TOP EXECUTIVE COMPENSATION UNDER ALTERNATE OWNERSHIP AND GOVERNANCE STRUCTURES

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ABSTRACT

This paper presents evidence on how executive compensation depends on the structure of firm control. We utilize a sample of over 400 firms listed on the Tel Aviv Stock Exchange to examine a wide range of ownership structures. They range from firms with disperse ownership to majority owned firms whose ownerships are further classified into: controlled by a single family, a few partners, or another business concern. A main result is that the pay is higher and the pay to performance relation is stronger in organizational structures that delegates greater decision making discretion to their top executives. The managerial discretion effect appears to dominate the competing alignment and monitoring considerations. Furthermore, we do not find support to the hypothesis that owner-managers draw excessive compensation.

Extant finance literature frequently assumes that the principal business organizational form is a large corporation with diffuse owners. It operates in an environment with an active market for corporate control and a liquid and efficient capital market. The executives of these firms own few shares and face competition from a well functioning external managerial labor market.

This characterization may be appropriate for most firms in established economies such as the United States and United Kingdom, and possibly to a much lesser extent in Japan and Germany. The dominant control structure in the rest of the world, however, is based on majority holdings by families, business groups, or partnerships/joint ventures of families and business groups. Furthermore, the CEOs of these non-diverse ownership firms often own a very substantial share of the company.

The purpose of this paper is to investigate how firms with different ownership and organizational structures and thus, different monitoring and governance structures, differ in their compensation contracts for top executives. The topic is of theoretical and practical interests. The greater variety of available firm types examined here will enable more robust tests of current executive compensation theories. Furthermore, practical issues associated with family and business group's dominated firms can also be addressed.

The paper is organized as follows: Section I presents general hypotheses on executive compensation, and discusses their implications for a variety of organizational structures. Sections II and III describe the data, variables, and empirical models used in the analyses. Sections IV and V report the results, and Section VI concludes.

I. EXPLAINING DIFFERENCES IN EXECUTIVE COMPENSATION AMONG FIRMS WITH DIFFERENT ORGANIZATIONAL STRUCTURES

In many economies, the dominant owners of firms are entrepreneurs, families, and business groups which are in turn controlled by one or several partners. Over time, a rich variety of organizational structures evolve (see Figure 1). Among the majority owned firms, the dominant owners could be individuals (family or partnerships of individuals), or other firms (concerns), owning solely or jointly with others. Within a firm owned by a family or partnership of individuals, the top executive may be an owner, or a professional "outside" manager.
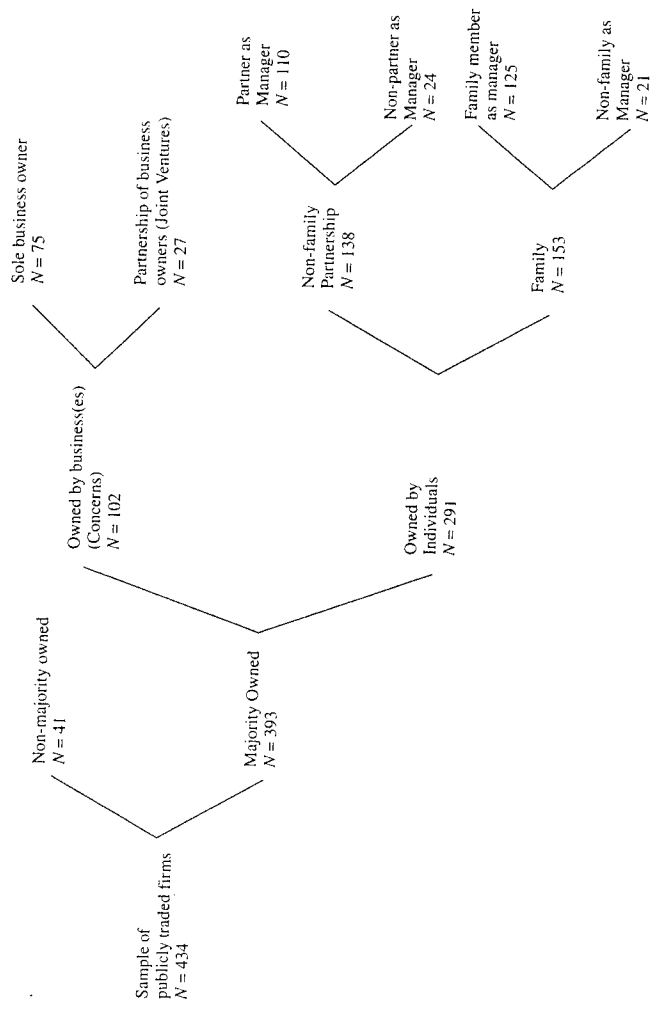
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Sample of
publicly traded firms
N = 434

Non-majority owned
N = 41

Owned by business(es)
(Concerns)
N = 102

Sole business owner
N = 75

Partnership of business
owners (Joint Ventures)
N = 27

Majority Owned
N = 393

Owned by
Individuals
N = 291

Non-family
Partnership
N = 138

Partner as
Manager
N = 110

Non-partner as
Manager
N = 24

Family
N = 153

Family member
as manager
N = 125

Non-family as
Manager
N = 21

Figure 1. A classification of the sample of publicly traded Israeli firms by ownership structure. The sample of 434 firms are classified into a 2 (majority versus non-majority) × 2 (business concerns versus individual owners) × 4 (sole versus partnership of business concerns; non-family versus family) × 4 (non-family, partner versus non-partner as manager; Family, owner versus non-owner as managers) hierarchical tree of ownership structure. *N* indicates the number of firms in a particular classification.

Monitoring and incentive alignment mechanisms, as alternate control and governance systems, vary across these organizational structures. Consequently, executive pay could depend on the ownership structure that is, the proportion of shares owned by various interest groups such as the family, partners, banks, and even the CEOs themselves. In the following, four general hypotheses on executive compensation are derived to test predictions about the effect of organizational structures on executive compensation. Table 1 summarizes the predictions at the end of this section.

A. The Degree of Managerial Discretion

Some firms find it optimal to grant their managers greater discretion (Smith & Watt, 1992). In such firms, the key role played by the CEO should translate directly into his or her pay contract. CEO's pay level and pay to performance sensitivity are expected to be high, making these executives' compensation a function of the quality and consequences of their decisions.

We utilize the insight that the extent of managerial discretion varies across various paired organizational types to test the relevance of the managerial discretion hypothesis. For instance, top executives are generally expected to have more discretion when they have or represent large ownership. Another conjecture, which is more relevant among non-owner managers, is that top executives have more discretion when they are jointly supervised by several owners. Monitoring may be inadequate, because of the free-rider problem in joint supervision.

We design a series of tests involving sets of parallel "dichotomous" organizational structures. The managerial discretion hypothesis predicts, among ownership structures, higher pay levels and pay performance sensitivities is to be observed in the following comparisons in (see Table 1): majority firms (when compared to non-majority firms); individuals' controlled firms (versus concern-controlled firms); joint ventures (versus sole subsidiary of a business concern); family firms (versus partnership of individuals controlled firms); and owner managers (versus outside professional managers).

