HOW DO FAMILY TIES, BOARDS AND REGULATION AFFECT PAY AT THE TOP? EVIDENCE FOR INDIAN CEOS

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Abstract
This paper investigates the effects of corporate governance factors and family ties on the pay of managing directors in a sample of Indian stock listed companies. It uses a unique seven-year firm level panel dataset and controls for firm performance and both CEO and firm specific fixed effects. The hypothesis is that corporate governance, ownership structures and market pressure shape the power relations between the board and managers, and affect the level and structure of CEO pay. The evidence for India supports these hypotheses. Managing directors, who are related to the founding family, or controlling group, or any of the members on the board of directors, are paid more. This holds for total pay and both for the less variable component and the performance-related component of pay. In contrast, the presence of outside representatives on the board - non-executive directors or nominees of creditors or institutional investors - is found to have a disciplinary effect. The presence of nominees lowers the level of pay and that of non-executives ties pay more to firm performance. A further timely finding is that the staged introduction of a recent mandatory corporate governance code, aiming to improve governance and pay disclosure in listed companies, has raised the tendency of firms to tie pay explicitly to firm performance. Overall, the practice of tying pay explicitly to performance has become more common over time.

JEL codes: G30, J33, K22, M52

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1 Introduction

Are managers of companies paid for their performance and experience, or do other factors affect managerial pay? Do managers themselves have considerable influence on the setting of pay and what factors constrain this? These questions continue to interest many, from academia to media. This paper contributes to this debate by examining the effects of corporate governance and family relationships on the pay of managing directors in Indian stock listed companies. While doing so, it also reveals general features about the nature of the labour market for managing directors in an emerging economy. The analysis relies on a self-constructed seven-year panel dataset of roughly 300 companies. Many of the companies in the sample are controlled by the founding family, which owns a significant share of equity.

Executive remuneration was strictly regulated in India until 1993-94 by the Companies Act, which imposed a relatively low upper ceiling on the level of pay. Since restrictions on executive pay have been relaxed considerably, claims have emerged that the gap between managerial and ordinary worker pay has increased. In general, some evidence suggests that the wage differential between regular skilled and unskilled workers has risen over the past 20 years (see e.g. Vasudeva-Dutta, 2005). A study (Kakani and Ray, 2002) examining a small sample of large Indian firms finds that the growth in absolute managerial remuneration over the period 1979-2001 was over four times that of the growth of employee wages within these firms.

Such developments would not be unique to India, given the evidence of a rising trend in top income shares in advanced countries such as the United States, or the United Kingdom (see e.g. Piketty and Saez, 2006). If managerial pay has indeed grown rapidly, one possibility is that previous restrictions may have succeeded in preventing excessive pay to CEOs in India.[i] Kakani and Ray suggest that another possible reason for pay increases for Indian managers could be the need to attract and retain talent as the economy has become more open to competition and talent a more crucial input. However, little has been written about the determinants of CEO pay in Indian companies and the differences in pay attributable to different governance structures (see Ghosh (2006) and Sarkar and Sen (1996) for existing work).

The main hypothesis in this paper is that the power relationships between the managing director and the Board of Directors vary according to corporate governance and ownership structures. These relationships can affect the setting of managerial pay. Differences in such structures could explain why both

optimal contracting and executive talent can be insufficient explanations for the setting of pay. The optimal contracting approach holds that in a widely-held company managerial pay should vary according to firm performance, since tying pay to performance functions as an incentive mechanism to align the interest of managers with those of shareholders (see e.g. Hart, 1983, Holmstrom, 1979). By having control over CEO pay, owners can influence CEO behaviour.

Empirical evidence over recent decades questions the importance of the role of firm performance in managerial pay (see e.g. Jensen and Murphy, 1992). Among others Bebchuk et al. (2002) have claimed, that the idea of a CEO as an agent who can be controlled by owners via pay is unrealistic. According to their "managerial power" hypothesis, boards may decide the level of CEO pay, but in reality CEOs in widely-held companies are likely to have considerable power over their pay determination. Dispersed ownership leads to a lack of oversight, and individual owners are not powerful enough to control wage setting or lack the interest. This leads to CEOs being paid "above performance". The general principal-agent setting of board and manager relations is even less appropriate for companies, where management and ownership are more closely linked, and not only is ownership concentrated, but members of founding families also tend to manage the firms. Concentration of ownership within a family is prominent around the world (see e.g. La Porta et al., 1999).

This paper focuses on the effects of family ties, outsiders on the board and the consequences of a change in corporate governance regulation on executive pay structures in Indian companies. The purpose is to analyse whether corporate governance factors do affect CEO pay and whether regulatory change aiming to improve corporate governance has the potential to change pay practices. The impact of family relationships is examined. In particular, whether the CEO is related to another board member, to the founders, or controlling group of the firm, or alternatively measured by the share of board members who are related to the CEO.

Research on the effects of family connections on executive pay is limited (see e.g. Bates et al. (2000) for one study). This arrangement may reduce agency problems linked with a mismatch of interests between owners and managers described above, and reduce the need for incentive pay. However, power granted to the manager via ownership and family connections could affect the CEO's capacity to influence his, or her, own pay. It is possible, that due to family ties, pay is above the level attributed to the manager's ability, experience and capacity to generate profits. Pay may function as a channel of distributing

family wealth. This relates to the literature on opportunities for rent extraction in family firms (see e.g. Bebchuk, 1999, Johnson et al., 2000, Morck and Yeung, 2003) and the consequences of a lack of meritocracy in the managerial labour market (see e.g. Burkart et al., 2002, Caselli and Gennaioli, 2004, Bloom and Van Reenen, 2006). Higher pay could also be the result of bargaining power, if the there is a desire to keep management within the family, and the potential candidate has attractive outside options. On the other hand, if the market for CEOs is relatively uncompetitive, CEO pay should depend less on the market wage and could even be lower for family managers.

A mandatory corporate governance code for listed companies (Clause 49) on board composition and information disclosure was introduced by the Securities and Exchange Board (SEBI) of India during the seven-year period covered by the sample. Among other things, the code requires companies to disclose separately the components of directors' remuneration, both those that are fixed and performance-linked, as part of the Corporate Governance Report in the annual report. Given the staged nature of its introduction, it is possible to test whether a regulatory change that proxies for improved corporate governance standards and visible pay disclosure, has affected the level and performance-orientation of CEO pay. Increased visibility could perform the function of a monitor. A similar argument has been suggested for the role of the media as a monitor of corporate governance (see e.g. Dyck and Zingales, 2004). Chhaochharia and Grinstein (2006) recently find that changes in corporate governance regulation due to the Sarbanes-Oxley Act led to a decrease in executive pay in the US, which they attribute to an increase in board oversight.

This paper distinguishes between the determinants of salary (fixed pay) and performance-related pay, but also examines total pay. Performance-related pay is a practice adopted by some, but not all firms, to pay a part of remuneration as a share of current year profits. Thus, in addition to looking at the determinants of the more fixed component of pay (salary), the paper examines whether some corporate governance arrangements are more conducive to greater performance orientation in pay.

The use of panel data allows us to include fixed effects, and thus control for unobserved time invariant determinants of pay. The regression models also control for firm performance, size and CEO characteristics, such as experience and education. This should minimise the chances that the coefficients on corporate governance variables reflect factors related to performance, or CEO ability, or other firm, or individual, specific fixed characteristics. This is important, since it is often difficult to disentangle the role of corporate

governance from unobserved factors that correlate with governance or individual ability. A majority of the prior research on this topic does not make use of panel data techniques component (see Bertrand and Mullainathan, 2001 or Hartzell and Starks, 2003 for exceptions). Eriksson (2005) also mentions this as one of the deficiencies of existing studies.

The paper finds that differences in corporate governance arrangements, that potentially shape the power relations between the board and managers, affect CEO pay. The results broadly lend support to the managerial power hypothesis on CEO pay determination. It is shown that CEOs who are members of the founding family, or are related to a member of the board of directors, are paid more in total, both in the form of salary and a share of profits handed out as performance-related pay. On the other hand, outside representation does affect pay, mainly supporting the view that outsiders can discipline the level of CEO pay. The same holds for the degree of indebtedness of the company. The introduction of the mandatory corporate governance code, implemented in stages across firms, has raised the tendency of firms to tie pay to performance. Firm accounting returns do appear to affect pay to some extent, but the interpretation of the estimated coefficients requires caution. The role of performance is likely to be stronger in some firms than others, as some have opted to tie pay explicitly to current financial year performance.

Section 2 of this paper reviews briefly the related existing literature on managerial pay. Section 3 describes the legal and institutional environment in which listed Indian companies operate. Section 4 describes the dataset used, and section 5 puts forth the hypotheses to be tested and describes the modelling approach. Sections 6 reports the results, and section 7 concludes.

2 Existing literature

This section summarises briefly the main existing theories and some empirical results on managerial pay. There is no discussion of stock options as these are not yet a common component of CEO pay in India.

Early literature on the determinants of executive pay looks at the effects that competition for talent has on managerial pay in a cross-sectional context (see e.g. Marris, 1967 and Cosh, 1975). Managers are compensated for their executive ability, which varies by individual and here is considered the capacity to generate profits. In a perfectly competitive market, managers would be paid their marginal product; taking into account the excess profit generated by the manager compared to the next best manager. If the manager is given a share of

firm profit, managerial pay is likely to be higher in larger firms, since in absolute terms a more able manager will generate a higher profit in a larger firm. Thus, more able managers will sort themselves to larger firms.

The optimal contracting approach has been the prominent framework in the analysis of executive compensation in the past decades. The required assumption is that owners are interested in shareholder value maximisation, whereas this may not be of primary concern to the CEO, who tries to minimise effort (e.g. Hart, 1983, Holmstrom, 1979). Owners cannot observe managerial effort, and thus tie pay to performance in order to minimise agency problems and raise effort. Other noteworthy work on incentives and executive compensation relates to tournaments (see e.g. Lazear and Rosen, 1981 and Demsetz, 1995). In this context, promotion depends on the performance of workers with respect to other workers competing for the same post, and higher pay at the top is used to provide the incentive to compete earlier on. This is one explanation for divergence of pay from year to year performance. Other theories on incentive pay, such as seniority pay (see e.g. Lazear, 1999) may not matter at the CEO level, but such deferred payments would be another standard reason for divergence of pay from marginal product.

The recent interest in the estimation of performance-pay sensitivities of CEO pay derives partly from the observations that CEOs are receiving very generous pay packages, especially in the United States. Jensen and Murphy (1990) find that the relationship between performance and CEO pay in public US companies is weak, and has decreased since the 1930s. On the other hand, Hall and Liebman (1998) argue that largely due to the increase in the use of stock options, CEO compensation in the United States has in fact become more responsive to performance over the period 1980-1995. They also find that the level of real CEO compensation has risen, with a much faster pace than that of the pay of all workers, or government and public workers. The explanation for these large rises that cannot be attributed to rises in firm performance has become a source of debate.

Bebchuk et al. (2002) present managerial power as one explanation for the levels of CEO pay in widely-held firm. They claim that this is reflected for instance in the design of stock option schemes, that are far from optimal from the viewpoint of shareholder value maximisation. CEOs also often have influence over the nomination or choice of board members, and board members themselves may find their position threatened by disagreements. It should be noted that these authors question the applicability of this argument in a family-firm context, since due to more lucrative opportunities of rent extraction, family

connections might be less likely to lead to higher executive pay. Such opportunities can be created for instance by the differentiation of cash flow and control rights via pyramidal ownership structures, or dual class shares. Family firms that are part of a business group may foster tunnelling of resources between firms (see e.g. Johnson et al., 2000, Morck and Yeung, 2003). Bertrand et al. (2002) find evidence that tunnelling occurs between Indian firms that are part of a business group.[ii] Such practices allow for expropriation of minority shareholders by majority shareholders. Although the amount that can be extracted is likely to be lower, pay could also be considered a channel for such activity, if higher pay results from kinship with an owner, or board member.[iii]

Pay above performance and ability could be constrained by several factors. It has been suggested that managerial rent extraction via pay can be reduced by concentration of ownership within the hands of groups, or individuals, who have an interest in monitoring the company and the CEO (see e.g. Bertrand et al. 2001) and have a representative on the company board. The same argument could be given for the presence of truly independent outsiders on the board who are able to influence decision-making. In many countries, corporate regulation requires a certain share of the board directors to be independent. The market for corporate control, or future capital, might act as a deterrent to excessive pay, if this creates a negative image in the eyes of investors (see Bebchuk et. al, 2002). Especially in a developing country context, equity holding by foreigners and listing on a foreign stock market may lead to higher governance requirements. If product market competition raises performance requirements, incentive contracts may become steeper (see Cunat and Guadalupe, 2005).

Some support for managerial power as a pay determinant can be found in existing empirical studies. Studies suggest that the lack of independent outside directors on the board raises CEO pay, along with the share of board members appointed by the CEO (Core et al., 1999). The concentration of institutional ownership, or presence of a large shareholder on the board, are found to constrain the level of compensation, but make pay more sensitive to performance (Hartzell and Starks, 2003, Bertrand and Mullainathan, 2001). Elston and Goldberg (2003) find that ownership concentration lowers pay also in German companies. Additionally, some recent evidence suggests that CEOs in US companies are more prone to manipulate earnings when their pay is tied more closely to the value of stock and option holdings (Bergstresser and Philippon, 2006).

