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Ownership concentration and executive compensation in closely held firms: Evidence from Hong Kong

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Abstract

Controlling shareholders, who often manage the firms they control, can expropriate minority shareholders in many ways, which are usually referred to as "tunneling". One of these ways is for owners–managers to set the level of their own compensation. We test the relationship between ownership concentration and executive compensation, using panel data for a sample of 412 Hong Kong firms during 1995–1998. We find a positive relationship between managerial ownership and cash emoluments for levels of ownership of up to 35% in small and in family controlled firms, and for up to 10% in large firms. Our tests show that the observed relationships do not result from compensation serving as a proxy for managerial effort. We interpret these findings as suggesting that in the presence of information asymmetry between entrenched managers and outside investors the former may use their ownership rights to extract higher salaries for themselves. There is also weaker evidence that top executives with larger shareholdings may be using dividends as a way of supplementing their cash salaries.

JEL classification: G32; G34; G35
Keywords: Ownership structure; Executive compensation; Corporate governance; Tunneling

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1. Introduction

Firms with concentrated ownership may be subject to conflicts of interest between majority and minority shareholders. Controlling shareholders, who often manage the firms they control, can expropriate minority shareholders in many ways, which are usually referred to as "tunneling" (Johnson et al., 2000). In line with this literature, the focus of our paper is the extent to which ownership concentration affects executive compensation, since entrenched managers effectively decide on their own compensation. To this effect, we also examine the role of dividends as a form of executive compensation in firms with concentrated ownership.

Previous studies of executive compensation have mainly examined the elasticity between top executive pay and firm performance (for a survey, see Bushman and Smith, 2001). The few studies that have examined the relationship between ownership structure and executive compensation report conflicting findings (Chung and Pruitt, 1996; Goldberg and Idson, 1995). Similarly, earlier studies that examine the relationship between ownership concentration and dividend payouts also report conflicting findings, and view dividends as a mechanism for reducing agency costs by disgorging cash to outside investors (Schooley and Barney, 1994; Moh'd et al., 1995; Faccio et al., 2001; Fenn and Liang, 2001). In contrast to the academic literature, however, the financial press has viewed the payment of large dividends, most of which accrue to controlling shareholders, as potential expropriation in countries with weak investor protection.[1]

We analyse a sample of 412 publicly traded Hong Kong firms during the period 1995–1998. Hong Kong is an appropriate market for conducting our study because it combines an Asian family-controlled business environment characterized by high family ownership of listed corporations, with an Anglo-Saxon legal and corporate governance system. From a methodological perspective, we use an approach similar to Himmelberg et al. (1999), estimating fixed effects at the industry level.

We find a positive relationship between the cash emoluments received by the CEO and the Chairman and their respective shareholdings for levels of ownership of up to 35% in small firms and for up to 10% in large firms. Similarly, CEOs with no stock ownership receive lower cash compensation compared to CEOs who own shares. Family control appears to be associated with lower executive compensation when the CEO and the Chairman hold a small percentage of the firm's shares, and with higher executive compensation when they have significant shareholdings in the firm. Contrary to Chung and Pruitt (1996), the positive relationship between compensation and ownership does not result from a positive link between compensation, performance, managerial effort, and ownership, and is therefore consistent with the expropriation of outside investors by entrenched managers. With the exception of audit committees, board of directors composition does not affect executive compensation. We interpret our findings as suggesting that in the presence of information asymmetry between owners–managers and outside investors (which is more likely in small firms) the former may use their ownership rights to extract higher salaries for themselves.

[1] For example, see "Bait, switch, swallow, gulp: Russia's new business class still has some bad old habits", *The Economist*, Nov. 3rd, 2001, p. 75.

The relationship that we find between ownership concentration and cash compensation holds for relatively low levels of ownership because at higher levels the owners–managers receive substantial amounts of dividend income. In our sample, on average, the ratio of dividend income to cash emoluments is almost 4:1 for CEOs who do not hold the position of Chairman (4 dollars in dividends for every dollar received as cash emoluments), 14:1 for dual CEOs, and 18:1 for Chairmen who do not hold the position of CEO. Therefore, top managers with significant shareholdings may care more about their dividend income than their cash salary. In line with this conjecture, we find a positive relationship between dividend yield (or the likelihood that the firm pays a dividend) and CEO ownership in the 10% to 35% range in small firms. In contrast to previous studies, which attribute the positive relationship between dividend payouts and managerial ownership to the resolution of agency problems (e.g. Schooley and Barney, 1994; Faccio et al., 2001), our joint examination of dividend payouts and executive compensation suggests that owners–managers may be using dividends in order to top-up their cash compensation.

The paper is organized as follows. The next section discusses the literature on ownership structure and executive compensation. Section 3 describes the data and the variables. Section 4 examines empirically the relationship between executive compensation, managerial ownership, and dividend income. Section 5 concludes.

2. Ownership structure and executive compensation

The literature on corporate governance is extensive (for excellent surveys, see Shleifer and Vishny, 1997; Claessens and Fan, 2002; Denis and McConnell, 2003). Recently, attention has shifted to the prevalence of concentrated ownership structures around the world (La Porta et al., 1999), and particularly in Asia (Claessens et al., 2000). Firms with concentrated ownership may be subject to agency costs arising from conflicts of interest between majority and minority shareholders. These costs can influence stock market valuation in countries with poor investor protection (La Porta et al., 2002). This is because controlling shareholders may have opportunities for expropriating wealth from minority shareholders, through actions that are usually referred to as "tunneling" (Johnson et al., 2000).

An alternative avenue for potential expropriation of minority shareholders is through executive compensation, since owners–managers effectively set the level of their own compensation. Previous studies of executive compensation have mainly examined the elasticity between top executive pay and firm performance (for a survey, see Bushman and Smith, 2001). Two papers that have examined the relationship between ownership structure and executive compensation offer conflicting results. Chung and Pruitt (1996) recognise that the firm's Tobin's q, executive stock ownership and executive compensation are jointly determined, because stock ownership and compensation are both mechanisms by which executives are bonded in order to act in the best interests of the shareholders. They find a strong positive correlation between CEO ownership and Tobin's q (which supports the joint hypothesis that firms with higher levels of intangible assets require higher levels of managerial ownership as a bonding

mechanism, and at the same time firms with higher managerial ownership have higher market values), and a positive correlation between Tobin's q and executive compensation (which they interpret as showing that it is optimal for firms with more intangible assets to attract managers with more talent). In contrast, Goldberg and Idson (1995) find a negative relationship between executive compensation and ownership concentration (which they interpret as showing that concentrated ownership reduces agency costs of managerial discretion, since excessive executive compensation can be regarded as a manifestation of agency costs). The evidence, therefore, is not conclusive.[2]

