

ARE TOP EXECUTIVES PAID TOO MUCH? DETERMINANTS OF DIRECTORS' PAY IN SWITZERLAND

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Abstract

Executive compensation has become a fashionable topic: Cross-nationally, the earnings of executives and non-executive directors have risen significantly in recent years. Academic literature offers two hypotheses for this trend, a “fat cat” and an “optimal-contract” explanation. Proponents of the “fat cat” explanation state that directors are paid too much due to their unjustified power. Proponents of the “optimal-contract” hypothesis state that competition in the managerial labour market establishes an optimal compensation contract. This study contrasts both hypotheses and presents evidence that the level of directors’ pay in Swiss corporations is to be explained by “optimal contracts” and by managerial power. We give evidence to which degree the two explanations are valid.

Keywords: executive compensation, corporate governance, “optimal-contracts”, “fat cat” explanation

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The earnings of executives and non-executive directors have risen significantly in recent years. For example US CEOs’ pay has doubled since the 1990s (Bebchuk and Grinstein, 2005; Mishel, *et al.*, 2006). In Switzerland, CEOs’ incomes have risen by 60% since 2002 (c.f. Figure 1).¹ The comparison of the USA with Switzerland

¹ Since the introduction of the SWX guidelines on information for corporate governance in July 2002, Swiss corporations have been required to make important key information, such as the earnings of members of the supervisory board and company management, to investors.

shows, moreover, that the average pay of Swiss CEOs is clearly lower, and that the gap between CEOs' incomes and that of average employees has risen far less. However, the gross earnings of Swiss managers are ranked second highest in the world and are followed only at some distance by the earnings of German, Canadian, Mexican, and Japanese CEOs (Ethics World, 14.03.2007; Managermagazin, 12.08. 2006). The cross-national rise of directors' earnings has provoked numerous questions in public debate. Our paper is a contribution to the issue of what the causes of the level of Swiss executives' earnings. By contrasting two conflicting positions, the "optimal-contract" explanation and the "fat cat" explanation (also termed managerialism) we give an answer to the question if top executives are paid too much.

FIGURE 1 about here

This paper is structured as follows. The next section discusses two conflicting explanations of the level of directors' earnings and the empirical evidence in support of both of these. In the second and third section we present the empirical design and the data with which we test these explanations. The final section discusses the implications of our results for executive compensation research.

Two conflicting explanations of the level of directors' earnings

The causes of the rise in management earnings have been hotly debated among academics and the public. We contrast two conflicting positions, namely the "optimal-contract" explanation and the "fat cat" explanation (also termed managerialism). Defenders of outstanding management earnings advocate the "optimal-contract" explanation. They account for the rise in earnings of recent years by reference to changes in the market for managers, in particular to the increased demand for management talents in a complex global economy (Anderson, *et al.*, 2006; Fama, 1980; Gabaix and Landier, 2006; Murphy and Zábojník, 2003; Murphy and Zábojník, 2004). The "fat cat" explanation is advanced by critics of outstanding management earnings. Representatives of this viewpoint interpret the raise of these earnings as a consequence of an unjustified growth in the power of management in corporations (Bebchuk and Fried, 2003; Bebchuk and Grinstein, 2005; Bertrand and Mullainathan, 2001a; Frey and Osterloh, 2005; Schiltknecht, 2004; Tosi, *et al.*, 2000).

The "optimal-contract" Explanation

Advocates of the "optimal-contract" explanation argue that managers appointed in an economy characterised by globalisation, deregulation, and competition experience ever more onerous responsibilities and higher risks (Martin and Moldoveanu, 2003; Wuffli, 2006). Suitable talents, it is argued, are rare, and it requires high wages and shares of profits to keep up in the war for talents. The price of a manager is determined by the supply of, and demand for, top managers. It is the labour market which establishes the limits of earnings for top managers, and competition in the market for managers ensures optimal definitions of earnings contracts (Fama, 1980; Murphy, 1999; Murphy and Zábojník, 2003; Murphy and Zábojník, 2004).

Two main reasons are cited for the rise in the price of management in recent years. Firstly, in the process of globalisation companies have, become ever larger and more complex (see Bebchuk and Grinstein, 2005). Large companies are harder to manage than small companies and require higher investments in human capital on the part of the management (Mahoney, 1979; Roberts, 1956). For this reason the supply of suitable managers falls, and the price of the remaining managers rises. Secondly, a rising demand for people with transferable general management skills (i.e. the skills valuable across companies, or even industries including financial and accounting experience) has been observed since the 1990s (Murphy and Zábojník, 2003; Murphy and Zábojník, 2004). In contrast, firm-specific knowledge (i.e. information about the products, the suppliers, the clients and the employees of the firm) is nowadays available in computerized form and may therefore be less important for director candidates. An increase in the importance of general skills relative to firm-specific skills leads to fewer promotions, more external hires, and an increase in equilibrium average wages for managers. As a consequence, competition for the most talented managers becomes more intense (Martin and Moldoveanu, 2003). Transferable skills are priced in the managerial labour market, while firm-specific skills are unpriced. This development also contributes to the rise in pay, since individuals with transferable skills have good outside options, and can only be kept with a company by competitive rates of pay (Jensen and Murphy, 1990). Thus, the "optimal-contract" explanation of the level of directors' pay can be expressed as follows.