As mentioned, existing work on CEO pay in India is scarce. In one of the few existing studies on Indian executive pay, Ghosh (2006) focuses on the

determinants of aggregate compensation of the Board of Directors, but does include a brief analysis on total CEO compensation using industry-level fixed effects. He finds that the total CEO compensation in India is significantly and positively affected by the time spent by the CEO in the firm, firm return on assets and sales, CEO relationship with the founding family of the firm or group of firms, CEO chairmanship, the proportion of non-executive directors on the board and firm age. Investment in research and development, and the number of products and plants also matter.[iv] This study uses similar data sources as Ghosh (2006), but focuses on CEO compensation in more detail. The modelling approach is also more precise as it uses firm and CEO-specific fixed effects, whereas Ghosh estimates a pooled model, and many of the variables in this study are not included by Ghosh. However, this paper will show that his result on family connections prevails when family connections are measured in various different ways and controlling for firm, or CEO-specific, unobserved factors.[v]

3 Corporate governance and the legal environment in India

The main legal framework governing the activity of Indian stock listed companies is the Companies Act 1956 and its revisions. Firms also need to comply with various guidelines set by the Securities and Exchange Board (SEBI), such as the Corporate Governance code (2000) and the Takeover code (1997). There are 24 stock exchanges in India, of which the National Stock Exchange and Bombay Stock Exchange are the largest. The most common title for a CEO in India is managing director. This paper uses both expressions. Members of the board of directors tend to be proposed by boards in India. Shareholders can also propose members, but rarely do so.[vi]

The 1956 Companies Act (section 217 (2A)) obliges companies to disclose in their annual report the compensation of individual executives and other personnel (and their personal details), if compensation exceeded a threshold. This threshold was Rs. 600000 per year in 1998 (roughly $US 14500). The majority of larger companies tend to have some form of a remuneration committee, as this has become a recommendation of the recent Corporate Governance Code, and remuneration is generally approved by the Board of Directors. Executive remuneration was strictly regulated by the Companies Act until 1993-1994, with an upper ceiling placed on monthly remuneration (Rs. 15000 in the final year) of larger firms (see e.g. Sarkar and Sen, 1996).

The 1956 Companies Act (section 387) specifies that managing directors of a public company may be remunerated “either by way of a monthly payment or at

a specified percentage of net profits of the company or partly by one and partly by the other". The computation of net profits is also provided in the Act. Such remuneration shall not exceed 5 percent of the net profits of the company in case the company has one managing director and 10 percent in the case that there is more than one managing director except with the approval of the Central Government. Many companies have opted for a combined payment procedure and the component that is a direct share of net profits is titled commission. Additionally, the Act restricts remuneration in the case of inadequate profits, or a loss, during the year.

The international wave of corporate governance reform has also hit India. In 1998, the Confederation of Indian Industries (CII) designed a voluntary corporate governance code; a set of guidelines that companies could adopt as a signal of desirable practices. A mandatory corporate governance code for public companies, designed by the Kumar Mangalam Birla committee, was accepted and ratified by SEBI in year 2000. The code is incorporated as Clause 49 in the Listing Agreement of the Stock Exchanges.[vii] The implementation of the code was to be staged across firms; first involving the largest listed companies determined on the basis of the value of paid-up equity capital of the company. Thus firms belonging to the "A list" of the Bombay Stock Exchange[viii] and all newly listed companies were ordered to implement the code by March 2001; those with paid up equity capital above Rs. 100 million, or net worth above Rs. 250 million at any point in the company's history, by March 2002; and those with paid up equity capital above Rs. 30 million by March 2003.

Among others things, the mandatory code specifies that no less than 50 percent of board members should be non-executive. It also includes requirements concerning independent directors. If the chairman of the board is an executive director 50 percent of directors should be independent, otherwise 30 percent is sufficient. The code includes a definition of an independent director. Further, it also sets requirements on the role of the audit committee and on the disclosure of information to shareholders. Importantly from the perspective of compensation, the code requires companies to disclose information separately on all components of directors' remuneration, both those that are fixed and those that are performance-linked in a standardised format as part of a report on Corporate Governance in the annual report. Prior to this, companies were only obliged to report total remuneration and if commission was reported separately, this information was hidden among the last sections on accounts in the annual report. There have since been revisions to the code, and compliance has been questioned. One issue of concern has been the varying quality of disclosure.[ix]

Government-owned development finance institutions, insurance companies and mutual funds (e.g. Unit Trust of India) have tended to hold considerable shares of equity in Indian firms and often have a representative, a nominee director, on the board of directors. The development finance institutions have also been major lenders and played a similar role as large German banks did in German companies. (see e.g. Goswami, 2003, Sarkar and Sarkar, 1999). As has been argued above in relation to the presence of large shareholders, or institutional investors, such representation on the board of directors could discipline managers. However, doubts have been expressed about the powers of such directors in India. According to Goswami (2003) they have tended to adhere mainly with the board on decisions and lacked an interest in firm performance, likely to be attributable to state ownership. Similar doubts could be expressed about the powers of non-executive directors, as they may not be independent, but retired former managing directors, or business pals.

Some changes in corporate taxation have taken place over the period covered by the study. In a review of Indian tax reforms, Rao (2005) concludes that no major changes have happened in personal income taxation or corporate income taxation since 1997/98, with the exception of frequent changes in dividend taxation. Corporate tax rates have declined during the 1990s, although a study by the Federation of Indian Chambers of Commerce and Industry (FICCI) calculates the overall burden of direct taxation on companies to be at 40% in early 2006[x]. The forms of distributing wealth within the family could potentially be affected by the tax regime. A 1997 amendment to the Income Tax Act exempted shareholders from tax on dividends, with the companies being responsible for a dividend distribution tax of 10% at the time. However, this amendment has been reversed and reintroduced with changes taking place in the tax rates since. O this basis, no clear predictions can be made on the effects of the tax regime on the distribution of wealth within the controlling family of a company.

4 Data and descriptive statistics

4.1 Data collection

The dataset used in this study is a seven year unbalanced panel dataset of companies listed on Indian stock exchanges. The data comes from two sources. The first is the Prowess database maintained by the Centre for Monitoring Indian Economy (CMIE), which includes company accounts and share price data as well as background information since the year 1989. According to the CMIE website (September 2006) Prowess includes data on “all companies traded on India's major stock exchanges and several others including the central

public sector enterprises. The database covers most of the organised[xi] industrial activities, banking and organised financial and other services sectors in India. The companies covered in Prowess account for 75 per cent of all corporate taxes."

The company accounts data obtained from Prowess source are unconsolidated and audited.[xii] The Prowess database does not include information on managerial remuneration, or personal characteristics, of managers, and is used only to record financial and balance sheet information as well as equity holding information for the companies[xiii]. The data for managerial remuneration and manager characteristics come from annual reports of companies, provided in electronic format by Sansco Services[xiv]. The company provides electronic versions of annual reports of around 3000-4000 Indian companies for the years between 1998/99 and 2004/2005. In most companies the financial year runs from April to March, and year 1998 in this study refers to 1998/1999 and so forth. The firms are ones listed on the National, or Bombay, Stock Exchanges (NSE and BSE). To the author's knowledge, this is the most comprehensive available commercial source for annual reports.

This study is concerned with the determinants of pay in stock listed companies. The source for annual reports does not include reports for all listed firms, and not all firms report details on managerial pay and director characteristics. This is especially the case for the earlier years of the sample, as such companies have not until recently been obliged to do so. Thus, the dataset used is not a random, or necessarily representative, sample of all Indian stock listed companies. This is a common situation faced by researchers on corporate governance and executive pay, often due to constraints set by legal and corporate governance standards on company reporting. Annex 1 explains the data collection procedure in more detail. The final sample includes those firms that reported managerial pay and characteristics and for which annual reports were available for both years 1998 and 2002.

The paper treats each firm that functions as an entity, or is listed as such in the stock exchange and provides accounts as such, as a separate entity. A large share of Indian companies belongs to a business group of several companies. Many firms have subsidiaries and there are some cases where the managing director of a company holds an executive position in a subsidiary, or a closely linked business group company. For the sake of clarity and due to data limitations, additional pay resulting from such activities cannot be considered in this study.[xv]

The dataset is constructed at the firm level. However, a number of firms have more than one managing director, the others often titled joint managing directors. Such firms, including the details of multiple managing directors are included in the dataset, which means that there can be more than one observation per firm per year. It is worthwhile noting this feature of the dataset, since the presence of multiple managers is utilised in the regression analysis. Out of total manager-firm observations, 31 percent are such that the managing director does not operate alone. The results presented would not change fundamentally even if only firms with one managing director would be examined.

4.2 Descriptive statistics

4.2.1 Firm characteristics

To provide a picture of the degree of selection in the sample, some characteristics of the firms in the sample are compared with those of firms that can be identified as listed on a stock exchange (market capitalisation reported at least for one year) in the Prowess database over the period 1998/99-2004/05. The characteristics examined are sales (total income before taxes), market capitalisation, total assets, export share of sales and equity ownership structures. The audited accounting data in Prowess is annual and refers to figures at the end of the financial year. Data on market capitalisation and ownership used are those for end of March each year. All nominal values of the variables shown are deflated using the Industrial Workers Consumer Price Index.[xvi] The statistical tables can be found in annex 3.[xvii]

The firms in the sample represent 33 sectors at 2-digit National Industrial classification (NIC) level. Roughly half belong to a business group, which is common in India, and 75 percent are manufacturing firms and 23 percent service sector firms. There is a larger representation of manufacturing firms in the current sample than in listed firms in Prowess (Table 1). A partial reason for this is that few financial sector firms or banks are included as these rarely reported figures on managerial pay. In addition to the Companies Act, financial companies need to comply with the regulations of the Reserve Bank of India and may hold this a priority.

The figures in Tables 2a and 2b reveal that firms in the sample data are larger in terms of average sales and market capitalisation than the average Indian stock listed firm. The average of market capitalisation is over twice as large as that of listed firms in Prowess. However, the average value of total assets is not

larger.[xviii] A ranking of Prowess firms based on average end of year (March) market capitalisation over the period 1998-2003 reveals that out of the firms in the sample used in this study, 5.6 percent fall within the top 100 listed firms in the Prowess sample, 28 percent within the top 500, 54 percent within the top 1000 and 81 percent within the top 2000.[xix] Thus, although the dataset is biased towards large listed companies, it is not just restricted to top companies.

Data on equity ownership are available in the Prowess database only from the year 2000 onwards due to changes in the requirements on firms concerning reporting of ownership. Prowess uses the same classification of equity ownership as the firms in their annual reports since year 2000, which follows SEBI regulations. Some of the firms in the sample lack information on ownership for one, or more, years. Some change in the ownership pattern does occur during the period covered in the sample. Due to the prevalence of business groups, cross-holdings are common and ownership information can give an inaccurate picture of ultimate ownership.

In the regression analysis, data on foreign ownership is supplemented with data for available companies from the Bombay Stock Exchange Official Directory for the years 1998 and 1999. Due to changes in categorisation in reporting, this is the only category for which the sources can be reconciled. It was possible to construct a total foreign ownership figure for 1998-2004 (see "total foreign equity holding" in Table 2a), but data on this is missing for a significant share of the companies for the years 1998 and 1999. The ownership data available are not considered adequate enough to enable the construction of appropriate measures of ownership concentration within the ownership categories identified. Since information is missing for some companies and is only available for five years, equity ownership is not the focus of this paper, but general patterns are discussed below.

The figures confirm that ownership concentration within the founding family, or promoter group, is still widespread in India, the average share of equity held by promoters being 45 percent. Over the period 2000-2004, there were 23 firms in the sample, where the share of equity held by promoters was less than 20 percent. For over a half of the companies, the corresponding share was below 50 percent during this period. The Securities and Exchange Board 2002 (amendment to Clause on Substantial Acquisition of Shares and Takeovers) definition for a promoter includes "the person or persons who are in control of the company, directly or indirectly, whether as a shareholder, director or otherwise; or person or persons named as promoters in any document of offer of securities to the public or existing shareholders". Generally, promoters refer to founding members of the firm, or business groups, or their relatives, who have

control over the firm via ownership and otherwise. There are no firms in the sample, where the government would directly be a promoter.

The general pattern of ownership is similar for the sample firms and the average listed firm. Foreign ownership in total is slightly higher in the sample than in the average Prowess firm, for instance for the period 2000-2004, average foreign ownership is 10 percent in the sample firms and 7.5 percent in the Prowess firms.[xx] The same holds for institutional ownership, since the average share in the sample firms is 11 percent and that in Prowess firms 6 percent. Approximately 4 percent of the firms in the sample are classified in Prowess as foreign owned firms. There are 46 firms, where foreign promoters and collaborators hold over 10 percent of equity in any year between 2000-2004. As many as 53 percent of the firms have foreign institutional investors as owners, although the average share is only 2.3 percent. Equity ownership by non-resident Indians (NRIs) and banks and financial institutions is similar in both samples. Regulations on foreign equity investment have been loosened since 1991.

Out of the total 59 Indian firms listed in a foreign stock exchange in year 2004, 25 are included in the sample. The rest either surprisingly had insufficient information for the year 1998 (which defined firms to be included in sample), or the annual report was not available in the selection.[xxi] The foreign stock exchanges considered are the New York Stock Exchange (NYSE), Nasdaq, the London Stock Exchange (LSE) and Luxembourg Stock Exchange (Luxse).

4.2.2 Managing directors' compensation

The total compensation figure of a managing director considered in this study is that of gross remuneration, which should according to legal requirements (Companies Act) include salary, commission, contribution to a retirement or old age pension plan (provident fund) and perquisites.[xxii] Due to regulations set by the Companies Act (see Section 3), the remuneration of Indian managing directors can be decomposed into a more or less fixed component from the viewpoint of the director (monthly salary) and a performance-linked more variable component, which is the commission paid on the basis of current financial year performance.

Fixed pay is evidently not entirely fixed, as items such as perquisites can be considered variable. Commission is determined as a share of end of year profit before tax after some modifications, calculated according to guidelines set in the Companies Act. This profit figure is not available in Prowess in a form that would be comparable across firms. Commission is only paid if the current year

profit is judged to be sufficient, on which there are regulatory guidelines. In principle, this holds also for any other form of pay, but adjustment for this is often transferred to the consecutive year. Many firms in the sample offer stock options to employees, but very rarely report having offered such to the CEO. In fact, the SEBI guidelines on Employee Stock Option Schemes and Employee Stock Purchase Schemes (1999, amended 2004) prohibit the granting of stock options to promoters of the company and their relatives and anyone who owns more than 10 percent of company equity. Indian companies are obliged to report stock options granted to executives within the year, but as less than 10 firms in the sample report to have offered such in the recent years, this component is ignored. Stock options have been most common in the Indian IT industry, pioneered by software company Infosys.

