# What Do CEOs Do?*

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**Abstract**

We develop a methodology to collect and analyze time diaries of top executives. Our idea – sketched out in a simple theoretical set-up – is that CEO time is a scarce resource and that its allocation can help us identify the firm's priorities as well as the presence of governance issues. We record the work-related activities of 103 CEOs of top-600 Italian firms over a pre-specified week. We find that CEOs differ a lot in how much time they spend at work and how much time they devote to outsiders (e.g. consultants, investors, banks, etc) vs insiders (employees of the firm). We relate these differences to firm performance and firm characteristics: we interpret the empirical findings within two versions of our model, one with effective corporate governance and one with imperfect governance.

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## 1 Introduction

Time management has been at the core of the research on management for almost fifty years. Peter Drucker (1966) makes it the centerpiece of his celebrated book on effective management: "Effective executives know that time is the limiting factor. The output of any process are set by the scarcest resource. In the process we call 'accomplishment', this is time."

More recently, the importance of time constraints for people at the top of organizational hierarchies has been recognized by a number of economic models, like Radner and Van Zandt's

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work on hierarchies,[1] Bolton and Dewatripont (1994), and Garicano (2000). Intellectual tasks – information processing in Radner-Van Zandt, communication in Bolton-Dewatripont, problem solving in Garicano – require managerial time, which is particularly scarce at the top of the organization. A key question in organization economics is then how managers should allocate their time optimally.

A CEO performs two roles: she manages the firm and she manages the firm's relationship with the outside world. According to Peter Drucker (2004), "The CEO is the link between the Inside that is the organization, and the Outside of society, economy, technology, markets, and customers. Inside there are only costs. Results are only on the outside." Here, we try to measure how much time CEOs devote to internal activities as opposed to external activities, and we try to relate it to firm and CEO characteristics.

There is no agreement on how outward-looking or inward-looking the CEO should be. On one side of the spectrum, Procter & Gamble's CEO A. G. Lafley views the link with the outside as the raison d'être of the top executive: "The CEO alone experiences the meaningful outside at an enterprise level and is responsible for understanding it, interpreting it, advocating for it, and presenting it so that the company can respond in a way that enables sustainable sales, profit, and total shareholder return (TSR) growth." According to this widely held view, an important – if not the most important – role of the CEO is to be the public face of the company and to network on its behalf.

However, in an influential book, Khurana (2002) articulates the view that the market for CEOs is deeply flawed. The search for external, charismatic "corporate saviors" leads boards – and the executive search companies they employ – to give their preference to highly visible personalities. In turn, this creates an incentive for CEOs to seek visibility, by cultivating personal connections with influential business leaders. Also, recent work by Malmendier and Tate (2009) study what happens when CEOs receive prestigious business awards, both interms of firm performance and CEO behavior. One of their findings is that award recipients appear to devote more time to writing books, playing golf, and sitting on boards of other companies.

The present paper contributes to this debate by attempting to study the outsider/insider focus in a direct way. We observe how a sample the time allocation of 103 CEOs. We record their activities over a pre-selected work week. In particular, we know how much time they spend with firm employees as opposed to other business contacts.

As hinted above, the idea behind this methodology is that CEO time is a scarce resource and its allocation can tell us about the priorities of CEOs and how they relate to the priorities of the firm. To structure our thinking, we develop a minimalistic model of managerial time

[1] See Van Zandt (1998) for a survey.

allocation. The CEO chooses how much time to devote to a number of possible work-related activities, or to leisure. Each of these activities yield a benefit to the firm (ie monitoring R&D increases the chance that the firm will develop new successful products, or networking with customers may increase sales). The activity can also yield a private benefit to the CEO, maybe because it may help her find a new job in the future as in Khurana, or because it provides direct ego rents or direct enjoyment, as in Malmendier and Tate.

We consider two scenarios. In an effective governance world, the CEO's incentives are perfectly aligned with the firm's incentives. Of course in this ideal world, the CEO still enjoys some leisure. However, the time she spends at work is allocated in a way that maximizes her firm's expected profit.