The greater the professional demands made of directors, the higher will be the price to be paid for them

The "optimal-contract" model has found indirect support only from partial findings. The market for managers and the external labour market are hard to capture with measurable variables. However, there are indications that the external labour market has a bearing on the formation of prices in the market for managers (Ezzamel and Watson,

1998; Fisher and Govindarajan, 1992; Mintzber.H, 1973; Yukl, 1989). Murphy and Zabochnik (2004) find a rising trend among companies to recruit external managers and conclude that the demand for individuals with transferable general management skills has increased. They also find that the price of externally recruited management staff is higher than that of those recruited internally. Better outside options of externally recruited CEOs might be an explanation (c.f. also Agrawal and Knoeber, 1996). Furthermore, the literature supports the idea that higher human capital, such as a first-class education (Agarwal, 1981; Gerhart and Milkovich, 1990), international experience (Carpenter, *et al.*, 2001) or publicly recognised management skills (Rajgopal, *et al.*, 2006) raise the price of top managers. Findings also show that a higher proportion of outside directors leads to higher management earnings (Boyd, 1994; Core, *et al.*, 1999; David, *et al.*, 1998; Lambert, *et al.*, 1993; Main, 1991; Westphal and Zajac, 1994). Murphy and Zabochnik (2004) presume higher general management skills to explain this correlation. In addition, a multitude of analyses confirm that the salaries of top managers rise with complex professional requirements, be they a result of greater opportunities for growth, high risk of a takeover, highly volatile demand, high R&D intensity or higher product differentiation (see Table 1 for an overview). The underlying assumption is that complex tasks require higher human capital investment, which reduces the pool of managers available and causes the price to rise.

TABLE 1 about here

The “Fat Cat” Explanation

For the advocates of the “fat cat” explanation, exorbitant directors’ earnings are an indication of an unjustified growth of management power in corporations. In this view, the enormous upwards trend in managers’ pay in the last few years arises from two factors. Firstly, management largely determines its own pay (Bebchuk and Fried, 2003; Bebchuk, *et al.*, 2002; Keller, 2003; Tosi, Werner, Katz and Gomez-Mejia, 2000). Secondly, the influence of management has grown with the fragmentation of share capital among minor shareholders (Bebchuk and Grinstein, 2005).

The first factor is due to three circumstances. (i) Members of the compensation committee itself benefits from high management earnings. Conflict with managers with whom they are friendly is avoided and their own incomes rise (Amstutz, 2007; Crystal, 1991; Fierman, 1990; Herman, 1981). (ii) Reciprocal accommodations resulting from blurred social boundaries between management and board are common. In many cases an individual acts both as the CEO and the chair of the board (Gomez-Mejia, 1994). (iii) The market for managers is inefficient, since it lacks definite boundaries: “... If a vice-president of a soft drink company can become president of a major computer company, what does that imply about the boundaries of the labour market? ... This ambiguity creates a mystique around candidates who are identified as eligible, thus buoying their pay. ...” (Finkelstein and Hambrick, 1988).

The second factor – the fragmentation of share capital among minor shareholders – has increased the influence of management in recent years. In many countries, including Switzerland, minor shareholders have no chance of directly influencing executive pay. Moreover, they do not possess the necessary information and, in addition, often have low interest in doing so (Bebchuk and Grinstein, 2005; Tosi, Werner, Katz and Gomez-Mejia, 2000). As a result, corporations are run by mutually friendly boards and managers. A neutral body for establishing rates of pay is lacking (Bebchuk and Grinstein, 2005). On this basis, the “fat cat” explanation of the level of directors’ pay can be expressed as follows.

The greater the influence of directors is, the more their earnings deviate from market wages

As with the “optimal-contract” explanation, empirical findings supporting the managerial power explanation are largely indirect. The influence of managements over the determination of pay takes place covertly, and thus is difficult or sometimes impossible to observe (Bratton, 2005; Grabke-Rundell and Gomez-Mejia, 2002; Hambrick and Finkelstein, 1995). However, there are at least five indications that the market for managers is inefficient. Pay may be not determined by the short supply of good managers, but by the supply of managers controlling the market (Combs and Skill, 2003):

(1) Comparisons with peers in determining wages play at least as large a role as market forces. When comparing within a sector, poorly paid CEOs also raise their pay when their management performance is weak, according to sector performance (Bizjak, *et al.*, 2000; Ezzamel and Watson, 1998; O'Reilly, *et al.*, 1988).

(2) A large difference in education between a serving CEO and the board chairman leads to higher management pay (Fiss (2006). This finding might be a consequence of the great power of CEOs.

(3) Management pay rises more sharply when the compensation committee is only appointed after the serving CEO has been, or when the compensation committee has business connections with the management (Daily *et al.* (1998).

(4) Managers influence their variable pay by manipulating the price of options through deliberate suppression or propagation of news about their firm to their own advantage (Aboody and Kasznik, 2000; Baker, *et al.*, 2003;

Chauvin and Shenoy, 2001; Yermack, 1997).

(5) Stricter controls consistently reduce pay. Numerous studies have shown that major shareholders lower management pay (David, Kochhar and Levitas, 1998; Gomez-Mejia, *et al.*, 1987; Gomez-Mejia and Tosi, 1994; Khan, *et al.*, 2005; Kim, 2005; Ryan and Wiggins, 2001). In addition, companies controlled by major shareholders change their management more readily following poor company results (Salancik and Pfeffer, 1980). They are also less frequently implicated in corporate scandals (Blair and Kaserman, 1983). CEOs who have family ties to the main owners of a company receive lower pay and their pay is more closely linked to the wellbeing of the firm. (Gomez-Mejia *et al.* (2003). Hence the fragmentation of share capital among minor shareholders strengthens the influence, and thus the income, of management.

There is a host of studies which support the managerial power explanation with additional indicators (c.f. Table 2). However, these indicators are ambiguous. The “optimal-contract” explanation could, in fact, predict similar results while giving different reasons.

TABLE 2 about here

Method

Study design

The empirical results of the studies discussed illustrate why the debate about directors’ pay continues. Causes of the level of earnings are still unclear due to the lack of unambiguous indicators for the measurement of markets or power. Many studies do not control for the two disputed explanations and the indicators applied may be used, depending on one’s inclination, in support of either the “optimal-contract” or “fat cat” explanation. There also exists no empirical study about the degree to which the two hypotheses contribute to the explanation of the level of director's earnings.