On the other hand, studies that examine the relationship between dividend payouts and ownership concentration have not viewed dividends as a form of executive compensation but rather as a mechanism for reducing agency costs by disgorging cash to outside investors. They also do not offer conclusive evidence. Moh'd et al. (1995) and White (1996) find a negative monotonic relationship between the dividend payout ratio and the percentage ownership by insiders. Schooley and Barney (1994) find a negative relationship between CEO ownership and dividend yield for low levels of ownership and a positive relationship for higher levels of ownership. They interpret their findings by suggesting that at low levels of managerial ownership, managers' incentives are aligned with shareholders' interests through managerial ownership but shareholders demand higher payouts as management becomes entrenched. Similarly, Faccio et al. (2001) find higher payouts for Asian firms with controlling shareholders. On the other hand, Fenn and Liang (2001) do not find any relationship between managerial ownership and dividend yield. These papers assume that the observed phenomena represent an equilibrium where expropriation of minority shareholders does not take place because outside investors force entrenched owners–managers to disgorge cash. In contrast, La Porta et al. (2000) assume that expropriation may be present, and show that firms in countries where there is weak legal protection of minority shareholders (which they associate with civil law legal systems) pay lower dividends.[3]

In contrast to the academic literature, the financial press has viewed large dividend payouts by companies with concentrated ownership in countries with weak legal protection of outside investors as potential expropriation. For example, when the controlling shareholders of the Russian oil firm Sibneft sold and bought back their stake in the firm in 2001, the deal was criticized on corporate governance grounds because, among other things, "the shareholders bought back their stake just in time to collect a juicy

[2] Two additional papers examine the relationship between ownership concentration and stock-based executive compensation. Ryan and Wiggins (2001) find that as the CEO owns more stock his/her interests become more closely aligned with shareholders' interests and there is less need for incentive compensation. Toyne et al. (2000) find a non-linear relationship between ownership structure and the proportion of stock-performance-based managerial compensation.

[3] Eckbo and Verma (1994) suggest a tax explanation for the relationship between dividend policy and ownership structure. They show that in Canada dividend yield decreases monotonically with the voting power of owners–managers, who face a relative tax-penalty for cash dividends. Firms with a majority shareholder usually pay no cash dividends. In contrast to Canada, Hong Kong does not tax dividends. Short et al. (2002) also use a tax explanation when examining the relationship between dividend payouts and institutional ownership in the UK.

dividend of around $150 m—far more than the paltry $26 m the company says it made in the share shuffle".[4]

3. Data and variables

The focus of our paper is the extent to which ownership concentration affects executive compensation, since owners–managers effectively decide on their own compensation. In addition, we examine the role of dividends as a supplement of executive compensation in firms with concentrated ownership. All listed companies in Hong Kong were required to disclose information on directors' compensation in their annual reports (and to introduce at least two independent non-executive directors on their boards), from 31 December 1994, following the adoption of some recommendations of the Cadbury committee report on corporate governance in the UK (Cadbury, 1992). Our initial sample consisted of all companies listed on the Stock Exchange of Hong Kong during 1995–1998. After excluding firms with missing data, the final sample consists of a balanced panel of 412 firms (1648 firm-years), which represents approximately two-thirds of all firms listed on the exchange in 1998. All data were obtained from company annual reports, Company Analysis (provided by the Financial Times), the Pacific-Basin Capital Markets Research Centre (PACAP) database, and Datastream.[5]

Definitions of the variables appear in Table 1. Executive compensation is measured by the natural logarithm of the cash emoluments (salary, bonus, housing allowance and other benefits) received by the CEO and the Chairman. We also analyse the proportion of cash emoluments in the total compensation (where total compensation includes cash emoluments and dividend income derived from shareholdings), and the firm's dividend yield (dividend per share divided by share price). All figures are deflated to 1994 constant Hong Kong dollars. Stock options are not included in the analysis because information is generally unavailable. We discuss the potential impact of this omission on the results in the next section.

Our main independent variable, ownership concentration, is measured as the fraction of total company shares outstanding held by the CEO (CEO Ownership), the Chairman (Chairman Ownership) and the controlling family (Family Ownership). To the extent that there are family members or friends who hold shares that we are unable to trace, our variables may underestimate controlling shareholdings. Motivated by Morck et al. (1988),

[4] "Bait, switch, swallow, gulp: Russia's new business class still has some bad old habits", *The Economist*, Nov. 3rd, 2001, p. 75.

[5] The 412 firms in our sample are classified into 33 different industries. These industries are (with number of sample firms in parentheses): real estate (76), electronics and electrical goods (52), household goods and textiles (44), specialty and other finance (30), construction and building materials (28), leisure, entertainment and hotels (22), engineering and machinery (21), transport (18), distributors (18), general retailers (13), media (11), food producers and processors (11), banks (10), investment companies (10), chemicals (7), diversified industrials (5), packaging (5), restaurants, pubs and breweries (5), information technology hardware (4), telecommunications (4), electricity (3), beverages (3), steel and other metals (2), support services (1), insurance (1), software and computer services (1), aerospace and defence (1), automobiles (1), gas distribution (1), healthcare (1), personal care (1), pharmaceuticals (1), mining (1).

Table 1
Definitions of the variables used in the empirical analysis

Variable	Definition
Ln (CEO cash emoluments)	Natural logarithm of the cash emoluments received by the CEO, where cash emoluments include salary, bonus, housing allowance and other benefits, deflated to 1994 constant HK$
Ln (Chairman cash emoluments)	Natural logarithm of the cash emoluments received by the Chairman, where cash emoluments include salary, bonus, housing allowance and other benefits, deflated to 1994 constant HK$
Dividend income	Income derived from the director's shareholding in the firm (number of shares held multiplied by dividend per share)
Total compensation	Cash emoluments plus dividend income
CEO (or Chairman) Ownership	Ownership fraction of the CEO (or Chairman)
No CEO (or Chairman) Ownership	Dummy variable indicating that the ownership fraction of the CEO (or Chairman) is zero
CEO (or Chairman) Ownership [0.00, 0.10]	Ownership (if Ownership$<$0.10), or 0.10 (if Ownership$\geq$0.10)
CEO (or Chairman) Ownership (0.10, 0.35]	0 (if Ownership$<$0.10), or Ownership$-$0.10 (if 0.10$\leq$Ownership$<$0.35), or 0.25 (if Ownership$\geq$0.35)
CEO (or Chairman) Ownership (0.35, 1.00)	0 (if Ownership$<$0.35), or Ownership$-$0.35 (if Ownership$\geq$0.35)
Family Ownership$>$30%	Dummy variable indicating that there exists a family owning more than 30% of the firm's outstanding shares
Family Ownership$>$50%	Dummy variable indicating that there exists a family owning more than 50% of the firm's outstanding shares
CEO duality	Dummy variable equal to one when the CEO also serves as Chairman of the board of directors
Ln (number of directors)	Natural logarithm of the number of directors on the board
% Independent non-executive directors	Fraction of independent non-executive directors on the board
Audit committee	Dummy variable equal to one if an audit committee exists on the board
Market-to-book	Market value of equity divided by book value of equity
ROA	Net income divided by total assets
Debt-to-assets	Long-term debt divided by total assets
Sales growth	Annual change in sales (turnover)
Ln (total assets)	Natural logarithm of the firm's deflated total assets
Dividend yield	Dividend per share divided by share price

we estimate mainly a piecewise linear specification which includes three linear terms, for ownership in the 0% to 10% range, in the 10% to 35% range, and over 35%. For comparison purposes, we also estimate a linear and a quadratic specification (McConnell and Servaes, 1990).[6]

Our regressions include two sets of control variables. The first set comprises firm characteristics, i.e. return on assets (ROA; net profit divided by total assets), market-to-

[6] Our choice of cut-off ownership levels in the piecewise linear specification is motivated by characteristics of the Hong Kong market, namely the minimum ownership level that necessitates disclosure of substantial shareholdings (10%), and the level that triggers a mandatory general offer (35%)—although firms regularly obtain a waiver from the latter requirement. In analysis not reported, we have also used cut-offs at 10%, 35%, and 50%; and we have replicated all tables by using the 5% and 25% cut-off points employed by Morck et al. (1988). Our results are unchanged when we use different cut-offs.

book ratio (market value of equity divided by book value of equity), debt-to-assets ratio (long-term debt divided by total assets), annual sales growth, and the natural logarithm of the firm's deflated total assets. The market-to-book ratio is likely to capture the proportion of unrecorded intangible assets in addition to being a proxy for firm performance. Our second set of control variables includes proxies for corporate governance, i.e. CEO duality (dummy variable equal to one when the CEO is also Chairman of the board of directors), the natural logarithm of the number of directors on the board, the fraction of independent non-executive directors on the board, and the presence of an audit committee (dummy variable equal to one if such a committee exists).