The average gross remuneration of a managing director in the period 1998-2004 is Rs. 4,019,008 in constant 2004 prices (see Table 4 for annual compensation). To obtain an approximate international comparison, the dataset used by Hall and Liebman (1998) shows that in year 1994, the average salary and bonus of a US large firm managing director amounted to US$ 1,292,290 (1994 prices), excluding stock options, and US$ 2,505,469 including the latter. In year 1998, the average Indian CEO in the whole data sample earned Rs. 1,575,814 (approx. US$ 37,500), in year 1996 prices. The earnings of a US CEO in year 1994 were 34-fold the Indian 1998 average, and 67-fold if stock options are included.

Despite appearing small at the international level, the earnings of Indian CEOs are large at the national level. The average wage of managing directors in the sample in year 1998 is 120 times that of the average annual earnings of an average factory worker in India in 1998[xxiii]. The wage of a US CEO in year 1994 compared with that of a production, or non-supervisory worker, in the manufacturing industry was 45 or 87 times higher, excluding and including stock options respectively.[xxiv] It appears that Indian CEOs tend to hold significantly larger shares of company equity than their US counterparts. In the Hall and Liebman (1998) dataset, the average US CEO shareholding was 2.2 percent, whereas in the Indian data sample, it is 10 in the last year.

The level of executive pay (see Table 4) has risen steadily except for the year 2002, which followed a year of stagnation both in the sample firms and Indian industry in general. The phenomenal rise in the average level of commission compared with the rise in fixed pay could simply be explained by the rise in average profits, as commission is paid as a share of profits. However, the average share of profits handed out as commission has also risen between 1998 and 2004, but this is to a large extent explained by the increase in the share of

firms that pay commission. If we restrict our attention to firms that pay commission, each year in the sample, the percentage share of profits paid as commission oscillates between 1.8 and 2.1 between 1998 and 2004, without any significant overall increase. In the year 1998, 34 percent of the managing directors are paid commission and by the year 2004, the percentage is 51 (Table 4).[xxv] The share of commission in total pay has also risen throughout the years excluding the year 2002. These observations are not sensitive to the fact that information for some firms is missing in certain years.

These developments raise an interesting question about the extent to which the increases in executive pay over the period can be attributed simply to changes in performance, or whether there are other significant factors that lie behind these increases? The level of fixed pay has also risen, although not at a rate comparable with commission. Commission appears to be driving the increases in average total pay and the rise in the share of commission in profits is to a large extent attributable to the rise in the share of firms paying commission. It is worthwhile emphasising here that during the period in question, a corporate governance code, which made the reporting of commission mandatory in a visible and standardised format, came into force. As paying for performance could be considered a desirable practice, it may have become more prominent as the levels paid by all firms became easily observable. The hypothesis will be tested empirically.

5 Modelling approach

The purpose of the models to be presented is to examine the effects of corporate governance and family ties on both the level and performance orientation of CEO pay. They analyse separately the determinants of commission paid as a share of profits and fixed pay. A brief analysis of the level of total pay is also included. The focus is on examining whether some forms of corporate governance raise the manager's capacity to influence his, or her, pay and others lower it. Once we control for firm performance, size and firm, or CEO-specific, fixed effects, a relationship between the level of pay and a corporate governance factor would mean that managerial pay depends on something else than the manager's ability and capacity to generate profits. The models also control for characteristics such as education and tenure that might reflect unobserved performance (ability of the CEO), or simply pay for seniority.

It is reasonable to assume that the level of fixed pay, which represents mainly a monthly payment, is determined at the beginning of the year. If the decision on the level of fixed pay is affected by firm performance, it should be past

performance that matters. The use of current year governance variables as explanatory variables maximises the number of years available.[xxvi] On the other hand, the actual amount of commission paid should depend on the level of current year profit achieved. Relying on the above assumptions, Figures 1 and 2 below show a simplified illustration of the managing director's wage profile in relation to current year profit, assuming that if commission is paid, it is a linear function of current year profits. The linearity assumption may not hold in practice.

The distinction between the two components of pay is considered meaningful, since commission and fixed pay are clearly separate components and may have different determinants. This is supported by results of basic regressions on the determinants of the level of both types of pay for firm observations that include both components. The models in this paper examine the determinants of the share of profits paid as commission rather than the level of commission. This seems logical as commission is determined as a share of profit and the chosen variable can reveal more about the nature of the contract. It also allows us to examine directly what factors affect the performance orientation of pay. Another option for analysing this last issue would be to regress pay on interaction terms between firm performance and corporate governance variables. Given that there are several of such variables, the procedure easily leads to significant co-linearity, and is also questionable if we are concerned with a potential bias on the coefficient on performance (see below). The chosen approach averts such problems, but evidently examines the effect of corporate governance on performance sensitivity only via commission, not total pay.

Figure 1 CEO wage profile

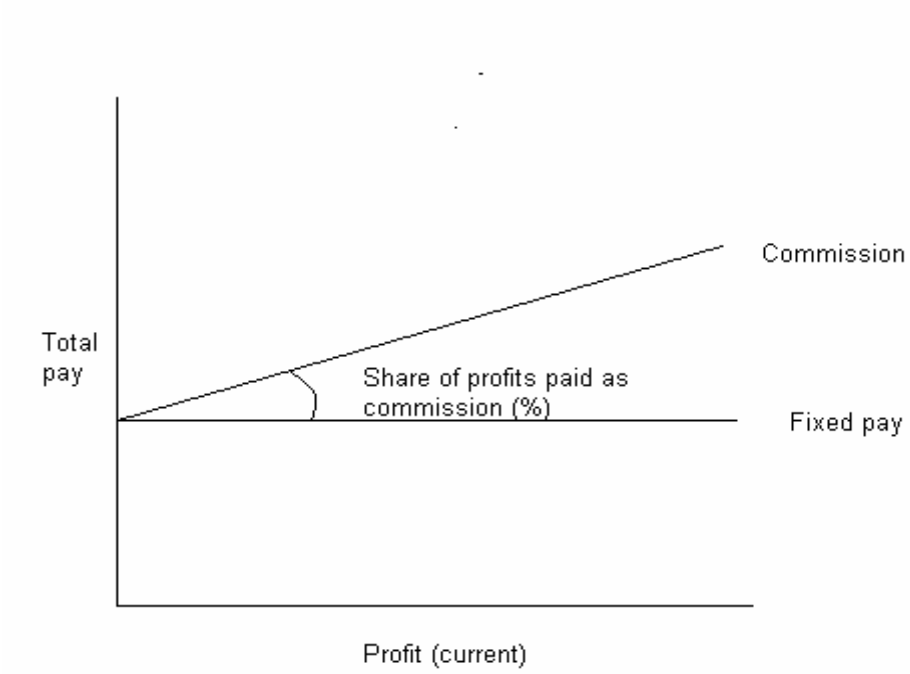
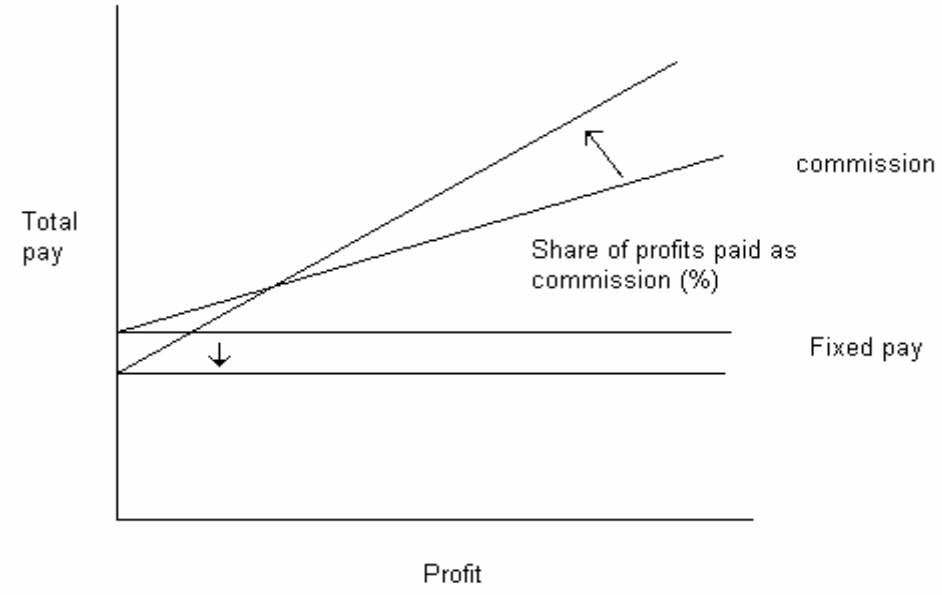


Figure 2 CEO wage profile: Pay becomes more performance-oriented



Figures 1 and 2 illustrate that for an understanding of the effect of corporate governance on pay, it is useful to assess the effects on fixed pay in conjunction with the effects on the share of profits paid as commission. If there is no effect, or a negative effect, on fixed pay and a positive one on the share of profits paid as commission, performance will play a larger role in pay (see Figure 2). On the other hand, if a certain governance factor raises both components of pay, or

only fixed pay, we cannot conclude that pay would have become more performance oriented. An additional analysis of the determinants of total compensation is included. This approach may be less precise than the one that separates between the two components. Nevertheless, it is helpful in obtaining a balanced picture of the determinants of pay, since it is possible that the determinants of fixed pay or their effects differ between firms that do, and do not, pay commission. It might be desirable to include separate analyses on fixed pay for firms that have a policy of paying commission and those that do not, but this is problematic and the decision was made to utilise all available observations in all models.[xxvii]

Most of the estimated models include fixed effects that are alternatively individual, or firm specific. This distinction is possible, since many of the firms in the sample have multiple CEOs and managing directors of a firm change. Thus, the dataset has multiple CEO-year observations for such firms. When a firm has more than one managing director, the fixed effects estimation at the firm level relies on deviations from the firm mean. This could in theory lead to a bias on the coefficient on variables that correlate with unobserved CEO-specific factors. The use of CEO-specific fixed effects in alternative models eliminates this problem. CEO-specific fixed effects control for managerial ability that is fixed, that is otherwise difficult to measure and would correlate with firm performance.

5.1 Fixed pay

The estimated model takes the form

$$(1) \qquad FC_{it} = \mathbf{PERF}'_{jt-1}\boldsymbol{\beta} + \mathbf{CEO}'_{it}\boldsymbol{\delta} + \mathbf{GOV}'_{jt}\boldsymbol{\gamma} + D_t + \alpha_i + u_{it} \,,$$

where i, j, and t refer to individual, firm, and time respectively. D_t is a year dummy, α_i is the firm, or individual, specific unobserved fixed effect and β, δ and γ are parameter vectors.[xxviii] The same model is also estimated using total remuneration (T_{it}) as the dependent variable. FC_{it} is annual "fixed" compensation (salary, perquisites and contribution to provident fund) and T_{it} = annual total remuneration (fixed pay + commission). PERF refers to variables that relate to firm size and performance, CEO to CEO-specific variables and GOV to corporate governance variables. These variables are described in detail below. Brief definitions of the variables included in the regressions can be found in annex 2, and annex 1 describes how the corporate governance variables were constructed.

The estimated models use both individual and firm fixed effects to control for time invariant firm and individual characteristics. Thus, α_i in equation (1) is, either a firm-specific fixed effect for each firm (j) of the managing director (i), or an individual-specific fixed effect for each managing director (i). The firm fixed effect controls for factors such as the average size of the firm, industry and relatively fixed components over the time period in question, such as hierarchy and organisational structures.

A dummy variable to signal whether the company has more than one managing director and year dummies are included in the models. A dummy variable is also included in the fixed pay regression to control for whether the firm pays commission (1), or not (0), since fixed pay could potentially be higher for directors who do not receive commission. Since managing directors can change within the firm from one year to another, and lagged performance is used, the estimated models exclude observations that correspond to the first year with a new managing director. If managing directors are rewarded for good past performance, it is illogical to assume that a managing director would be compensated for contributions to past performance if he, or she, only entered the firm in the current year.[xxix]

As described above, firms in the sample are larger than average listed firms. We know that the selection includes mainly firms where gross CEO remuneration is above Rs. 600000 a year, but also know that not all such firms are included. To obtain some indication of the possible effect of sample selection on the results, a truncated pooled regression model was estimated and the results compared to those of a standard OLS model.[xxx] The differences between a pooled OLS and the truncated regression turned out to be fairly minor, as mostly the same coefficients were significant and the coefficient magnitudes did not differ much. The small differences encouragingly suggest that problems caused by sample selection are not very significant. No further attempt is made in this paper to address this issue.

Performance and size (PERF)

This set of variables includes total sales to reflect firm size and the following performance variables: profit before interest and tax as a share of total assets (ROA) and average annual end of financial year market capitalisation as a share of total assets (valuation ratio, MC). The purpose is to control for time varying performance and size to avert a possible endogeneity bias in the coefficients on corporate governance variables. This would arise if features of corporate governance correlate with firm size and performance and we would not

adequately control for performance. It thus seems appropriate to include both size and several performance-related variables in the model at the same time. The relationship between size and managerial pay has been established by many studies. Total borrowing as a share of total assets (debt ratio) is also included, the motivation being that increasing debt pressure can potentially have a disciplinary effect on CEO pay.[xxxi]

Potential simultaneous causality has not traditionally been a concern in the literature on the relationship between CEO pay and performance. Even if performance orientation of pay would not be explained by an incentive motive, the existence of this relationship may affect CEO effort, and thus lead to an "effort" bias on the estimated performance coefficient. The direction of the bias will depend on how the director's effort changes in reaction to performance sensitivity of pay, i.e. effort may not always increase with higher sensitivity if the level of CEO pay is high enough. This should depend on what happens to the component of pay that is not affected by performance if the performance slope rises. If this does not fall, the CEO might be able to secure the same wage as before by putting in less effort.