We use data from Switzerland to test which hypothesis contributes to which extent to explain director’s earnings. As dependent variables we choose the average pay of a director within a company. That is we combine (a) the average executive director compensation within a company (including the CEO's pay), and (b) the average non-executive director compensation within a company. The common explained variance between both earnings is, at 53.1%, very high (see Figure 2). The strength of the correlation suggests similar assessment bases for the earnings, independently of whether an executive or a non-executive director is in question. This relation may provide support for the “optimal-contract” explanation, since companies with complex professional demands face a smaller supply of qualified directors, and thus have to pay both higher wages. However, the relation may also provide support for the “fat cat” explanation. In Switzerland the non-executive directors of the compensation committee determine the earnings of all executive directors and of the remaining non-executive directors, while the rest of the non-executive directors determine the pay of the compensation committee (Amstutz, 2007; Ethos, 2006). Therefore, a combination of both earnings is advisable as a test of the “optimal-contract” explanation versus the “fat cat” explanation.

TABLE 2 about here

The “fat cat” explanation accounts for earnings through the influence of an insulated management caste, while the “optimal-contract” explanation seeks to explain earnings with the complexity of professional demands. We use interaction effects to test the “fat cat” and the “optimal contract” hypothesis. Interaction effects allow a separation of differing causes and thus also a weighting of the different arguments.

We operationalise the “fat cat” hypothesis through the reciprocal influence of two indicators: interlocking directors of the supervisory board and the average age of the directors of the supervisory board. We so examine the influence of old boys’ networks or an insulated management caste on earnings. In the literature, the influence of directors’ networks on earnings policy through multiple mandates is sometimes used as an proxy for the measurement of power (Belliveau, *et al.*, 1996; Fich and White, 2005; Hallock, 1997; Hengartner, 2006; Pettigrew, 1992). However, higher earnings and board interlocks need not necessarily be the result of mutual accommodations or power (Westphal, *et al.*, 2006). They may also be an indicator of social capital or a higher demand for these people as a result of their greater abilities (Geletkanycz, *et al.*, 2001). Therefore we combine the network influence with the average age of the directors in a supervisory board. We take individuals’ ages as an indicator of managerial elites, since older people have mostly been active for longer times in management circles. However, it is also likely that older supervisory boards with a higher social capital are important contributors to the entire bundle of firm resources that enable firms to generate rent (Castanias and Helfat, 2001; Geletkanycz, Boyd and Finkelstein, 2001). Using subsets we control for the last argument. The “fat cat” explanation would expect that directors of firms with a lower return on shareholder's equity will earn a premium for old boys’ networks while directors of firms with a higher return on shareholder's equity do not. According to the resource-based argument, directors of both subsets and in particular directors of firms with a higher return on shareholder's equity should earn a premium for the combination of experience and social capital.

We operationalise the “optimal contract” hypothesis through the reciprocal influence of two indicators: the degree of internationalisation of a company and the international diversity in the supervisory boards. We so examine the influence of complex professional demands on earnings. In the literature the degree of internationalisation of a company is a common indicator of high professional demands e.g. (Carpenter, *et al.*, 2000; Carpenter and Wade, 2002; Finkelstein and Boyd, 1998; Hengartner, 2006; Miller, *et al.*, 2002; Roth and O'Donnell, 1996; Sanders and Carpenter, 1998). However, high management earnings in international companies need not necessarily be an indicator of market earnings. They also might be an indicator of management influence in an environment which is difficult to control (for an analogous discussion of company size, see Tosi, Werner, Katz and Gomez-Mejia, 2000). We therefore combine the degree of internationalisation of a company with the abilities demanded, measured as the international diversity of the supervisory board. The “optimal-contract” explanation is based on the argument that high wages are paid for rare talents. We take board directors with different backgrounds in languages and culture areas as an indicator of the relevant abilities in internationalised companies. These directors must be able to understand several languages and to deal with intercultural conflicts (see, for analogous measures, Ellstrand, *et al.*, 2002; Palich and Gomez-Mejia, 1999; Tihanyi, *et al.*, 2000). Since such talents are rare, in the optimal contract view their wages should be higher.

Using regression analyses we control for the influence of older supervisory boards in internationalised companies and the impact of networks in internationally diverse supervisory boards. Older boards are likely to be found in a field of complex professional requirements, therefore they receive higher compensation. Further, it is also probable that internationally diversified boards have larger networks. On the one hand, networks enable firms to generate rents due to their social capital (Geletkanycz, Boyd and Finkelstein, 2001). On the other hand, larger networks may lead to a manipulation of earnings. Figure 3 presents a summary diagram of the study design.

TABLE 3 about here

Database

Our database is composed of the 200 largest companies quoted on the Swiss Exchange SWX, measured by market capitalisation at the end of 2001. We obtained data from sources available to both investors and the public, such as company reports and Internet sites, in the period 2002-2005.² Not all the necessary information for some of the companies remained available, so that the initial sample was reduced to 160 companies with an average of 3.3 observations each (530 observations).

² The sample includes all the companies on the Swiss Market Index (SMI), on the Swiss Market Index Medium (SMIM), and the largest companies on the Swiss Performance Index (SPI). Swiss corporations have been required to make important key information, such as the earnings of members of the supervisory board and company management, to investors since 2002.

Measurements

Average pay of directors. The average pay of directors is calculated from the total earnings of executive and non-executive members of the board divided by the number of people being paid. The number of people was adjusted to reflect effective attendance in months. Pay figures are based on total earnings and comprise basic salary, variable pay bonuses and long-term share plans and other payments contributions to pension schemes and payments in kind. Where already documented, we rely on the salary calculations stated in the *Ethos* report (2006). The value of shares is calculated as the number of shares multiplied by the published value of these shares. In cases where the share value was not documented in the company report, we used the value of the shares on the day they were issued or the closing price of the shares in the accounting periods investigated. The value of options, when not given in company reports or in *Ethos* (2006), is ascertained as 25% of the product of the striking price of the options multiplied by the number of options issued (Lambert, Larcker and Weigelt, 1993). This estimation correlates at 0.98 with the value calculated on the Black-Scholes model and gives, according to Finkelstein et al. (1998), more reliable estimates than the Black-Scholes calculation.