To complete the analysis, we also include a few broader measures of managerial discretion. Executives are expected to have more discretion when they hold both the CEO and the Chairman of the Board positions (duality). They may also have more discretion to make decisions when the firm: (a) has more investment opportunities, (b) operates in more

Table 1. Predictions on CEO Pay Level and Pay-Performance Sensitivity

The Table summarizes the predictions of four compensation theories on the relative pay and pay-performance sensitivity of CEOs in six dichotomous groupings of firm types. Firm types differ from each other in governance structure, and the groupings are made along the lines drawn in Figure 1. A positive (negative) sign below indicates that the corresponding firm type is predicted to have a higher (lower) pay level or pay to performance sensitivity relative to the other firm type. A zero indicates the theory has no prediction with respect to this pay variable.

Pairs of Organizational Structures	Degree of Managerial Discretion		Alignment of Interests		Monitoring Effectiveness		CEO's Ability to Influence Own Pay/Board	
	Level	Sensitivity	Level	Sensitivity	Level	Sensitivity	Level	Sensitivity
1. All Firms Divided Into								
a. Majority Firms	+	+	0	+	0	–	+	–
b. Non-majority Firms								
2. Majority Owned Firms Divided Into								
a. Individuals' Controlled Firms	+	+	0	+	0	–	+	–
b. Concerns Controlled Firms								
3. Concern Controlled Firms Divided Into								
a. Firms Controlled by One Concern	+	+	0	0	0	–	+	–
b. Joint Venture Firms								
4. Individuals' Controlled Firms Divided Into								
a. Family Firms	+	+	0	+	0	–	+	–
b. Non Family Partnership Firms								
5. Family Owned Firms Divided Into								
a. Family Member as Managers	+	+	0	+	0	–	+	–
b. Professional Managers								
6. Partners Owned Firms Divided Into								
a. Partners as Managers	+	+	0	+	0	–	+	–
b. Professional Managers								

Table 1

risky environments, and (c) uses less debt. We will also take into account that some top executives, when given greater discretion, may pursue their self interests and reduce firm value.

B. Alignment of Interests

According to the agency theory of Jensen and Meckling (1976), increases in the manager's ownership in the firm would reduce agency costs owners/managers due to greater alignment of manager's interest with that of the shareholder. For example, the interests of family owners/managers are aligned with their shareholders in two ways. The first is their large percentage ownership, and the second is the undiversified nature of their ownership (a major portion of the owner/family's wealth is tied up in the firm). This appears to be a credible bonding mechanism.

In comparison, professional managers are from outside the control group, and are hired for their specialized ability. Their superior professional knowledge may create asymmetric information between them and the owners. As monitor, non-managing owners may lack the technical know-how or financial sophistication to fully understand the operation. Direct monitoring may thus be less effective, which makes alignment via incentive contract a more viable alternative.

The alignment hypothesis postulates that executives owning fewer shares be given a pay contract that is more performance sensitive. Therefore, we expect higher pay to performance sensitivity in compensation contract for executives in the following comparisons (see Table 1): non majority owned firms (relative to majority firms); concern-controlled firms (relative to individuals' controlled firms); partnership of individuals (relative to family controlled firms); and outside managers (relative to owner managers).

C. Monitoring Effectiveness

There are alternate mechanisms to incentive alignment, such as monitoring and bonding. Bonding consists of actions committed to mitigate agency problems, for example, reducing firm's free cash flows via dividend distributions. Other forms of bonding tie the manager's long term compensations and benefits to his or her tenure related performance in the firm.

Direct monitoring of the managers' actions is more effective when there exist large outside blockholders, non-managing members of the controlling family, and non-managing partners. In some economies there

is also a large monitoring role for banks and other financial institutions. For example the Israeli authority requires large mutual funds to attend shareholders' meetings and make their vote public. It is an explicit recognition of the funds' monitoring role (Baker, Jensen, & Murphy, 1988).

The monitoring hypothesis predicts that firms with effective monitoring reduce the need for incentive alignment. Gordon (1994), Triachal and Gallinger (1994), and Goch, Liaw, and Moy (1995) present empirical evidence on the substitutability of alignment and monitoring. Specifically, more effective monitoring could lead to lower pay to performance sensitivity. Thus, we predict lower pay-performance sensitivities in the following organizational types (see Table 1): (1) majority firms vis-à-vis non-majority firms; (2) individuals' controlled firms vis-à-vis concern controlled; (3) independent subsidiaries of concerns vis-à-vis joint ventures of concerns (monitoring by several parties is less effective due to the duplication of monitoring costs and the incentive to free ride); (4) partnership owned firms vis-à-vis family owned firms; and (5) family or partnership controlled firms with outside professional managers vis-à-vis owner-manager firms. In addition, firms with large outside block-holders, of shares and debtholders, may be better monitored and thus depend less on pay incentives.

D. CEO's Influence on Pay

Thus far, we consider only value maximizing rationales for executive compensation. In practice, the CEOs' power and leverage on the Board of Directors could also affect his or her compensation. To capture CEO's power vis-à-vis the Board's, we use the following proxies: (1) the proportion of shares under the CEO's control, directly or indirectly (family and foundation), relative to (2) the proportion of shares owned by independent board members; (3) shares owned by outside large blockholders; (4) the dispersion of shares (Fama & Jensen, 1983); and (5) the effectiveness of other means of external monitoring such as outside debtholders and regulatory agencies. A CEO's concern for reputation, and the presence of external mechanisms such as regulations to protect minority shareholders' rights may mitigate somewhat the extent of excessive compensation.

We hypothesize an influential own utility maximizing CEO would demand a compensation contract with a high pay level but with a relatively low pay to performance sensitivity. Accordingly, such contract

of higher compensation and lower performance sensitivity are predicted in the following organizational types reflecting the relative bargaining power of the CEOs (see Table 1): (a) majority-controlled firms versus non-majority firms; (b) individuals' controlled versus concern-controlled firms; (c) joint ventures (with many monitors) versus subsidiaries (with a single monitor); (d) family controlled firms versus partners' controlled; and (e) owner-manager firms versus professional manager firms.

II. DATA

This study utilizes a large sample of firms listed on the Tel-Aviv Stock Exchange (TASE) at the end of 1994. The choice of Israeli data is due not only from its availability but more importantly, their reliability to be explained below. The great variety of organizational structures observed among Israeli firms makes Israeli data an ideal laboratory setting for our hypotheses testing.

Listed Israeli firms are required to disclose compensation information on the company reports under Section 123a of the Company Ordinance Law, and Section 64 of the Securities Regulations. However, it was not until 1993, under the Arrangement of Financial Statements of the Securities Regulations, that the reported compensation data are consistent across firms started. Thus, for comparability, we rely on post 1993 compensation data.

We omitted firms that did not report compensation data on time or in the right format. The judgment as to the accuracy of the compensation statements was made by the experts at the Israel Security Authority (the Securities and Exchange Commission of Israel) where one of the coauthors is the Chief Economist. The 434 companies included in this study represent 67 percent of the firms whose stocks are listed on the Tel Aviv Stock Exchange. In terms of market capitalization, they represent over 80 percent of the total.

