EXECUTIVE COMPENSATION AND FIRM PERFORMANCE IN ITALY

GIORGIO BRUNELLO [a]

CLARA GRAZIANO [b]

BRUNO PARIGI [c]

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Abstract

We investigate the determinants of executive pay in a sample of Italian firms. To the best of our knowledge this is the first study on the compensation of Italian executives. We estimate that an increase of real profits per firm by 1 billion lire increases the pay of top executives by only 504 thousand lire, more than the increase found for middle management (184 thousand). Pay-performance sensitivity is stronger in firms where profits are declining and profit variability is relatively low. This sensitivity is lower in domestic-owned firms and in firms that are not affiliated to a multinational group, a result consistent with the main features of Italian capitalism.

JEL codes: D82, J33.

Key words: Executive compensation; Principal-agent.

[a] Professor, Department of Economics, University of Udine, Udine and Fellow FEEM, Milan, Italy.

[b] Research Fellow, Department of Economics, University of Udine, Udine, Italy

[c] Research Fellow, Department of Economics, University of Venice, Venice, Italy

1. Introduction

The compensation of executives attracts considerable interest from the public, scholars and policy makers. Executive compensation packages worth millions of dollars make the news headlines. The broader issue of "stake-holder capitalism" vs. "share-holder capitalism" in the recent policy debate deals with, among other issues, the responsibility of managers with respect to outside parties.

A large theoretical and empirical literature has investigated executive compensation, often using an agency framework. In particular, managers are viewed as agents of shareholders, who hire them to run firms. As managers are typically better informed about firm conditions than shareholders, a potential conflict of interest arises. The principal-agent model offers several predictions that have been widely tested by an extensive and growing body of empirical research. [Gomez-Mejia (1994) counted about 300 papers in various scholarly disciplines]. Most of this literature has focused on CEOs pay in the US and in the UK, where stringent disclosure rules make data on top executives compensation readily available, and much less is known about executive pay outside these two countries.

This paper is a preliminary investigation on the compensation of executives in Italy, based upon a unique data-set that includes information on the pay of middle and top level executives employed by a (non representative) sample of firms operating in Italy. To the best of our knowledge, this is the first such study for Italy. Very briefly, Italian capitalism is often characterized by the importance of family control and pyramidal groups, the relative absence of hostile takeovers, an underdeveloped capital market and the lack of a main bank relationship. Because these (and other) features make the Italian economic environment quite different from the stereotype Anglo-Saxon model, investigating executive compensation in such an environment has implications that go beyond the specific case study.

While our data-set precludes an explicit comparative analysis, we exploit available information on the ownership structure of the firms included in the sample to investigate whether the relationship between managerial pay and firm performance is influenced by the specific Italian economic environment. To preview our main results, we find that managerial pay is positively affected by firm performance, measured by real accounting profits per head; the semi-elasticity that relates pay to profits, however, is small. In particular, we estimate that an increase of real profits per firm by 1 billion lire increases the pay of top executives by only 504 thousand lire, more than the increase found for middle management (184 thousand). Importantly, we also find that the sensitivity of pay to performance is higher when profits decline and when the firm belongs to a multinational group or is owned by foreign capital. Since firms owned by foreign capital and/or affiliated to a multinational group are less likely to be affected by the main features of Italian

capitalism, we interpret this finding as supportive of the view that the specific Italian economic environment leads to a lower sensitivity of managerial pay to firm performance.

The paper is organized as follows. Section 2 reviews the literature. Section 3 outlines the key features of Italian capitalism and their implications for executives compensation, Section 4 introduces the data-set and Section 5 outlines the empirical strategy. In section 6 we present and discuss our estimates. Section 7 concludes by pointing out some possible extensions.

2. Related Literature

Agency theory suggests that, when managerial actions cannot be observed by outsiders, the interests of the principal (shareholders) and the agent (manager) can be aligned by making managerial pay dependent on observable measures of firm's performance. Numerous studies support the presence of such a relationship but find that the sensitivity of the log of pay to stock returns is fairly low. Measured in terms of semi-elasticities, this sensitivity ranges between 0.1 and 0.16 for the US, is 0.06 for Germany, 0.02 for Japan, and ranges between 0.02 and 0.07 for the UK[1]. Estimates of pay-performance sensitivities are higher when accounting rate of returns are used as a measure of firm performance[2].

Another common finding in this literature is that top executive pay and firm size are positively related. The idea here is that if there are complementarities between individual talent and the productivity of control, it is efficient to assign greater control to most talented people. Thus a competitive market allocates talented people to higher level positions in larger firms. Various studies for the US and the UK report similar estimates of the relationship between pay and measures of size such as sales or assets of around 0.25-0.3.[3]

Incentives in an organization can be provided not only by linking pay to performance but also by vertical mobility from less to more rewarding jobs. When the firm has a hierarchical structure and organizes jobs into career ladders, career concerns and the possibility of promotion are powerful incentive devices. The presence of career concerns implies that, because at the top of the hierarchy there are no further possibilities of promotion, alternative incentive schemes such as pay for performance should be stronger for top executives and in general for managers close to retirement. Leonard (1990) finds that pay rises are negatively correlated to promotion opportunities and that pay differentials increase moving up the hierarchical ladder. Empirical support for the

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[1]See Rosen (1992) for an extensive survey of the U.S. literature. See also Tosi and Gomez-Mejia (1984), Jensen and Murphy (1990), Gerhart and Milkovich (1990), Gibbons and Murphy (1992), Garen (1994) and Abowd and Bognanno (1995). Germany is studied by Schwalbach and Grasshoff (1996); Japan by Kato and Rockel (1992); UK studies are reviewed by Conyon, Gregg and Machin (1995).
[2]See Rosen (1992), Sloan (1993) and Joskow and Rose (1994).
[3] See Rosen (1992) for a discussion.

career concern hypothesis is provided by Gibbons and Murphy (1992). They look at the relationship between CEO compensation and stock market performance using the Forbes Survey on Executive Compensation from 1971 to 1989 and find that the pay-performance elasticity increases as CEOs approach retirement.

Agency theory also predicts that executive pay should be optimally based on measures of performance that are as informative as possible [see Holmstrom (1979)]. This provides the theoretical foundation for relative performance evaluation, that focuses on firm performance relative to an indicator of the performance of other firms operating in the same market or industry. Compared to absolute performance, relative performance provides incentives and, at the same time, insulates managers from common sources of uncertainty that affect both firm's and competitors' performance. The empirical evidence here is mixed and is weakly in favor of relative performance evaluation [see Antle and Smith (1986) and Barro and Barro (1990)]. One relevant study that finds supporting evidence in favor of relative performance is Gibbons and Murphy (1990), who show that increases in CEO pay are positively correlated with firm performance but negatively correlated with industry and market performance[4].