We recognize the possibility that unobserved exogenous firm characteristics may affect both executive compensation and ownership concentration. Therefore, following Himmelberg et al. (1999), we report regressions after estimating industry fixed effects and include year dummy variables. All reported p-values are based on White (1980) heteroskedasticity consistent standard errors.[7]

Descriptive statistics about the sample and the distribution of the variables used in the analysis (mean and different percentiles) are reported in Table 2. The median firm in the sample has total assets of HK$1.2 billion,[8] debt-to-assets ratio of 5.5%,[9] market-to-book of 0.8, and ROA of 3.2%. The median CEO ownership is 11%, and the median Chairman ownership 30%. There are no outliers with extreme values. The apparently low minimum values for the market-to-book ratio are not unusual for Hong Kong, especially for the period following the East Asian financial crisis of 1997, when stock valuations were depressed. Approximately one fifth of the firms listed in the stock exchange have ownership that can be traced to mainland China (H-shares and Red chips), and these firms tend to trade at low valuations, possibly because they are considered as firms with higher risk of expropriation of minority shareholders. However, we have also replicated our

[7] Himmelberg et al. (1999) have shown that in specifications like the ones we are estimating, correlations may be driven by unobservable firm characteristics (such as the potential for agency costs). Therefore, they suggest the estimation of firm fixed effects. We have re-estimated all regressions without fixed effects, and after including firm fixed effects. When pooling observations we obtain results that are in the same direction but more significant than the ones reported in the tables. When estimating firm fixed effects our results are generally weaker than the ones reported here. This is likely due to the small within-firm variation in ownership over time, which is smaller in our sample compared to the one reported for the U.S. by Zhou (2001). Concentrated shareholdings appear stable over time. In our Hong Kong sample the distribution of within-firm, year-to-year absolute percentage changes in CEO ownership is the following (with Zhou's figures for the U.S. in parentheses): 71% of the sample (compared to 47% in Zhou's sample) show changes in the [0, 10%] range, 8% of the sample (15%) show changes in the [10%, 20%] range, 6% of the sample (16%) in the [20%, 45%] range, 4% (9%) in the [45%, 80%] range, and 12% of the sample (12%) shows changes over 80%. Therefore, a large proportion of Hong Kong firms shows very little variation in ownership over time. For Chairman ownership this effect is even more pronounced, as 74% of the Hong Kong sample shows absolute percentage changes in Chairman ownership smaller than 10%.

[8] The Hong Kong dollar has been pegged to the U.S. dollar at the rate of HK$7.8=US$1 since 1983.

[9] Low debt levels are a characteristic of the Hong Kong market. Hong Kong firms rely primarily on internally generated funds for their investment needs and consequently have low debt levels. In the absence of an active bond market most debt is long-term and borrowed from banks. However, we do not observe close relationships between corporations and banks (in contrast to other Asian countries, such as Japan and South Korea). Four of the major Hong Kong conglomerates with widely diversified business operations had debt-to-assets ratios of 29% (Hutchison Whampoa), 13% (Swire Pacific), 3% (Wharf Holdings), and zero (Jardine Matheson Holdings) in 1995.

Table 2
Summary statistics for the sample of Hong Kong firms (1995–1998)

	Mean	Percentiles						
		1%	5%	25%	50%	75%	95%	99%
Total assets (HK$ billion)	7.7	0.1	0.2	0.5	1.2	3.5	33.4	116.4
Debt-to-assets ratio (%)	9.1	0.0	0.0	0.7	5.5	14.3	29.1	46.5
Sales growth (%)	23.0	−75.5	−49.6	−13.3	6.6	26.0	117.2	410.7
Market-to-book ratio	1.4	0.1	0.2	0.5	0.8	1.5	3.8	9.3
ROA (%)	0.0	−73.3	−23.4	0.0	3.2	7.2	19.0	31.3
CEO Ownership (%)	22.9	0.0	0.0	0.0	11.0	46.5	68.4	75.9
Chairman Ownership (%)	29.5	0.0	0.0	0.1	30.0	51.9	69.3	75.0
Directors (number)	9.0	5.0	5.0	7.0	9.0	11.0	16.0	19.0
Independent non-executive directors (%)	31.4	10.2	14.3	22.2	28.6	40.0	57.1	75.0
CEO cash emoluments (HK$ million)	3.6	0.2	0.4	1.2	2.4	4.2	10.6	22.4
Chairman cash emoluments (HK$ million)	2.9	0.0	0.4	0.9	1.7	3.6	8.9	19.2

The table shows descriptive statistics for ownership concentration, board of directors, and other firm characteristics for a sample of 412 publicly traded Hong Kong firms during 1995–1998. Variable definitions appear in Table 1. Monetary figures are deflated to constant 1994 HK$ using the retail price index (Hong Kong's currency is pegged to the US$ at the rate of HK$7.8=US$1).

analysis after deleting the lowest 5% of observations in terms of sales growth, market-to-book or ROA. Our results on the relationship between compensation and ownership structure are not affected. Therefore, in the remaining analysis we use all available observations.

The boards of Hong Kong firms have 9 directors on average. Following the publication of the Cadbury committee report on corporate governance in the UK (Cadbury, 1992), the listing rules of the exchange stipulated the mandatory introduction of at least two independent non-executive directors on all boards from 1995. The mean proportion of independent non-executive directors is 31% (less than 3 directors on average). This percentage does not vary by ownership structure or year. Audit, remuneration and nomination committees are not common. The listing rules of the exchange included guidelines for the recommended introduction of audit committees in 1998. Only 2% of the companies in our sample had audit committees in 1995, and 6% had audit committees in 1998. Remuneration and nomination committees are not mandatory. Only four companies in our sample have remuneration committees.

Additional information on ownership concentration is reported in Table 3. The majority of firms in the sample are closely held: more than 50% of the firms have a CEO or

Table 3
Distribution of CEO, Chairman, and family ownership in Hong Kong (1995–1998)

	CEO	Chairman	Family
Ownership [0.00, 0.10] firm-years (percent of sample)	815 (49.5%)	589 (35.7%)	402 (24.4%)
Ownership (0.10, 0.35] firm-years (percent of sample)	261 (15.8%)	304 (18.4%)	322 (19.5%)
Ownership (0.35, 1.00) firm-years (percent of sample)	572 (34.7%)	755 (45.8%)	924 (56.1%)

The table shows the shareholdings of the CEO, the Chairman of the board, and the main family for a sample of 412 Hong Kong firms during 1995–1998. Variable definitions appear in Table 1.