Instead, in an imperfect governance world, the CEO's incentives are only partly aligned with the firm's goals. The CEO allocates time to maximize a combination of firm goals and personal utility.

This set-up yields three simple implications:

1. In an effective governance world, firms' priorities determine time allocation. Differences in the CEOs pattern of time use are due to differences in firms' priorities.

2. In an imperfect governance world, time allocation does not identify firms' priorities. However: Suppose activities can be roughly divided into the ones that benefit mostly the firm (productive time) and those that benefit mostly the CEO (networking time). In an imperfect governance world, the observed correlation of firm productivity with productive time is greater than the observed correlation with networking time. This allows to use productivity regressions to identify time productivity.

3. In a world with imperfect governance, if we have a measure of firm governance we use CEO time allocation to identify productive time and networking time. Better governance reduces the ability of CEOs to devote time to unproductive activities.

We develop a new methodology to collect time use information from CEOs. To do so, we ask her personal assistant (PA) to keep a diary of the CEO's activity during a pre-specified week (from Monday to Friday). As Sadowski (2004) makes abundantly clear, a CEO cannot operate without the help of an effective PA. The PA has full control of his boss's schedule and he has a good understanding of the functions of the people that his boss interacts with.[2]

[2]Roxanne Sadowski was Jack Welch's long-term PA: "For more than fourteen years, I've been human answering machine, auto dialer, word processor, filtering system, and fact checker; been a sounding board, schlepper, buddy, and bearer of good and bad tidings; served as a scold, diplomat, repairperson, cheerleader and naysayer; and performed dozens of other roles under the title of 'assistant'."

The PA records all the activities of the CEO that last longer that 15 minutes as well as their characteristics. In particular, if the activity includes other people (meeting, event, phone conference, etc), the assistant lists the functions of the other people who were present. Insiders are listed by functional area: e.g. finance, marketing, human resources, etc. Outsiders belong to standard categories: e.g. suppliers, investors, consultants, etc.

Our main findings are:

- Our CEOs work on average 47.5 hours per week. As one would expect CEOs spend the majority of their time with other people (85%). On average, CEOs spend 42% of their time with insiders only, 25% with both insiders and outsiders and 16% with outsiders alone.

- These averages hide a great deal of heterogeneity, both in terms of number of hours worked and time allocation. In particular, a majority of CEOs spend very little time (less than 5 hours per week) alone with outsiders, while over 10% of them spend over 10 hours a week. A binomial test verifies that these differences are extremely unlikely to be due to noise.

- This heterogeneity in insider/outsider allocation is associated with CEO worktime. CEOs who work longer hours spend more time with insiders and working alone and less time (even in absolute terms) with outsiders. The finding is even stronger when one focuses on one-on-one meetinsg with outsiders. This result is robust to controlling for travel time and time spent on activities shorter than 15 minutes.

- Time spent with insiders is positively correlated with firm performance, while time spend with outsiders exhibits no significant correlation. This finding is difficult to interpret in a world with effective governance, while it accords well with prediction 2.

- Controlling for other firm characteristics, CEOs who work for multinationals spend more time with insiders but less with outsiders. CEOs who work for family-owned firms spend more time with insiders (unless they themselves are part of the owning family). These findings are not inconsistent with prediction 3

Our dataset is subject to a number of serious limitations, which deserve to be mentioned upfront. Besides the small size and its cross-sectional nature, there may be a serious selection bias due to the low response rate (18%). We do not observe work-related activities that the CEO may perform in the evenings or on weekends, as well as those that take less than 15 minutes. Plus, even within regular business hours, the PA may not be aware of all work-related activities or may not be willingg to report them. The majority of the firms in the

sample are not listed. We could only retrieve a reliable cv for about 80% of the CEOs in the sample. We try to tackle these problems at various points of the paper.

The paper is structured as follows. After a brief literature review, Section 2 explains our empirical methodology and provides descriptive statisticts. Section 3 presents a simple time allocation model. Section 4 reports further empirical findings based on our theoretical set-up.