Reported executive compensations include: salary, bonuses, certain benefits such as pensions, car and car expenses, and personal loans. Personal expenses such as meals and vacations (which are not reported) and options (which are relatively rare) are omitted. Only 60 out of the 434 firms in the sample are found to mention options, and of these only 23 firms reported the terms of the options.

Most of the financial and compensation data are collected from company reports. In addition, stock price and number of shares data are from the Israel Securities Authority (ISA) data base. Information on the

control structure of the firms is collected from various sources such as "Holdings of Interested Parties" issued by the Israel Securities Authority (ISA), the "Meitav Stock Guide," and "Globes Stock Exchange Year-book." In some cases ownerships, involving mainly family holdings, are disguised as holdings of foreign or other domestic companies (about 15% of the sample). The control structure identification also relies on the intimate knowledge of consultants and experts from the industry. Thus, many of the crucial variables are closer to being primary and more reliable than from secondary sources.

A taxonomy of various firm types is summarized in the hierarchical organizational tree of Figure 1. Only about 10 percent of the firms are not over 50 percent controlled by a small group of interested parties, where interested parties are defined as insiders and blockholders with over 5 percent of the shares each. These "non-majority" firms are usually larger and older firms, with more diffuse ownership. Of the majority owned firms, about three fourths are owned by individuals while the rest are either owned by a single corporation as in an independent subsidiary, or are a joint venture of two or more corporations. Among firms that are owned by individuals, slightly over one half are owned by a single dominant family, while the rest are partnerships of several individuals. Although firms controlled by family or partnerships are usually managed by family members or partners, about 15 percent hire outsiders as managers.

Overall, the family/business group form appears to be the prevalent business owner in Israel. This pattern of ownership is also common in many other economies. Thus, we hope that our findings and conclusions would be representative and applicable in most of the world's economies.

III. RESEARCH DESIGN

This section outlines the variables' definitions and statistical models. The main task is to design tests of the central proposition of the paper, that executive pay and pay performance sensitivity depend on ownership structure.

A. The General Formulation of the Relation of Executive Pay to Performance

To facilitate comparison with previous studies of pay and perform-ance, we regress executive compensation on measures of performance

and a set of control variables. We employ two performance measures: net income and the change in shareholders' wealth. Net after tax income is our primary performance measure. It has been found in various studies to be an important determinant of executive pay, especially in determining bonuses. The rationale for its use is particularly strong when stock market lacks depth or is relatively volatile. The high volatility of the stock market in Israel is evident in the following year-by-year returns on the Tel-Aviv Stock Exchange Index: 1991 (56%), 1992 (94%), 1993 (40%), 1994 (–39%), and 1995 (14%).

To reduce noise in our primary performance measure, we average the net incomes of the firm in the period 1992–1994. This 3-year average should represent a more stable component of income and performance than a single year net income alone. This "longer term" performance measure may be more significantly related to executive compensation if the later are also determined on basis of longer term considerations. The use of accounting incomes in compensation studies, found support in Ely (1991), Lambert and Larcker (1987), and Jarrell and Dorkey (1992).

The control variables added to the pay performance regression include firm's size, growth opportunities, risk, financial policy and governance structure. Firm's size, as proxied by the natural logarithm of total assets, is often found to be positively related to executive pay. Executives in larger firms receive higher pay because their job is more complex (Jensen & Murphy, 1990), and they have more responsibility. In a larger firm, top manager's decisions influence more people or assets (Rosen, 1982). Thus, by the selection process in the labor market, better executives end up in larger firms where they can be of greater contribution and receive higher pay. Adjustment for size is widely used—see Winn and Shoenhaim (1988), and Mayers and Smith (1992), for example.

The second control variable describes the firm's investment opportunities. Firms with greater growth potential need more talented executives who are naturally more expensive. The existence of investment opportunities may be measured by Tobin's Q. It is approximated by the firm's market value of equity plus book value of total liabilities, all divided by the book value of total assets. This definition of Tobin's Q has the virtue of being simple, and it is less prone to error than other approaches that only selectively use some items on the firm's balance sheet.

The third control variable is risk. Managers in high risk firms may demand higher compensation. Firm risk is represented by either the systematic risk (the stock's beta coefficient), or as total risk (the standard deviation of the firm's weekly stock returns).

Fourth, we control for governance related variables. The percentage of voting power controlled by various classes of shareholders is compiled from the publication "Holdings of Interested Parties" issued by the Tel-Aviv Stock Exchange (TASE). Then we compute the voting power of: (1) the "Interested parties," which consist of all insiders, and block-holders who own over 5 percent of shares; (2) CEO and Chairman of the firm; (3) all the members of the controlling group; and (4) bank and financial institutions that are not on the management team. The number of blockholders, and the number of banks owning the firm's shares are also collected. Variables pertaining to the ownership of management reflect their power, while ownership by the non management blockholders could proxy for the strength of external monitoring.

Lastly, we also control for differences in financial policies. Firms may use financial policies, for example, increase debt or dividend payout, as devices to reduce the free cash flows that are under the discretion of the top executives. In this study, leverage is measured as the ratio of total debt to total assets. A dummy variable indicates whether or not the firm is dividend paying. Only about 30 percent of the Israeli firms pay dividends. This is because of the tax system that favors capital gains over dividends for most investors.

B. Testing the Impact of Organizational Structure on Executive Compensation

The comparisons of top manager compensations across firm types proceeds in a step wise manner along the hierarchical data tree of Figure 1. In each step, a pair of parallel branches of the data tree, for example, the majority owned versus non-majority owned firms, are examined and contrasted. To test for a significant difference between the pay levels and the pay to performance sensitivity coefficients of executives in say, branch 1 and 2, we use the following procedure. We first construct a firm-type dummy variable (Dum Type) that assume a value of 1 (for branch 1 of the paired comparison) and a value of 0 (for the second or, parallel branch). We then estimate for each branching pair in Figure 1 the following regression equation:

$$\text{Top executive pay} = \alpha_0 + \alpha_1 \text{ Dum Type} + \alpha_2 \text{ Performance}$$
$$+ \alpha_3 \text{ (Dum Type } * \text{ Performance)} + \beta \text{ (control variables)} + e$$

In the regression model above, a statistically significant α_1 would indicate a difference in the "basic" pay levels between the two organizational structures. Likewise, a statistically significant α_3 coefficient would confirm a difference in their pay to performance sensitivities.

IV. PRELIMINARY OVERVIEW

A. The Sample

The sample of 434 firms represents a wide cross section of the Israeli corporate sector. Table 2 shows some summary statistics for listed firms in the Tel Aviv Stock Exchange. They have assets that range from over 16 billion NIS (New Israeli Shekels), or over \$5 billion, to as low as 6 million NIS (or \$2 million). Even though 1994 was considered a poor performing year, there are indications of a sustainable robust growth in the economy. For instance, average business sales rose by 17.5 percent in 1994. Moreover, even though the stock market was down for the year, in which TASE index declined by 39 percent, the average Q at the end of 1994 was still 1.18, that is, the market value of the firm exceeded book value by 18 percent. A final observation in this context is the very sharp increase in the number of listed firms, as 44 percent of the firms traded on the TASE at the end of 1994 were first listed for trade after 1991. The growth in the number of listings reflects both the needs of firms to finance expansion and an increase in the demand for shares due to the peace process in the Middle East.

