maximises firm value. Coles, Naveen and Naveen (2006) add the idea that if there is higher sensitivity of CEO wealth to stock volatility, they will increase firm leverage to get personal advantages and Efendi, Srivastava and Swanson (2007) also affirm that the likelihood of a misstated financial statement increases greatly when the CEO raises new debt so as not to affect executive wealth.

Finally, Phillips (1995) defends that managers' incentives to maximise shareholders' wealth increase following firm recapitalisation; Sundaram and Yermack (2007) find that CEOs with high debt incentives manage their firms in more conservative ways and Cumming, Fleming and Suchard (2005) also report that top executives are better remunerated than venture capitalists in Australia, who raise capital for the firm to develop their own businesses, meaning that they are extracting wealth from how they invest capital in the company.

## **8. RISK AND EXECUTIVE COMPENSATION**

Authors like Ross (2004) describe the conditions under which incentive schedules make agents more or less risk averse.

The most important research that relates executive compensation to risk is associated with the granting of executive stock options or in some cases with restricted stock options. The main question about this relationship is exactly how much compensation indexed to firm stock price shareholders must give to their executives to motivate them to increase the firm's stock price. When sharehold-

ers give the executive a small, or significant, part of their compensation based on stock options, they will not guarantee that these executives will receive this amount and the executive cannot refuse this risk. Only executives with the ability to make the firm's stock market increase to the level that will enable them to exercise their options, or make hedging strategies, will transform risk compensation into fixed compensation.

Another component of executive compensation associated with risk is restricted stock. Restricted stock is stock that is granted to executives but that cannot be sold for a certain number of years, normally between 3 and 10 years. The most important difference between stock options and restricted stock compensation is in terms of the risk: stock options can only be exercised if the firm's stock market value increases to a certain level, otherwise executives will not receive this value, and in the second case, if executives stay in the company until they are able to sell the stock, they will receive some value. Whether the value that executives receive is high or low depends on their ability to make the firm's stock price grow. Essentially, stock options are a riskier compensation component than restricted stock because, if they do not increase the firm's stock price to exercise stock price, they will receive nothing and in the case of restricted stock they can always receive something.

Authors like Tian (2004) defend that the use of stock options to motivate executives only works up to a certain level and if this level is exceeded, the incentive effect decreases. Chen, Steiner and Whyte (2006) effectively documented that since America's bank deregulation, banks have increased the use of employed stock option inducing executive risk-taking. Garvey and Milbourn (2004) add the information that when executives are young, or have low firm stock ownership, they generally delegate market risk immunisation of their personal compensations based on stock options to their company. Jin (2002) also documents that CEO incentives decrease with the risk associated with the firms but not with market risks.

There are several solutions proposed by authors to manage the relationship between granting stock options to executives and the risk that they are able to take. One solution proposed by Brisley (2006) to balance the risk assumed by executives is to grant not traditional stock options but "progressive performance vesting" stock options. Essentially "progressive performance vesting" stock options allow fixed numbers of options to vest periodically independent of stock price performance. In this way, executives can exercise a certain amount of stock options during a fixed period and not only at the end. Another methodology is described by Johnson and Tian (2000), who develop a pricing model of stock options with a strike price indexed to a benchmark and defend that this model filters out common risks beyond the executive's control, thereby increasing the efficiency of incentive contracts. Another was defended by Calvet and Rahman

(2006), who argue that the best choice is to give CAPM-based indexed stock options to executives, which are stock options indexed to the Capital Asset Price Model, because with this methodology executives will be not involved in investment projects with high idiosyncratic risk and the compensation model considers wealth diversification and degree of risk aversion.

According to Prendergast (2002), the empirical investigations that analyze the existence of negative relationship between risk and incentives are not greatly successful, because some of these tests have a positive, and not negative, relationship between uncertainty and incentives. The authors defend that the literature on this relationship fails because it doesn't incorporate an important effect of uncertainty on incentives, which is the employees' responsibility. When companies work in a certain context, firms will define what exactly employees have to do and then monitor their actions, but when the context is uncertain, the responsibility is delegated to the workers and to reduce their opportunistic actions they will index their compensation to final output.

Miller, Wiseman and Gomez-Mejia (2002) analyze the effects of unsystematic and systematic firm risk in terms of CEO compensation risk bearing and total compensation and found that pay in terms of performances and the greater earnings potential associated with this contingent form of executive pay are highest when executives can control the performance outcomes. Larraza-Kintana, Wiseman and Gomez-Mejia (2007) also add the information that employment risk and variability in compensation corresponds to greater risk taking, while downside risk and the intrinsic value of stock options correspond to lower risk taking.

Finally, Tufano (1996) in the context of the gold mining industry, found that in firms where executives have a significant number of stock options, executives do not manage gold price risk so well, but in firms where executives have a significant amount of firm stock, they manage gold price risk better, suggesting that executive risk aversion affects the policies adopted by executives to manage corporate risk.

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## Resumo

Este artigo é composto por uma revisão da literatura na área da remuneração dos executivos compreendida entre os anos de 1995 a 2007, focando-se sobre a mais relevantes publicações académicas da área. A razão para se analisar esse período de tempo, bem como as publicações científicas em causa, baseia-se no facto de que acreditamos que 13 anos é o tempo suficiente para cobrir um conjunto de estudos que são representativos das linhas de actuais de investigação nessa área, e as descobertas mais relevantes sobre a temática da remuneração de executivos estão publicadas nessas revistas científicas de elevada qualidade científica.

**Palavras-chave:** Remuneração de executivos; Revisão da literatura

**Classificação JEL:** G3, J3

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