The main interest in this paper is not on the performance coefficients, but on the corporate governance variables. Finding a suitable exogenous instrumental variable for firm performance is challenging. Lagged return on assets is not an ideal candidate since fixed effects regression assumes strict exogeneity of variables (see e.g. Wooldridge, 2002, pp. 252-254). In the absence of better instruments, the paper experiments with lagged industry (2-digit NIC) return to assets and lagged industry export shares (both excluding the firm itself) as instruments for lagged ROA. These are derived using the entire sample of Prowess firms. It is acknowledged that these may not be perfect instruments in satisfying the exogeneity requirements. The results of this analysis are not presented, but the gist of the exercise is that although the coefficient on firm ROA may change considerably, neither the coefficients on the corporate governance variables nor their significance are significantly altered.

Corporate governance and ownership (GOV)

This category includes mainly firm-specific (j) variables, but it also seemed appropriate to include the variables on CEO kinship, which are CEO-specific (i) under this heading.

Family connections are captured by a dummy variable for whether the CEO is a member, or related to the promoters or founding family (FF), which is time-invariant across individuals, a dummy for whether the CEO is related to a

member or members of the Board of Directors (relative), and the share of board directors who are related to the CEO are used to measure family connections. This last variable can also be interpreted as a measure of the lack of board independence. It correlates highly (see table 10) with both of the dummy variables, and thus will not be included with either in the same model. On average 15 percent of the board members are related to the managing director. Since the econometric analysis utilises a fixed effects panel model, changes in the kinship status that also reflect changes in board composition and not just in the manager are of interest. Further disaggregation by type of family relationship was not possible.

Table 5 shows that 60 percent of managing directors were related to a board member in the period 1998-2004, but the share was declining over the period. In 1998, 63 percent of managing directors were related to a board member, and this was down to, 57 percent by 2002. Whether or not the managing director is related to a board member is generally reported with the details on remuneration required under the Companies Act (section 217). Several family generations including spouses can be represented in a company board. Out of all the managing directors, 74 percent can be linked to founders or promoters. Being considered a member of the founding family in this study is equivalent to being a controlling shareholder (promoter), or a member of such a family or group. With the exception of a few firms, this relationship is generally one with the founders of the firm (see Annex 1).

It is possible that the effects of kinship depend on the share of equity held by promoters, or the CEO. The ability of family CEOs to extract rents could be constrained by low equity ownership. The regressions include an interaction term between a dummy for significant CEO equity holding in the last year in the sample (above 10%) and family association.[xxxii] In most firms, CEOs are shareholders, sometimes with a significant proportion. Information on CEO equity holding is available only for the latest year in the Prowess database and only reported if it is over 1 percent. This makes it possible to identify whether the CEO as an individual holds shares above a certain percent for almost all CEOs in that year. The exact amount held is not available for those who hold less than 1 percent. On average 16 percent of the CEOs in the sample own more than 10 percent of company shares. This information can be inaccurate, since it includes only what is stated as individual and direct CEO equity holding and does not include indirect ownership. The figure is available only for the latest year.

Other governance variables are firm-specific and include the ratio of non-executive directors on the board of directors, a dummy variable for whether or not there is a nominee director or several such on the board, and a binary variable indicating whether the firm is required to implement the SEBI corporate governance code in a certain year determined on the basis of the value of paid up equity capital or net worth in any one of the previous years in the sample (see Section 3).

The share of non-executive directors could discipline managerial pay if such directors are truly independent and have influence. Table 10 shows that correlation between the share of family members on the board and the share of non-executives is negative, so non-executives are unlikely to represent such in any significant manner. On average, 74 percent of board members are non-executive and around 40 percent of the firms in the sample include a nominee director. A nominee director refers to representative of a national development finance institution either as a creditor, or equity holder, or in some cases the state government. The presence of such representatives could be considered analogous to the presence of a large shareholder on the board discussed in the literature review. The variable does not differentiate between nominees linked with a debt and an equity relationship.[xxxiii]

The presence of nominee directors could in principle vary with equity ownership structures. The possibility that changes in the share of non-executives simply reflect changes in ownership is mitigated to an extent by the inclusion of the nominee dummy and the total percentage share of equity held by foreigners. Due to a high number of missing observations for the years 1998 and 1999 for total foreign equity holding, a missing dummy approach is used to enable as many observations as possible to be included in the analysis (see annex 2 for definition)[xxxiv]. The number of missing values does lower the quality of this indicator. It is nevertheless included to control for ownership in some form. It is worthwhile stressing that the results are not affected in any significant manner if this variable is excluded.[xxxv]

A dummy variable for whether the firm is listed on a foreign stock exchange is also included in all models. Foreign equity holding, or a listing on a foreign stock exchange, could be associated with better corporate governance practices. The coefficients on these variables could potentially be affected by the possibility that outside investors are attracted towards certain firms specifically due to certain type of pay practices. Whether this leads to a significant bias in our case is questionable. In theory, the same problem could affect the

coefficient on nominee directors, but it is highly unlikely given the long traditions of domestic institutional investment.

By allocating firms into groups according to Prowess figures on paid up equity capital and net worth over the sample period, 11 percent of the firms in the sample in year 2000/01 fell under the obligations to comply with the new corporate governance code (see Table 5). This first group includes the Bombay Stock Exchange A-list firms.[xxxvi] The share was 77 percent in year 2001/02, and 96 percent from year 2002/03 onwards. A small share of smaller firms in terms of equity capital fell outside the implementation schedule in the period covered by the sample. The variable used takes a value of 0 before the required compliance year and a value of 1 thereafter.

Since the regressions control for board composition in several ways, the potential channel of an effect of the corporate governance code could be the change in disclosure requirements on pay, although it is not certain that the effects would not arise from changes in governance as well. Since the code was to be implemented in stages across three groups of firms, this introduces useful firm level variation. The possibility that this variable might simply reflect firm size is reduced further by the inclusion of firm, or individual, fixed effects and several performance (and size) variables. Since the first firms were obliged to comply by the end of the financial year 2000, the effect of this change is most likely to affect pay practices in the next year, and the first year that is assigned the value of 1 for a subset of firms is 2001. In practice, it is possible that firms falling under the obligation to comply may have already done so prior to the required date.[xxxvii] However, the effect of the code in the regressions is not statistically significant effect, if it is assumed to come a year earlier for the entire group.

CEO characteristics (CEO)

CEO characteristics included are age and age squared, education, years the CEO has spent in the firm (including squared) and a dummy for whether or not the CEO is the chairman of the Board. Managing directors almost without exception sit on the board of directors. Around a third of the managing directors are chairmen of the Board of Directors. The average number of years spent in the firm is 16. This reinforces the perception that the market for managers is internal. Most managing directors have a university degree[xxxviii], and thus the level of education is captured with a dummy variable for a PhD or MSc degree. This is not entirely unjustified. Bertrand and Schoar (2003) for instance show that US managers with an MBA tend to have unique management strategies. The model tests if CEO qualifications, tenure or age affect remuneration

independently, in addition to the possible effects that they have on firm performance. The squared terms are included as is common practice and the sign on the coefficients are expected to be negative. In an individual fixed effects regression, age and tenure are co-linear and merely represent a time trend.

5.2 Pay for performance

There are two ways to approach the question on the determinants of performance-related pay. The variable of interest is commission as a share of profit after interest and tax. It reflects the share of profits available to the firm that is channelled to the managing director. The first question concerns the factors that determine whether a firm pays part of compensation as commission, and the extent to which corporate governance matters in this decision. The second concerns the impact of corporate governance on the share of profits handed to the CEO as commission. The first question is examined only briefly in the interest of conciseness with the use of a simple fixed effect linear probability model. The estimated model is

$$(2) \qquad P(C_{it} = 1) = \mathbf{PERF}'_{jt}\boldsymbol{\beta} + \mathbf{CEO}'_{it}\boldsymbol{\delta} + \mathbf{GOV}'_{jt}\boldsymbol{\gamma} + \alpha_i + D_t \,,$$

where C_{it} = binary variables for whether commission is paid or not and other variables as above in model (1). The same explanatory variables as in model 1 are used, with the exception of current rather than the lagged profit margin (ROA), since the justification for this is clearer as commission is only paid if current profit exceeds a threshold. When tested, lagged ROA was not very significant. A fixed effects logit model was estimated, but since the results were similar in terms of significant coefficients, they are not discussed.[xxxix]

Since not all firms pay commission, the dependent variable (including the values zero), will be censored, and OLS and standard fixed effects models generally lead to inconsistent estimates. The appropriate model is a Tobit model, but the estimation of a fixed effects Tobit model is problematic, although some advances have been made in this area (see e.g. Greene, 2004). To control for unobserved firm or individual fixed characteristics, normal fixed effect regressions as well as a random effects censored Tobit model are estimated. To try to assess the effect of censoring, a pooled OLS and a pooled censored Tobit model were estimated. The same variables were statistically significant in these models, which may offer some justification for the use of a standard fixed effects model.[xl]

A Tobit random effects model can be formulated in simple terms as

(3) $CC_{it}^{*} = \mathbf{PERF}_{jt}'\boldsymbol{\beta} + \mathbf{CEO}_{it}'\boldsymbol{\delta} + \mathbf{GOV}_{jt}'\boldsymbol{\gamma} + D_t + \alpha_i + u_{it}$, where $\alpha_i, u_{it} \perp \text{all x}_{it}$ and $\alpha_i, u_{it} \sim \text{iid}$

$CC_{it} = \max(0, CC_{it}^{*})$

and x_{it} refers to all explanatory variables and CC_{it} = share of commission of net profits and other variables are as above in models (1) and (2). The model has a composite error term that includes a random individual-specific component. The standard assumptions of the random effects model would be that the error term u_{it} is normally distributed and together with the random individual-specific effect α_i, independent of the explanatory variables. The assumptions of the random effects model are arguably strong for the type of data used in this study, but the main purpose is to compare differences with the standard fixed effects regressions. These fixed effects models include the same variables as the random effects model.

The share of profits paid might vary by current year performance, but this is not obvious. The clear exception is the case where current year profits are insufficient and performance too poor for commission to be paid at all. This is the main justification for including some performance variables in model (3) and current as opposed to past values. We could question the extent to which managerial effort at the CEO level changes from year to year due to the possibility of commission, beyond the fact that the manager will try to avoid a situation where profit becomes insufficient for commission to be paid at all. The same instrumental variables for firm performance as in the fixed pay model were experimented with for models (2) and (3) reaching rather similar conclusions.[xli]

6 Results

This section describes the results of the estimated models starting with fixed pay and total pay and then moves on to look at the determinants of the share of profits paid as commission and what determines whether firms pay commission or not.

6.1 Results: Fixed pay and total pay

The first four columns in table 6 show the results of fixed effects models on fixed pay. FF refers to firm and FI to individual fixed effects and the results of a

few different model specifications are reported. The last two columns in the table relate to total pay.

Let us concentrate first on the determinants of fixed pay. Models FF1 and FI1 include the same set of variables, but the first one has firm and the second individual fixed effects. In both of these models, all of the performance variables are statistically significant. A 10 percentage point rise in past year ROA leads to a 7 percent rise in fixed pay. Given that ROA can fluctuate considerably from year to year, a 10 percentage point change (one standard deviation) within a firm might not be entirely unrealistic, but the effect of performance on fixed pay does seem rather small.[xlii] A one standard deviation rise (1.7) in past valuation ratio (MC) of the firm would raise fixed pay only by 1.7 percent.[xliii] The coefficient on the debt ratio is negative and statistically significant, suggesting that within firm developments in the debt ratio can constrain the level of CEO fixed pay. However, a 1 percentage point rise in the debt ratio would lower pay by only 0.3 percent, which is a rather small impact.

The variable showing whether or not a CEO is related to a board member is statistically significant at the 90 percent level in the firm fixed effects model version (FF1). Being related to a board member raises pay by 10 percent. If the variable showing whether or not the managing director is a member of the founding family is used instead (FF2), it turns out to be highly significant with a large positive coefficient (0.31) in the firm fixed effects regressions. In the firm fixed effects model on fixed pay, the interaction between the manager's equity holding and the kinship variable is not significant. On the other hand, being related to a board member is not significant in the model with individual fixed effects, but such kinship leads to significantly higher pay (21 percent) when the managing director holds more than 10 percent of equity.[xliv] This could imply that the manager is in a better position to extract rents if he or she has more control also via equity ownership, but too far-reaching conclusions should not be drawn considering the approximate nature of the CEO equity holding variable (see Section 5). The results would remain rather similar if instead of the dummy variable on family connections, the share of relatives on the board would be used (see Table 7). Within firm or CEO variance is higher for this variable than for the dummy variables.[xlv]

There could be several explanations for why the kinship coefficient alone is not significant in the individual fixed effects model. With individual fixed effects, the relationship variable changes only if the board composition changes, and the CEO-specific variation in this relationship variable is relatively low. With firm fixed effects, within firm variance is derived additionally from the presence of

more than one managing directors or a change in the managing director. This may be one explanation. The results imply that a change in the status of the managing director from being related, to not being related, to a board member might be less significant in explaining pay than family status when either the firm has two managing directors with different status, or the managing director and simultaneously family status change. On the other hand, the result on the role of CEO equity ownership in the individual fixed effects model does suggest that relationship with the board may also matter.

In the case of several managing directors, it could be possible that family members are given more responsibility or are more able and are thus paid more in the firm fixed effects model. The role of responsibility is captured to some extent by the variable showing whether the managing director is the chairman of the board. The inclusion of education, age and tenure mitigates potential bias arising from unobserved individual-specific factors. There is some support for either age, or tenure, leading to higher pay, but this result is not robust to model specification. The effect of tenure in the individual fixed effects model (FI1) looks large, since in this particular model it simultaneously captures the rising trend in individual CEO pay (time dummies are included).