Reviewing the governance items in Table 2 shows that insiders and blockholders hold on average 77 percent of total shares outstanding, with a majority ownership as high as 97 percent in one firm. On average, the percentage of shares held by the CEO and/or Chairman is quite substantial. At over 23 percent, these holdings reflect the pre-eminent role of the family and partnership of individuals in controlling businesses. The annual total compensation of CEOs is 640,000 NIS on average (or about \$200,000 for firms with average sales of \$60 million) which is quite comparable to the United States.

B. Profiles of Firms with Different Organizational Structures

Table 3 provides a concise description of the characteristics of firms across the organizational structure dimension. Six dichotomous pairs of organizational structure are presented.

Table 2. Descriptive Statistics of a Sample of Publicly Traded Israeli Firms, 1994

The table reports for each variable, the number of firms with available data (N), the mean, standard deviation, minimum and maximum values. The variables are self explanatory: assets (total assets of the firm at the end of 1994; unless indicated otherwise all numbers are for end of 1994). The monetary unit is NIS (New Israeli Shekels), where the exchange rate at the end of 1994 is 3.12 NIS per dollar.

Variable	N	Mean	Std Dev	Minimum	Maximum
1. Assets, 1992–94 Average (000)	434	394,639	1,408,906	6,536	1,649,883
2. Sales, 1992–94 Average (000)	408	175,240	621,763	645	9,429,695
3. Income, 1992–94 Average (000)	422	9,115	31,252	-32,689	411,279
4. Q (Market/Book)	359	1.18	0.54	0.36	5.90
5. β, Stock Beta	428	1.16	0.34	-0.45	2.33
6. σ, Weekly Standard Deviations	428	0.093	0.025	0.031	0.188
7. Stock Return in 1993	239	0.671	0.805	-0.993	3.807
8. Stock Return in 1994	376	-0.536	0.246	-0.975	0.954
9. Post 1992 Listing	434	0.438	0.497	0	1.000
10. Percentage Shares Owned By Insiders and 5% Blockholder	432	76.96	13.13	19.03	97.42
11. Percentage Shares Owned by the CEO	422	23.21	25.79	0	88.59
12. CEO is also Chairman of The Board	433	0.247	0.432	0	1.00
13. Percentage Shares Owned by The Controlling Group	431	67.15	14.17	0	96.00
14. Percentage Share Owned by The Bank	429	9.85	9.81	0	41.64
15. Number of Large Owners	433	2.85	1.50	1.00	11.00
16. Total Debt/Total Assets	411	0.507	0.253	0.005	1.038
17. Dividend Paying Status Dummy (Yes = 1)	434	0.304	0.461	0	1.00
18. Pay of CEO (Salary, Bonuses and Benefits)	434	642,056	443,934	123,404	4,079,910

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Table 3. A Comparison of Various Financial, Capital Market Based, and Governance Variables Across Different Organizational Structures

Variable	All Firms Divided Into		Majority Firms Divided Into		Concern Firms Divided Into		Individuals' Firms Divided Into		Family Firms Divided Into		Partners Firms Divided Into	
	Majority	Non Majority	Individuals' Controlled	Concern Controlled	Sole	Joint Venture	Family Controlled	Partners Controlled	Family Manager	Prof. Manager	Partner Manager	Prof. Manager
1. Assets, 92–94 Average (000)	179,820	417,049**	141,335	1,203,646**	1,063,155	1,593,901	130,931	152,869	107,082	267,171*	137,683	237,267
	393	41	291	102	75	27	153	138	125	21	110	24
2. Sales, 92–94 (000)	177,491	154,528	78,078	484,592**	266,508	1,021,414*	77,675	78,514	70,251	131,768	54,686	193,295
	368	40	278	90	64	26	147	131	120	20	104	23
3. Income (000)	9,276	7,577	3,004	27,704**	20,080	48,523	3,591	2,378	2,982	6,784*	2,346	2,534
	382	40	285	97	71	26	147	138	121	21	110	24
4. Q (Market/Book)	1.20	1.06**	1.23	1.12*	1.11	1.14	1.22	1.23	1.18	1.51	1.24	1.26
	320	39	229	91	66	25	117	112	94	19	91	19
5. β (Beta)	1.15	1.28**	1.16	1.12	1.12	1.12	1.17	1.15	1.20	1.06	1.19	1.05
	388	40	287	101	74	27	152	135	124	21	109	23
6. σ, Standard Deviations	0.093	0.099	0.095	0.085**	0.084	0.087	0.096	0.095	0.099	0.083**	0.095	0.090
	388	40	287	101	74	27	152	135	124	21	108	23
7. Stock Returns in 1993	0.64	0.84	0.68	0.58	0.60	0.54	0.64	0.72	0.65	0.61	0.63	1.00
	203	36	126	77	55	22	69	57	53	12	44	10

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8. Stock Return in 1994	-0.53 336	-0.57 40	-0.56 241	-0.46** 95	-0.48 69	-0.41 26	-0.57 123	-0.55 118	-0.59 100	-0.46** 19	-0.57 95	-0.44* 20
9. New listing of shares (Post 1992)	0.473 393	0.098** 41	0.553 291	0.245** 102	0.266 75	0.185 27	0.536 153	0.572 138	0.560 125	0.428 21	0.590 110	0.542 24
10. Percentage of shares owned by insiders 5% blockholder	79.63 391	51.53** 41	79.51 291	79.98 100	81.35 73	76.28* 27	81.34 153	77.48** 138	80.61 125	84.90** 21	77.24 110	78.76 24
11. Percentage of shares owned by CEO	24.16 383	13.85** 39	32.28 284	0.85** 99	0.68 74	1.37 25	41.06 151	22.31** 133	44.54 123	21.98** 21	26.20 106	4.59** 23
12. CEO is also Chairman	0.25 392	0.22 41	0.314 290	0.068** 102	0.067 75	0.074 27	0.405 153	0.212** 137	0.488 125	0.000** 21	0.239 109	0.083** 24
13. Percentage of shares owned by Controlling Group	70.07 391	38.60** 40	70.26 291	69.52 100	69.12 73	70.59 27	69.10 153	71.56 138	68.71 125	70.57 21	70.87 110	74.58* 24
14. Percentage Share Owned by the Bank (%)	9.59 389	12.42 40	9.34 291	10.32 98	12.05 71	5.77** 27	12.27 153	6.10** 138	11.93 125	14.33 21	6.44 110	4.83 24