Average age, international diversity of boards. We gathered the demographic characteristics of the supervisory board members. The data were not available for 14 of the 200 firms. All information is based on the board structures of 2002.³ Table 3 presents the demographic structure of the boards studied. What is noticeable is the disproportionate number of men, business graduates, and German-speaking Swiss. The average age of a board is calculated as the cumulative age of the members of the board divided by the number of members. Following Blau (1977), we measure the international diversity of a board as: $D=1-\sum P_i^2$. P_i represents the percentage of board members who are (a) German-speaking, (b) French-speaking, (c) Italian-speaking Swiss, or (d) foreign. Values for D lie between 0 and 1, such that 0 represents a supervisory board whose members all come from the same cultural and linguistic region.

TABLE 3 about here

Degree of internationalisation of a firm. The degree of internationalisation comprises the foreign activities of a firm in the period 2002-2005. We distinguish between the following geographical regions: (a) Europe =1, (b) America =1.5, (c) Asia =2, (d) Africa =2. The values represent the relative weight given to a region in order to consider the complexity of doing business in a specific cultural environment. For each firm and each year we calculate the sum of foreign activity and divide this sum through the maximum possible value of 6.5. The index can take a value between 0 and 1, such that a firm with a value of 0 is active solely in Switzerland, while a firm with a value of 1 is active in Switzerland, Europe, America, Asia, and Africa.

³ Consequently, in the analyses we proceed from a board structure which is unchanged over the four-year period. This assumption does not entirely reflect reality. However, the measurement error associated with this is acceptable and should not distort robust results. The average length of service in the Swiss supervisory boards is 6 years.

Network influence of boards. We collected the names of all supervisory board directors for 2002 and identified individuals with multiple directorships. The information was not available for 20 of the companies. Figure 4 demonstrates how the firms in the sample are directly or indirectly connected through interlocked board members. In order to calculate the network influence of a firm's board we used Bonacich's power, which is available in UCINET (Borgatti, *et al.*, 2002). This index indicates (i) how central a firm's board is positioned within the whole network and (ii) how central the boards that a firm's board can reach directly or indirectly are positioned within the whole network (Perry-Smith and Shalley, 2003). The more central a board and its network partners are situated, the higher is the value of the index. The index takes the value 0 when a firm's board is not connected to other boards within the study sample.

TABLE 4 about here

Control variables. We control for firm performance using the firm's annual return on shareholder's equity. We do not control for any variables of firm size, such as board size, turnover, total assets or the number of employees. The literature shows that firm size accounts for more than 40% of the variance in total executive pay (Tosi, Werner, Katz and Gomez-Mejia, 2000). However, there is as yet no agreement whether this correlation is to be viewed as supporting the "optimal-contract" explanation (Combs and Skill, 2003; Hermalin, 1994; Mahoney, 1967; Murphy and Zábojník, 2003; Murphy and Zábojník, 2004; Roberts, 1956) or the "fat cat" explanation (Aoki, 1984; Bertrand and Mullainathan, 2001b; Herman, 1981; Marris, 1964; Tosi, Werner, Katz and Gomez-Mejia, 2000). It is most likely that the correlation of firm size and pay reflects both explanations. However, the mixing of arguments in one indicator is of little benefit in pursuing our enquiry.

Table 4 documents the statistics and the correlations of the studied variables. Variables for which the assumption of normal distribution cannot be made are logarithmised. This is the case for pay variables and for net profit. Since net profit can be negative, we calculate the maximum possible negative net profit for all firms, add this absolute figure to the net profit of every firm and take the logarithm from this index.

TABLE 4 about here

Results

Full sample. Table 5 documents the results of OLS regression analyses. Model I, examines the influence of the degree of a firm's internationalisation, the board networks, the diversity of a board and its average age on earnings. In line with previous studies, all variables correlate positively with earnings, with the explanatory power of the degree of internationalisation (Beta = 0.38***) three times higher than that of network influence (Beta = 0.12**), and with the explanatory power of board diversity (Beta = 0.25***), twice as high as that of average age (Beta = 0.11**). Return on shareholder's equity correlates lightly positively with earnings (Beta = 0.08**). The variables included explain 57.3% of director pay (Adj. R-Quadrat = 32.1 %).

Model II examines the interaction effects from Figure 3. The fact that the directors of international firms with diverse boards obtain markedly higher average earnings (Beta = 0.57***) supports the "optimal-contract" explanation. The fact that the directors of firms with older supervisory boards who cultivate good networks obtain earnings which are almost as high (Beta = 0.44***) speaks for the "fat cat" explanation. In addition the two control terms are significant: internationalised companies with older boards tend to deliver higher earnings (Beta = 0.32*), and the directors of international boards with a high network influence generate higher rents (Beta = 0.17**). The specification of these more detailed reasons for high earnings raises the explanatory power of the model to 63.5% (Adj. R-Quadrat = 39.2 %).

Subsets. In order to substantiate our interpretation of the interaction terms we run two separate regression analyses for firms with a lower return on shareholder's equity (Model Ia/ Iib) and with a higher return on shareholder's equity (Model Ib/Ib). In agreement with the "fat cat" hypothesis, the results confirm that directors of firms with a lower return on shareholder's equity in particular earn a significant premium for old boys' networks (Beta = 0.63**) while directors of firms with a higher return on shareholder's equity do not (Beta = 0.45). Further, only those firms with a lower return on shareholder's equity tend to deliver significantly higher earnings in the case of older supervisory boards in international companies (Beta = 0.53*) and in the case of directors of international boards with a high network influence (Beta = 0.21**). All these findings contradict resource-based arguments, i.e. that the examined interaction terms only measure a profitable combination of ability and social capital. According to this, in particular firms with a higher return on shareholder's equity should generate higher rents and should pay a premium. The analyses likewise confirm this resource-based point of view for our measurement of "optimal-contract": firms with a high and a low return on shareholder's equity pay a significant premium for the directors of internationally active firms with diverse boards; this pay premium is higher in firms with a high return on shareholder's equity (Beta = 0.71**) and lower in firms with a low return on shareholder's equity (Beta = 0.42**). In summary, our analyses indicate that directors' pay may be composed of "optimal-contract" as well as "fat cat" components. It seems that "fat cat" components play a tangible role if a firm's performance is high, but manifest themselves as an essential part of the pay level if a firm's performance is low.