How about the effects of other governance variables? The share of non-executives on the board has a negative coefficient, but the effect on fixed pay is not statistically very strong. The presence of a nominee director is neither statistically nor economically significant in explaining fixed pay. Surprisingly, considering the limited within firm variation, listing on a foreign stock exchange has a large negative effect on fixed pay. Further investigation reveals that in firms that changed status, fixed pay did not fall, but was stagnating in comparison with the general rising trend in other firms.[xlvi] Foreign ownership is statistically significant and positive, but a percentage point rise would raise pay only by 0.4-0.5 percent. As explained, this variable is included mainly as a control, since quality is questionable.

The requirement to comply with the corporate governance code has a positive and significant effect on fixed pay at the 90 and 95 percent levels respectively in models FF1 and FI1. The magnitude is 7-9 percent. Despite the staged implementation and fixed effects, the possibility remains that the coefficient is simply capturing a trend in pay that is different for the firms in each group for which implementation was to take place. The result could also be driven by a sample selection effect, as the share of CEOs for whom information on commission was available, was somewhat lower in the years 1998-2000. To test for these possibilities, the regressions were re-estimated only for those firms

that had reported commission for all years in the sample. Additionally, a group-specific time trend was included for three groups of firms: those that were supposed to implement the code in the year 2000-2001, those in the year 2001-2002 and those that were too small to fall into any of the groups that were assigned a timetable for implementation. The group left out includes firms who were supposed to implement the code in the year 2002-2003. The regressions control additionally for a general trend, so that the group trends capture deviations from such. The coefficient on the code remains roughly the same and statistically significant at the 95 percent level in model FI1, but no longer significant in the firm fixed effects model (see Table 7).

For the sake of comparison, two models on the determinants of total pay, one with firm (FF) and one with individual fixed effects (FI), are estimated. The results of two such model specifications are shown in columns 4 and 5 of Table 6. Both lagged and current ROA are included, since commission is more likely to depend on current profit. When this is done, the significance of market capitalisation falls. The coefficient on lagged ROA is slightly larger for total pay than for fixed pay. In model FF, a 10 percentage point increase in lagged ROA translates into a 9 percent increase in total pay and a similar rise in current ROA to a 14 percent increase.

Being related to a board director results in approximately 10 percent higher total pay (90 percent significance) in the firm fixed effects (FF) model, and being a member of the founding family to 27 percent higher total pay. Only the results of the model with the latter are shown in Table 7. The interaction term between manager equity holding above 10 percent and being related to a board member is again significant and positive in the individual (FI) fixed effect model. Related CEOs who own more than 10 percent of equity, are paid significantly more. The result persists if the share of board members related to the managing director is used as the kinship variable (see Table 7). If included on its own, the coefficient on the share of family members is also significant and positive in FF.

Interestingly, the coefficient on the presence of nominee directors is significant and negative, suggesting that in contrast with current perception, such representation could lower managerial power over pay. The magnitude is 8-9 percent. Nominee directors, being representatives of institutional shareholders and creditors should have an interest in curtailing excessive pay. The corporate governance code raises total pay by 13-14 percent. This result remains statistically significant at the 95 percent level after the inclusion of group trends, but the significance falls if the sample is restricted to firms who reported

information on commission in each year (see table 7). The effect of foreign ownership is similar as for fixed pay.[xlvii]

One might be interested in comparing the performance orientation of Indian CEO pay with that of CEOs in other countries. As already explained, accurate estimation of the coefficients on ROA is problematic. However, since instruments are often not used in this analysis, simply for the sake of interest, let us compare the coefficients here with coefficients of some existing studies. This has to be considered as an approximate exercise, since existing studies often involve stock options, may include only one performance variable at a time and estimation methods and possibly the type of firms vary. Bertrand and Mullainathan (2001), who use fixed effects in their estimations for the period 1984-1991, find that when accounting returns rise by a percentage point, cash compensation rises by approximately 2 percent for US CEOs. Using data for 1986-1995, Kato and Kubo (2003) find a comparable coefficient of 1.9 when regressing the change in the return on assets on changes in CEO compensation in a small sample of Japanese listed firms. A study by Kaplan (1994) comparing CEO cash compensation in US and Japanese firms in 1981-1984 finds that a percentage point change in income scaled by assets leads to a 0.7 percent rise for Japanese CEOs and a 1.8 percentage rise for US CEOs, when several performance variables are entered simultaneously in the model. If the coefficients on current and lagged ROA are added together, the effect of a percentage point rise in ROA is shown to raise total pay by roughly 2.2 percent in this study, which resembles some of the above effects.

6.2 Results: Pay for performance

The results shown in the previous section do not yet reveal how different factors affect the performance orientation of pay. This section looks at this aspect by focusing on commission. Prior to examining the determinants of the share of profits handed to managing directors as commission, a brief account is given on what determines a firm's tendency to pay commission. For this purpose, two fixed effects linear probability models are estimated, one with firm fixed effects (FF1) and one with individual effects (FI1). The results are shown in columns 1 and 2 in Table 8. The third column shows the results of an individual fixed effects model (FI2) with the group trends that control for a potentially different trend in the tendency to pay commission between firms that implemented the corporate governance code at different times.

Unsurprisingly, current year performance (ROA) matters for whether commission is paid or not, the coefficient being significantly positive. Debt

pressure also lowers the probability of commission to some degree. The valuation ratio (MC) was insignificant and is excluded, since it includes more missing observations. Earlier on it was mentioned that CEO pay in general appears to have become more performance-oriented, since the share of commission in pay has risen and the share of managing directors in the sample, who receive commission has risen from 34 percent to above 51 percent between 1998 and 2004. It is especially interesting from this perspective to assess the effects of the introduction of the corporate governance code on firm pay practices. The coefficient is positive and statistically significant; the introduction of the code raises the probability of commission by around 10 percentage points. The result is robust with both firm and individual specific effects to the inclusion of group trends and restriction of the sample to those firms that reported whether commission was paid in each year (see model FI2, Table 8). The effect would also be statistically significant and positive in a fixed effects logit model (not shown). The code is likely to affect board composition, but since this is controlled for in several ways[xlviii], one possibility is that the effect arises from increased visibility due to disclosure requirements.

These results suggest that some of the rise in the share of firms paying commission could be attributed to improved firm performance, but also to the introduction of a corporate governance code. A regulatory change aiming to improve on corporate governance appears to have prompted more firms to tie managerial pay explicitly to performance. Kinship does not affect the probability of commission alone, but the coefficient on the interaction term between CEO equity above 10 percent and relationship with a board member is statistically significant and positive. The presence of nominee directors has a significantly negative effect in the individual fixed effects models and lowers the probability of commission by 6 percentage points. This result could partly be driven by the fact that some of the nominees are creditors and might for this reason wish to curtail opportunities for additional pay.

Table 9 shows the results of the models explaining commission as a share of profits. Columns 1 to 3 relate to a fixed effects regressions with firm (FF) and CEO specific fixed (FI1 and FI2) effects and column 4 to a CEO-specific random effects censored Tobit model (RE(I)). The fixed effects models are standard models that do not control for the censoring of the dependent variable. It is of interest to estimate these, since they are most suitable for comparing the results with those of the fixed effects models on fixed pay.

The regressions include performance-related variables, but the coefficients on corporate governance variables or their statistical significance change very little

even if the performance-related variables would be excluded from the model. In fact, out of the performance or size-related variables, only sales is statistically significant in the fixed effects regressions.[xlix] Debt ratio is significant only in the random effects Tobit model (RE(I)), but the result is in accordance with that found for fixed pay; the higher the debt ratio, the lower the share of commission.

There are some differences between the models in table 9, especially in terms of the size of coefficients, but similarities arise. The result shared by all of the models is the significantly positive impact of a relationship with a board member on the share of profits paid as commission. In the firm fixed effects model (FF), being related to a board member provides a CEO with a 0.54 percentage point higher share of profits, the coefficient being statistically significant. The corresponding coefficient is 0.26 in the random effects model. The effect is not as statistically significant, if the share of family members on the board is used instead. The only model where the interaction term between CEO equity holding above 10 percent and a family relationship was significantly positive is the individual fixed effects model. However, if included on its own, the effect of being related to a board member is also significant and positive. This model version is shown in Table 9 (FI1 and FI2). Being related to a board member raised fixed pay by 10 percent in the firm fixed effects regressions (Table 6), and being a member of the founding family by as much as 31 percent. These also had a significantly positive effect on total pay. Overall, the results suggest that a family relationship raises fixed pay, the share of profits handed to the CEO, and total pay.

A further coefficient of interest is that for the ratio of non-executive directors. It is positive and statistically significant in all of the models in Table 9. A 10 percentage point increase in the share of non-executives will raise the profit share by around 0.1 percentage points (varies according to specification). There is no evidence to suggest that such directors would raise total pay, perhaps even to the contrary (see Table 6). There is thus some indication that non-executive directors can influence pay practices, and appear to drive them more towards a performance related fashion.

The results of some specifications suggest that the corporate governance code has had a positive and significant impact on the share of profits handed out as commission at the 95 percent level. The impact is significant in the random effects model (RE(I)) that includes group trends and uses the sample of firms that always report whether they pay commission or not as a robustness control. The implementation of the code raises the share of profits by 0.24 percentage

points. However, the impact becomes insignificant in the fixed effects models after the same robustness check is applied (see FI2 for a model with individual fixed effects, group trends and restricted sample). On aggregate the evidence suggests that the introduction of a corporate governance code has increased the probability that a firm pays commission (Table 8). The results also suggest that in contrast to lowering the level of pay, it may even have led to an increase in total pay.

Foreign ownership is found to be associated with higher fixed pay and total pay, but does not have a significant impact on the share of profits paid as commission. The effect is small, and we must keep in mind that the measure of total foreign ownership is imperfect as it includes many missing values for 1998 and 1999. Section 5 also discussed the potential of endogeneity bias.[1]

7 Conclusions

The hypothesis tested in this paper is that optimal contracting and talent are insufficient in explaining the wage setting process of managers and that power relationships between boards and managers affect CEO pay. The paper finds support for the role of governance factors in pay and the managerial power hypothesis in Indian companies. The use of several performance measures as controls and the use of fixed effects models facilitate the identification of the effects of corporate governance variables. Accounting returns do have a positive impact on CEO compensation, but performance is likely to affect pay less in firms that do not explicitly tie pay to performance. The tendency to do so has risen over time, and this pattern explains partly the rise in average CEO pay over time, since a significant part of the increase in pay arises from an increase in commission. Commission as a share of profits has also rise, which suggests that performance alone cannot account for the rise in CEO pay over time.

The paper shows that managing directors who are related to members of the board of directors, or are part of the founding family, or controlling group of shareholders, are paid more than those who are not. The fact that CEOs with family connections receive a higher share of profits as commission is somewhat counter-intuitive, since one might assume that the need for an incentive component is lower. However, both fixed pay and total pay are also higher. This result persists if kinship is measured as the share of relatives on the board. Since ownership translates into power, the extent of the managing director's equity holding is also found to affect the amount of additional pay of CEOs with family connections.

The fact that fixed pay and total pay are higher with family connections suggests that such connections could override rationality from the viewpoint of the firm in the setting of pay. CEOs are not paid only for their ability or experience, but a family connection, which implies that they may be able to extract rents via pay. This suggests that the CEO has power to influence pay by affecting board composition and that the controlling group, or family, has power over other shareholders. This additional pay could be viewed as a direct reduction of firm profits. A member of the founding family receives 26 percent higher total pay than a non-member, which represents 0.3 percent of median profit before interest and tax in the latest year. However, the effect of family relations could also arise as a consequence of a near monopoly market for managers. If the supply for family managers is scarce and there is a desire to keep management within the family, related managers may simply have bargaining power over pay for this reason.

The result reveals that other factors than a need to attract talent could lie behind the claimed rising pattern in CEO pay in India. Internal family-recruits, or relatives of board members, are paid more than unrelated ones. This result is interesting from the perspective of meritocracy. In the case of several directors, the result on family connections could also arise partly because the family-CEO has been given more responsibility or is more able. The latter is a less likely explanation, because such CEOs come from a much smaller pool of potential candidates. The common reliance on related CEOs and the fact that factors not related to overall firm performance matter in the setting of pay, reflect the uncompetitive nature of the Indian labour market for CEOs.

Family connections raise pay, but the results also show that the board can exert control over managerial pay. They indicate that a higher share of non-executives on the board of directors can tie more to performance, without raising total pay. The presence of nominee directors of government-owned financial institutions, or insurance companies, is found to lower total pay, and thus could also be considered disciplinary. However, such representation also lowers the probability of being paid commission. Whereas the presence of nominee directors thus tends to discourage pay above performance, non-executives appear to create incentives by encouraging pay for performance.

The results on board composition lend support to the hypothesis that outside representation from the perspective of management can tie pay more closely to performance. This contradicts the usual perception in India that non-executives or nominees are inefficient monitors and have little power over board decisions and managing directors. Indebtedness has a somewhat similar effect as nominee

presence; it lowers fixed and total compensation, but also the probability that a firm pays commission. This suggests that debt pressure can create incentives for boards to take tighter control over the level of CEO pay, but the effect is rather small.

During the period covered by the sample, the share of managing directors whose remuneration included an explicitly performance-tied component, commission, rose from 34 to 51 percent. The introduction of the corporate governance code is found to raise the likelihood that a firm pays commission by 10 percentage points. This finding reveals that a code that aims to improve on corporate governance and disclosure prompts firms to tie pay explicitly to performance. This may be explained by changes in board composition, but since the regressions already control for board composition in several ways, one possibility is that the effect can be attributed to the requirement to disclose different components of pay. Tying pay to performance may be viewed as a sign of good governance. On the other hand, there is no evidence to suggest that the level of fixed or total pay would have fallen as a result of this regulatory change, perhaps even to the contrary. The positive overall effect could be a transitory one, but the introduction of the governance code could also be one of the reasons for the increase in CEO pay. It is tempting to speculate that if managers have power over their own pay and do not wish to look worse than other managers in similar firms, visibility of pay could potentially induce a race to the top rather than to the bottom in CEO pay.