### 1.1 Related Literature

To the best of our knowledge, this is the first paper that measures how CEOs spend their time. Time management is a common theme in the management literature on CEOs. Besides the above cited work by Drucker (1961), Lafley and Khurana, a number of other authors have discussed how managers allocate or should allocate their time. The closest exercise was performed by Luthans (1988), who records in detail the activities of 44 managers. Besides the obvious difference that our subjects are CEOs, the focus is quite different as Luthans' goal is to determine the determinants of a manager's success within his or her organization. Other celebrated management authors, such as Kotter or Mintzberg, also base their works on in-depth observation of managerial behavior, however they do not make use of systematic time use surveys.

The second part of our analysis, when we discuss the role of gorvernance, is related to the the vast literature on agency problems for CEOs (see the survey by Stein (2003)). Our paper studies one particular form of moral hazard, which relates to time allocation, and hence it is quite far from other types of misbehavior, such as resource Malmendier and Tate (2008), who study what happens when CEOs receive prestigious business awards, both interms of firm performance and CEO behavior. One of their findings is that award recipients appear to devote more time to writing books, playing golf, and sitting on boards of other companies.

Our paper is complementary to Bertrand and Schoar's (2003) analysis of management style through a panel data of matched CEO-firm observations. While their objective is to identify the fixed effect of individual managers, our goal is to use a direct behavior variable (time allocation) to make inferences on the implicit incentive structure that managers face.

## 2 The CEOs' Diaries: Descriptive Evidence on Different Time uses

### 2.1 Sources and Sample Description

Our main data source is a time use survey, which we designed to identify the activities CEOs engage in on a day-to-day basis. The survey effectively shadows the CEO through his PA

for every day over a one week period. The PA is asked to record real-time information on all the CEO's activities that last 15 minutes or longer in a time use diary. The diary records information on the type of activity (e.g. meetings, phone calls etc), its duration, its location, whether it was scheduled in advance and when, whether it is held regularly and how often. The diary also collects information on the number of participants, whether these belong to the firms or not, and their occupational areas for insiders (e.g. finance, marketing) and relation to the firm for outsiders (e.g. investors, suppliers). The PA is also asked to record the total time the CEO spends in activities that last 15 minutes or less and in transit. Each PA is randomly assigned one of five weeks between February 10 and March 14, 2007.

The master sample contains the top 800 Italian firms from the Dun&Bradstreet data base (2007) and the top 50 Italian banks from the list of all major Italian financial groups compiled yearly by the Research Division of Mediobanca, a leading Italian investment bank. Size is measured as yearly revenue for firms and as the average of (i) employment, (ii) Stock market capitalization; (iii) Total value of loan portfolio for banks. All 850 institutions were contacted to ascertain the identity and contact details of the CEO; this procedure yielded 720 complete records. Of these, 50 were randomly selected for a pilot survey and the remaining 670 formed the final sample. The response rate was 18%, yielding complete information on the time use of 119 CEOs.[3] To maintain comparability across individuals, we drop ten CEOs who also cover the role of "president". As part of the analysis relies on performance measures that cannot be compared between firms and banks (e.g. productivity), we drop banks from the sample. The final sample contains 103 CEOs.

We match the time use data with two further sources. The first is the Amadeus data base, which contains balance sheet data, firm size and demographics, and which can be matched to 99 firms in our sample. The second is a data-set that we created collating information from the firms' websites and from telephone interviews with the CEOs' personal assistant and that contains information on firm ownership and on the CEOs' curriculum vitae.

Table 1 describes our sample firms and CEOs. Panel 1A shows that manufacturing is the most common sector (40%) followed by Finance, Insurance and Real Estate (15%), Services (15%), Transportation, Communication and Utilities (13%), Wholesale and Retail (11%), Mining (3%) and Construction (3%). The median firm in our sample has 1,297 employees and its productivity (measured as value of sales over employees) is USD 620,000 per year.

[3] The implementation of the survey was outsourced to a professional survey firm, Carlo Erminero and co., headquartered in Milan. Sample CEOs received an official invitation letter from the Fondazione Rodolfo Debenedetti that sponsorsed this project, followed by a personal phone call explaining the purpose of the survey and the relevant confidentiality clauses. Upon acceptance, the survey was mailed to the PA identified by the CEO, who was asked to record the information and send back the completed forms via either fax or mail.