TABLE 5 about here

Explanatory power of both explanations. Finally we were interested in the relative explanatory power of the “optimal contract” and the “fat cat” explanation. For the *full sample* we allocate the influence of the variable ‘degree of internationalisation’ in support of the “optimal contract” explanation. In addition we consider the interaction effects of this variable with the board diversity and average age of the board. These three variables improve the explanatory power of a model which initially includes just the main effects of board diversity, average age, and net profit, to 44.8% (improvement in R-square = 20.1 %). We determine the “fat cat” explanation from the main effect of the variable ‘network influence of the board’ on pay and their interaction effects with board diversity and average age. The three variables of the “fat cat” explanation improve the explanatory power of a model which initially includes board diversity, average age, and net profit to 27.2% (improvement in R-square = 7.4 %). When one compares the explanatory power of the “optimal contract” (44.8%) and the “fat cat” (27.2%) explanation, director earnings are due – assuming that our model has incorporated the fundamental determinants of both explanations – to 62% explained by the “optimal contract” view and to 38% explained by the “fat cat” point of view. In consequence, the earnings of Swiss directors should be *more than a third* lower if the “optimal –contract” explanation holds and there are no effects of unjustified managerial power.

Discussion

This study was intended to contrast two possible explanations of directors’ pay, the “fat cat” explanation and the “optimal-contract” explanation. Our analysis indicates that director pay in Swiss corporations is determined not only by optimal contracts but also by managerial power. Thus, our results indicate that top executives are paid too much. Through an unjustifiable influence, management has over time continuously raised its income far above market pay. The ‘invisible handshake’, rather than the ‘invisible hand’, leads to a conflict of interest with investors and employers and casts doubt on the justifiability of earnings. It is, therefore, a well-founded concern of all stakeholders to prevent pay rises not determined by market mechanisms effectively.

However, the empirical support of the “fat cat” explanation often sparks a controversy. Because power is insufficiently operationalised, explanations of power remain partial and are thus often attacked by proponents of the “optimal-contract” approach. Our study joins other work in suggesting the need to find more selective measurements for creative and destructive aspects of the human and the social capital of directors. The “fat cat” explanation has several weaknesses which allow proponents of the “optimal-contract” approach to raise a number of issues. The level of director compensation might be still explained in “optimal-contract” terms despite the cited evidence. To shed light on the “true” determinants of directors’ pay in the last section we will discuss which issues further research should address.

Overcoming the weaknesses of measuring power

Within the “fat cat” explanation there is no agreement about the appropriate definition of power (Hardy and Clegg, 1996). Although executives can acquire power from a variety of sources (Daily and Johnson, 1997), the identified resources of power, including information, prestige, networks, expertise, control, become resources in different contexts (French, 1992; Pettigrew and McNulty, 1995; Pettigrew, 1992). Thus, what is missing is a discriminative operationalisation of power.

For example “fat cat” research has typically assumed that power increases with executive tenure (Hambrick & Finkelstein, 2005). Over his period in office, the CEO is likely to become more powerful due to a variety of means. Board independence declines (Hermalin & Weisbach, 1998), or the firm’s investment decisions are biased toward the skills and knowledge of the manager (Shleifer & Vishny, 1989). For these reasons, tenure should increase executive pay. Yet empirical results are mixed: some studies found a negative effect of tenure on executive pay (David, Kochhar & Levitas, 1998; Eriksson, 2000; Henderson & Frederickson, 1996), many studies found a positive effect of tenure on executive pay (Brickley, Coles, & Jarrell, 1997; Brick, Palmon, & Wald, 2002; Finkelstein & Hambrick, 1989; Fiss, 2006; Hallock, 1997; Johnson, 2002; Kato, 1997; Main, 1991; Mayers & Smith, 1992; Sanders & Carpenter, 1998; Sanders, 2001), and several studies found no effect of tenure on executive pay (Carpenter, Sanders, & Gregersen, 2001; Combs & Gilley, 2005; Miller, Wiseman, & Gomez-Meija, 2002; Hambrick & Finkelstein, 1995). One of the reasons for these mixed results is that the effect of tenure on executive pay lends itself to two alternative explanations. First, tenure can be interpreted as an indicator of firm-specific knowledge. According to the “optimal-contract” explanation, executives with a higher amount of firm-specific knowledge should earn lower pay. Second, according to human capital theory, tenure reflects the investment in on-the-job training and should be positively associated with income (Becker, 1975). Summing up, there are at least three different explanations of the same phenomenon. Two explanations prognosticate a positive effect of tenure on pay. The underlying causes are either power or education. One explanation prognosticates a negative effect of tenure on pay. The underlying cause is the absence of general managerial skills.

Sometimes board leadership structure is taken as an indicator of power. For example, agency theory argues that CEO duality weakens corporate governance. CEO duality promotes CEO entrenchment by reducing board

monitoring effectiveness (Finkelstein & D'Aveni, 1994). Thus, CEO duality increases executive compensation for managerial power reasons. Again empirical data is mixed: some empirical studies support the proposition that CEO duality is positively related to executive compensations (Beatty & Zajac, 1994; Boyd, 1994; Core, Holthausen, & Larcker, 1999; Fiss, 2006; Gray & Canella, 1997; Sridharan, 1996); some studies, however, show a negative relationship (Westphal & Zajac, 1994; Conyon & Peck, 1998). The negative relationship is proposed if CEO duality is viewed through a stewardship lens. Advocates of stewardship theory suggest that the joint structure provides unified firm leadership and removes any internal or external ambiguity regarding who is responsible for firm processes and outcomes (Anderson & Anthony, 1986; Donaldson, 1990; Lipton & Lorsch, 1993). Thus, CEO duality may also increase the responsibility of the CEO and may simultaneously decrease his/her compensation.