The finding that executive pay is only weakly related to firm's performance has led Jensen and Murphy (1990) to question the overall validity of the principal-agent theory of executive compensation. Holmstrom (1992) suggests that the absence of high powered incentive schemes in organizations can be explained when one adopts a multitask framework [see Holmstrom and Milgrom (1991) for a theory of the multi-task principal-agent problem]. When executives can devote time to a portfolio of activities that are affected by measurement problems, the compensation package must be designed to take into account the interactions among tasks. On the one hand, balancing incentives among tasks becomes important so that incentives are less powerful than in isolation. On the other hand, the optimal incentive scheme includes not only rewards for performance but also restrictions to undertake certain actions and rigid rules to follow[5].

Most of the models of executive pay briefly reviewed in this section have been developed to fit the reality of American or Anglo-Saxon capitalism. It is not obvious that these models are flexible enough to encompass the main features of Italian capitalism, which differs in important ways both from the Anglo-Saxon and from the German-Japanese models. Next section is devoted to a discussion of these features in some detail.

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[4]See also the discussion in Zwiebel (1995).
[5]See also the discussions in Haubrich (1994), Yearmack (1995) and Aggarwal and Samwick (1996).

3. Italian Capitalism and Implications for Executive Compensation

Managerial compensation, promotion and firing are an essential part of the broader mechanism of corporate governance. Corporate governance in Italy has a number of specificities that affect the determination of executive compensation. First, in a recent survey Shleifer and Vishny (1996) argue that an effective mechanism of corporate governance relies on some combination of monitoring by large shareholders and of adequate legal protection of minority investors. With respect to this criterion, corporate governance in Italy differs both from the market oriented Anglo-Saxon model and from the relationship oriented German and Japanese models[6], and is particularly weak in the legal protection of minority investors. Unlike in the Anglo-Saxon model, there are no public companies[7] and family control is predominant even among the largest Italian firms (e.g. FIAT, Pirelli, Benetton). One key feature of Italian capitalism is that most large and medium sized companies belong to a group organized as a pyramid with a holding company at the top controlling one or more subsidiaries that, in turn, control other subsidiaries and so on.[8] The holding company is often controlled by a family through proxy voting arrangements and cross shareholding with allied groups. There are relatively few intra-group cross shareholdings (the law limits the voting rights of those shares) but there are very strong inter-group cross shareholdings. This system of pyramid groups and coalitional control, on the one hand, offers the possibility of obtaining company control with a small fraction of the voting rights and, on the other hand, shields the controlling group from the threat of hostile takeovers.[9] This suggests that control is highly valued, which, in turn, indicates that managers can appropriate benefits that shareholders without control cannot obtain[10]. Furthermore, no independent monitoring is exerted either by the board of directors (mainly composed of people close to the controlling shareholders) or by the internal auditing committee, appointed by the majority shareholders and with limited power. [See Barca (1996)]

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[6]Kaplan (1994a,b) and Jenkinson and Meyer (1994) study the differences between the Anglo-Saxon and the German-Japanese model and their implications for executive pay. Brioschi et al (1990) and Barca (1994) extensively discuss corporate governance in Italy. According to Pagano, Panetta and Zingales (1994), and Barca (1996) the Italian corporate governance mechanisms are underdeveloped and substantially delay the flow of external capital to firms.

[7]The only exception is Assicurazioni Generali, the largest Italian insurance company, which has a very fragmented ownership and is controlled by management.

[8]See Brioschi et al. (1990) and Barca (1996) for a description of this phenomenon.

[9]According to the Italian financial newspaper *Sole 24 Ore* (1997), 60% of the Milan stock exchange capitalization in 1995 was represented by companies controlled by only one subject and the remaning 40% could not become the target of hostile takeovers either because of their corporate charter or because of alliances among shareholders with controlling stakes in the firm. The same source reports that in 1995, 21% of the companies listed on the Milan stock exchange were controlled through proxy voting arrangements, up from 12% in 1990.

[10] This hypothesis is supported by Zingales (1994), who reports a 82% premium associated with the voting rights of stocks on the Milan stock exchange.

Second, institutional investors hold a small fraction of the equity of Italian firms[11] and, in general, are not active investors[12]. It is often the case that bank-controlled mutual funds hold significant fractions of the capital of firms that belong to allied groups and exercise their voting rights according to the strategy decided by the holding company. Hostile takeovers and proxy fights aimed at removing incumbent management are virtually absent. Major corporate rescue plans have been conducted typically through state agencies, allied groups or through Mediobanca, a merchant bank, itself linked through a web of inter-corporate shareholdings to the main dynasties of Italian capitalism.

Third, the Milan stock exchange is by all measures the least developed among the G7 countries and ranks last both for capitalization and for volume of transactions measured as percentage of GNP [see Barca et al. (1995)]. The relatively marginal role of the Italian stock market can also be explained in part with the limited legal protection of the rights of minority shareholders. For example, disclosure rules are poorly designed and enforced and, as pointed out by Shleifer and Vishny (1996) and Barca (1996), majority shares in pyramidal groups control more voting rights than those of the minority shareholders. Furthermore the role of the stock market as the venue where controlling blocks of shares are exchanged has traditionally been quite limited and its ability to attract public savings has been overshadowed by the huge market for government debt. Overall, stock returns are a notoriously noisy indicator of firm, let alone managerial, performance.

These three features have a number of implications for executive compensation. First, the predominance of family business reduces the agency problem arising from the separation of ownership and control. Everything else being equal, in comparison with the Anglo-Saxon model, this implies lower pay-performance sensitivity, a smaller fraction of variable pay and a smaller role of compensation in the form of stock options. Second, the loose mechanisms of corporate governance suggest that market forces are weaker in motivating and disciplining management. This implies lower pay-performance sensitivity, and a lower fraction of variable pay. Third, the poor reliability of stock returns as a measure of managerial performance limits the role of stock options and stock plans in compensation contracts. Incentives are thus mainly for short term goals, the main form of long term incentives being the possibility of promotion. The importance of incentive pay is further weakened by the fact that it is mainly based upon accounting measures of performance, that are prone to company manipulation.