Table 4
Annual compensation of CEOs and Chairmen of the board in Hong Kong (1995–1998)

	Year 1995	Year 1996	Year 1997	Year 1998
A. Chief executive officer (non-Chairman)				
Cash emoluments (mean)	3.4	3.5	4.1	3.6
Dividend income (mean)	11.2	8.5	12.1	19.2
Total (mean)	14.6	11.9	16.2	22.9
B. Dual chief executive officer (Chairman/CEO)				
Cash emoluments (mean)	3.2	3.4	3.4	4.0
Dividend income (mean)	52.7	55.5	45.9	41.3
Total (mean)	55.9	58.8	49.3	45.3
C. Chairman (non-CEO)				
Cash emoluments (mean)	2.2	2.1	2.7	2.4
Dividend income (mean)	39.5	37.2	44.1	46.3
Total (mean)	41.7	39.3	46.7	48.7

The table shows average compensation of chief executive officers, and Chairmen of the board, for a sample of 412 publicly traded Hong Kong firms during 1995–1998. Variable definitions appear in Table 1. All figures are in HK$ millions (Hong Kong's currency is pegged to the US$ at the rate of HK$7.8 = US$1), and are deflated to constant 1994 HK$ using the retail price index.

Chairman controlling at least 10% of voting rights (the minimum ownership cut-off considered as indicative of concentrated ownership by La Porta et al. (1999) and Claessens et al. (2000)), and 76% of the firms have a family controlling at least 10% of voting rights. In statistics not reported in the table, in 52% of all family-controlled firms there is CEO duality, i.e. the CEO is also Chairman of the board of directors (76% of firms with dual CEOs are family-controlled firms).

Descriptive statistics on executive compensation are reported in Table 4. The average CEO who was not simultaneously Chairman received annually approximately HK$3.7 million in the form of cash emoluments and almost HK$13 million as dividend income (in constant 1994 HK$). The average dual CEO (holding the positions of CEO and Chairman) received a smaller cash salary (HK$3.5 million) but higher dividend income (HK$49 million). The average Chairman who was not CEO received an even smaller cash salary (close to HK$2.4 million) and similar dividend income (HK$42 million). On average, the ratio of dividend income to cash emoluments was almost 4:1 for CEOs who did not hold the position of Chairman (4 dollars received in dividends for every dollar received as cash emoluments), 14:1 for dual CEOs, and 18:1 for Chairmen who did not hold the position of CEO. Therefore, top managers with significant shareholdings may care more about their dividend income than their cash salary.[10]

Table 5 reports correlations between the variables. As expected, the highest positive correlations are those between the different managerial compensation variables with each other, the different ownership variables with each other, compensation and firm size, ownership levels and dividend income, CEO duality and ownership levels. Moderately

[10] Disclosure of stock-option information is limited. An analysis of stock options for a sub-sample of firms with enough data to price these options using the Black–Scholes formula (not reported in the tables), indicated that the value of these awards did not constitute a significant proportion of total executive compensation.

Table 5
Correlations between the variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Ln (CEO cash emoluments)	1.00	0.09	0.86	0.12	0.40	0.07	−0.02	0.03	0.04	0.02	0.00	0.00	−0.08	0.18	−0.04	0.04
(2) Ln (CEO dividend income)		1.00	0.20	0.61	0.10	0.09	−0.02	0.05	0.14	0.70	0.39	0.39	0.28	0.03	0.03	−0.15
(3) Ln (Chairman cash emoluments)			1.00	0.13	0.31	0.07	−0.02	0.01	0.02	0.11	0.04	0.01	0.14	0.12	−0.02	−0.05
(4) Ln (Chairman dividend income)				1.00	0.24	0.07	0.00	0.16	0.21	0.33	0.62	0.50	−0.01	0.07	0.00	−0.07
(5) Ln (total assets)					1.00	0.26	0.01	−0.05	0.17	−0.15	−0.15	−0.13	−0.10	0.35	−0.04	0.19
(6) Debt-to-assets ratio						1.00	0.05	−0.01	−0.03	−0.02	−0.04	−0.03	−0.05	0.08	−0.04	−0.02
(7) Sales growth							1.00	0.00	0.04	0.00	0.02	0.00	0.01	0.01	−0.01	0.00
(8) Market-to-book ratio								1.00	0.02	−0.05	0.03	0.02	−0.07	0.03	−0.02	−0.01
(9) ROA ratio									1.00	0.04	0.07	0.06	−0.01	0.02	−0.01	0.02
(10) CEO Ownership										1.00	0.67	0.63	0.32	−0.16	0.10	−0.11
(11) Chairman Ownership											1.00	0.81	0.08	−0.21	0.10	−0.13
(12) Family Ownership												1.00	0.01	−0.13	0.05	−0.11
(13) CEO duality													1.00	−0.18	0.10	−0.07
(14) Ln (number of directors)														1.00	−0.36	0.10
(15) % Independent non-executive directors															1.00	0.04
(16) Audit committee																1.00

The table reports correlations of the variables used in the multivariate analysis for a sample of 412 Hong Kong firms during 1995–1998. Variable definitions appear in Table 1.

high correlations are observed between firm size and number of executive directors on the board (0.35), firm size and debt-to-assets ratio (0.26), market-to-book (or ROA) and managerial compensation. There are negative correlations between the number of directors on the board and ownership levels (from −0.13 to −0.21), and between the presence of an audit committee and managerial compensation or ownership.[11]

4. Ownership concentration and managerial cash emoluments

In this section we report our multivariate analysis of the relationship between managerial ownership and cash compensation (Section 4.1), and discuss the impact of family control on the results (Section 4.2). We also test whether our results may be attributed to compensation potentially serving as a proxy for managerial effort (Section 4.3). Finally, we analyze the relationship between ownership structure, cash compensation, and dividend income (Section 4.4).

4.1. CEO and Chairman cash emoluments

We report results of regressions of CEO and Chairman cash emoluments on CEO and Chairman ownership concentration after controlling for firm performance and corporate governance characteristics. Table 6 reports results for a linear specification (as a benchmark) and a quadratic specification in CEO and Chairman ownership. The results for the linear specification are not statistically significant, and the results for the quadratic specification indicate that the relationship is non-linear. The coefficients of the linear ownership term are positive, and those of the squared term negative (statistically significant at the 1% level for both the CEO and Chairman cash emoluments).

For our main analysis we rely on a piecewise linear specification, reported in Table 7, as more informative. We provide results for the whole sample but we also rank firms based on stock market capitalization, divide the sample in three equal groups, and report results for the sub-samples of firms with the smallest and the largest stock market capitalization (results for the remaining firms fall between the two extremes, and are not reported for brevity).