Since all of the firms in the sample are stock listed public firms, the result on potential rent extraction in a family context could be of special interest to minority shareholders. If rent extraction is to occur in such a noticeable form, the phenomenon could proxy for other rent-seeking activities that take place in family-managed firms. The practices could extend to other relatives working in the firm as well, as Bebchuk et al. (2002) suggest. This study informs about the effects of manager-board relations on the determination of CEO pay. However, the evidence does not allow us to make any conclusions about the overall effect of family connections or corporate governance standards on overall firm performance. This is a separate research question that ideally requires long time series data and a means to separate causality from correlation.

Notes

[i] However, it is claimed that these practices led to hiding of income, which could impede a truthful comparison of managerial pay before and after the changes in regulations. (Sarkar and Sen, 1996).

[ii] The firms in such groups tend to be controlled by the same dominant shareholder either directly or indirectly. In such cases, the controlling shareholder may be tempted to tunnel resources from a firm where he, or she, has lower cash flow rights to a firm where cash flow rights are higher. Such transfers of wealth can lower the performance potential of the firm that loses assets.

[iii] A more general, well-acknowledged problem with incentive pay relates to the difficulty of observing individual performance and the short-term nature of performance measures used.

[iv] Additional, statistically insignificant variables included by Ghosh in the regression on CEO pay are CEO age and education, firm risk, diversification, presence of multiple CEOs and affiliation with a business group.

[v]Other results of this paper on significant determinants of total CEO pay that bear resemblance to those of Ghosh (2006) are the significantly positive effects of sales and return on assets (ROA), although coefficient size varies. Ghosh finds that non-executive directors have a statistically significant positive effect on CEO compensation. This contradicts the results of this paper, which could for instance be explained by differences in the modelling approach. Ghosh only examines the total pay of the CEO, but does include commission and salary separately when assessing the determinants of total board compensation.

[vi] See World Bank (2004) for further details.

[vii] See www.sebi.gov.in for further details

[viii] In late 2005, there were approximately 200 firms on the BSE A group.

[ix] See e.g. "Report on the SEBI Committee on Corporate Governance", February 2003.

[x] See http://www.ficci.com/press/press1.htm

[xi] Organised industrial activities include all industrial units registered under the Factories Act 1948 (units with power with more than 10 hired workers, and those without power, with more than 20 workers).

[xii] CMIE uses a normalisation procedure to render certain figures of companies that use different accounting standards compatible with one and another. The number of indicators and companies for which data are available in the database increases with time, and currently approaches 10000. The database is continuously updated with more data for more firms, and the version used for this paper is that corresponding to January 2006.

[xiii] Extracts from the few latest company annual reports are included in Prowess, and these can hold information on managerial pay for these years, but do not include information on characteristics such as tenure, age or education. In some cases, these reports have been used to record manager pay.

[xiv] Access to this data source came initially from the library of the Confederation of Indian Industry (CII) and then directly from Sansco Services for different years.

[xv] Business group affiliation is unlikely to change over the time period covered, and information is only available for the latest year. However, since the models estimated are mainly fixed effects models, the fixed effect will among other things control for such affiliation.

[xvi] Source: Reserve Bank of India, Database on Indian Economy, 2005.

[xvii] The rupee to US dollar exchange rate has fluctuated between 41 and 48 during the period covered by the sample.

[xviii] Since these are total assets and not just fixed assets, this is not necessarily surprising. The variation in the variable is also considerably higher for Prowess than the sample firms.

[xix] The figure on average market capitalisation is available for roughly 4150 public companies in Prowess.

[xx] Regulations on foreign equity investment have been loosened since 1991. Foreign equity investment is still not permitted in some reserved sectors without approval from the government (Foreign Investment Promotion Board (FIPB) and a Cabinet Committee), but in many sectors foreign investment is permitted automatically. See http://indiainbusiness.nic.in for details.

[xxi] Some of these are financial institutions that do not report details on executive pay for the earlier years.

[xxii] There may be some variation due to some firms reporting smaller items such as leave encashment and others not. These are a small component, and usually excluded, so it can be claimed that the remuneration figures examined in this paper are comparable between firms.

[xxiii] Pocket Book of Labour Statistics 2001 & 2002, Labour Bureau, Government of India, Ministry of Labour, Shimla.

[xxiv] Bureau of Labor Statistics of the U.S. Department of Labor, ftp://ftp.bls.gov/pub/news.release/History/ realer.011195.news

[xxv] Information on the amount of commission paid or whether or not commission was paid is missing for around 6 percent of the managers for each year between 2001-2004, but for between 12-17 for the years 1998 and 2000, when firms were not required to report all components of pay separately in a standardised format. If we restrict the sample to firms who report whether or not commission is paid also in the years 1998-2000, we still see an increase in the tendency to pay commission.

[xxvi] Although data on pay, CEO characteristics and corporate governance is available from year 1998, data on other firm characteristics such as performance is available in Prowess for previous years. Performance variables for the year 1997 are therefore used in the analysis. When fixed pay is regressed alternatively on the past and present ROA of the firm, the coefficient on the lagged variable is larger and clearly more significant. This could be considered a justification for the use of lagged rather than current performance variables.

[xxvii] One problem with this approach is that a reliable inference cannot be drawn on whether the firm decided not to pay commission one year due to bad performance or whether it simply did not yet have such a pay practice altogether. Secondly, if the sample were to be divided into years when a firm paid commission and those when it did not, the amount of observations per regression would fall considerably, as would the time dimension per firm or CEO.

[xxviii] The regressions use a robust variance matrix estimator (Huber-White sandwich) to cater for possible heteroskedasticity and serial correlation between the error terms.

[xxix] The differences between models with or without these CEO observations turned out to be both statistically and economically rather insignificant.

[xxx] This model is related to the censored Tobit model, but in this case the assumption is that firms that do not report CEO remuneration are completely excluded from the sample. The truncation point for the logarithmic transformation of fixed pay was set at an equivalent of the year 1998 deflated logarithm of Rs. 600000 (495000), at 13.1. This is somewhat higher than the real value, since fixed pay is often only one component of the total remuneration, the threshold for which is set at Rs. 600000.

[xxxi] Additionally, market to book ratios and an annual stock return measure taking into account dividend yield, were experimented with, but these were not found to be statistically significant. There is a perception that the Prowess database is weaker in terms of the quality of stock market related variables (see Bertrand and Mullainathan, 2002) than on accounting returns. For instance, data on market capitalisation and dividends are not available for as many listed companies or as consistently as accounting data is. The variables on total assets and ROA are likely to give a more reliable picture, but a simple market capitalisation based measure (per assets) is experimented with to reflect stock market performance. The focus is on profits, as it is known that this is the performance measure that firms use to determine the level of commission and according to which the upper limit on managerial pay is set. Export orientation, as a potential indicator for foreign competition, was experimented with, but was rarely statistically significant.

[xxxii] In order to maintain comparability between models, the dummy for CEO equity holding above 10 % is not included on its own, since it cannot be included in the model with individual fixed effects, as it does not vary by individual.

[xxxiii] Another interesting category to examine would be that of independent directors. However, prior to the implementation of the SEBI corporate governance code, firms did not report this information and it was impossible to draw accurate inferences on director status in previous years on the basis of more recent information.

[xxxiv] The same is done for market capitalisation, since it also had somewhat more missing observations than other variables. This approach can be questionable, especially in the case of foreign ownership, where the number of missing observations is considerable, but the results on corporate governance variables remain largely unaffected if the two variables for which missing dummies are included are excluded from the models. The coefficient on foreign ownership did not change if instead of one, two missing dummies were included, one for the years 1998 and 1999 and the other for 2000-2004. Two dummies could be justified, if the reason for why the variable is missing is different in the two periods.

[xxxv] Instead of using total foreign equity holding, some alternative model specifications were estimated, where the shares of equity held by foreign and Indian promoters, foreign institutional investors, and other institutional investors were included separately for the period 2000-2004. The variation in the data is smaller, and the results turn out not to worth showing and discussing in detail.

[xxxvi] Whether the firm belongs to the BSE A-group was firstly determined on the basis of the status in the last year of the sample (2004/05). Then annual reports of these firms for year the 2000/01 (when the provisions of the code were to be implemented) were checked to see if they stated whether or not the firm was required to comply with the corporate governance code by end of year 2000/01. With the exclusion of a few additional firms, the 28 firms in the sample identified as being a part of the A group, were also found on such a list in a study by Bhattacharyya and Rao (2005) on the effects of the governance code of stock market performance. A few firms that are now part of the A group were not in the year 2000/01, and a few that were then are not part of the A group now.

[xxxvii] For a large part of the firms in the sample, it is not possible to identify with certainty those firms that complied with the code by as much as a year prior to the required date.

[xxxviii] The following were considered as part of this category: Bachelors, University or post-graduate diploma, Chartered accountants degree, Masters degree (MSc, MA), MBAs and PhDs. Details on education are missing for a few directors in the sample.

[xxxix] There is no straightforward procedure for estimating the marginal effects in such a model, which makes it difficult to interpret the coefficients (see e.g. Wooldridge, 2002, pp. 492).

[xl] A fixed effects Tobit regression was estimated (see Greene, 2004), and encouragingly the results were rather similar to those of normal fixed effects models in terms of statistically significant coefficients. As is the case with fixed effects logit models, only those firms or individuals for which the dependent variable varies over time are considered. The model was estimated with Limdep 8. However, the marginal effects appear to be unreliable and therefore it was considered sufficient to show the results of standard fixed effects model only.

[xli] When performance variables were excluded, the coefficients on corporate governance variables and their significance changed very little in both models, which suggests that we should not worry about the effects of a potential bias on the performance variables.

[xlii] Using lagged industry ROA (excluding the firm itself) as an instrument for lagged firm ROA raises the coefficient on ROA(-1) from 0.7 to almost 2.2. This variable is significant in the first stage regressions explaining ROA, whereas lagged industry export share is not. The rise in the coefficient is considerable, but doubt can be expressed about the exogeneity of the instrumental variable. However, the statistical significance and size of the coefficients on the corporate governance variables are largely unaffected. One message to deduce from this is that the coefficients on performance may be inaccurate, but this is unlikely to affect our conclusions about non-performance related variables.

[xliii] A regression that includes only those managing directors who are not paid commission did not lead to significantly higher performance coefficients on fixed pay.

[xliv] The coefficient on "relative" is insignificant (although positive) if included alone without the interaction term in the model.

[xlv] Around 12 percent of the firms have within variation in the variable capturing whether the CEO is related to a board member, and around 6 percent of the CEOs do. The values for the share of family members on the board vary over time for over a half of the individual CEOs.

[xlvi] It might be that foreign listing was coupled with the introduction of stock options that although required, went unreported in the annual reports.

[xlvii] The models were re-estimated for the period 2000-2004 including the shares of equity ownership for different categories, which revealed that depending on specification the possible effect of foreign ownership on total pay could be

driven by both institutional ownership and ownership by foreign promoters. The equity shares held by Indian promoters did not have a statistically significant effect on managerial pay.

[xlviii] The effect remains statistically significant if instead of the dummy variable for family connection, the share of family members of the board is used.

[xlix] The valuation ratio (MC) was insignificant and is excluded, since it includes more missing observations.

[l] A model breaking ownership into Indian and foreign promoters' shares, foreign institutional investors' shares and other institutional investors' shares for the years 2000-2004 did not yield many additional insights on commission, as the results were not robust to specifications. In fact, this breakdown suggested that an increase in ownership by foreign promoters might raise the share of profits paid.

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Annex 1 Data set construction

The construction of the data set was initiated with a set of annual reports on companies listed on the Indian stock exchange for the years 1998/99, 2000/01 and 2002/03 with the aim to construct a three period panel dataset. The list of firms included was decided on the basis of the reports available for these years, and designed to include those firms for which information on both compensation and characteristics for managing directors could be obtained for both of the years 1998 and 2002. For an unknown reason a smaller amount of reports was available in the Sansco Services collection for the year 2000 than 1998 or 2002. Reports for the other years, 1999, 2001, 2003 and 2004 were obtained later on. Annual reports were not available for years prior to 1998. Due to the introduction of the SEBI corporate governance code in 2000, reporting requirements and the format of reporting changed. The availability of information in year 1998 largely guided the decision on which firms to include in the sample.

Figures on managerial remuneration could have been available sporadically for a larger number of firms, but considering the magnitude of the task, the choice was made to restrict the number of firms to those who in year 1998 reported both the details on executive pay as well as characteristics such as age, experience, tenure and education for the managing director and any other employee whose total gross remuneration is above the annual threshold (in year 1998, Rs. 600000). Therefore, not all possible firms will have been included in the dataset. The information required is presented in annual reports in a standardised format with the often titled approximately "Information as per Section 217 (2A) read with the Companies Act". Since the changes in corporate governance requirements, information on the remuneration of the managing director appears usually in the Corporate Governance Report section of the Annual report.

There are a number of firms, which should with high certainty report the details on CEO remuneration in year 1998, but fail to do so. On the other hand, some companies that are not legally obliged to report the details do so, and are thus included in the sample. For most firms with information for the year 1998, the details were also available in most consecutive years. However, some had not included the details on gross remuneration in some consecutive reports. For a majority of missing values per firm in the dataset, the annual report was missing for this year. However, if the managing director changed within the financial year, this observation is not included in the data set as it was not possible to obtain the equivalent of a year's remuneration for the individual. The final

dataset arrived at is an unbalanced panel dataset including approximately the same number of firms for the years 1998 and 2002 and somewhat less for the other years (see table A1 below). Both service and manufacturing sector firms are included. The total gross remuneration reported in the annual report represents the total for the year ending in March, and due to regulatory reasons should entail the same components for each firm. In some cases, certain smaller elements are excluded. The figures on remuneration evidently abstract from unrecorded perquisites, not all of which are quantifiable. It is assumed that differences between such practices are not large between firms.