Although the above features make the Italian system much more similar to the German and Japanese model than to the Anglo-Saxon model, there are important differences with the former model too. In the relationship based systems, banks and large shareholders perform an important monitoring role and replace the missing external

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[11]In 1990 mutual funds owned 8% of the equity of the companies listed on the Milan stock exchange [see Brioschi et al. (1990)]. The bill that allows pension funds to operate has yet to be approved.

[12]An exception has been the role of foreign institutional investors, among which CALPERS, in the fight to oust incumbent management of Olivetti after a long series of losses.

markets for corporate control[13]. De Cecco and Ferri (1994) and Barca (1996) argue that, despite of the importance of the banking system as a source of corporate funds[14], bank governance in Italy has been ineffective for several reasons. First, banks in Italy have in general preferred an arm's length relationship with their corporate customers and have not been involved in any significant monitoring activity. In most cases, banks lack in-house monitoring capabilities. Second, a distinctive feature of bank lending in Italy has been the widespread practice of multiple loans.[15] With multiple loans, a firm is financed at the same time by several banks, none of which acts as a main bank as in Germany or in Japan. This allows banks to share idiosyncratic risks but reduces their incentives to monitor firms both *ex ante* and *ex post*, contrary to the monitoring view of financial intermediation. Third, Barca (1996) argues that bank governance in Italy has been ineffective also because the legal procedures for turning control over to the banks and to other creditors are not well established. Everything else being equal, these factors imply lower outside control on managers and lower performance incentives than in the German and in the Japanese model.

The fact that the banking system in Italy is the primary source of outside corporate funds has two implications. First, since banks are not residual claimants when profits are high, the predominance of bank credit could generate weaker managerial incentives for the maximization of the shareholders' wealth and stronger incentives for conservationism [see Harris and Raviv (1990)]. As a consequence, managerial turnover and the relationship between pay and performance should be stronger for negative rather than for positive profits and stock returns[16]. Second, John and John (1993) argue that in a leveraged company an executive contract tying managerial pay to shareholders' wealth induces risk shifting incentives in the managers. Hence, the sensitivity of pay to firm performance should be lower the higher the debt-to-equity ratio. It is of interest to notice that Italian non-financial enterprises share with Japanese firms the lowest equity-to-assets ratio among the OECD large economies[17]

Two other features of Italian capitalism are worth mentioning. First, the role of the state in the Italian economy is quite large despite the beginning of privatization. State-controlled companies are a large fraction of the total[18] and their top managers are typically political appointees with careers less subject to market forces. Second, pension funds in Italy play a marginal role and the prevalence of state sponsored pension schemes substantially limit the possibility of using pensions as incentives for managers.

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[13]See Aoki (1988) for a discussion of the Japanese case.

[14]In 1993 banks accounted for 89% of firms' credit in Italy and Germany against 50% in the USA. See Borio (1995).

[15] Barca (1996) reports that the average number of banks financing a firm ranges from 5 for the smallest firms to 30 for the largest.

[16]This hypothesis, first expressed by Aoki (1990) and Kester (1991), is tested by Kaplan (1994a), who finds supportive evidence in a sample of US and Japanese managers.

[17]In 1995, this ratio was equal to 24% in Italy, 20% in Japan, 48% in the UK, 39% in Germany and 49% in the US. See De Bonis (1996).

[18] Barca (1996) reports that about 50% of medium and large Italian companies are state controlled.

Institutional differences go beyond corporate governance and involve managerial compensation as well. The empirical evidence based upon several compensation surveys suggests that the compensation of top executives in Italy is characterized both by the limited use of long-term incentives and other employee benefits, such as retirement and health benefits, and by the importance of base salary. According to the 1995 survey by Hewitt Associates[19], reported by the Wall Street Journal (1996), base salary accounts for 74% of total compensation of an Italian CEO, compared to 54% for a German CEO and to 40.4% for an American CEO. On the other hand, in the sample of firms surveyed, stock options and plans do not exist in Italy, while they cover on average 8.6% and 26.5% of total CEO pay in Germany and the US. The proportion of annual bonuses is fairly similar across the three countries and close to 20% of the total. Finally, employee benefits are as low as 2.2% of the total in Italy, compared to 12.5% and to 9.8% in Germany and in the US.

The small role of long term incentives in the remuneration of Italian executives is documented by the cross country compensation surveys by Towers-Perrin (1996), based on companies with approximately $250 million in annual sales. It turns out that long-term incentives in Italy are used only for CEOs which in 1995 represented about 4% of their total remuneration, against about 0% in Germany, 0% in Japan, 15% in the UK and 28% in the US. On the other hand, mandated company contributions, which include social security contributions, other compulsory benefit programs and severance pay, account for about 19.7% of total remuneration in Italy, 2.7% in Germany, 2.9% in Japan, 5.5% in the UK, and 2.3% in the US.

Finally, using the results of a survey by Hay Management Consultants on the pay of Italian executives, Rossi (1992) reports that variable pay was about 12% of the fixed pay from 1988 to 1991.

To summarize, it is reasonable to expect that the features of Italian capitalism that differ from both the Anglo-Saxon and the German-Japanese models affect managerial pay in a significant way. In particular, we expect that the above-mentioned characteristics of the Italian capital market, corporate governance and the specific relationship between banks and firms significantly reduce the sensitivity of managerial pay to firm performance. In the next two sections, we present some empirical evidence that corroborates this expectation.

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[19] Based on companies with median annual revenues of approximately $500 million in 1995.

4. Data Description

Source

Our data source is a survey of executive compensation in Italy conducted by an international consulting firm for the years 1993 and 1994.[20] This is the first set of individual data on executive pay made available for academic research in this country. We have information both on executive characteristics and on firm performance for a non-random sample of firms operating in Italy in 1993 and in 1994. Participating firms were asked to report on pay and personal characteristics of incumbents in a variety of jobs and managerial levels. Importantly, firms were allowed to select the managerial tasks to report on. Given this selection, the consulting firm required that firms report on a representative sample of incumbents for each task, if the number of incumbents was higher than 20 and on the universe if the number was lower than 20[21].

The data-set is not a panel, and only a few firms appear both in 1993 and in 1994 data. While the questionnaire used by the consulting firm is very similar in the two years, an important difference is that the industrial code of the firm is available only in 1994. Because of this we cannot consistently match 1993 data with industry information, as we do for 1994 data. While we have data only for two years, we hasten to stress that key information on firm performance is longer, because of the inclusion of retrospective data. In particular, for each year we know the value of accounting profits in the previous three accounting years.