The sample covers different ownership structures: 40% of the sample firms are widely held, 20% belong to families, and the remainder is split between government, private individuals, private equity and cooperatives. Finally, the sample is evenly split between domestic firms, Italian multinationals and Italian subsidiaries of foreign multinationals.

Panel 1b provides information on the CEOs. Ninety-eight percent of the sample CEOs are male, and the average age is 53. One quarter of the sample CEOs have an MBA or other graduate degree, and half of them have had some international exposure either through work or education. Just under two thirds of the sample CEOs have been promoted internally, namely held a different position within the firm before becoming CEOs. On average, they have been CEOs for 3.54 years while the average tenure at the firm is 7.7 years.

## 2.2 CEOs' Time Use: Insiders vs Outsiders

Table 2 and Figure 1 illustrate how CEOs spend their time. The average CEO in our sample works 47.5 hours over a 5 day-week. We note that this only comprises the work hours known to the PA, and as such it does not include working time at home or at the weekend. The figure thus provides a lower bound on the working hours of the CEOs. Of these, 36.7 -just under 80%- are spent in activities that last 15 minutes or longer, for which the diary records detailed information. The rest of the analysis will focus on these activities that, reassuringly, comprise the bulk of the CEO's time.

Table 2 and Figure 1 show that, as expected, CEOs spend most of their time (85%) with other people. Meetings take up 60% of the working hours, and the remaining 25% is comprised of phone-calls, conference calls and public events. Our sample CEOs spend on average 15% of their time working alone. We note that this might be subject to measurement error, as the CEO might be in his office but not necessarily working. This is of little consequence for our analysis, which focusses on the time the CEO spends with other people.

We illustrate how the CEOs allocates their time across different categories of people, and especially on the distinction between people who belong to the firm (insiders) and those who do not (outsiders). The diaries reveal two interesting patterns. First, while insiders are present most of the time, CEOs also spend a considerable amount of time with outsiders alone. On average, CEOs spend 42% of their time with insiders only, 25% with both insiders and outsiders and 16% with outsiders alone. Second, time spent with insiders is evenly spread across different operational areas. Among the top five categories of insiders -ranked by total time spent, the ratio between the highest (finance: 8.6 hours) and the lowest (human resources: 5.4 hours) is 1.4.In contrast, consultants dominate among outsiders. Looking again at the top five categories by time spent, the ratio between the highest (consultants: 4.2 hours) and the lowest (suppliers: 1.2 hours) is 3.9.

More interestingly, we note that the average values hide a considerable amount of variation. Figure 2 shows the histograms of total recorded hours, and hours spent with different categories of people. There is considerable variation in hours worked: the CEO at the 90th percentile works 20 hours longer than the CEO at the 10th percentile (47 vs 27). The differences in hours spent with different participants are even starker. The CEOs at the 90th percentile devotes 35 weekly hours to activities where there is at least one insider, whereas the corresponding figure is 14 hours for the CEO at the 10th percentile. The CEOs at the 90th percentile devotes 11 weekly hours meeting alone with outsiders, whereas the CEO at the 10th percentile spends no time at all with outsiders alone.

CEOs thus appear to have different styles. Taking the share of time spent with outsiders alone as a summary measure, we see that half of the sample CEOs devote less than 10% of their working hours to outsiders alone, whereas the remaining half spends between 10% and 87% of their time with outsiders.

Finally, Table 1 shows that most of the variation in the time spent with insiders is on the intensive margin, between 80 and 90% of the CEOs meet with a representative of each of the top 5 categories of insiders at least once in the sample week. In contrast, the variation in the time spent with outsiders also comes from the extensive margin. For instance 35% of CEOs meet with banks and 47% with clients in the sample week. The next section will test whether the observed heterogeneity is consistent with observations being different realizations of the same distribution, or whether there is a systematic difference in CEOs' styles, that is how they allocate their time between insiders and outsiders.