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Table 3. Continued

Variable	All Firms Divided Into		Majority Firms Divided Into		Concern Firms Divided Into		Individuals' Firms Divided Into		Family Firms Divided Into		Partners Firms Divided Into	
	Majority	Non Majority	Individuals' Controlled	Concern Controlled	Sole	Joint Venture	Family Controlled	Partners Controlled	Family Manager	Prof. Manager	Partner Manager	Prof. Manager
15. Number of Large Owners	2.82 392	3.07 41	2.93 290	2.53** 102	2.07 75	3.81** 27	1.97 152	3.98** 138	1.95 124	2.19 21	4.04 110	3.92 24
16. Total Debt/Total Assets	0.505 373	0.520 38	0.481 279	0.577** 94	0.605 68	0.501* 26	0.504 143	0.457 136	0.501 117	0.487 20	0.447 108	0.493 24
17. Dividend Paying Status Dummy (Yes = 1)	0.318 393	0.171** 41	0.265 291	0.471** 102	0.426 75	0.593 27	0.203 153	0.333** 138	0.176 125	0.429** 21	0.367 110	0.208 24
18. Pay of CEO (Salary, Bonuses and Benefits)	629,888 393	758,684 41	603,606 291	704,869** 102	633,263 75	903,774** 27	636,253 153	567,410 138	643,143 125	626,533 21	586,706 110	470,164 24

Notes: The table provides averages of some key financial and control-related variables for six classifications of organizational types.

1. Majority vs. Non-majority: majority owned firms are those where the controlling shareholders and other large block holders own over 50% of all outstanding shares.

2. Individual vs. concerns: if majority owned, the owners of the firm are either individuals or other business concerns.

3. Sole Parent vs. Joint Venture: if concern majority owned, the dominant owners could either be a single firm, or more than one firm (joint venture).

4. Family vs. Nonfamily: if individuals' majority owned, the dominant owners could be from a single family or a partnership of individuals.

5. Owner Manager/Family vs. Professional Manager/Family: if a family owns a majority, the manager may be a member of the family or an outsider professional manager.

6. Partner Manager vs. Professional Manager in Partnership: if owners are partners, the firms may either be managed by a partner or by a non partner professional manager.

Differences that are statistically significant are indicated by * (10%) or ** (5%) respectively. The number of observations is reported on the second line.

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The first wide column in Table 3 compares majority versus non-majority owned firms. Majority owned firms are younger (47% are newly listed versus 9.8% among non-majority firms), experience higher growth rates (larger Qs), and higher utilization of their smaller asset base. They are also a bit more profitable, and less risky (in terms of σ and β).

As expected, the average holdings of interested parties in majority firms (almost 80%) is considerably higher than in the non-majority firms. Non-majority firms pay their CEOs a higher compensation, and a significantly lower proportion of them pays dividends to shareholders. This may indicate that agency problems are more pronounced among non-majority firms, as they have more diffuse ownership.

The second wide column in Table 3 compares individuals versus concerns as majority owners. Among majority owned firms, corporation owned businesses are larger and older than those owned by individuals. This is an expected observation because it takes more resources to organize relatively large firms, thus, corporations and joint ventures of corporations are more capable to form large enterprises. Firms owned by individuals demonstrate an average return on assets similar to concerns, yet with greater share price volatility and higher growth prospects (Q), perhaps reflecting their greater marginal but uncertain investment opportunities.

The parents of concern-owned firms control as many stocks as the "majority owners" in individuals' owned firms. The professional CEOs in concern-controlled firms own, however, a much lower percentage of the company shares (less than 1% in comparison to over 32% in individuals' owned firms). Also, CEOs of concern-owned firms receive a higher pay, partly reflecting a reward for managing larger firms.

Next, Table 3 compares single concern versus multiple concerns as majority owners. The sole concern owned firms, which are publicly traded subsidiaries of other firms, are smaller in size but otherwise similar in characteristics to joint (multiple concern) ventures. The CEOs of joint ventures own twice as many shares as their (sole concern) subsidiary counterparts, and are paid significantly more. The pay difference may suggest that CEOs of joint ventures are more likely of proven talents, as their appointments would have to be approved by the joint venture partners.

In the fourth wide column of Table 3 we compare family versus partners-owned firms. These two groups of firms are quite similar in size, profitability, growth potential, and stock price performance. Interested parties in family firms and their CEOs hold more shares. Fewer family

owned firms (1/5) pay dividends in comparison to partners owned firms (1/3), which may reflect a use of dividends to resolve agency conflicts among partners. Finally, CEOs in family firms receive slightly higher pays.

The fifth wide column compares owner-managers versus professional managers in family owned firms. Family owned firms that hire outsiders as managers are, in comparison to owner managed firms, about twice as large in assets, sales and profits. The outside-managers-run-firms also have greater growth potential (Q), and lower share price volatility. These results suggest that family firms that are older, may have retired their founders, or have outgrown their founders or heirs' capability, hire more qualified outside managers. Their specialized talents would probably make monitoring by the family more difficult, hence owners may have to depend on pay incentives.

Duality is common in owner-managed family firms where in almost half of the cases the CEO is also the Chairman. In contrast, none of the professional outside CEOs is also Chairman. This is because a family member usually retains the position of Chairman of the Board. Consistent with this description, we find that in an outside managed family firm, the chairman owns on average 21 percent of the vote while the professional CEO control 1 percent of the vote only.

The last column in Table 3 compares partners versus outsiders as managers. Similar to the situation in family owned firms, professional outside managers hired by individual-partners run larger businesses with more stable share prices. The compensation of professional managers in partnership firms is lower than their counterparts in family owned firms. Their pay are also low relative to firms managed by partners. Perhaps that is the reason why they deliver on average a lower return on assets.

V. REGRESSION TESTS OF THE HYPOTHESES

A. Determinants of Top Executive Compensation

Table 4 reports results of several alternate specifications of the top executives' pay equation. The results are consistent with expectations. First, size is the principal variable accounting for the differences in executive pay. Second, both performance variables, after tax income and change in shareholders' wealth are statistically significant as determinant of executives' pay at the 10 percent level in a simple univariate regression. Only the less noisy net income variable is significant in multiple

Table 4. Factors Determining The Total Compensation of Top Managers In Israel

The following presents seven specifications relating total compensation to various variables. The independent variables are: LnTA (natural log of total assets in thousands NIS), Inc (average 1992–1994 net income in thousands NIS), Vote CEO (percentage vote owned by the CEO and/or Chairman), Dum Div (a dummy variable which equals 1.0 if firm is dividend paying, 0 otherwise), Lev (total debt to total assets ratio), dMV (change in market value of equity in 1994, in thousands of NIS), Q (1 + (market value of equity - book value of equity)/total assets), Vote (percent of vote owned by interested parties, that is, insiders and over 5% blockholders), and β (the beta of the stock return). The t-statistics, corrected for heteroscedasticity using White's method, are reported in parentheses.