Some of the firms in the original data-set do not report information on firm performance. After deleting these firms and a few observations with missing values, we pool the two cross sections and obtain a sample of 1,522 observations, that refer to managers in 74 private firms. The sample size decreases dramatically to only 260 observations when we focus only on those executives who are present in both years. Given the limited sample size in the longitudinal sample, the paper focuses exclusively on the data from the pooled cross sections.

As is often the case in this literature, our data have both strengths and weaknesses. On the positive side, the data include both top and middle managers. This allows us to study how the pay-performance relationship varies with the position in the corporate hierarchy[22]. We also have information on the firm ownership structure, and in particular on whether it is owned by nationals or by foreigners, on whether it belongs to a multinational or to a national group and on whether it is listed on a stock exchange. If we focus on the 74 firms included in the data used in the paper, 62% of these firms are owned by foreigners and 59% are not listed either on the domestic or on any foreign stock

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[20]Confidentiality requires that we do not disclose the name of the firm.

[21] Apparently, the sampling procedure is quite similar to that used for the US data studied by Leonard (1990).

[22]As Rosen (1992) has pointed out, lower ranking executives have not been studied much in the literature because public data are not available.

exchange. Almost all the foreign-owned firms (95%) are affiliated to a multinational group. This percentage is lower but still large (71%) among domestic-owned firms. Furthermore, while 56% of foreign-owned firms are quoted on the stock exchange (either in Italy or in the home country), only 14% of domestic-owned firms are listed. This information can be used to investigate some of the issues discussed in the previous section.

On the negative side, participation by firms in the survey is strictly voluntary. Because of this, our data are clearly affected by selection problems. Without additional information on the selection process, however, it is virtually impossible to evaluate both the size and the direction of the selection bias[23]. As Table 1 shows, the firms in our sample are also not representative of the universe of Italian firms. In particular three sectors (Chemical and Pharmaceuticals, Mechanical Equipment, and Electronics) which cover 12.6% of the universe, make up more than 60% of the firms in the sample. The distribution by firm size, measured by the number of employees, is also heavily skewed toward large and medium firms. More in detail, about 60% of the firms in the 1994 data have more than 500 employees, compared to 18.7% in the universe. Less than 10% of these firms have fewer than 100 employees, compared to 71.4 percent of the universe[24].

Second, because of the confidentiality agreement between the consulting company and the firms participating in the survey, the identity of the firms is not revealed to us and, consequently, we have not been able to integrate these data with other sources, for example with data on stock market returns.

The nature of our data clearly excludes an explicit comparative analysis, which could be affected in a substantial way by the fact that the sample of firms is not a representative sample of the Italian universe. Given the lack of previous studies in the Italian context, however, we believe that the analysis of this data-set is still useful as a first empirical benchmark on the relationship between managerial pay and firm performance in Italy.

Description of variables

<u>Executive compensation</u>. The data provide information on managers' gross earnings, where gross means before taxes (*NWAGE*). Earnings consist of base pay plus cost-of-living-adjustments, collective profit sharing-schemes and individual incentive pay. The different components of earnings are set either by individual bargaining or unilaterally by the firm to compensate individual merit and to meet job evaluation criteria[25]. Collective bargaining matters only for low-ranking managers. The survey does not provide information on long-term incentive plans such as stock options. Notice, however, that

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[23]Potential selection bias is a common problem in this empirical literature, that is often based on non-random samples. See for instance the data used by Leonard (1990), Abowd (1990) and Gerhart and Milkovich (1990) for the US.

[24] The data on the universe are from Contini (1995).

[25]See Costa (1990) and Rossi (1992).

stock options and stock plans are a very small fraction of total executive compensation in Italy[26]. Typically, individual incentive pay in Italy is linked to the achievement of specific targets and to firm performance [See Rossi (1992)]. We shall measure the importance of individual incentive pay with the variable *ISHARE,* the ratio of individual incentive pay to gross earnings.

<u>Firm Performance</u>. We use real accounting profits (Π) after taxes for the years 1991-94 as the measure of firm performance.[27] Although much of the economic literature has used the market rate of return on stocks, there are two arguments in favor of accounting measures in the Italian case. First, if stock prices are in general influenced by factors other than managerial effort, this is even more so in Italy because of the above mentioned imperfections of its capital markets. Second, more than half of the firms in our sample is not listed on any stock exchange.

We also define a dummy variable, *ASYMM*, (equal to 1 when profits in the current year decline with respect to the previous year; 0 otherwise), to capture potential short-term asymmetries in the pay-performance relationship and to verify whether firms penalize executives when performance is poor.

<u>Other Firm Characteristics</u>. As a measure of firm size we use the number of firm employees (*SIZE*). This measure is less likely to suffer from collinearity problems than sale revenues, the alternative measure often used in the literature[28]. Important firm-specific information used in this study includes the nationality of ownership (*OWNERSHIP* = 0 if Italian, 1 if foreign); whether the firm is listed on the Italian or on the home stock exchange, (*LISTED* = 1; 0 otherwise); and whether the firm is part of a multinational group (*MULTINATIONAL*=1; 0 if the firm is an independent company or is affiliated to a national group). We have information on the industrial code and can retrieve a measure of industrial performance, only for 1994. For this sub-sample, we try to measure the idiosyncratic variability of profits by *VARIANCE*, the variance of the residuals from the regression of firm profits on sectorial profits[29].

<u>Individual Characteristics</u>. The survey provides the following information on executives: his/her age (*AGE*) and education (*EDUCATION*=0 for primary or secondary education; 1 for higher levels); budget responsibility, *BUDGET*[30]; responsibility in international

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[26] See Section 3.

[27] Real profits are obtained by deflating nominal profits with the consumer price index. Rosen (1992) argues that it is not clear whether market or accounting returns are more informative for executive incentives. Stock market returns are less easy to manipulate but also contain spurious information.

[28] See the discussion in Ciscel and Carroll (1980).

[29] For the definition of sectoral profits see the paragraph on industry variables.

[30] BUDGET is a discrete variable ranging from 0 (no economic responsibility) to 15 (responsibility above 10 billion Lire).

operations of the firm, *IR*[31]; whether he/she is a member of the executive *COMMITTEE* (1 if member, 0 otherwise); hierarchical level (*LEVEL*)[32] and position or task (personnel manager, sales manager, director etc.). For each position, we define a dummy variable that is equal to 1 if the executive fills the position and to 0 otherwise.