[11] Interestingly, there is no correlation between ROA and market-to-book ratio. This lack of correlation between earnings and market value is in line with previously reported evidence and is possibly due to the low informativeness of reported accounting earnings for stock returns. Fan and Wong (2002) have shown that the informativeness of earnings for stock returns is negatively related to controlling shareholder ownership in South East Asian countries. Controlling shareholders may manipulate earnings in order to expropriate or conceal expropriation (alternatively, they possess proprietary information about their firms that they may not wish to disclose to competitors and reporting opaque financial statements may be a way to safeguard this information). In a related study, Liu and Lu (2003) provide evidence of earnings management in Chinese companies with controlling shareholders (they find that accruals are positively correlated with the shareholdings of the largest shareholders and top executives). To check further the validity of these claims, in results not reported in the tables, we have regressed firm market value on earnings and book value of equity. Even allowing for different slope coefficients for positive and negative earnings, we find no relationship between earnings and market value in our sample (for the theoretical and empirical background behind our approach see Ohlson, 1995; Collins et al., 1997, 1999).

Table 6
Regressions of CEO and Chairman cash emoluments on managerial ownership

Dependent variable	Ln (CEO cash emoluments)		Ln (Chairman cash emoluments)	
Estimation method	Linear specification	Quadratic specification	Linear specification	Quadratic specification
CEO (or Chairman) Ownership	−0.074 (0.57)	1.233 (0.01)***	0.025 (0.86)	2.048 (0.00)***
CEO (or Chairman) Ownership Squared		−1.919 (0.00)***		−2.862 (0.00)***
No CEO (or Chairman) Ownership	−0.357 (0.00)***	−0.270 (0.00)***	−0.325 (0.00)***	−0.134 (0.18)
CEO duality	−0.121 (0.02)**	−0.148 (0.01)***	0.425 (0.00)***	0.426 (0.00)***
Ln (number of directors)	0.186 (0.06)*	0.179 (0.07)*	0.194 (0.06)*	0.193 (0.06)*
% Independent non-executive directors	0.235 (0.30)	0.215 (0.34)	0.203 (0.42)	0.190 (0.44)
Audit committee	−0.211 (0.03)**	−0.224 (0.02)**	−0.591 (0.00)***	−0.602 (0.00)***
Ln (total assets)	0.358 (0.00)***	0.367 (0.00)***	0.343 (0.00)***	0.357 (0.00)***
Debt-to-assets	0.245 (0.30)	0.239 (0.31)	0.490 (0.05)**	0.503 (0.04)**
Sales growth	−0.004 (0.80)	−0.003 (0.87)	−0.003 (0.88)	−0.001 (0.94)
Market-to-book	0.026 (0.01)***	0.026 (0.01)***	0.022 (0.00)***	0.022 (0.00)***
ROA	−0.173 (0.06)*	−0.166 (0.08)*	−0.185 (0.06)*	−0.188 (0.06)*
No. of observations	1629	1629	1627	1627
Adjusted R^2	0.35	0.36	0.32	0.33

The table reports results of regressions of CEO and Chairman cash emoluments for a sample of 412 Hong Kong firms during 1995–1998 on CEO and Chairman ownership, after controlling for firm performance and corporate governance variables for a linear, and a quadratic specification respectively. Variable definitions appear in Table 1. All regressions include an intercept, year dummy variables and industry fixed effects (not reported). Adjusted R^2 reflects the inclusion of fixed effects. Reported p-values in parentheses are based on White (1980) heteroskedasticity consistent standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level respectively.

For the whole sample, there is a positive relationship between ownership and cash emoluments for ownership of up to 35%, although the result is statistically significant only for Chairman ownership in the zero to 10% range. For ownership over 35% there is a negative and highly statistically significant relationship between ownership and compensation for both CEO and Chairman. The analysis of the sub-samples supports the conjecture that the positive relationship between managerial ownership and managerial cash compensation may be the result of agency costs or managerial entrenchment. We observe that, in small firms, this positive relationship is statistically significant for higher levels of ownership, namely for managerial ownership of up to 35%. Small firms are likely to be characterized by more information asymmetry between owners–managers and outside investors, since they are followed by fewer analysts compared to large firms. In contrast, in large firms the positive relationship holds only for ownership of up to 10%.[12]

In addition, in line with our main conjecture, there is also evidence that CEOs with no stock ownership receive lower cash compensation. The coefficient of the dummy variable

[12] Similar (but slightly weaker) results are obtained in regressions of the cash emoluments received by the remaining executive directors and other senior managers (who are not directors but are among the five highest-paid employees of the company) on total family-ownership levels (these results are not reported in tables).

Table 7
Regressions of CEO and Chairman cash emoluments on managerial ownership using piece-wise linear specifications

Dependent variable	Ln (CEO cash emoluments)			Ln (Chairman cash emoluments)		
Sample	All firms	Small market cap firms	Large market cap firms	All firms	Small market cap firms	Large market cap firms
CEO (or Chairman) Ownership [0.00, 0.10]	1.185 (0.33)	0.477 (0.82)	6.791 (0.01)***	2.927 (0.06)*	5.792 (0.07)*	7.487 (0.00)***
CEO (or Chairman) Ownership (0.10, 0.35]	0.514 (0.23)	1.599 (0.02)**	−3.476 (0.00)***	0.670 (0.17)	1.316 (0.08)*	−2.707 (0.03)**
CEO (or Chairman) Ownership (0.35, 1.00)	−0.889 (0.01)***	−2.139 (0.00)***	0.677 (0.22)	−1.048 (0.00)***	−1.765 (0.00)***	0.053 (0.93)
No CEO (or Chairman) Ownership	−0.269 (0.00)***	−0.201 (0.24)	−0.279 (0.03)**	−0.099 (0.40)	0.305 (0.28)	−0.081 (0.61)
CEO duality	−0.147 (0.01)***	−0.092 (0.27)	−0.305 (0.00)***	0.427 (0.00)***	0.400 (0.00)***	0.352 (0.00)***
Ln (number of directors)	0.175 (0.07)*	0.151 (0.38)	−0.029 (0.86)	0.182 (0.08)*	0.095 (0.59)	0.087 (0.62)
% Independent non-executive directors	0.204 (0.37)	−0.158 (0.69)	0.064 (0.84)	0.177 (0.48)	−0.685 (0.10)*	0.253 (0.52)
Audit committee	−0.223 (0.02)**	−0.493 (0.03)**	−0.110 (0.38)	−0.597 (0.00)***	−0.351 (0.15)	−0.500 (0.08)*
Ln (total assets)	0.367 (0.00)***	0.458 (0.00)***	0.295 (0.00)***	0.360 (0.00)***	0.471 (0.00)***	0.296 (0.00)***
Debt-to-assets	0.241 (0.31)	−0.860 (0.02)**	1.898 (0.00)***	0.524 (0.04)**	−0.664 (0.07)*	2.296 (0.00)***
Sales growth	−0.003 (0.86)	−0.014 (0.28)	0.062 (0.20)	−0.002 (0.93)	−0.024 (0.01)***	0.094 (0.05)**
Market-to-book	0.027 (0.01)***	0.022 (0.42)	0.033 (0.00)***	0.022 (0.00)***	0.016 (0.48)	0.028 (0.00)***
ROA	−0.166 (0.08)*	−0.297 (0.00)***	1.119 (0.01)***	−0.187 (0.06)*	−0.337 (0.00)***	1.312 (0.00)***
No. of observations	1629	535	549	1627	535	548
Adjusted R^2	0.35	0.24	0.39	0.33	0.31	0.34

The table reports results of regressions of CEO and Chairman cash emoluments for a sample of 412 Hong Kong firms during 1995–1998 on CEO and Chairman ownership, after controlling for firm performance and corporate governance variables. Sample firms are also ranked based on stock market capitalization and divided in three equal sub-samples. The table reports results for the sub-sample of firms with the smallest and the largest stock market capitalization. Variable definitions appear in Table 1. All regressions include an intercept, year dummy variables and industry fixed effects (not reported). Adjusted R^2 reflects the inclusion of fixed effects. Reported p-values in parentheses are based on White (1980) heteroskedasticity consistent standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level respectively.

indicating zero CEO ownership is negative and statistically significant for the whole sample and for the sub-sample of large firms.