The data on board composition also comes from the annual reports. Every effort has been made to be consistent in the interpretation of information provided. In the majority of cases, the information on kinship is obtained from a footnote of the table mentioned in the previous paragraph as a source for remuneration. This states the family relationships between the managing director and board members. This information is not available for all years due to changes in reporting requirements, but it was generally possible to trace this information for all years on the basis of the names of board directors, as long as information on kinship was included for one, or more, years for the particular firm. In the relatively few cases, where this information was not available, I had to rely on surnames to infer a relationship. This is a less precise technique and can lead to some inconsistencies, but in most cases, the same family name appeared several times on the list of board of directors and the associations were relatively clear. Spouses are considered as family members. The same method was used to calculate the number of board members who were related, or belonged, to the same family as the managing director. Again surnames had to be relied upon if the relationship was not stated explicitly.

The information on promoters of the firm, that is required to determine CEO relation with founders, or controlling shareholders of the firm, is also obtained from the annual reports. In most cases, the information on whether someone is a promoter or not is available in the annual reports only after the change in reporting requirements (year 2002 for the majority of firms). It is then assumed that someone who is named a promoter was also one in the first years of the sample, which is reasonable. This status does not change for an individual. In those relatively few cases, where this information cannot be traced from the annual reports for instance due a change in the managing director or insufficient reporting, company websites or other web resources on Indian companies were used. There are a few CEOs, who are considered as members of the founding or controlling family or group, although this group would not represent initial founders. This is the case for instance due to a complete buy-out of a foreign

firm by an Indian one. Since the CEO will still be the promoter, or controlling shareholder, or related to one, such situations were considered equal from the perspective of the effect of kinship on pay as were cases, where reference is to the original founder. Information on promoters' shareholding is available in Prowess for the latest financial year.

The presence of a nominee director is assumed only if it is explicitly stated in the annual report, or can be inferred on the basis of surname for a particular year from one or more annual reports of the company. The report can be for a different year as long as the person remains the same. The information on non-executive directors is recorded along the same principles. Most of the annual reports contain this information in a separate section on corporate governance, as instructed by SEBI, since the year 2002/03. For earlier years, the information can be obtained from the page of the annual report that lists the members of the board of directors. Alongside the names, there is generally an indication of who is an executive, or non-executive, and who is a nominee, if there is such. If certain members are reported as executives, the rest are assumed to be non-executives, if more detail is not available. Despite changes in reporting requirements, the information for each company appeared to be consistent from year to year.

Although the dataset was constructed on the basis of information on gross remuneration and manager characteristics being available in 1998, the sample used in the regression analysis is smaller, since it includes only those firm-year observations for which it is known for certain whether commission was paid or not and if it was, the amount of commission paid. Prior to the reporting requirements specified in the SEBI code, information on commission paid was usually reported in a specific section devoted to schedules forming parts of company accounts, but non-reporting was more common as in the latter years of the sample. The descriptive statistics in annex 3 are based on the sample used in the regression analysis. Table A1 below shows the differences in the number of firms between the full sample and the sample used in the regressions.

Table A1 Number of firms in alternative samples

YEAR	FULL	FINAL
1998	329	272
1999	280	235
2000	253	229
2001	260	245
2002	326	309
2003	306	290
2004	276	265

Full = firms initially in sample, Final = all firms that have information on commission (included in regression models.)

Annex 2

Definitions of explanatory variables in regressions

Annual observations:

ROA = Profits before interest and taxes as a share of total assets (profit measure as available in Prowess).
MC = Valuation ratio, end of financial year average daily market capitalisation as a share of total assets. This information is available on a more frequent than annual basis. The value used here is as of end of March. However, if the information is not available, but can be obtained for either of the two previous quarters (September or December), such values are used instead to maximise the number of observations.
Debt ratio = Total borrowings as a share of total assets.
Ln(Sales) = logarithm of annual end of year sales

Founding family (FF) = A dummy variable for the CEO being a member or related to promoters/founders.
Relative = Dummy variable for a CEO relative or relatives on the Board of Directors.
Nominee director = Dummy for the presence of one or more government-owned bank, insurance company or mutual fund representative, or in a few cases state government representatives.
Share of relatives = Share of boards directors who are related to the CEO.
Ratio of non-executives = Ratio of non-executive directors on the Board of Directors.

In the case of the last two variables, the total number of board members includes the CEO. There are very few firms, where the CEO would not sit on the board. Nominee directors are also non-executives, and family members can also be such.

Foreign listing = Dummy variable for listing on a foreign stock exchange.

Total foreign equity = Percentage share of total foreign holdings out of total equity.
A total for foreign equity holding was obtained for years 1998 and 1999 from the Bombay Stock Exchange Official Directory for a limited sample of the firms. For the years 2000-2004, the data comes from Prowess and this share is the sum of shares held by foreign promoters, foreign institutional investors and

NRIs/OCBs as of end of March (financial year). As with market capitalisation, this information is available on a more frequent basis and if the information for March is not available, but can be obtained for either of the two previous quarters (September or December), these values are used instead to maximise the number of observations.

"Missing dummies" are included for the valuation ratio (MC) and total foreign equity. This involves using a dummy variable that takes the value of one, when the observation is missing and a zero otherwise. A zero is then inserted in the place of missing values for the actual variable. This raises the number of observations that can be used.

Corporate governance code = A binary (0 or 1) variable for whether the firm is required to implement the corporate governance code or not.

Chair = Dummy variable for whether the CEO is a chairman
Age = CEO age
Tenure = Years the CEO has spent in the firm
MS/PhD = Dummy variable for a Masters (or MBA, post-graduate diploma) and PhD degree.

Many directors = Dummy variable for the presence of more than one managing director.
Commission dummy = Dummy variable for whether the firm pays commission.

Available for the last year in the sample (varies by firm):

Shareholder > 10% = Dummy variable for whether CEO owns directly and as an individual more than 10% of equity in latest year in the sample.

Annex 3

Table 1 Distribution of firms by activity

	Sample	Prowess
Manufacturing	75.0	56.2
Services	22.7	41.3
Mining	2.7	2.6

Table 2a Size, and ownership of firms in the sample (in Rs. Million, 2004 prices)

Variable (1998-2004)	Mean	Min.	Max.	Obs.
Sales	4840	0.0	167000	1840
Market capitalisation	6570	5.2	726000	1697
Total assets	6450	24.6	441000	1840
Exports/sales (%)	15.4	0	125.6	1838
Equity ownership shares (%), 2000-2004				
Promoters	49.9	0.0	97.1	1263
Indian Promoters	45.0	0.0	97.1	1263
Foreign promoters and collaborators	4.9	0.0	92.0	1263
Non promoters	50.1	2.9	100.0	1263
Institutional	10.9	0.0	67.0	1263
Mutual funds and Units trusts	2.7	0.0	23.8	1263
Banks, FIs and insurance companies	5.9	0.0	50.0	1263
Foreign institutional investors	2.3	0.0	56.1	1263
Others	39.1	2.8	99.2	1263
Private corporate bodies	7.3	0.0	84.9	1263
Indian public	27.9	2.8	90.3	1263
NRIs/OCBs	3.0	0.0	50.2	1263
Any others	0.9	0.0	49.8	1263
Total foreign equity (1998-2004)	10.3	0.0	92.2	1338

Market capitalisation is the end of financial year daily average. Exports refer to the sum of foreign earnings from goods and services, FI = financial institution, NRI = non-resident Indian, OCB = Overseas corporate bodies owned mainly by Indians. The values in the table are averaged for all available observations for all years.

Table 2b Characteristics of listed firms in Prowess (in Rs. Million. 2004 prices)

Variable (1998-2004)	Mean	Min.	Max.	Obs.
Sales	3164	0	1599844	21832
Market capitalisation	2681	0	4600719	17727
Total assets	8143	0	1103264	21877
Exports/sales (%)	13.9	0	3320	20922
Equity ownership shares (%), 2000-2004	**Mean**	**Min.**	**Max.**	**Obs.**
Indian Promoters	45.3	0	100.0	12626
Private holdings	43.7	0	100.0	12626
Government holdings	1.6	0	99.7	12626
Foreign promoters and collaborators	4.2	0	96.8	12626
Non promoters	50.5	0	100.0	12626
Institutional	5.9	0	94.7	12626
Mutual funds and Units trusts	1.5	0	51.5	12626
Banks, FIs and insurance companies	3.6	0	94.3	12626
Foreign institutional investors	0.8	0	56.1	12626
Others	44.6	0	100.0	12626
Private corporate bodies	9.4	0	100.0	12626
Indian public	32.0	0	99.9	12626
NRIs/OCBs	2.4	0	75.8	12626

Table 3 Finance and other (ratios), 1998-2004

Variable	Mean	Std. Dev.	Min.	Max.	Obs.
ROA	0.09	0.10	-0.96	0.74	1840
Net ROA	0.03	0.10	-1.01	0.56	1840
MC	0.50	1.73	0.0	37.45	1693
Debt ratio	0.35	0.23	0.0	2.24	1840
Firm age since incorporation	31.6	21.1	0.0	108.0	1845

Net ROA = profits after tax (net profit) as a share of total assets. The values in the table are averaged for all available observations for all years.

Table 4 Managing Directors' Remuneration (Rs. 2004 prices)

Variable	Year	Mean	Median	Min.	Max.	Obs.
	1998					
Total remuneration (,000)		2177.2	1366.2	0	37600	326
Fixed pay (,000)		1535.0	1264.5	0	16900	326
Commission (,000)		642.2	0	0	36300	326
Commission as % of total pay		13.3	0	0	100	325
Commission/profit (%)		0.55	0	0	22.2	324
% of CEOs with commission		0.34				326
	1999					
Total remuneration (,000)		2512.1	1503.1	0	24500	277
Fixed pay (,000)		1681.2	1390.8	0	19000	277
Commission (,000)		830.2	0	0	21200	277
Commission as % of total pay		14.5	0	0	100	276
Commission/profit (%)		0.52	0	0	6.5	273
% of CEOs with commission		0.36				277
	2000					
Total remuneration (,000)		3420.3	1991.0	263.5	50200	265
Fixed pay (,000)		2234.3	1707.9	0	13500	265
Commission (,000)		1192.2	0	0	46100	265
Commission as % of total pay		16.8	0	0	100	265
Commission/profit (%)		0.60	0	0	6.7	264
% of CEOs with commission		0.35				265
	2001					
Total remuneration (,000)		4234.4	2195.3	0	84000	293
Fixed pay (,000)		2182.5	1740.8	0	16800	293
Commission (,000)		2051.9	0	0	81300	293
Commission as % of total pay		21.5	0	0	100	291
Commission/profit (%)		1.07	0	0	15.2	291
% of CEOs with commission		0.46				293
	2002					
Total remuneration (,000)		4205.4	2294.7	0	101000	369
Fixed pay (,000)		2529.1	1857.7	0	14100	369
Commission (,000)		1676.3	0	0	99500	369
Commission as % of total pay		18.2	0	0	100	368
Commission/profit (%)		0.84	0	0	12.4	365
% of CEOs with commission		0.42				369
	2003					
Total remuneration (,000)		4808.0	2736.6	312.0	120000	351
Fixed pay (,000)		2710.8	1935.3	0	14700	351
Commission (,000)		2097.0	0	0	115000	351
Commission as % of total pay		21.2	0	0	100	351
Commission/profit (%)		0.85	0	0	8.4	348
% of CEOs with commission		0.47				351
	2004					
Total remuneration (,000)		6432.8	3466.2	272.5	134000	320

Fixed pay (,000)	3090.1	2410.0	0	25800	320
Commission (,000)	3342.6	138	0	127000	320
Commission as % of total pay	25.6	6.9	0	100	320
Commission/profit (%)	1.06	0.1	0	13.3	315
% of CEOs with commission	0.51	1			320

Commission/profit excludes negative values and one outlier value for year 2004 and one for year 2001. The denominator equals profit after interest and tax plus commission. There are altogether five observations in the data, where the firm has reported that total remuneration equals zero. In four of these, the firm has negative profits. These observations are excluded from the regression analysis, since logarithmic form is used.

Table 5 Board of directors and CEO characteristics (1998-2004)

	Mean	**Std. Dev.**	**Min.**	**Max.**	**Obs.**
CEO-specific					
Age	52.8	10.0	25	84	2166
Years spent in firm (tenure)	16.3	10.2	1	54	2140
University education*	0.92	0.27	0	1	2199
MSc or Doctorate* (MS/PhD)	0.38	0.49	0	1	2201
Related to a board member* (relative)	0.60	0.49	0	1	2196
Founding family * (FF)	0.74	0.44	0	1	2201
Share of CEO relatives on board	0.15	0.16	0	0.86	2197
CEO Shareholding above 10 %*	0.16	0.37	0	1	2101
CEO shareholding (%)	9.72	10.5	1	80.1	1102
CEO Chairman*	0.28	0.45	0	1	2200
Firm-specific					
Nominee director or directors present*	0.39	0.49	0	1	1843
Ratio of non-executive directors	0.74	0.13	0	1	1839
Proportion of firms in sample required to comply with corporate governance code					
Year					
2001	0.11				
2002	0.77				
2003	0.96				
2004	0.96				

* = binary (dummy) variables

Table 6 Determinants of fixed and total pay (fixed effects)