Industry variables. Real sectorial profits, (*SP)*, used as a benchmark to test for the presence of relative performance evaluation, are taken from the Mediobanca (1995) survey of 1,760 firms, mainly in the manufacturing sector, for the years 1985-1994. This is not necessarily a representative sample of the universe of Italian medium and large firms. Sales revenues of the firms in the Mediobanca survey represent, however, a third of total sales of firms with more than 20 employees[33]. As an indicator of market structure, we use the concentration index (*CONC*) given by the percentage of the sales of the top five firms in the industry [See I.S.T.A.T. (1992)]. As already mentioned, industry variables can be used only for the 1994 data-set. Even in this case, there are 78 observations where the matching of the industry code to the Mediobanca code is virtually impossible.

Table 2 reports the descriptive statistics for the main variables both in 1993 and in 1994. Notice that the share of individual incentives, *ISHARE*, is between 9 and 10% of gross pay, depending on the year. This percentage is very close to the value found by Rossi (1992) in a much larger sample of firms operating in Italy surveyed by Hay Management Consultants.

Table 3 focuses on nominal gross earnings by hierarchical level in 1994. Nominal gross earnings vary with the position in the hierarchy, and earnings differentials between contiguous hierarchical levels increase as we move toward the top: while the average gross earnings of a manager in level 3 are only 19% higher than the earnings of managers in level 4, this differential rises to 103.2% when we compare top executives and managers in the second level. These differences could be driven, at least in part, by differences in individual and firm characteritics. We control for these characeristics in the next section of the paper. There are a number of possible explanations for this. Leonard (1990) suggests that, if corporate success is more closely linked to the performance of higher level executives[34], pay differentials can be justified by the greater marginal revenue product of top executives. The fact that pay differentials are larger at the top is also consistent with principal-agent theory under the hypothesis that the contribution of a top executive to firm success is easier to measure as profits are a less noisy signal of his/her effort. Larger pay differentials at the top are also predicted by tournament theory, which

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[31]IR is a discrete variable ranging from 0 (low responsibility) to 1 (key responsibility).
[32]LEVEL ranges from 1, the top level, to 4, the lowest executive level.
[33]Mediobanca (1995) is a proprietary data-set for which criteria of sample selection, firms identity, firms size, and number of firms in each industry are not available to the public.
[34] See also Rosen (1992).

suggests that wage premia should rise near the top of the hierarchy to compensate for the reduction in promotion prospects. Finally, it is worth noting that the share of incentive pay also varies with the hierarchical level. While individual incentives are as high, on average, as 18.3% of gross pay for top managers, this share falls to about 6% for the lowest managerial ranks.

5. Empirical Strategy

We use the data described in the previous section to address the following questions: a) how strong is the relationship between executive pay and firm performance?; b) does this relationship vary with the individual position in the hierarchy?; c) is there any evidence of career concerns and relative performance evaluation?; d) does product market concentration matter?; e) is the pay-performance relationship stronger when profits decline?; f) is this relationship affected by a measure of idiosyncratic risk?.

While our data do provide some answers, we warn the reader both about generalizations and about comparative exercises. As discussed in the previous section, ours is not a random sample of the firms operating in Italy. Hence, generalizations are not warranted and international comparisons may be driven by differences in the data-sets and not reflect genuine differences in pay design.

In spite of these shortcomings, our data are useful not only as a first investigation into the issue, but also because they contain useful information on the firm side that allows us to look into the following additional questions: a) does the ownership structure affect the pay-performance relationship?; b) does it matter whether the firm is listed or not on the stock exchange? Given the peculiar features of Italian capitalism, a sample that includes information both on national and on foreign-owned companies is informative.

To investigate the set of questions summarized above, we adopt the following strategy. First, we consider the following empirical specification

(1) $\ln WAGE_{it} = a + b_1 \Pi_{it} + b_2 \Pi_{it-1} + b_3 \Pi_{it-2} + b_4 AGE_{it} + b_5 AGE^2_{it} + b_6 EDUCATION_{it}$
$+ b_7 IR_{it} + b_8 BUDGET_{it} + b_9 COMMITTEE_{it} + b_{10} LISTED_{it} + b_{11} OWNERSHIP_{it}$
$+ b_{12} MULTINATIONAL_{it} + b_{13} SIZE_{it} + b_{14} X_{it} + e_{it}$

where *WAGE* is real gross gross earnings, obtained by deflating *NWAGE* with the consumer price index, *X* is a vector of occupational, location and year dummies, *i* and *t* denote the manager and the year, respectively. We estimate the relevant parameters, both for the full sample and for the top and the bottom hierarchical levels, using the pooled 1993 and 1994 cross sections. It is important to stress that the purpose of the above specification is only to capture the presence of partial correlations between the

dependent variable and the explanatory variables. As noted by Ehrenberg and Milkovich (1987), the presence of a correlation between executive pay and firm performance does not imply a causal effect and is not by itself evidence that tying compensation to performance will lead to better economic performance.

Notice that the log-linear specification is standard in this literature. Given the specific features of Italian capitalism, a preliminary question is whether this specification is capable of accounting, at least in part, for the observed variability of managerial pay in our data-set.

Next, we investigate whether there is evidence of relative performance evaluation by augmenting equation (1) with sectorial profits, both current and lagged once and twice. As mentioned above, the matching of firms to sectors is only possible for 1994 data, and we restrict our attention to this subset. Finally, we look at how pay-performance sensitivity is affected by firm and individual characteristics by augmenting equation (1) as follows

$$
\begin{aligned}
(2) \quad \ln WAGE_{it} = {} & a + b_1\Pi_{it} + b_2\Pi_{it-1} + b_3\Pi_{it-2} + b_4 AGE_{it} + b_5 AGE^2{}_{it} + b_6 EDUCATION_{it} \\
& + b_7 IR_{it} + b_8 BUDGET_{it} + b_9 COMMITTEE_{it} + b_{10} LISTED_{it} + b_{11} OWNERSHIP_{it} \\
& + b_{12} MULTINATIONAL_{it} + b_{13} SIZE_{it} + b_{15} CONC_{it} + b_{16} SP_{it} + b_{17} SP_{it-1} + b_{18} SP_{it-2} \\
& + (g_1 SIZE_{it} + g_2 CONC_{it} + g_3 BUDGET_{it} + g_4 IR_{it} + g_5 EDUCATION_{it} + g_6 AGE_{it} \\
& + g_7 COMMITTEE_{it} + g_8 VARIANCE_{it} + g_9 LISTED_{it} + g_{10} OWNERSHIP_{it} + g_{11} CONC_{it} \\
& + g_{12} MULTINATIONAL_{it} + g_{13} ASYMM_{it}) * \Pi_{it} + h_{it}
\end{aligned}
$$

that is, by interacting these characteristics with current real profits after including our measure of relative performance. Since variables such as *SP*, *VARIANCE* and *CONC* are available only for 1994, this additional regression is performed using only the most recent cross section.