Overall, these findings suggest that entrenched managers may be using their ownership rights to extract higher salaries for themselves—especially in the presence of information asymmetry between managers and outside investors, which is more likely in small firms. These results are the opposite of those in Goldberg and Idson (1995) but are in line with Chung and Pruitt (1996), who also find a positive relationship between managerial ownership and executive compensation. However, in contrast to the latter study, as we will show in Section 4.3, the relationship that we document does not result from a positive link between managerial ownership and performance.

CEO duality is negatively related to CEO cash emoluments and positively related to Chairman cash emoluments in most specifications (most coefficients statistically significant at the 1% level). The results are in line with the evidence reported in Table 4, namely that dual CEOs receive lower cash compensation compared to CEOs who do not hold the position of Chairman, and higher cash compensation compared to Chairmen who do not hold the position of CEO.

Board of directors variables do not appear significant in explaining top management cash compensation, with the exception of audit committees, whose presence is negatively related to the cash compensation of the CEO and the Chairman in four specifications. In analysis not reported in tables, we included interaction terms between ownership and board of directors variables, using the quadratic specification in order to economize on degrees of freedom. The coefficients of the interaction between executive ownership and the percentage of independent non-executive directors were not statistically significant and changed signs in different specifications. However, the coefficients of the interaction between the audit committee dummy variable and executive ownership were all negative, and mostly statistically significant. These results are supportive of the conjecture that the presence of an audit committee is associated with lower executive compensation. However, audit committees were not mandatory during the period under study, and this finding may also be the result of self-selection bias.[13]

With respect to the remaining control variables, firm size is positively related to managerial compensation. Market-to-book and ROA are positively related to managerial compensation for large firms. In contrast, ROA is negatively related to managerial compensation for small firms. The interpretation of this result is not clear. As suggested earlier (see footnote 11), accounting earnings may have low informativeness for firm performance in small firms because of earnings management. In unreported robustness tests, the coefficient of ROA is not significant after deleting the 5% of observations with the lowest ROA values. The remaining results are not affected.

In unreported logit regressions, estimated in a sub-sample of firms with available information on stock options, we found that the likelihood of granting options to the CEO was not related to the fraction of the CEO's stock ownership. The likelihood of granting options to the Chairman was negatively related to the fraction of Chairman stock

[13] In results not reported in the tables, the presence of a remuneration committee was also associated with a statistically significant negative coefficient. However, there are only four such firms in our sample.

ownership (statistically significant at the 10% level). This result is in line with Ryan and Wiggins (2001), who find a negative relationship between the proportion of stock options in managerial compensation and CEO stock ownership. It is consistent with the conjecture that as top managers own more stock, their interests become more closely aligned with those of the shareholders, and there is less need for incentive compensation.

4.2. The impact of family ownership

In this sub-section, we examine whether family ownership affects managerial compensation. Family ownership is highly correlated with CEO and Chairman ownership (correlation coefficients 0.63 and 0.81 respectively in Table 5). When we re-estimate the regressions reported so far by replacing CEO and Chairman ownership with family ownership, the results are qualitatively similar (not reported in tables). An alternative approach is to examine whether family control changes the sensitivity of executive compensation to managerial ownership by including interaction terms between family control and managerial ownership.

Table 8 reports results of regressions of CEO and Chairman cash emoluments on ownership after including interactive terms with dummy variables indicating that a family controls over 30% and over 50% of voting rights. For brevity, we report results for the whole sample only. The coefficients of the interactions between family control and CEO or Chairman ownership of up to 10% are all negative. When the top executives own less that 10% of the firm's stock and there is a controlling family owning more than 30 or 50%, then there is a negative relationship between executive cash compensation and executive ownership. In contrast, the coefficient of the interaction between executive ownership in the 10% to 35% range and family control is positive and highly statistically significant in all specifications. Therefore, family control appears to be associated with lower executive compensation when the CEO and the Chairman hold a small percentage of the firm's shares, and with higher executive compensation when they have significant shareholdings in the firm.

4.3. Sensitivity tests: executive compensation and the unobservability of managerial effort

If firms that grant stock to their managers have better performance (because these managers are offered better incentives and they may provide more effort) and there is a link between compensation and performance, then the positive relationship between managerial ownership and executive compensation that we observe may be the result of compensation proxying for managerial effort. In addition, firms with potentially significant agency problems (e.g. high levels of unrecorded intangible assets) will have high market-to-book ratios and may use managerial stock ownership and higher compensation in order to align managerial incentives with the interests of the shareholders (Himmelberg et al., 1999). All our specifications so far include the market-to-book ratio as independent variable. In this sub-section we perform two additional tests in order to examine whether our results may be attributed to the unobservability of managerial effort or to a positive relationship between intangible assets and managerial ownership.

Table 8
Regressions of CEO and Chairman cash emoluments controlling for family ownership

Dependent variable	Ln (CEO cash emoluments)		Ln (Chairman cash emoluments)	
Main explanatory variable	Family ownership>30%	Family ownership>50%	Family ownership>30%	Family ownership>50%
CEO (or Chairman) Ownership [0.00, 0.10]	5.157 (0.00)***	2.790 (0.04)**	5.211 (0.00)***	4.029 (0.01)***
CEO (or Chairman) Ownership (0.10, 0.35]	−2.132 (0.03)**	−0.649 (0.24)	−1.154 (0.25)	−0.454 (0.43)
CEO (or Chairman) Ownership (0.35, 1.00)	0.959 (0.58)	2.068 (0.05)**	−1.678 (0.19)	1.729 (0.14)
CEO (or Chairman) Ownership [0.00, 0.10] * Family Ownership>30% (or >50%)	−9.045 (0.00)***	−6.103 (0.01)***	−7.541** (0.02)	−4.369 (0.22)
CEO (or Chairman) Ownership (0.10, 0.35] * Family Ownership>30% (or >50%)	4.553 (0.00)***	2.847 (0.01)***	4.385*** (0.00)	3.607 (0.02)**
CEO (or Chairman) Ownership (0.35, 1.00) * Family Ownership>30% (or >50%)	−2.027 (0.24)	−3.195 (0.00)***	0.484 (0.71)	−3.305 (0.01)***
Family Ownership>30% (or >50%)	0.150 (0.07)*	0.105 (0.24)	−0.092 (0.41)	−0.172 (0.16)
No CEO (or Chairman) Ownership	−0.247 (0.00)***	−0.260 (0.00)***	−0.097 (0.41)	−0.082 (0.49)
CEO duality	−0.162 (0.00)***	−0.149 (0.00)***	0.408 (0.00)***	0.420 (0.00)***
Ln (number of directors)	0.151 (0.12)	0.170 (0.08)*	0.168 (0.10)*	0.197 (0.06)*
% Independent non-executive directors	0.206 (0.36)	0.247 (0.27)	0.150 (0.55)	0.206 (0.41)
Audit committee	−0.179 (0.06)*	−0.187 (0.05)**	−0.583 (0.00)***	−0.613 (0.00)***
Ln (total assets)	0.371 (0.00)***	0.365 (0.00)***	0.363 (0.00)***	0.358 (0.00)***
Debt-to-assets	0.268 (0.25)	0.258 (0.27)	0.541 (0.03)**	0.525 (0.04)**
Sales growth	−0.001 (0.95)	−0.001 (0.95)	−0.002 (0.89)	−0.001 (0.94)
Market-to-book	0.027 (0.01)***	0.026 (0.01)***	0.022 (0.00)***	0.023 (0.00)***
ROA	−0.154 (0.10)*	−0.170 (0.07)*	−0.177 (0.08)*	−0.182 (0.07)*
No. of observations	1629	1629	1627	1627
Adjusted R^2	0.36	0.36	0.33	0.33