Independent Variable	Dependent Variable						
	Total Compensation	Total Compensation	Total Compensation	Total Compensation	Total Compensation	Total Compensation	Total Compensation
Total asset in natural log	151,500 (7.2)			110,100 (5.2)	116,200 (5.3)	139,800 (5.4)	162,600 (5.0)
Income (000)		5.95 (6.3)		3.19 (4.1)	2.78 (3.4)	2.42 (2.8)	2.92 (1.8)
Percentage shares owned by CEO					1,573 (2.0)	2,099 (2.6)	3,012 (3.0)
Dividend paying dummy					107,100 (2.4)	108,700 (2.3)	163,800 (2.7)
Total debt/Total Asset						-141,000 (-1.7)	-184,000 (-1.8)
Change in market value of equity, 1994			0.223 (1.7)				0.198 (0.6)
Q (Market/Book)							61,200 (1.3)
Vote							-1,800 (-1.1)
β							79,200 (1.4)
Adj. R²	0.220	0.173	0.006	0.252	0.261	0.276	0.289
# of obs.	434	422	374	422	410	387	325

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regressions. Low pay to share price sensitivity is reported in other studies as well, for example, Murphy (1985), Kerr and Bettis (1987), and Jensen and Murphy (1990).

Regressions results show (see Table 4), on average, a dividend paying status could add more than 100,000 NIS (or about 15–20%) to the executive's pay. This result is consistent with the presence of free cash flows. Firms generating more cash than is required by their investment opportunities (and hence have "free cash flows") may only distribute part of this excess as dividends to shareholders. They could conceivably spend the rest within the firm, such as increasing CEOs pay.

The second significant control variable is the percentage vote of CEO and Chairman. Its positive coefficient in the pay regressions suggests a potential agency problem. It appears that as top managers' share in the firm increases so does their wage. This finding gives some support for the hypothesis that CEOs may have influence over own pay.

Finally, leverage has a marginally significant negative coefficient. This may indicate that in a highly levered firm the discretion of a manager is limited by the alternate mechanism of monitoring by banks. Hence, his or her compensations are lower as well.

The other explanatory variables in Table 4 are not statistically significant. Nonetheless, Q (investment opportunities) and β (risk) have the expected signs. Observe, however, that the percentage vote of interested parties enters with an insignificant negative sign, indicating that majority holding per-se decreases (or at least does not increase) management pay. We conduct more detailed tests of the effect of ownership structure in the following section.

B. Paired Comparisons of Organizational Types

Table 5 examines six pairs of "dichotomous" organizational structures, based on the hierarchical tree design of Figure 1. For each pair, we run a regression of executive compensation on the independent variables found influential in Table 4 plus two new organizational structure variables. The first variable is Dum Type, a dummy variable for firm type. (As a convention, a Dum Type value of 1 always indicates the first firm type of the pair.) A statistically significant Dum Type coefficient indicates that the pay level of a top executive in the first firm type is higher (+) or lower (–) than that of a top executive in the second firm type. The second added regressor is the interaction variable involving firm type and profit (Dum Type x Inc.). Its coefficient indicates whether the pay

Table 5. The Effect of Organizational Structure on Top Manager's Compensation and the Pay-Performance Sensitivity

The following set of regressions examines differences in pay level and pay for performance sensitivity, across various pairs of organizational/ownership structures (see Figure 1). The regressions are of the form

$$Pay\ CEO = \alpha_0 + \alpha_1\ Ln\ TA + \alpha_2\ Vote\ CEO + \alpha_3\ Ln\ Inc + \alpha_4\ DumDiv + \alpha_5\ Lev + \alpha_6\ Dum\ Type + \alpha_7\ Dum\ Type \times Inc + \varepsilon$$

where Pay CEO is the total compensation of the top executive in NIS. The independent variables are: Natural log of total assets in thousands NIS, Inc (net income in thousand NIS), Vote CEO (percentage vote held by the CEO/or Chairman), Dum Div (a dummy variable which equals 1 if firm is dividend paying, 0 otherwise), Lev (total debt to total asset ratio), and Dum Type (a dummy variable for organizational type, Dum Type = 1 for the type listed first in each column of paired comparison and equals 0 for the type listed second). The t-statistics, corrected for heteroscedasticity using White's method, are reported in the parentheses.

Panel A: Regressions where the performance measure (Inc) is 1992–94 average net income.

			Paired Comparisons of Firm Types			
Independent Variable	Majority vs. Non-Majority	Individual vs. Concerns	Partnership of Concerns vs. Sole Concerns	Family vs. Partnership of Individuals	Partnership Non-Owner vs. Owner Managed	Family Non-Owner vs. Owner Managed
Intercept	-861,000	-612,000	-333,000	-862,000	-906,000	-1,025,000
	(-3.0)	(-2.0)	(-1.1)	(-2.4)	(-3.0)	(-1.3)
Total asset in natural log	138,000	99,000	73,000	126,000	136,000	146,000
	(5.3)	(3.6)	(2.4)	(3.6)	(4.4)	(1.8)
Income	3.15	2.61	1.53	16.29	22.62	35.07
	(3.0)	(2.9)	(1.2)	(2.4)	(3.8)	(14.0)
Percentage shares owned by CEO	2,300	950	9,960	870	-710	80
	(2.7)	(1.3)	(1.8)	(1.1)	(-0.5)	(0.1)
Dum Div	119,000	68,000	91,000	71,000	61,000	81,000
	(2.5)	(1.6)	(1.3)	(1.3)	(1.0)	(0.8)
Lev	-131,000	-43,000	-17,000	-91,000	-100,000	-108,000
	(-1.6)	(-0.5)	(-0.1)	(-1.0)	(-0.9)	(-0.6)

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Table 5 2 pages

Table 5. Continued

Paired Comparisons of Firm Types

Independent Variable	Majority vs. Non-Majority	Individual vs. Concerns	Partnership of Concerns vs. Sole Concerns	Family vs. Partnership of Individuals	Partnership Non-Owner vs. Owner Managed	Family Non-Owner vs. Owner Managed
Dummy variable for firm type (1 = first, 0 = second)	-133,000 (-1.5)	15,000 (0.3)	98,000 (1.3)	-9,000 (-0.2)	-162,000 (-2.4)	-119,000 (-1.3)
Dum Type × Income	-0.76 (-0.6)	24.36 (4.3)	1.97 (1.5)	13.90 (1.6)	-17.80 (-3.0)	-20.96 (-2.5)
Adjusted R^2	0.280	0.435	0.487	0.435	0.402	0.515
Number of observations	387	352	86	266	127	131

Panel B: Abbreviated results of regressions where the performance measure (Inc) is 1994 net income.

Paired Comparisons of Firm Types

Independent Variable	Majority vs. non-majority	Individual vs. concerns	Partnership of Concerns vs. Sole Concerns	Family vs. Partnership of Individuals	Partnership. Non-Owner vs. Owner Managed	Family. Non-Owner vs. Owner Managed
Dum Type	-141,000 (-1.6)	111,000 (1.8)	74,000 (1.0)	47,000 (1.0)	-217,000 (-3.2)	-227,000 (-2.2)
Dum Type × Inc	1.51 (1.1)	13.20 (2.3)	3.99 (3.3)	8.17 (0.9)	-12.90 (-2.5)	-14.40 (-1.4)

to performance sensitivity of firm type 1 is higher (+) or lower (−) than that of the second firm type.