6. Results and Discussion

We start the presentation of the empirical results with Table 4, which shows the estimates of equation (1) when the data-set consists of the pooled cross sections for 1993 and 1994. If we measure the goodness of fit with the adjusted R^2, we find that the empirical specification (1) accounts for about 45% of the total sum of squares in the full sample of 1.522 observations. This percentage rises to about 54% for top managers and falls to about 32% for middle to low management.

In this paper, we are particularly interested in the estimated sensitivity of executive pay to firm performance, both for the full sample and for the top and the bottom hierarchical levels. As a measure of sensitivity, we use the long-run semi-elasticity of gross earnings to profits, obtained by summing up the estimated coefficients of current and lagged profits. When we consider the full sample, the semi-elasticity of earnings to

profits is 0.0024 (T-ratio=6.29). When we focus upon different hierarchical levels, we find a semi-elasticity of 0.0038 (T-ratio=6.48) for the top ranks and of 0.002 (T-ratio=5.08) for the bottom ranks. These estimates imply that a 1-billion steady-state increase in real profits leads to an increase in gross earnings equal to 504 thousand lire for top managers and to 184 thousand lire for middle and low management. Hence, we find evidence that the pay-performance relationship is significantly positive, but fairly small, both in the full sample and in the two sub-samples.

We also find that earnings are higher for older managers with more education, higher international and budget responsibility who sit on the executive committee of the firm. Moreover, pay also varies with firm characteristics and is higher in larger firms (the coefficient *SIZE* is positive and significant; T-ratio=2.11), in firms that belong to a multinational group and lower in firms not listed on any stock exchange or with a foreign ownership.

Table 5 investigates whether managerial pay depends on relative performance by focusing only on 1994 data, which allow us to match firm-specific and sector-specific information. If relative performance matters, pay should increase with the firm's profits but fall with industrial profits, as the latter filter out common shocks that cannot be attributed to the team of managers in a single firm. We find evidence in favor of this hypothesis. In the full sample, the semi-elasticity of earnings to industrial profits is negative (-0.00011) and significant (T-ratio=-2.82), and the semi-elasticity to idiosyncratic profits is positive, as predicted by the theory. In the two sub-samples, however, we get mixed results. While the sub-sample of middle to low managers confirms the results obtained in the full sample, we find that both industrial and firm-specific profits have a positive impact of the earnings of top executives (respectively 0.00006, T-ratio=0.91, and 0.0037, T-ratio=5.39).

Next, we consider whether the relationship between managerial pay and firm performance varies with individual and firm characteristics (Table 6). Starting with the former, we find that the interaction between current profits and individual age attracts a negative sign, which suggests that the relationship between pay and performance becomes weaker as the age of the manager increases. This result is clearly in contrast with the career concern hypothesis, which predicts a positive relationship between the age of the manager and the semi-elasticity of pay to performance. The effect, however, is small: if we evaluate each variable in the interaction terms at its sample mean and compare the pay-performance sensitivity of a manager aged 30 with that of a manager aged 50, we find that the semi-elasticity for the former is about 10% larger than for the latter. More than age, what appears to matter for the relationship between the pay of top managers and performance (second column in the table) is education, being part of the executive committee and having budget responsibility in the firm.

Turning to firm characteristics, we find that firm size matters both for the level of pay and for the sensitivity of pay to performance. *Ceteris paribus*, larger firms pay their

managers more. On the other hand, the sensitivity of pay to performance is lower in larger firms for top managers, and higher for middle to low management. While firm size matters for the relationship between pay and performance, our measure of product market competition does not.

An interesting result is that pay is more sensitive to (current) profits when profits are falling: the interaction between current profits and the dummy *ASYMM* is always significant and with a positive coefficient[35]. Hence, we find evidence of nonlinearities in the relationship between pay and performance that is stronger when profits are falling. This result is in line with the evidence on asymmetric effects in pay determination reported by Kaplan (1994a) and discussed in section 3. Another finding is that pay is less sensitive to firm performance when the variance of profits increases. Standard incentive theory emphasizes the trade-off between incentives and insurance in pay design. If the manager is risk averse, this theory suggests that the sensitivity of pay to firm performance should be lower when the risk premium is higher. According to this set-up, the risk premium is a function both of a measure of risk aversion and of the variance of pay. When pay is related to firm performance, this variable depends on the variance of firm performance, measured in our case by accounting profits [36].

To sum up, we have found the following: a) managerial pay is sensitive to firm performance; b) there is evidence of relative performance evaluation; c) there is no evidence of career concerns in pay design; d) there are important asymmetries in the sensitivity of pay to firm performance; e) the pay-performance relationship is affected by standard measures of risk. We interpret these results as suggestive of the fact that the general model of executive pay, described by equations (1) and (2), which was originally developed to fit the Anglo-Saxon experience, is a useful tool for describing managerial pay in our unique data-set of firms operating in Italy. Whether this conclusion can be carried on to a representative sample of firms operating in the same environment remains an open question, which we cannot answer.

A relevant question that we can try to address, however, is whether the key features of Italian capitalism significantly influence the relationship between managerial pay and firm performance in our sample of firms. In our discussion of Italian capitalism, we have argued that the predominance of family business, the loose mechanisms of corporate governance, poor bank monitoring and the limited reliability of stock returns, suggest that the sensitivity of pay to performance should be lower in this environment than in the Anglo-Saxon and in the German-Japanese models of capitalism. An implication of this is that the sensitivity of pay to performance should be lower when firms have a domestic ownership, are not part of a multinational group and are not listed on the stock exchange. These firms are more likely to be affected by the key features of Italian

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[35] This finding is consistent with those reported by Kaplan (1994a) for the US and Japan and by Joskow and Rose (1994) for the US.

[36] See Milgrom and Roberts (1991).

capitalism. If our characterization of these features is correct, we should find that interacting the dummies *OWNERSHIP*, *MULTINATIONAL* and *LISTED* with current profits has significant effects on the relationship between pay and performance.