The table reports results of regressions of CEO and Chairman cash emoluments for a sample of 412 Hong Kong firms during 1995–1998 on CEO and Chairman ownership, after controlling for family control, firm performance, and corporate governance variables. Variable definitions appear in Table 1. All regressions include an intercept, year dummy variables and industry fixed effects (not reported). Adjusted R^2 reflects the inclusion of fixed effects. Reported p-values in parentheses are based on White (1980) heteroskedasticity consistent standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level respectively.

Table 9
Regressions of market-to-book ratio on managerial ownership

Main explanatory variable	CEO ownership	Chairman ownership
CEO (or Chairman) Ownership [0.00, 0.10]	−6.385 (0.04)**	−0.033 (0.99)
CEO (or Chairman) Ownership (0.10, 0.35]	1.487 (0.28)	2.245 (0.23)
CEO (or Chairman) Ownership (0.35, 1.00)	1.431 (0.02)**	0.788 (0.67)
No CEO (or Chairman) Ownership	0.789 (0.00)***	1.178 (0.00)***
CEO duality	−0.429 (0.02)**	−0.403 (0.03)**
Ln (number of directors)	0.422 (0.11)	0.491 (0.05)**
% Independent non-executive directors	−0.156 (0.78)	−0.225 (0.69)
Audit committee	0.067 (0.77)	0.158 (0.51)
Ln (total assets)	−0.191 (0.08)*	−0.159 (0.14)
Debt-to-assets	−0.290 (0.69)	−0.229 (0.74)
Sales growth	−0.005 (0.87)	−0.011 (0.76)
No. of observations	1647	1647
Adjusted R^2	0.02	0.02

The table reports results of regressions of market-to-book ratio for a sample of 412 Hong Kong firms during 1995–1998 on CEO and Chairman ownership, after controlling for corporate governance variables. Variable definitions appear in Table 1. All regressions include an intercept, year dummy variables and industry fixed effects (not reported). Adjusted R^2 reflects the inclusion of fixed effects. Reported p-values in parentheses are based on White (1980) heteroskedasticity consistent standard errors. ***, **, * denote statistical significance at the 1%, 5%, and 10% level respectively.

First, we regress directly the market-to-book ratio on managerial ownership. In Table 9 we find a negative relationship between market-to-book and CEO or Chairman ownership of up to 10% (which is statistically significant at the 5% level in the CEO regression). This is the range of ownership mostly associated with higher executive compensation. In addition, the dummy variable indicating zero ownership by the CEO (or Chairman) is positive and statistically significant at the 1% level. The same variable had a negative coefficient for executive compensation. We also note that CEO duality, which is more likely in family-controlled firms, is negatively related with market-to-book (statistically significant at better than the 3% level). The results of the regression estimated separately in the sub-samples of small and large firms (not reported here) show the same patterns. Similarly, in results not reported in tables, there is no significant relationship between market-to-book and family ownership. Therefore, the relationship between executive compensation and ownership that we observe in our data is the opposite of that between market-to-book and ownership. It is also particularly interesting that the relationship between market-to-book and managerial ownership appears to be different from what has been found in many U.S. studies (Morck et al., 1988; McConnell and Servaes, 1990; Hermalin and Weisbach, 1991).[14]

Second, we examine the sensitivity of compensation to performance as a function of managerial ownership by including interaction terms between ownership and performance (market-to-book or ROA) in the regressions of cash emoluments. A positive coefficient for

[14] In addition to market-to-book, alternative proxies for the degree of agency problems within the firm are R&D or advertising expenses. Generally, intangible assets, R&D and advertising expenses are not significant in Hong Kong. The median market-to-book ratio in the sample was only 0.8 (see Table 2). As reported in footnote 5, the vast majority of firms in our sample operate in industries with little intangible assets and limited R&D.

the interaction term would be consistent with higher managerial compensation being the result of higher effort (in contrast, a negative coefficient would show that managers receive higher cash emoluments irrespective of performance). For brevity, we do not report these results in tables. We find that the interaction terms are either not statistically significant or have negative signs that are consistent with managerial entrenchment and expropriation (i.e. high compensation irrespective of performance). We find similar results when estimating the regressions in the sub-samples of small and large firms separately. Again, these results are not consistent with the conjecture that the relationship between compensation and ownership that we observe may be attributed to a link between managerial effort, firm performance, and executive compensation.

Overall, our results in this section show a positive relationship between CEO (or Chairman) ownership of up to 10% of the company's stock and the cash salaries they receive. In small firms–which are characterized by more information asymmetry between insiders and outside investors–and in family controlled firms this relationship can be observed for ownership levels of up to 35%. The observed relationships do not result from a link between managerial ownership, managerial effort, performance, and compensation. In contrast to the results obtained by Chung and Pruitt (1996) for the U.S., we find that firms with moderate managerial ownership do not have better performance in Hong Kong. We interpret our findings as suggesting that entrenched managers and/or owners–managers may be using their control rights in order to extract higher salaries for themselves from the companies they own and manage.

4.4. Ownership concentration and managerial dividend income

Earlier, we conjectured that top managers may complement their compensation with dividend income from their shareholdings, which may exceed significantly their cash emoluments. To examine this hypothesis, we analyze the relationship between ownership structure and dividend policy in Table 10. First, we regress the proportion of cash emoluments in total executive compensation (where total compensation includes cash emoluments plus dividend income) on executive ownership. We find a negative and highly statistically significant relationship between the cash emoluments as a percentage of total compensation and CEO or Chairman stock ownership. As expected, the higher the CEO's or the Chairman's stockholdings the lower their cash emoluments as a proportion of total compensation. In un-reported specifications, this finding also holds in the sub-samples of small and large firms.

Second, logit models of the likelihood that a firm pays a dividend show a positive relationship between this likelihood and CEO ownership in the 10% to 35% range (coefficient 2.271, p-value 0.09) or Chairman ownership over 35% (coefficient 1.226, p-value 0.13). The effect is more pronounced for small firms (not reported). When estimating logit models of the likelihood of a firm paying a dividend and having negative earnings at the same time (which would be even more consistent with expropriation), there is a negative relationship between the likelihood of paying a dividend and CEO ownership up to 10%, and a positive relationship between the likelihood of paying a dividend and CEO ownership in the 10% to 35% range for the whole sample as well as for the sub-sample of small market capitalization firms (not reported).