The results in Table 5 support the managerial discretion hypothesis. When compared to its predictions in Table 1, the managerial discretion hypothesis is confirmed by the signs of nine out of the 12 Dum Type and (Dum Type x Inc) coefficients in Panel A. Consistent with the managerial discretion hypothesis, pay level is higher for managers in individuals' controlled firms relative to concern-controlled, in partnerships of concerns when compared to sole-concern owners, and in partnerships of individuals and family-controlled firms when an owner is also the top manager. The differences in pay level (Dum Type coefficients) are, however, statistically insignificant in all cases except for the case of partnerships, where owner managers are found to earn significantly more than non-owner managers.

Stronger statistical support for the managerial discretion hypothesis is provided from an examination of the differences in pay for performance (the Dum Type x Inc) coefficients. Five out of the six (Dum Type x Inc) coefficients in Panel A agree in sign with the hypothesis and are statistically significant or borderline significant. Pay for performance is higher in individually owned firms when compared to concern owned firms, in partnerships of concerns when compared to sole-concern owned firms, in family firms when compared to partnerships of individuals, and in family and partnership of individuals' controlled firms when the top manager is one of the controlling owners.

The monitoring hypothesis is also supported in the tests, as it correctly predicts the signs of five out of the six (Dum Type x Inc) coefficients in Panel A. Of particular interests are the two cases where the predictions of the discretion and monitoring hypotheses differ. In one of these cases, majority versus nonmajority firms, the sign of the coefficient favors the monitoring hypothesis, yet the coefficient is insignificantly different from zero. In the other case, individuals' versus concern controlled firms, the coefficient favors the managerial discretion hypothesis and it is statistically significant.

As for the alignment hypothesis, four out of its five predictions regarding the pay sensitivity difference (Dum Type x Inc) coefficients are rejected. Similarly, the hypothesis that CEOs exercise their influence in setting pay is not supported by five of the six pay sensitivity difference coefficients in Panel A. These results do not imply that notions of alignment or CEO's influence on wage are irrelevant. Rather, they

highlight the merit of the managerial discretion and monitoring hypotheses as key explanatory factors.

In order to gain some perspective on the robustness of Panel A's results, the regressions have been reestimated with 1994 net income as the performance measure (instead of 1992–1994 average net income). The findings on the two main independent variables, pay level and pay sensitivity differences, are recorded in Panel B. The evidence in Panel B is similar to that of Panel A, except that the managerial discretion hypothesis receives stronger support. The signs of the coefficients in Panel B are consistent with the managerial discretion hypothesis in eleven out of twelve cases. In the two cases where the managerial discretion and monitoring hypotheses disagree, the evidence upholds the discretion hypothesis.

Upon reflection, the relative success of the managerial discretion hypothesis is not surprising. The hypothesis proposes that the larger is CEO's power and impact on performance, the stronger should his/her wage be tied to performance. It relates to the fundamental principle that the marginal pay of managers should equal their marginal product. Or an even simpler idea that managers who are given more discretion should also be held responsible for their actions.

Reviewing the results of Table 5, there is only one case which persistently contradicts the predictions of the managerial discretion hypothesis. CEOs in disperse ownership firms earn more than CEOs in majority controlled firms, although in both these firm types, their pay to performance sensitivity certificates are similar. This finding casts doubt on the efficiency of firms with disperse ownership. Of all firms in the sample, they are the most suscept of overpaying their managers.

C. A Further Analysis of Firms Owned by Families or Partnerships of Individuals

The subsample of individuals' controlled firms, family firms and partnerships of individuals, is worth a closer look. Not only does it constitute the largest subgroup among Israeli firms, but it is also probably the dominant organizational form in many other countries.

The analyses here focus on the role of bonding and monitoring mechanisms in these "closely held" firms. The variables considered are the percentage vote of several important investor groups: banks, top managers, and the controlling group. We hope to capture the role of banks as outside monitors in all cases, and in the case of firms managed by

outsiders, the role of the controlling group as an inside monitor. The number of banks owning above 5 percent of company stock and the number of blockholders with above 5 percent of the shares are also added as explanatory variables.

Table 6 summarizes the results of pay regressions with the inclusion of these more-detailed control structure variables as regressors. The added explanatory variables, representing voting power and outside monitoring, are found to be statistically insignificant. Banks and the voting power of the control group seem to have only a negligible influence on CEOs' pay. Column 2 indicates however that compensation policy depends on whether the firm is family or partnership of individuals controlled, and on whether or not the manager is one of the controlling owners, which lead to further examinations of various related subsamples.

Columns 3 and 4 compare owner versus outside managers. Noteworthy are the results for non-owner managers (column 4). Although the coefficients of inside monitoring are not significant, their signs are in agreement with the monitoring hypothesis. Specifically, the vote of the controlling group and the number of large owners have a negative effect when the managers are hired from the outside. This suggests tighter inside monitoring in closely held firms. Nevertheless, the large and significant pay increases for outside managers when their firms pay dividends (see the dividend payments' coefficient) casts some doubt on this conclusion, in reference to the free cash flow problems. Hence, both inside and outside wage monitoring appear weak.

The executive compensation equations for owner managers in family and partnerships of individuals' firms are shown in the last two columns. As a group, what distinguishes these owner managers from the rest are their high pay sensitivity to size and income. The owner managers' contracts seem more flexible which enables them to reduce pay in bad times and be compensated in good times. This might reflect owner-managers' greater wealth and/or the higher risk aversion of outside managers.

An important result in Table 6 concerns the coefficient of Vote CEO. For the sample of managers who are also majority owners, this coefficient is very close to nil and its *t*-statistic is 0.0. In contrast, for the overall Israeli sample, reviewed in Table 4, the coefficient of Vote CEO is about 2,100 with a *t*-statistic of 2.6. Surprisingly, of all firms, shareholders of majority owner-manager firms are the least likely to be exploited by powerful CEOs for higher pay. Despite the ability of majority owner-managers to pay themselves excessive compensation (based on their

Table 6. Regressions of Top Manager's Compensation in Family and Partnership of Individuals Firms: The Role of Voting Power and Outside Monitoring

This table examines the effect on compensation of various governance structure variables, in firms controlled by a family or a partnership of individuals.

	Sample					
Independent Variable	All Family and Partnership of Indiv. Firms	All Family and Partnership of Indiv. Firms	Families and Partnership of Indiv. with Owner as Manager	Family Firms and Partnership of Indiv. with Professional Managers	Family Firms with Owner as Manager	Partnership of Indiv. with Owner as Manager
Total Assets in Natural Log (1992–94)	131,000 (3.2)	141,800 (3.8)	156,000 (3.1)	67,000 (2.1)	155,000 (1.7)	170,000 (4.2)
Income (1992–94 Average)	25.03 (4.3)	22.39 (4.9)	29.96 (6.3)	5.42 (1.4)	32.64 (6.7)	21.39 (3.5)
Dividend paying dummy	68,000 (1.3)	80,000 (1.5)	27,000 (0.4)	365,000 (3.3)	80,000 (0.7)	7,000 (0.1)
Total Debt/Total Asset	-80,000 (-0.8)	-106,000 (-1.1)	-143,000 (-1.2)	169,000 (1.4)	-128,000 (-0.7)	-239,000 (-1.7)
Percentage of shares owned by CEO	950 (1.2)	-100 (-0.1)	4 (0.0)	-1,100 (-0.3)	310 (0.3)	-260 (-0.2)
Percentage of shares owned by controlling group.	-1,700 (-0.6)	-,000 (-0.4)	600 (0.3)	-4,700 (-1.2)	-2,300 (-0.5)	2,600 (1.1)