As shown in Table 6, we find that the interactions of *OWNERSHIP* and *MULTINATIONAL* with current profits are significant and positive. Hence, compared to the pay of managers who work for domestic-owned firms or for firms affiliated to a national group, the pay of managers working either for foreign-owned firms or for firms belonging to a multinational group is more sensitive to the current performance of these firms[37]. This is in line with our predictions. On the other hand, we find that the interaction of current profits with *LISTED* is not significantly different from zero. Therefore, there is no evidence in our data that being listed on the stock exchange matters for the pay-performance relationship.

One way to relate managerial pay to firm performance is to use individual incentive schemes that explicitly link rewards to firm performance. Additional evidence on the importance of the ownership structure of firms for the pay-performance relationship can be obtained by looking at the proportion of incentive pay on gross earnings. It turns out that in 1994 the average value of *ISHARE* was equal to 10.2% for foreign-owned firms and to 7.2% for domestic-owned firms. Focusing on whether firms are listed or not, we also find that the share of incentive pay is equal, on average, to 10% for listed firms and to 8% for unlisted firms. Finally, while *ISHARE* is equal, on average, to 10.9% in firms belonging to a multinational group, this percentage falls to 3.4% for firms belonging to a national group. This evidence confirms that the relationship between managerial pay and firm performance is likely to be stronger when firms are foreign owned, listed and affiliated to a multinational group.

7. Conclusions

Our results suggest that the specific economic environment in Italy affects the design of managerial pay in our data-set of firms. Since these data are drawn from a non-random sample of firms operating in Italy, however, our evidence is only preliminary and we cannot tell at this stage whether these findings hold in a representative sample of medium and large firms operating in Italy.

The analysis undertaken in this paper can be extended in a number of directions. First of all, we would like to control the selection of firms in the data-set by collecting additional information on the selection process. Second, we observe that, in Italy, banks provide a large fraction of outside funds in the form of both short term and long term multiple credit lines. Given the structure of standard debt contract, banks are typically not residual claimants of firm profits. Because of this, it would be interesting to study the

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[37]Due to the relatively small number of observations, the precision of the estimates for top managers is low.

relationship between the financial structure of firms and the design of executive pay. Third, it would also be interesting to investigate whether the presence of *ex-ante* incentive schemes affect firm performance in a significant way. Last but not least, managerial turnover and mobility between firms is an important avenue for earnings growth that we have ignored in this paper due to lack of suitable data.

Needless to say, a deeper investigation of the issues discussed in this paper requires, first of all, better and more detailed data and can only be left to future work.

Table 1. Percentage of Firms by Industry

Sector	% of firms in the universe (1992)	% of firms in our sample (1994)
Agriculture	**0.45**	**0**
Energy	**0.61**	**0**
Mining	**1.59**	**0**
Building components and materials	**3.93**	**1.06**
Chemicals and pharmaceuticals	**2.04**	**23.40**
Synthetic textiles	**0.05**	**0**
Mechanic and industrial equipment	**10.45**	**18.08**
Household appliances	**1.05**	**3.19**
Transportation equipment	**1.78**	**3.19**
Electronics	**0.15**	**21.27**
Other metal industries	**9.06**	**1.06**
Food and kindred products	**3.88**	**6.38**
Textiles mill products	**5.71**	**1.06**
Leather products	**1.07**	**0**
Textile and footwear	**9.26**	**3.19**
Printing and publishing	**3.36**	**3.19**
Rubber and misc. plastic products	**3.36**	**1.06**
Misc. manufacturing industries	**5.61**	**8.51**
Construction	**10.60**	**0**
Wholesale trade	**6.91**	**1.06**
Retail trade	**4.68**	**2.13**
Transports and related services	**4.25**	**1.06**
Hotel, restaurant and recreation	**2.08**	**0**
Repair, rental, business services	**6.87**	**1.06**

Source: ISTAT (1992).

Table 2. Descriptive statistics. By Year.

Variable	Sample Mean 1993	Sample Mean 1994
WAGE	105.048 (45.37)	100.752 (40.99)
AGE	47.240 (7.49)	47.237 (6.68)
EDUCATION	0.601	0.692
BUDGET	5.642	6.787
IR	1.376	1.518
LEVEL=1	0.018	0.019
LEVEL=2	0.193	0.241
LEVEL=3	0.401	0.388
LEVEL=4	0.385	0.351
COMMITTEE	0.296	0.306
ISHARE	0.097 (0.099)	0.088 (0.088)
SIZE	1,426 (1325)	1,390 (1236)
Π	11.315 (31.37)	-7.477 (70.66)
SP [a]	-	-102.092 (586.97)
$VARIANCE$ [a]	-	62.169 (176.45)
$CONC$ [a]	-	0.241
OWNERSHIP	0.484	0.513
LISTED	0.354	0.387
MULTINATIONAL	0.808	0.719
No. of observations	553	969

Note: [a] The average refers only to the observations for which the relevant information was available (N=901). Standard deviation in parentheses. Real gross earnings (WAGE) are in million LIT; real profits (Π) and the variance of profits (VARIANCE) are in billion LIT.

Table 3. Average Gross Earnings, Percentage Earnings Differentials by Hierarchical Level and Share of Individual Incentives on Gross Earnings Net of Incentives. 1994.

Variable	Mean
NWAGE Hierarchical Level 1	401.78 (112.57)
NWAGE Hierarchical Level 2	197.77 (68.09)
NWAGE Hierarchical Level 3	158.99 (50.28)
NWAGE Hierarchical Level 4	133.65 (34.46)
Percentage Diff 1-2	103.2 percent
Percentage Diff 2-3	24.3 percent
Percentage Diff 3-4	19.0 percent
ISHARE Hierarchical Level 1	0.183 (0.14)
ISHARE Hierarchical Level 2	0.124 (0.12)
ISHARE Hierarchical Level 3	0.086 (0.08)
ISHARE Hierarchical Level 4	0.059 (0.07)

Note: See Table 2.

Table 4. Earnings Equations. Basic Specification. All Managers and by Main Hierarchical Level.