	FF1	FF2	FI1	FF	FI
Dependent variable	**FIXED PAY (Ln)**			**TOTAL PAY (Ln)**	
PERFORMANCE					
ROA				1.35	1.38
				[0.186]***	[0.194]***
ROA (-1)	0.71	0.72	0.67	0.86	0.79
	[0.140]***	[0.140]***	[0.143]***	[0.203]***	[0.212]***
Ln(Sales)(-1)	0.14	0.14	0.13	0.18	0.17
	[0.026]***	[0.025]***	[0.027]***	[0.029]***	[0.032]***
MC (-1)	0.01	0.01	0.01	0.01	0.01
	[0.006]*	[0.006]*	[0.006]*	[0.010]	[0.012]
Debt ratio (-1)	-0.29	-0.29	-0.33	-0.35	-0.43
	[0.101]***	[0.101]***	[0.110]***	[0.130]***	[0.138]***
GOVERNANCE					
Relative	0.10		-0.06		-0.08
	[0.053]*		[0.092]		[0.092]
Relative*	0.08		0.21		0.41
shareholder>10%	[0.099]		[0.117]*		[0.138]***
Founding family		0.31		0.27	
(FF)		[0.084]***		[0.082]***	
FF*		0.07		0.26	
shareholder>10%		[0.137]		[0.151]*	
Total foreign	0.004	0.004	0.005	0.005	0.005
equity	[0.001]**	[0.001]**	[0.002]**	[0.001]***	[0.002]**
Foreign listing	-0.53	-0.55	-0.60	-0.35	-0.32
	[0.132]***	[0.137]***	[0.140]***	[0.249]	[0.291]
Corporate	0.07	0.06	0.09	0.14	0.13
Governance Code	[0.040]*	[0.039]	[0.041]**	[0.043]***	[0.043]***
Ratio of non-	-0.10	-0.10	-0.16	-0.13	-0.21
Executives	[0.123]	[0.122]	[0.126]	[0.127]	[0.131]
Nominee director	-0.03	-0.03	-0.04	-0.08	-0.09
	[0.038]	[0.038]	[0.039]	[0.037]**	[0.038]**
CEO					
MS/PhD	0.03	0.03		0.06	
	[0.041]	[0.041]		[0.042]	
Age	0.02	0.03		0.02	
	[0.017]	[0.016]**		[0.017]	
Age^2	-0.00	-0.00	-0.00	-0.00	0.00
	[0.000]	[0.000]*	[0.000]	[0.000]	[0.000]
Tenure	0.01	0.00	0.12	-0.00	0.09
	[0.007]	[0.007]	[0.028]***	[0.006]	[0.029]***
Tenure^2	-0.00	-0.00	-0.00	-0.00	-0.00
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]*
Chair	0.07	0.04	-0.05	0.07	0.03
	[0.040]*	[0.041]	[0.067]	[0.044]	[0.070]
Commission	-0.11	-0.10	-0.10		

dummy					
	[0.034]***	[0.033]***	[0.036]***		
Many directors	-0.10	-0.08	-0.05	-0.04	-0.01
	[0.057]*	[0.058]	[0.054]	[0.079]	[0.085]
Constant	13.18	12.68	8.31	13.10	11.73
	[0.482]***	[0.476]***	[0.899]***	[0.486]***	[0.472]***
Observations	1952	1957	1952	1964	1959
R^2 (within)	0.79	0.79	0.81	0.87	0.88
Number of firms	302	303		304	
Number of CEOs			411		412

*, **, *** = significant at 90%, 95% and 99% levels respectively. FF=firm and FI=individual fixed effects. The standard errors in brackets are corrected for heteroskedasticity and serial correlation in all models and all models include year dummies. The R^2 in the fixed effects models takes into account the estimated fixed effects. All models include a missing dummy for variables MC (valuation ratio) and total foreign equity. The regressions exclude CEO observations that correspond to the first year that the CEO is in post. The sample for total pay is the same as for fixed pay. Age drops out in FI1as it is co-linear with tenure.

Table 7 Coefficients of interest with alternative model specifications

	Fixed pay		Total pay	
	FF	**FI**	**FF**	**FI**
Share of relatives	0.2	-0.29	0.09	-0.15
	[0.199]	[0.269]	[0.196]	[0.249]
Share of relatives* shareholder > 10%	0.47	1.17	0.56	1.07
	[0.251]*	[0.400]***	[0.260]**	[0.446]**
Corporate governance code	0.07	0.09	0.10	0.09
	[0.046]	[0.045]**	[0.05]*	[0.052]*

*, **, *** = significant at 90%, 95% and 99% levels respectively. FF=firm and FI=individual fixed effects. The R^2 in the fixed effects models takes into account the estimated fixed effects. The standard errors in brackets are corrected for heteroskedasticity and serial correlation in all models and all models include year dummies. Corporate governance code refers to the coefficient in versions of models FF1 and FI1 in table 6 that include group trends and a general time trend and the sample is limited to firms that reported whether commission is paid or not every year. In this case, the individual-specific fixed effects model (FI1) excludes age and tenure, since they are co-linear with the each other and the general time trend. The coefficient on the share of relatives on the board would be significant (value 0.3) at the 90 percent level in FF (for fixed pay) if included alone without the interaction term. Conclusions on other variables remain unaffected if the share of relatives is used instead of the dummy variables on family connections.

Table 8 Probability of commission (fixed effects)

	LINEAR PROBABILITY		
	FF1	**FI1**	**FI2**
PERFORMANCE			
ROA	0.69	0.77	0.59
	[0.111]***	[0.116]***	[0.109]***
Ln(Sales)(-1)	0.03	0.03	0.04
	[0.018]	[0.019]	[0.019]**
Debt(-1)	-0.40	-0.41	-0.37
	[0.084]***	[0.088]***	[0.087]***
GOVERNANCE			
Relative	0.15	0.15	0.18
	[0.092]	[0.105]	[0.108]*
Relative*	0.03	0.04	0.05
Shareholder >10%	[0.043]	[0.066]	[0.069]
Foreign listing	-0.11	-0.15	-0.13
	[0.058]*	[0.044]***	[0.058]**
Total foreign equity	-0.002	-0.001	-0.001
	[0.001]	[0.001]	[0.001]
Corporate governance code	0.10	0.10	0.09
	[0.025]***	[0.026]***	[0.031]***
Ratio of non-executives	0.07	0.08	0.07
	[0.098]	[0.099]	[0.096]
Nominee director	-0.03	-0.06	-0.06
	[0.029]	[0.030]**	[0.030]**
CEO			
MS/PhD	0.01		
	[0.036]		
Age	-0.00		
	[0.013]		
Age^2	0.00	-0.00	
	[0.000]	[0.000]	
Tenure	-0.00	0.01	
	[0.006]	[0.023]	
Tenure^2	0.00	0.00	
	[0.000]	[0.000]	
Chair	-0.02	0.03	0.07
	[0.037]	[0.062]	[0.068]
OTHER			
Many directors	-0.04	-0.03	-0.02
	[0.042]	[0.050]	[0.054]
Constant	0.25	0.36	10.71
	[0.356]	[0.712]	[18.107]
Observations	1993	1993	1732
R^2	0.73	0.76	0.75
Year dummies	YES	YES	YES

Group trends			YES
Number of firms	303		
Number of CEOs		419	347
Standard errors	ROBUST	ROBUST	ROBUST

*, **, *** = significant at 90%, 95% and 99% levels respectively. FF = firm fixed effects, FI = individual fixed effects. The R^2 in the fixed effects models takes into account the estimated fixed effects. Model FI2 includes group trends and the sample is restricted to those firms that had information on whether commission was paid or not for all years. The model FI2 excludes age and tenure, since they are co-linear with each other and the time trend variable that is included as a robustness check. The standard errors in brackets are corrected for heteroskedasticity and serial correlation (ROBUST). Regressions include a missing dummy for total foreign equity. The models FF1 and FI1 include all CEO observations for which the level of commission is observed.

Table 9 Dependent variable: Share of profits paid as commission (%)

	FIXED EFFECTS			TOBIT RE(I)
PERFORMANCE	**FF**	**FI1**	**FI2**	**ME**
ROA	-1.10	-0.38	-0.14	1.50
	[0.709]	[0.413]	[0.316]	[0.327]***
Ln(Sales)	0.16	0.160	0.11	0.10
	[0.055]***	[0.061]***	[0.055]*	[0.032]***
Debt ratio	0.27	-0.04	-0.15	-1.34
	[0.378]	[0.299]	[0.272]	[0.181]***
GOVERNANCE				
Relative	0.54	0.61	0.55	0.26
	[0.218]**	[0.218]***	[0.213]***	[0.071]***
Total foreign equity	-0.004	-0.002	0.000	-0.004
	[0.003]	[0.003]	[0.003]	[0.002]
Foreign listing	-0.28	-0.46	-0.27	-0.44
	[0.189]	[0.166]***	[0.179]	[0.070]***
Corporate	0.14	0.20	0.11	0.24
Governance Code	[0.091]	[0.085]**	[0.095]	[0.118]**
Ratio of non-	1.12	1.13	0.79	0.59
executives	[0.354]***	[0.373]***	[0.361]**	[0.239]**
Nominee director	-0.22	-0.12	-0.10	-0.11
	[0.139]	[0.100]	[0.080]	[0.058]
CEO				
MS/PhD	0.20			0.20
	[0.179]			[0.081]**
Age	-0.04			0.01
	[0.058]			[0.028]
Age^2	0.00	0.00		-0.00
	[0.001]	[0.001]		[0.000]
Tenure	0.02	0.02		0.03
	[0.024]	[0.095]		[0.011]***
Tenure^2	-0.000	-0.002		-0.001
	[0.000]	[0.001]**		[0.000]***
Chair	-0.10	-0.05	-0.13	0.05
	[0.157]	[0.218]	[0.233]	[0.078]
OTHER				
Many directors	-0.18	-0.12	-0.18	0.08
	[0.224]	[0.263]	[0.292]	[0.078]
Constant	-2.66	-4.96	-66.17	
	[1.825]	[1.782]***	[65.904]	
Observations	2091	2091	1805	1676
R^2 (within)	0.60	0.67	0.69	
Log Likelihood				-1686
Year dummies	YES	YES	YES	YES
Group trends			YES	YES
Number of firms	313			
Number of CEOs		440	359	328

Standard errors	ROBUST	ROBUST	ROBUST

*,**,*** = significant at 90%, 95% and 99% levels respectively. FF = firm fixed effects, FI = individual fixed effects. The dependent variable is commission/(profit after interest and tax + commission) as a %. The standard errors in brackets are corrected for heteroskedasticity and serial correlation in the fixed effects models (ROBUST). The R^2 in the fixed effects models takes into account the estimated fixed effects. The regressions in columns FI2 and TOBIT RE(I) include group trends and the sample is restricted to firms that have reported whether they pay commission or not in each year of the sample. The column for the random effects Tobit (REI) shows the marginal effects (ME) for the unconditional expected value of the dependent. All regressions exclude in total thirteen observations, where either the dependent variable (share of profits) is negative or very high. In each model the dependent variables include values of zero, since the purpose is to capture situations, where insufficient profit leads to non-payment of commission. Model FI2 excludes age and tenure, since they are co-linear with each other and the time trend variable that is included as a robustness check. The regressions FF and FI1 include all CEO observations for which the dependent variable can be observed. Regressions include a missing dummy for total foreign equity.

Table 10 Correlation matrix for all observations (for variables in regressions)

Ln(Fixed pay)	1.00												
Ln(Total pay)	0.83	1.00											
Commission/ Profit	0.01	0.07											
Ln(sales)	0.54	0.57	1.00										
ROA	0.18	0.37	0.27	1.00									
MC	0.15	0.21	0.19	0.29	1.00								
Debt ratio	-0.12	-0.23	-0.06	-0.36	-0.23	1.00							
Relative	-0.18	-0.10	-0.09	0.01	-0.10	0.08	1.00						
Relative*CEO equity	-0.08	-0.05	-0.08	0.02	-0.02	0.00	0.32	1.00					
Founding family (FF)	-0.19	-0.07	-0.15	0.05	0.02	0.05	0.62	0.22	1.00				
FF*CEO equity	-0.07	0.00	-0.13	0.08	-0.01	-0.02	0.12	0.81	0.27	1.00			
Share of family members	-0.25	-0.18	-0.14	-0.02	-0.08	0.04	0.78	0.22	0.50	0.09	1.00		
Share of family members*CEO equity	-0.10	-0.06	-0.08	0.03	-0.01	-0.01	0.26	0.86	0.20	0.72	0.32	1.00	
Foreign equity	0.31	0.30	0.23	0.11	0.16	-0.17	-0.14	-0.03	-0.17	-0.05	-0.16	-0.05	1.00
Foreign listing	0.26	0.26	0.45	0.06	0.18	-0.06	-0.06	-0.02	-0.09	-0.05	-0.09	-0.03	0.15	1.00
Governance code	0.31	0.32	0.19	0.05	0.02	-0.06	-0.07	-0.04	-0.05	-0.03	-0.10	-0.06	0.18	0.12	1.00

Non-executives	0.08	0.02	0.05	0.02	-0.08	0.04	-0.21	-0.07	-0.31	-0.08	-0.28	-0.13	0.07	0.01	-0.03	1.00						
Nominee	0.07	0.00	0.25	-0.11	-0.07	0.32	-0.02	-0.09	-0.06	-0.08	-0.10	-0.11	-0.06	0.16	-0.03	0.16	1.00					
MSc/PhD	0.06	0.08	0.00	0.05	0.03	-0.05	-0.11	0.03	-0.10	0.07	-0.09	0.02	0.12	0.11	0.02	0.05	0.04	1.00				
Age	0.15	0.11	0.09	0.00	-0.01	-0.03	-0.14	-0.08	-0.21	-0.09	-0.11	-0.13	0.04	0.08	0.11	0.04	0.02	0.04	1.00			
Tenure	0.13	0.12	0.19	-0.03	0.03	-0.04	0.11	0.01	0.17	-0.01	0.09	-0.01	-0.01	0.20	0.14	-0.07	0.00	-0.05	0.40	1.00		
Chair	-0.02	0.05	-0.01	-0.03	0.05	0.01	0.09	0.03	0.34	0.12	0.01	-0.04	-0.10	-0.02	-0.03	-0.14	0.01	0.04	0.24	0.20	1.00	
Two directors	-0.02	0.02	0.11	0.03	0.04	0.00	0.20	0.00	0.19	-0.04	0.26	0.08	-0.04	0.03	0.03	-0.34	-0.02	-0.08	-0.01	0.20	-0.09	1.00
Commission dummy	0.14	0.48	0.27	0.38	0.11	-0.31	0.04	-0.02	0.07	0.02	0.02	-0.02	0.09	0.08	0.14	-0.03	-0.10	0.05	0.02	0.08	0.06	0.11	1.00

CEO equity = Shareholder > 10%.