A number of researchers suppose that a reputable education may also enlarge a CEO's power (Angel & Fumas, 1997; Carpenter & Wade, 2002). In that case higher education should be associated with higher pay. Yet from the different perspective of human capital theory this relationship should be a consequence of higher abilities rather than of power.

Another identified source of power is management ownership of equity. Management ownership is predicted to increase the power of executives and thus to increase their compensation (Finkelstein & Hambrick, 1996). These predictions are, however, in line with agency theory. From the agency perspective, management ownership should be positively correlated with executive compensation, since most studies include long-term incentives as a component of executive pay. Second, management ownership increases the effort of executives, and that effort will be rewarded. Thus, although empirical studies support the positive effect of management ownership on executive compensation, the interpretation of the facts is ambiguous (Bliss & Rosen, 2001; Core, Holthausen, & Larcker, 1999; David, Kochhar, & Levitas, 1998; Dyl, 1988; Lambert, Larcker, & Weigelt, 1991; Sanders, 2001).

Finally, some authors assume that board size reflects a distribution of executive power (Jensen, 1993; Yermack, 1996). Larger boards are less capable of engaging in debates and therefore less effective as monitors. On the other hand, larger boards may simply reflect a higher amount of a firm complexity. Complexity is, however, also related to executive pay. Once again, although the empirical literature uniformly supports the assertion that board size and executive pay are positively associated, the interpretation of this fact remains difficult (Conyon & Peck, 1998; Core, Holthausen, & Larcker, 1999; Gosh & Sirmans, 2005; Main, 1991).

Measuring sup-optimal contracts

The "fat cat" explanation sometimes uses measures of executive power which are consistent with arm's length contracting and can be readily explained by "bad", "good", or even "better" contracts. One example is the proportion of outside directors. A preference for outside directors is largely grounded in agency theory (Lorsch & MacIver, 1989; Mizruchi, 1983; Zahra & Pearce, 1989). Outsiders are believed to be independent of firm management and to protect shareholders as owners of the firm (Fleischer, Hazard, & Klipper, 1988; Waldo, 1985). A vast body of literature has tested the effect of outside or inside directors on executive compensation. Contrary to the argument of outside directors as being more effective in the defence of shareholder preferences, most researchers found that a higher proportion of outside directors increase executive pay (Boyd, 1994; Conyon & Peck 1998; Core, Holthausen, & Larcker, 1999; David & Kochhar & Levitas, 1998; Lambert, Larcker, & Weigelt, 1993; Main, 1991; Westphal & Zajac, 1994).

The "fat cat" explanation rationalizes this finding by a sub-optimal composition of boards of directors. A higher proportion of outside directors reflect the fact that boards are limited in their monitoring role and that managers extract pay premiums by gaining control. Due to the higher amount of firm-specific knowledge, insiders may control the management more effectively (Baysinger & Hoskisson, 1990; Baysinger *et al.*, 1991). However, according to the "optimal-contract" approach an alternative explanation may be based on the argument that a higher proportion of outside directors increase executive pay due to the preference of filling CEO openings through external hires rather than through internal promotion (Murphy and Zábojník, 2004). Suppose that a firm has an executive vacancy. The board can promote an internal candidate and preserve firm-specific managerial knowledge. Alternatively the board can hire from the outside market for managers and pick the best candidate for its size. Independent boards have no ties with internal candidates and thus pick the best matching candidate for the firm's perfect fit. These candidates have higher prices, because the labor market establishes an optimal compensation contract (Murphy and Zábojník, 2004). Thus, the correlation between a higher proportion of outside directors and executive compensation could also reflect optimal contracts. For these reasons the "fat cat" explanation should only be applied to phenomena for which agency theory has no explanations or to phenomena which represent a sub-optimal change (Bebchuk & Fried, 2004).

Explaining the causes of the pay-size link

Proponents of the "optimal-contract" approach oppose "fat cat" arguments also on the basis that optimal contracts and market forces seem to be more important and to account for more of the variance in total executive pay than power indicators. One example is the size-pay relationship. As shown by Tosi *et al.* (2000) firm size

accounts for more than 40% of the variance in total executive pay (Tosi *et al.*, 2003).

Proponents of the “fat cat” explanation suggests the size-pay link reflects the power of the management, since executives gain a number of advantages by tying their compensation to firm size (Marris, 1964; Williams, 1985; Herman, 1981; Aoki, 1984; Tosi *et al.* 2000; Bertrand & Mullainathan, 2001). First, they have considerable control over firm size through their control of acquisition activity (Bliss & Rosen, 2001; Bebchuk, Fried, & Walker, 2002; Bebchuk & Grinstein, 2005; Kroll, Simmons, & Wright, 1990; Harford & Li, 2005). Second, because firm size is less variable than performance, executives can reduce the variability in their pay by having it linked to firm size (Dyl, 1988; Kroll, Wright, & Theerathorn, 1993; McEachern, 1975). Third, greater size may be used to legitimize higher executive pay by appealing to rationalizations to justify a pay premium. Rationalisations may include greater firm complexity, more human capital required to run the business, and hierarchical stratification, with bigger firms having more layers and therefore more pay at the top (Tosi *et al.* 2000). In sum, representatives of the “fat cat” explanation argue that executives are able to extract rents on top of their reservation wage (Finkelstein & Hambrick, 1988; Gomez-Mejia & Wiseman, 1997) because corporate governance is incomplete, especially in larger firms.