Table 10
Regressions of CEO and Chairman cash emoluments and dividend income

Dependent variable	Cash emoluments as a percentage of total compensation (OLS)		Likelihood of firm paying dividend (Logit)		Dividend yield (OLS)			
Main explanatory variable	CEO ownership	Chairman ownership	CEO ownership	Chairman ownership	CEO ownership		Chairman ownership	
Sample	All firms	All firms	All firms	All firms	Small market cap firms	Large market cap firms	Small market cap firms	Large market cap firms
CEO (or Chairman) Ownership [0.00, 0.10]	−4.209 (0.00)***	−5.405 (0.00)***	−3.930 (0.24)	2.313 (0.56)	−0.159 (0.12)	−0.090 (0.41)	−0.020 (0.85)	0.115 (0.22)
CEO (or Chairman) Ownership (0.10, 0.35]	−0.206 (0.17)	−0.065 (0.66)	2.271 (0.09)*	−0.319 (0.82)	0.088 (0.04)**	0.058 (0.34)	0.054 (0.27)	−0.010 (0.85)
CEO (or Chairman) Ownership (0.35, 1.00)	−0.608 (0.00)***	−0.550 (0.00)***	0.110 (0.90)	1.226 (0.13)	−0.040 (0.19)	−0.017 (0.65)	0.003 (0.91)	−0.000 (0.99)
No CEO (or Chairman) Ownership	0.025 (0.06)*	−0.001 (0.63)	0.044 (0.85)	−0.103 (0.73)	0.010 (0.24)	−0.008 (0.20)	0.017 (0.02)**	−0.004 (0.49)
CEO duality	−0.022 (0.09)*	0.024 (0.10)*	0.052 (0.73)	0.111 (0.44)	0.002 (0.68)	−0.001 (0.73)	0.003 (0.53)	−0.001 (0.83)
Ln (number of directors)	0.020 (0.39)	0.035 (0.17)	−0.219 (0.41)	−0.135 (0.61)	−0.003 (0.82)	0.002 (0.74)	0.001 (0.95)	0.002 (0.75)
% Independent non-executive directors	0.058 (0.22)	0.076 (0.18)	0.768 (0.22)	0.883 (0.16)	0.050 (0.17)	−0.015 (0.27)	0.055 (0.14)	−0.016 (0.26)
Audit committee	0.038 (0.16)	−0.031 (0.47)	0.197 (0.74)	0.200 (0.73)	0.003 (0.76)	−0.010 (0.06)	−0.002 (0.88)	−0.008 (0.12)
Ln (total assets)	−0.060 (0.00)***	−0.079 (0.00)***	0.914 (0.00)***	0.939 (0.00)***	0.004 (0.30)	−0.000 (0.91)	0.005 (0.22)	0.000 (0.88)
Debt-to-assets	−0.013 (0.83)	0.018 (0.79)	0.556 (0.43)	0.764 (0.28)	0.016 (0.46)	0.003 (0.90)	0.019 (0.39)	0.005 (0.85)
Sales growth	0.008 (0.20)	0.014 (0.00)***	−0.073 (0.09)*	−0.085 (0.06)*	−0.002 (0.00)***	−0.006 (0.15)	−0.002 (0.00)***	−0.006 (0.14)
Market-to-book	−0.003 (0.02)**	−0.002 (0.32)	−0.014 (0.40)	−0.016 (0.33)	−0.003 (0.03)**	0.000 (0.79)	−0.003 (0.03)**	0.000 (0.93)
ROA	−0.170 (0.01)***	−0.203 (0.00)***	2.677 (0.00)***	2.591 (0.00)***	0.016 (0.11)	0.196 (0.07)*	0.015 (0.15)	0.194 (0.07)*
No. of observations	1630	1628	1647	1647	548	549	548	549
Adjusted R^2	0.59	0.57	0.22	0.23	0.05	0.16	0.05	0.16

The table reports results of ordinary least squares regressions of CEO and Chairman cash emoluments as a percentage of total compensation and of dividend yield, and logit estimates of the likelihood of paying a dividend on ownership structure for a sample of 412 Hong Kong firms during 1995–1998. Variable definitions appear in Table 1. All ordinary least squares regressions include an intercept, year dummy variables and industry fixed effects (not reported). Adjusted R^2 reflects the inclusion of fixed effects. Reported p-values in parentheses are based on White (1980) heteroskedasticity consistent standard errors. McFadden R^2 is reported for the logit models. ***, **, * denote statistical significance at the 1%, 5%, and 10% level respectively.

Finally, we regress dividend yield on executive ownership in the sub-samples of small and large firms. For small firms there is a positive and statistically significant relationship between dividend yield and CEO ownership in the 10% to 35% range. However, the relationship is not statistically significant in the zero to 10% range. There is also no relationship between dividend yield and ownership concentration for large firms. Similarly, there is no relationship when the explanatory variable is Chairman ownership.[15]

Although relatively weak and not conclusive, the results reported in this section are in line with the conjecture that CEOs may regard cash compensation and dividend income as substitutes. Schooley and Barney (1994) also find a negative relationship between CEO ownership and dividend yield for low levels of ownership, and a positive relationship for higher levels of ownership. Faccio et al. (2001) find that Asian firms with a shareholder holding more than 20% of voting rights pay higher dividends. They interpret the results as showing that shareholders demand higher payouts because management is entrenched. However, the results of these studies are also consistent with an alternative interpretation, whereby controlling shareholders who are also managers, particularly in small firms, may be paying higher dividends in order to complement their cash compensation.

5. Conclusions

This paper examines the relationship between ownership structure and managerial compensation using a sample of 412 publicly traded Hong Kong companies during 1995–1998. We are interested in the extent to which entrenched managers and owners–managers are able to pay themselves higher salaries when managing the firms they control. In addition, we examine the role of dividends as a form of managerial compensation in firms with concentrated ownership.

For levels of managerial ownership of up to 35%, we find a positive relationship between the cash emoluments received by the CEO or the Chairman and their respective shareholdings. In small firms and in family controlled firms this relationship holds for ownership of up to 35%, whereas in large firms for up to 10%. Assuming that size is positively related to information disclosure, our results imply that the smaller the firm the more likely it is for owners–managers to use their ownership rights to extract higher cash salaries for themselves. This relationship is observed mainly at low levels of ownership because owners–managers receive most of their income in the form of dividends. To this effect, we also find a positive relationship between dividend yield and higher levels of CEO ownership.

Our results differ from previous studies in three important respects. First, the positive relationship between executive compensation and managerial ownership that we observe in our sample does not result from a positive link between compensation, performance, managerial effort, and ownership as in Chung and Pruitt (1996), and is therefore consistent with expropriation of outside investors. Second, we provide evidence that a

[15] In analysis not reported in tables we found no statistically significant relationship between dividend payout (dividends divided by net income) and managerial ownership. These regressions use only a smaller sub-sample of observations with positive net income.

positive relationship between dividend payouts and high managerial ownership may not necessarily result from the resolution of agency problems as assumed by Schooley and Barney (1994) and Faccio et al. (2001). Instead, owners–managers may be using dividend income to supplement their cash salaries. And third, in contrast to the earlier literature (Morck et al., 1988; McConnell and Servaes, 1990; Hermalin and Weisbach, 1991)–but in line with the results reported by Himmelberg et al. (1999)–we find no relationship between managerial ownership and the market-to-book ratio after estimating industry fixed effects.

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