# 3 A Model of CEO Time Allocation

The goal of this brief theory section is to illustrate our three key hypotheses:

1. In a world where CEOs' incentives are perfectly aligned, CEO time allocation reflects the production function of the CEO.

2. In a world with imperfect governance, the observed correlation of firm productivity with CEO time devoted to productive activities is greater than the observed correlation with time devoted to networking.

3. In a world with imperfect governance, if we have a measure of firm governance we use CEO time allocation to identify productive time use and networking time use.

These points can be made in a general model, but – in the interest of space and readability – we prefer to illustrate them in the simplest possible linear quadratic formulation.

The section ends by dealing with the connection between desired time allocation, which is the activity time distribution predicted by the model, and observed time allocation, which is the particular realization of the theoretical time distribution that we observe in our CEO diaries.

### 3.1 Definitions

The CEO faces $n$ activities and allocates non-negative time vector $(x_1, ..., x_I)$ to the activities.

The firm's production function is

$$Y = \sum_{i=1}^{n} \alpha_i x_i$$

The vector $\alpha$ describes the value of the top manager's time in all possible activities and it is determined by the firm technology and environment.

The CEO can also produce some personal rent (e.g. networking), with production function

$$R = \sum_{i=1}^{n} \rho_i x_i$$

The vector $\rho$ depends on characteristics of the the CEO and the institutional and economic environment he operates in.

The total cost of time for the CEO is

$$C = \frac{1}{2} \sum_{i=1}^{n} x_i^2.$$

There is an increasing marginal cost in devoting time to one particular activity, due either to the onset of boredom or to a lower time-efficiency (for instance, take the time devoted to having lunch with clients; the time spent to meet one client equals one hour for the meal plus transportation time; the CEO first meets the clients who are willing to come to the firm or those who work nearby; then he has to spend more time traveling if he wants to meet the ones in more distant locations).

The CEO's payoff is

$$u = bY + (1 - b) R - C.$$

The parameter $b$ plays an important role. It denotes the alignment between the firm's interests and the CEO's – implicit or explicit – incentive structure. If $b = 1$, the firm and the CEO have perfectly aligned interests. If $b = 0$, the CEO only pursues personal interest.

### 3.2 Efficiency Case

We begin by analyzing the extreme case where the CEO operates in the interest of the firm. The CEO solves

$$\max_x \sum_{i=1}^{n} \alpha_i x_i - \frac{1}{2} \sum_{i=1}^{n} x_i^2$$

and the solution is:

**Proposition 1** *In the perfect-alignment case case ($b = 1$), the CEO devotes time to activities in proportion to the relative value of the activities to the firm. Namely, given activities $i$ and $j$, the equilibrium allocation of time on the two activities ($\hat{x}_i$ and $\hat{x}_j$) satifies:*

$$\frac{\hat{x}_i}{\hat{x}_j} = \frac{\alpha_i}{\alpha_j}.$$

When the CEO's interest is perfectly aligned with the firm's, observing data on time allocation allows us to back out the relative importance of the different activitis in the eyes of the firm.

### 3.3 General Case

We now assume that $b \in (0, 1)$ and the CEO pursues both the firm's interest and his own. The solution to the CEO's maximization problem no longer implies that time is allocated accornding to the fir's needs. Given two activities $i$ and $j$, we have:

$$\frac{\hat{x}_i}{\hat{x}_j} = \frac{b\alpha_i + (1-b)\,\rho_i}{b\alpha_j + (1-b)\,\rho_j}.$$

We can draw two useful implications. First, assume that activities can be grouped into two sets: $I_Y$ and $I_R$. The first set – let's call elements of $I_Y$ productive activities – contains activities that benefits the firm but not the CEo ($\alpha_i > 0$ and $\rho_i = 0$), while the second one contains activities – let's call them networking activities – that are only beneficial to the CEO ($\alpha_i = 0$ and $\rho_i > 0$). Assume also that there are multiple firms-CEO pairs, each characterized by a vector $(\alpha_1, ..., \alpha_n)$ where $\alpha_i$ is drawn from some distribution $f_i(\alpha_i)$, with stochastic independence across $\alpha$'s.