However, managers and adherents of the “optimal-contract” approach use this correlation to underpin the relevance of market forces: 40% of the variance in total CEO pay is explained by complexity and talent. First, large firms are typically more difficult to lead and leaders of large firms are facing higher risks than leaders of small firms (Mahoney, 1979). In addition, human capital theory suggests that executive pay increases to compensate for the additional human capital required fulfilling such a job (Agarwal, 1981; Agarwal & Knoeber, 1998; Becker, 1964; Castanias & Helfat, 1991; Combs & Skill, 2003; Hermalin, 1994). Second, the “optimal-contract” approach proposes that in contrast to small firms, large firms have a higher demand for general managerial skills and a lower demand for firm-specific managerial skills (Murphy and Zábojník, 2004). As a consequence, large firms are expected to have fewer promotions, more external hires, higher equilibrium average wages for executives, and higher wage increases for the most talented managers (“superstars”; Khurana, 2002a/b). Thus, the “fat cat” approach has to substantiate how much of the size-pay relationship is explained by power.

Notwithstanding that proponents of the “optimal-contract” have often laboured to come up with clever explanations for how “fat cat” explanations might be consistent with arm's length contracting after all (Bebchuk & Fried, 2004) our findings indicate that management pay in Switzerland is not only a result of optimal contracts and market trends but also a result of managerial power. While it is true that the market pays managers according to the degree of complexity and their abilities, shareholders also have to pay managers for being “fat cats” to a considerable and measurable extent.

Limitation of this study

We are not able to address all the areas of concern to our own satisfaction either. One of the crucial limitations is the data. We investigate the determinants of the levels of directors' pay cross-sectional. What would be illuminating would be a longitudinal study which examined the conditions under which directors' pay rises. Another issue is our measure for power, which is also open to question. We sought to validate this measure by applying sub-group analyses. The use of unambiguous indicators for power would be desirable. Nevertheless, we hope that our study contributes to the insights about managerial compensation.

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Figures

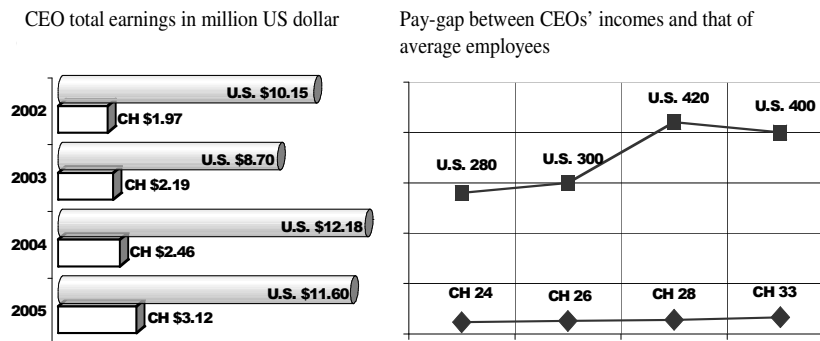


Figure 1. CEO earnings and the pay gap in Switzerland and the USA

Legend: left-hand figure. Average CEO earnings for the top 350 US corporations sources: (Bebchuk and Grinstein, 2005; Trumbull, 2007) and of 50 Swiss SMI- and SPI-quoted companies from a sample of 200 companies source: own survey, c.f. survey details in empirical section of this paper. Right-hand figure: relationship of CEO earnings and average pay sources: (2007); own survey.

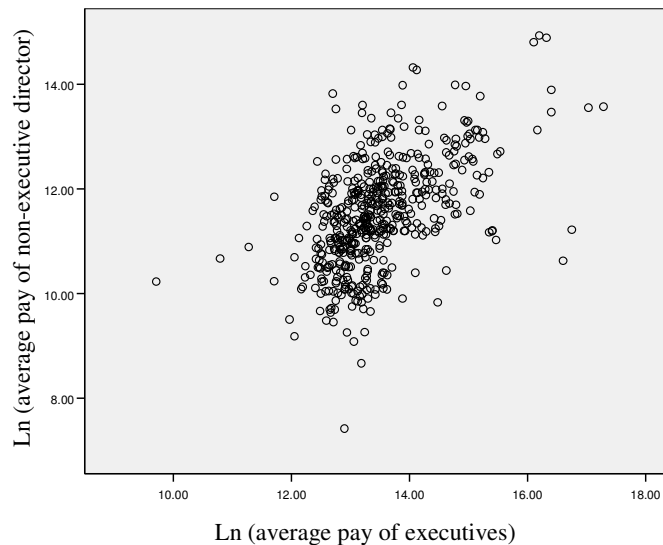


Figure 2. Scatterplot between inside and outside director earnings

Legend: 594 observations from 167 companies between 2002 and 2005. Correlation: $r = 0,531^{***}$.

Tables

Table 1. Further empirical findings supporting the “optimal-contract” explanation

Underlying construct	Measure	Effect on management pay	Studies
Complexity of role	Business diversification	+	(Agrawal and Knoeber, 1996; Almazan, <i>et al.</i> , 2005; Anderson, <i>et al.</i> , 2000; Finkelstein and Hambrick, 1989; Rose and Shepard, 1997; Sanders and Carpenter, 1998)
	Internationalisation	+	(Hengartner, 2006; Miller, Wiseman and Gomez-Mejia, 2002; Roth and O'Donnell, 1996; Sanders and Carpenter, 1998)
	Complexity experienced	+	(Hengartner, 2006)
	Freedom of action	+	(Finkelstein and Boyd, 1998)
	Freedom of investment	+	(Baber, <i>et al.</i> , 1996; Gaver and Gaver, 1993; Skinner, 1993; Smith Jr and Watts, 1991)
	Intensity of product competition	+	(Cufiat and Guadalupe, 2005)
	Competitive industry	+	(Hubbard and Palia, 1995)
	R&D or Marketing intensity	+	(Eaton and Rosen, 1983; Ryan and Wiggins, 2001)
	Opportunities for growth	+	(Bryan, <i>et al.</i> , 2000; Gaver and Gaver, 1993; Guay, 1999; Lewellen, <i>et al.</i> , 1987; Mehran, 1995; Smith Jr and Watts, 1991)
	Deregulation	+	(Bryan, Hwang and Lilien, 2000; Finkelstein and Rajagopalan, 1992; Joskow, <i>et al.</i> , 1993; Smith Jr and Watts, 1991)
High-technology firms	+	(Balkin and Gomez-Mejia, 1987; Balkin, <i>et al.</i> , 2000; Hambrick and Abrahamson, 1995)	