Table 6 2 pages

	(1)	(2)	(3)	(4)	(5)	(6)
Percentage of shares owned by Bank	100 (0.0)	−1,800 (−0.5)				
Number of Large Owners	−4,400 (−0.3)	3,800 (0.3)	−9,600 (−0.5)	−9,300 (−0.4)	−56,000 (−0.9)	−1,000 (−0.1)
# Banks	−7,000 (−0.2)	4,400 (0.1)	1,300 (0.0)	700 (0.0)	69,000 (0.9)	−16,000 (−0.4)
Dummy variable Family owned, (1 = Family, 0 = Partnership)		34,000 (0.6)				
Dummy Prof (1 = outside managers, 0 = owners as managers)		−135,000 (−2.3)				
Dum Fam × Inc		11.04 (2.0)				
Dum Prof × Inc		−18.17 (−4.3)				
Intercept	−791,000 (−2.4)	−914,000 (−3.0)	−1,126,000 (−2.7)	−64,000 (−0.2)	−902,000 (−1.3)	−1,370,000 (−3.4)
Adj. R^2	0.417	0.470	0.471	0.544	0.484	0.410
# of obs.	265	265	222	43	114	108

voting power), they refrain from doing so. This self-restraint is remark-able. In contrast, the compensations of CEOs in non-owner manager firms are positively related to the CEOs' percentage ownerships, vote (see Table 5 results for example).

The self-restraining policy interpretation of owner-managers is rein-forced upon examination of the dividend payment coefficients in col-umns 3 and 4. Owner-manager's compensation is insignificantly related to dividend payment (our "free cash flow" proxy), while professional manager's compensation is strongly positively related to dividend pay-ments. It appears that majority owner-managers are not exploiting their firms in "free cash flow" situations, nor do they use their vote to extract compensation. Thus, owner-managers appear to be better behaved (that is, cause less serious agency problems) than previously thought, at least in terms of their executives' pay.

D. Additional Analysis of the Discretion Hypothesis

We further test the managerial discretion hypothesis using a different approach. Recall that according to the managerial discretion hypothesis, in firms where the manager has greater discretion, higher pay perform-ance sensitivity is expected. We classify firms into "high" and "low" levels of managerial discretion based on the operating characteristics of the firms. We compare dichotomous partitions of the overall sample along the following characteristics: (a) investment opportunities, that is, whether Q is higher or lower than 1.0; (b) financial leverage, that is, whether debt to total assets ratio is less or more than 50 percent; (c) uncertainty in the operating environment, that is, whether weekly stock return standard deviation is higher or lower than 0.09; and (d) duality, that is, whether or not the top manager is both CEO and Chairman of the Board. The managerial discretion hypothesis predicts that CEO's influ-ence on performance is stronger when the manager is both CEO and Chairman, when operating uncertainty is higher, when leverage is lower (fewer restrictions from banks and bondholders), and when the firm has more attractive growth opportunities.

Panel A of table 7 confirms the hypothesis that pays are more sensitive to performance in companies with more attractive investment opportu-nities. The results in Panel B confirm the hypothesis that a high (low) pay to performance sensitivity is associated with low (high) levered firms. Panel C confirms that executives in higher risk firms receive a more performance sensitive pay. Finally, Panel D confirms the duality

Table 7. Further Tests of the Discretion Hypothesis: A Comparison of Pay-Performance Sensitivity Across Various Operating Environment Characteristics

This table reports results of regressions of CEO pay in Israeli firms on the natural log of total assets in thousands NIS and Inc (1992–94 average net income in thousands NIS), using partitions of the sample by: (1) growth opportunities, where high growth firms are those whose $Q > 1$; (2) financial leverage; (3) uncertainty in the operating environment as proxied by the firm's weekly stock return standard deviation; and (4) duality, whether the top executive holds the position of CEO only or is CEO and Chairman. The t-values, corrected for heteroscedasticity using White's method, are shown in the parentheses below the coefficients.

	Intercept	LnTA (Size)	Inc (Pay Performance Sensitivity)	Adj. R^2
A. Investment Opportunities				
1. Low Q (<1) firms (N = 126)	-1,147,000 (-1.4)	157,700 (2.1)	-2.37 (-1.0)	0.103
2. High Q (>1) firms (N = 230)	-570,000 (-2.4)	105,400 (4.9)	3.69 (5.0)	0.317
B. Financial Leverage (Total debt/Total assets)				
1. Low debt (< 50%) firms (N = 229)	-470,000 (-1.7)	95,600 (3.6)	5.07 (3.7)	0.245
2. High debt (> 50%) firms (N = 193)	-878,000 (-2.6)	128,400 (4.3)	2.60 (2.7)	0.247
C. Uncertainty in the Operating Environment				
1. Low standard deviation of weekly stock returns (<0.09) firms (N = 213)	-610,000 (-1.8)	109,600 (3.7)	2.97 (3.4)	0.266
2. High standard deviation of weekly stock returns (>0.09) firms (N = 209)	-494,000 (-2.1)	94,600 (4.2)	8.36 (1.3)	0.082
D. Duality				
1. CEO only (N = 319)	-468,000 (1.8)	93,800 (4.0)	3.08 (4.1)	0.245
2. CEO and Chairman (N = 102)	-541,000 (-1.4)	99,500 (2.7)	23.70 (2.3)	0.482

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Table 7

predictions, showing that the pay of managers who are both CEO and Chairman is more sensitive to performance. Overall, the managerial discretion hypothesis is again strongly supported.

VI. CONCLUSIONS

The paper studies the effect of organizational structure on top executive compensation. Using a sample of 434 Israeli companies, we differentiate between firms where the control group holds above or below 50 percent of the vote; firms where control is in the hands of large concerns and firms that are controlled by a few individuals; firms that are controlled by a family and firms controlled by a partnership of several individuals; firms that are managed by one of the controlling owners and firms that are managed by an outside professional manager.

Overall, there seem to be two conclusions. First, the managerial discretion hypothesis relating pay-level and pay-performance sensitivity to the amount of discretion delegated to the top manager is strongly supported. When there are conflicts between the discretion hypothesis and other considerations such as monitoring and alignment, the discretion approach appears to dominate. Second, majority-controlled companies are not found to be more expropriative in terms of managerial compensation than non-majority diverse-ownership companies. This is an indication that despite of the owner-managers' ability to pay themselves excessive compensation due to their majority vote, they choose not to do so. Perhaps owner-managers have less incentive to exploit their own firms, or that they worry about the adverse reputation repercussions and the unfavorable effect of excessive compensation on future attempts to raise capital in the markets.

This paper demonstrates that the design of organizational structure deserves a more serious research effort. It could also be of importance in central corporate finance decisions such as financial structure design, dividend and remittance policy, executive compensation, and asset investment/divestment decisions. Future studies should fill in this gap.

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