We then observe a distribution of realized time allocations (a vector $\hat{x}$ for each firm) as well as a distribution of profits (a value $\hat{Y}$ for each firm). We can prove the following:

**Proposition 2** *In equilibrium, the cross-sectional correlation between the time $\hat{x}_i$ that the CEO devotes to an activity $i$ and firm's productivity $\hat{Y}$ is positive (zero) if activity $i$ is a*

*productive (networking) activity. Namely*

$$\begin{aligned} Corr\left(\hat{Y}, \hat{x}_i\right) &> 0 \text{ if } i \in I_Y; \\ Corr\left(\hat{Y}, \hat{x}_i\right) &= 0 \text{ if } i \in I_R. \end{aligned}$$

**Proof.** We have

$$Corr\left(\hat{Y}, \hat{x}_i\right) = Corr\left(\sum_{i=1}^{n} \alpha_i \hat{x}_i, \hat{x}_i\right) = \alpha_i,$$

which is strictly greater than zero if and only if $\alpha_i > 0$. ■

Second, consider two firms with different governanc standards. The first firm somehow manages to make sure that the CEO's incentive structure is better aligned: $b > b'$. Then we can show:

**Proposition 3** *A decrease in the quality of corporate governance induces the CEO to spend more time on networking activities and less time of productive activities. Namely, if* $b' > b$,

$$\begin{aligned} \hat{x}_i\left(b'\right) &< \hat{x}_i\left(b\right) \text{ if } i \in I_Y; \\ \hat{x}_i\left(b'\right) &> \hat{x}_i\left(b\right) \text{ if } i \in I_R. \end{aligned}$$

**Proof.** Immediate from the fact that the optimal time allocation satisfies

$$\hat{x}_i = b\alpha_i + (1-b)\,\rho_i.$$

■

# 4 Evidence on CEOs' Time Use

Guided by the theoretical framework we now explore the correlation between the time use of the CEO and three sets of variables: (i) CEOs' effort, (ii) firms performance and (iii) proxies of firm governance. It is key to stress that our analysis only uncovers equilibrium correlations, that is the nature of the data does not allow us to establish causal links. The analysis will however shed light on the set of assumptions under which the evidence can be made consistent with the two views of the world -perfect vs imperfect governance- formalized by the theoretical framework. We will discuss these in details at the end of this section.

## 4.1 CEOs' Time Use and Effort

The descriptive evidence in Figure 2 indicates that CEOs differ considerably both in the amount of time they work and in how they allocate this across different categories of people.

Our first test aims to assess whether effort -measured by hours worked- and time use are correlated. Namely do CEOs who work longer hours devote proportionately more time to insiders and outsiders? Or do CEOs who work longer hours have a different pattern of time use?

We proxy effort by the number of hours the diary records in detail- namely the total number of hours spent in activities longer than 15 minutes excluding travel. The results are qualitatively similar if we include the PA's estimate of the time devoted to activities shorter than 15 minutes and the time devoted to travel.

Under the reasonable assumption that if the CEO devotes some of his time to networking activities he is more likely to do so when no other firm employee is present, we focus on the distinction between time spent with at least one insider- with or without outsiders- and time spent with outsiders alone. Table 3 estimates the correlations between hours worked and time allocated to insiders and outsidersalone , conditional on firm size and industry dummies. Columns 1 and 2 show that there is a significant correlation between the total time the CEO spends at work and how he allocates this between different categories of people. In particular, the hours devoted to insiders increase in proportion to hours worked, whereas the hours spent with outsiders alone do not. The table reports the p-value of the test of the null hypothesis that the coefficient is equal to one- namely that hours with insiders (outsiders) increase in direct proportion to the hours worked. We find that the coefficient in the regression of the logarithm of hours spent with insiders on the logarithm of total hours is not statistically different from one, whereas the coefficient in the corresponding regression for hours spent with outsiders only is negative, and significantly different from one.