Table 2. Ambiguous empirical findings supporting the “fat cat” explanation

Measure	Underlying construct managerial power explanation	Underlying construct “optimal-contract” explanation	Influence on management earnings	Studies
Size of company	power	Complexity of role	+	(Aoki, 1984; Bertrand and Mullainathan, 2001a; Marris, 1964; Tosi, Werner, Katz and Gomez-Mejia, 2000)
Tenure	power	Abilities/skills	+	(Brick, <i>et al.</i> , 2002; Brickley, <i>et al.</i> , 1997; Finkelstein and Hambrick, 1989; Fiss, 2006; Hallock, 1997; Main, 1991; Mayers and Smith, 1992; Sanders, 2001; Sanders and Carpenter, 1998)
CEO duality	power	Abilities/skills	+	(Beatty and Zajac, 1994; Boyd, 1994; Core, Holthausen and Larcker, 1999; Fiss, 2006; Gray and Cannella, 1997)
Education	Pay Premium	Abilities/skills	+	(Angel and Fumas, 1997; Carpenter and Wade, 2002)
Management-equity holding	power	Incentive controls	+	(Bliss and Rosen, 2001; Core, Holthausen and Larcker, 1999; David, Kochhar and Levitas, 1998; Dyl, 1988; Lambert, <i>et al.</i> , 1991; Sanders, 2001)
Number of supervisory board members	power	Complexity of role	+	(Canyon and Peck, 1998; Core, Holthausen and Larcker, 1999; Ghosh and Sirmans, 2005; Main, 1991)

Table 3. Supervisory board structure of Swiss firms

Characteristic	Number of supervisory board members	In %
Business graduates	568	41.28
Economists	28	2.04
Engineers and scientists	313	22.75
Law graduates	278	20.20
Humanities graduates and social scientists	54	3.92
Other	61	4.43
Women	90	6.54
Men	1278	92.88
CH-D	944	68.60
CH-F	127	9.23
CH-I	21	1.53
Foreign	256	18.60
Average age in years	56,23	/
Total	1376	100

N=186 firms

Table 4. Descriptive statistics

	Mean	SD	1	2	3	4	5	6	7
1 Non-executive SB members' pay log.	11.52	1.04							
2 Executive EB and SB members' pay log.	13.47	0.87	.538**						
3 SB and EB pay log.	13.67	0.84	.667**	.981**					
4 Network influence SB	9.45	9.62	.123**	.241**	.229**				
5 Diversity of origin SB	0.33	0.28	.215**	.346**	.349**	.050			
6 Average age SB	50.17	17.84	.114*	.122*	.137**	.088	-.263**		
7 Degree of internationalisation	0.48	0.38	.314**	.496**	.503**	.209**	.347**	.201**	
8 ROE	6.88	24.57	-.040	.083*	.075	-.014	-.040	.008	.009

** Correlation is significant at 0,01 two-sided. * Correlation is significant at 0,05 two-sided. N=530, 160 firms.

Table 5. OLS regression on directors pay

Sample Dependent Variable Model	Full Sample Directors' pay						Low ROE Directors' pay						High ROE Directors' pay					
	I			II			Ia			IIa			Ib			IIb		
	B	T	Beta	B	T	Beta	B	T	Beta	B	T	Beta	B	T	Beta	B	T	Beta
Constants	12.47***	83.18		13.24***	60.41		12.31***	61.87		13.12***	43.75		12.77***	56.61		13.65***	40.90	
Degree of internationalisation	.85***	8.61	.38	-.26	-1.33	-.26	.59***	4.33	.28	-.96	-1.55	-.46	1.13***	8.03	.48	-.45	-.65	-.19
Network influence SB	.01***	3.10	.12	-.03*	-1.88	-.38	.01**	2.23	.13	-.04*	-1.76	-.56	.01**	2.27	.13	-.04	-1.36	-.44
Diversity of origin SB	.82***	5.61	.25	-.41*	-1.71	-.12	.86***	4.16	.29	-.05	-.14	-.02	.73***	3.40	.20	-.90**	-2.32	-.25
Average age SB	.01**	2.66	.11	-.00	-.46	-.03	.01***	3.11	.20	-.00	-.23	-.02	.00	.26	.03	-.00	-.89	-.08
Degree of internationalisation																		
* Diversity of origin SB				2.25***	5.90	.57				1.63***	3.05	.42				2.80***	4.85	.71
* Average age SB				.01*	1.77	.32				.02*	1.88	.53				.01	.92	.25
Network influence SB																		
* Diversity of origin SB				.03**	2.28	.17				.04*	1.90	.21				.03	1.60	.17
* Average age SB				.00**	2.31	.44				.00**	2.15	.63				.00	1.42	.45
ROE	.00**	2.13	.08	.00**	1.14	.08	.00	1.24	.07	.00	1.45	.08	-.00	-.85	-.05	-.00	-.75	-.04
R				57.3		63.5				52.0		58.8				61.3		67.3
Adj. R-Quadrat				32.1		39.2				25.4		31.9				36.2		43.0
change in F				44.2		14.3				16.9		6.5				26.4		7.6

** Correlation is significant at 0,01 two-sided. * Correlation is significant at 0,05 two-sided. Full sample: N=530 160 firms.