Variable	Total	Hierarchical Levels 1 and 2	Hierarchical Levels 3 and 4
Constant	-3.674 (-12.22)	-4.389 (-7.59)	-3.655 (-10.79)
Π	0.00053 (3.43)	0.0008 (1.41)	0.0002 (1.45)
$\Pi(-1)$	-0.0041 (-5.73)	-0.0043 (-2.69)	-0.0032 (-3.84)
$\Pi(-2)$	0.0060 (7.59)	0.0072 (4.32)	0.005 (5.57)
AGE	0.039 (3.18)	0.070 (3.02)	0.036 (2.53)
AGE Squared	-0.0002 (-1.80)	-0.0006 (-2.30)	-0.0002 (-1.49)
EDUCATION	0.088 (5.68)	0.087 (2.57)	0.077 (4.73)
IR	0.081 (8.43)	0.080 (5.81)	0.039 (2.97)
BUDGET	0.011 (4.35)	0.008 (1.50)	0.009 (3.37)
COMMITTEE	0.125 (6.49)	-0.010 (-0.31)	0.119 (5.12)
LISTED	-0.061 (-3.66)	-0.100 (-3.27)	-0.031 (-1.71)
OWNERSHIP	-0.064 (-3.35)	-0.040 (-1.07)	-0.093 (-4.57)
MULTINATIONAL	0.049 (2.52)	0.087 (1.72)	0.048 (2.24)
SIZE	0.016 (2.00)	0.056 (3.04)	0.007 (0.76)
N. of observations	1,522	370	1,152
Adjusted R Squared	0.445	0.534	0.315

Note: Each regression includes 23 occupational dummies, a location dummy and a year dummy. T-ratios within parentheses.

Table 5. Earnings Equations. Specification Inclusive of a Measure of Relative Performance. All Managers and by Main Hierarchical Level. 1994 only.

Variable	Total	Hierarchical Levels 1 & 2	Hierarchical Levels 3 & 4
Constant	-4.354 (-12.68)	-4.331 (-5.94)	-4.323 (-11.06)
Π	0.00074 (3.64)	0.0005 (1.02)	0.0003 (1.20)
Π (-1)	-0.0030 (-2.89)	-0.003 (-2.00)	-0.0024 (-1.87)
Π (-2)	0.0054 (5.05)	0.006 (3.87)	0.0050 (3.94)
SP	-0.00019 (-2.37)	0.00005 (1.44)	-0.0001 (-1.03)
SP(-1)	0.00011 (4.03)	-0.00002 (-0.34)	0.0001 (4.14)
SP(-2)	-0.00003 (-1.52)	0.00002 (0.30)	-0.0001 (-1.57)
AGE	0.062 (4.29)	0.071 (2.52)	0.059 (3.70)
AGE Squared	-0.0004 (-3.22)	-0.0006 (-2.05)	-0.0004 (-2.82)
EDUCATION	0.084 (4.47)	0.019 (0.52)	0.084 (4.16)
IR	0.077 (6.31)	0.090 (5.68)	0.049 (3.01)
BUDGET	0.021 (5.91)	0.025 (3.05)	0.006 (1.51)
COMMITTEE	0.089 (4.03)	-0.082 (-2.01)	0.12 (4.13)
LISTED	-0.075 (-3.15)	-0.0004 (-0.01)	-0.091 (-2.88)
OWNERSHIP	0.049 (2.20)	0.019 (0.52)	0.007 (0.28)
MULTINATIONAL	0.043 (1.69)	-0.127 (-1.84)	-0.010 (-0.37)
SIZE	0.045 (4.60)	0.015 (0.96)	0.039 (3.35)
N. of observations	901	244	657
Adjusted R Squared	0.536	0.581	0.383

Notes: See Table 4.

Table 6. Earnings Equations. Specification Inclusive both of Relative Performance and of Interaction Terms. All Managers and by Main Hierarchical Level. 1994 only.

Variable	Total	Hierarchical Levels 1 & 2	Hierarchical Levels 3 & 4
Constant	-4.247 (-12.54)	-3.956 (-6.02)	-4.086 (-10.44)
Π	-0.0054 (-0.44)	0.043 (1.68)	-0.043 (-3.11)
$\Pi(-1)$	-0.0034 (-2.51)	-0.009 (-4.85)	-0.0016 (-0.92)
$\Pi(-2)$	0.0034 (1.98)	0.009 (3.49)	0.0011 (0.57)
SP	-0.00018 (-1.85)	0.00009 (0.59)	-0.0001 (-0.73)
SP(-1)	0.00009 (2.62)	-0.00007 (-1.28)	0.00012 (2.72)
SP(-2)	-0.00003 (-0.48)	0.00007 (0.97)	-0.00012 (-1.33)
AGE	0.057 (4.10)	0.052 (1.98)	0.049 (3.07)
AGE Squared	-0.0004 (-3.07)	-0.0004 (-1.48)	-0.0004 (-2.27)
EDUCATION	0.071 (3.73)	0.038 (1.01)	0.054 (2.56)
IR	0.073 (5.62)	0.081 (5.14)	0.058 (3.41)
BUDGET	0.022 (5.97)	0.027 (3.14)	0.007 (1.82)
COMMITTEE	0.113 (4.71)	-0.062 (-1.49)	0.14 (4.76)
LISTED	-0.088 (-3.40)	-0.022 (-0.58)	-0.091 (-2.59)
OWNERSHIP	0.084 (3.26)	0.128 (3.06)	0.077 (2.61)
MULTINATIONAL	-0.024 (-0.73)	-0.284 (-3.36)	-0.130 (-3.68)
CONC	-0.080 (-1.17)	-0.165 (-1.52)	0.056 (0.56)
SIZE	0.047 (3.75)	0.034 (1.72)	0.033 (2.12)
Π*SIZE	0.0003 (0.21)	-0.0058 (-1.87)	0.005 (2.86)
Π*CONC	-0.002 (-0.22)	0.0033 (0.26)	-0.0045 (-0.41)
Π*IR	0.00007 (0.14)	0.00009 (0.24)	-0.001 (-1.00)
Π*BUDGET	-0.00001 (-0.33)	0.0005 (2.12)	-0.00005 (-1.26)
Π*EDUCATION	-0.0002 (-0.83)	-0.0034 (-2.91)	-0.00039 (-2.08)
Π*AGE	-0.00003 (-1.80)	-0.0003 (-2.54)	-0.00003 (-2.28)
Π*COMMITTEE	-0.00004 (-0.04)	0.004 (1.92)	0.0021 (1.01)
Π*VARIANCE	-0.000006 (-2.58)	-0.00001 (-4.08)	-0.000001 (-0.22)
Π*LISTED	-0.001 (-0.71)	-0.0028 (-0.99)	-0.0014 (-0.76)
Π*OWNERSHIP	0.0043 (1.97)	-0.0005 (-0.10)	0.006 (2.49)
Π*MULTINATIONAL	0.004 (1.99)	0.0022 (0.56)	0.010 (3.81)
Π*ASYMM	0.0056 (3.52)	0.013 (4.06)	0.006 (3.11)
Number of observations	901	244	657
Adjusted R Squared	0.549	0.653	0.428

Notes: See Table 4.

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