The next four columns show that the negative correlation between hours worked and hours spent with outsiders alone is driven exclusively by the fact that CEOs who work longer hours devote fewer hours to one-to-one meetings with outsiders alone. Columns 4 to 7 divide the time spent with insiders and outsiders into time spent with one or more categories of each. For instance, a meeting with investors would fall under the "one category of outsiders" heading, whereas a meeting with investors and consultants would fall under the "more than one category of outsiders" heading. Columns 4 and 5 show that the correlation between hours worked and time spent with insiders does not depend on whether these belong to one or more categories. In contrast, Columns 6 and 7 show that CEOs who work longer hours spend fewer hours in meetings alone with one type of outsiders only. The correlation with hours spent with more than one category of outsiders is positive but significantly less than one.

Columns 8 to 11 divide the time spent with insiders and outsiders according to the number of people participating in the activity. In line with the findings above, Columns 8 and 9 show

that the correlation between hours worked and time spent with insiders does not depend on the number of insiders present. In contrast, Column 10 shows that CEOs who work longer hours spend fewer hours in meetings with one or two outsiders and nobody else.

### 4.2 CEOs' Time Use and Firm Performance

For our next test we match the time use data with external measures of firm performance from the Amadeus database. Following the theory, we test whether the time the CEO spends with different categories of people is correlated with firm performance. As illustrated by the theory, all hours devoted to productive activities should be positively correlated with firm performance, namely the CEOs' time is an input in the production function. If, on the other hand, the CEO spends time on activities that benefit him but not the firm, the time dedicated to these activities should not be correlated to firm performance.

As for the previous test we maintain the assumption that if the CEO devotes some of his time to networking activities he is more likely to do so when no other firm employee is present. Hence we focus on the distinction between time spent with at least one insider- with or without outsiders- and time spent with outsiders alone.

Table 4 estimates the conditional correlation between firm performance and CEOs' time use controlling for firm size and industry dummies. Our main measure of performance is productivity, measured as the value of sales over employees, which is available for 99 of our 103 sample firms. Column 1 shows a strong positive correlation between hours worked and productivity. The coefficient is precisely estimated and implies that a one percentage point increase in CEOs' working hours is associated with a 1.34 percentage point increase in productivity. Column 2 shows that this correlation is entirely driven by the hours the CEOs spend with at least one other employee of the firm. A one percentage point increase in hours spent with at least one insider is associated with a .8 percentage points increase in productivity. In contrast, hours spent working alone and, most interestingly, hours spent with outsiders alone are not correlated with productivity. The coefficient is precisely estimated but small and not significantly different from zero. The test of equality of coefficients between hours with at least one insiders and hours with outsiders alone rejects the null at the 1% level.

Given that the CEO generally meets insiders at the firm's HQ, while he might meet outsiders in other locations, the results could be driven by measurement error if the time spent with outsiders comprises unproductive travel or setting-up time. Alternatively, the PA might have more precise information on the hours dedicated to a given activity if this takes place in the CEO's office, which is presumably close to hers, rather than on activities that take place away from the firm. To allay this concern, Column 3 splits the hours spent

with outsiders alone according to location. If this were driving the results, we would expect the time spent with outsiders at HQ to be positively correlated with firm productivity. The results indicate that however this is not the case. The coefficient on hours spent with outsiders is small, precisely estimated and not significantly different from zero regardless of where the activity takes place.

A related concern is that the PA might have more precise information about the duration of activities with insiders and hence measurement error would again introduce a downward bias on the coefficient on time with outsiders alone. To allay this concern we use information on whether the activity was scheduled in advance and recorded in the CEO's diary. Intuitively, activities that are planned in advance and already recorded should be measured more precisely. Columns 4 and 5 show that this form of measurement error was not driving the results either. The coefficient of hours spent with outsiders is small, precisely estimated and not significantly different from zero regardless of whether the activity was planned in advance. In contrast, the coefficient on hours spent with at least one insider is positive and significantly different from zero regardless of whether the activity was planned in advance.

While the pattern of time use is correlated with productivity, it might also be correlated to other unobservables- most notably the CEOs pay- so to leave the firm owners indifferent between having a hard working CEO who spends long hours with insiders and a CEO who works fewer hours and spends more time with outsiders alone. To assess the empirical relevance of this interpretation, Column (6) presents the conditional correlation between profits and time use. The results show that time spent with at least one insider is positively correlated with profits, whereas time spent with outsiders is not.

Finally, Columns 7 and 8 probe the robustness of the results to the inclusion of other inputs, namely capital and materials, and alternative definitions of performance, namely return on capital employed (ROCE). We note that these are available for a smaller set of our sample firms, yet it is reassuring to find that the main finding is robust to these alternative specifications. The only exception is that, while still much larger than the coefficient on hours with outsiders alone, the coefficient of hours spent with at least one insider is not precisely estimated when we measure productivity by ROCE. We note that the explanatory power is also much reduced in this specification.

### 4.3 CEO's Time Use and Firm Characteristics

Our final test analyzes the correlation between CEOs styles and firms characteristics that can be related to the quality of governance. Unfortunately, as only 20% of our sample firms are listed, we have no information on firms' statutes, e.g. dispositions on the protection of minority shareholders, checks and balances on the CEO's power and so on. We do however

have information on ownership and nationality, all of which can be related to the quality of governance. For instance, multinational firms are likely to face stronger competition as they act on many markets and are likely to have survived stronger competition to expand globally, hence might have an advantage at aligning the interests of their CEOs with the firms'. Second, compared to widely held firms, family firms might have a better monitoring technology because having only one owner they do not face coordination costs, or, if the CEO belongs to the family, his incentives might be perfectly aligned with the firm's. At the same time, however, a family's CEO objective might include non-monetary benefits that are in contrast with the firms' profit maximization objective and family CEOs are less accountable than CEOs in widely held corporations because they face a lower (often negligible) probability of dismissal.

Table 5 shows that all three characteristics are correlated with the CEOs' time use. Columns 1 and 2 show that CEOs of multinational firms, regardless of whether foreign or domestic, spend 39% more hours with at least one insider. CEOs of foreign (domestic) multinational firms spend 50% (26%) fewer hours with outsiders alone, but the coefficient is precisely estimated for foreign multinationals only.

Columns 3 to 6 show that CEOs of family firms also have different pattern of time use, but the difference depends on whether the CEO belongs to the family or not. Family CEOs in family firms spend 12% fewer hours with insiders,77% more with outsiders. In contrast non-family CEOs in family firms spend 35% more hours with insiders and 30% fewer with outsiders. This is in line with the literature (Perez-Gonzales, and others) that suggests that family CEOs might underperform because selected from a more restricted pool.

We note that part of the correlation between firms characteristics and CEOs' time use might be explained by the fact that firms with characteristics that are correlated with governance might select CEOs with different characteristics- e.g. firms that offer high powered performance pay might attract more talented CEOs. It is then interesting to assess whether and to what extent CEOs' time use is correlated to CEOs characteristics and whether these drive the correlation between firms' characteristics and CEOs' time use.

To this purpose we match our time use data with hand collected information on the curriculum vitae of the CEOs. This information is available for a subset of our sample CEOs (see Table 1). Table A1 in the Appendix shows that a large set of CEO characteristics or experiences (education, tenure) are not correlated with time use but there is a robust correlation between the CEO's experience abroad and his time use. In particular, CEOs who have either worked or studied abroad spend 33% more hours with inside and 62% fewer hours with outsiders. Like education, foreign experience can increase a CEOs' set of skills or be a signal of his underlying talent. Panel B in Table 5 reports the conditional correlations between CEOs'

time use and firms' characteristics controlling for the CEOs' experience abroad. All results are qualitatively similar but the coefficients of foreign multinationals are about 50% smaller, suggesting that part of the correlation between multinational status and CEO's time use is explained by the fact that foreign multinationals hire CEOs with different characteristics.

### 4.4 Interpretation: Perfect vs Imperfect Governance

The analysis above has illustrated a rich set of correlations between the CEOs' pattern of time use, his effort, and the performance and characteristics of the firm he leads. In particular we find that CEOs who work longer hours spend more time in activities that involve at least one insider and less time in activities where the CEO meets outsiders alone. Time spent with insiders is positively correlated with productivity and profits, whereas time spent with outsiders alone is not. Finally, time use is correlated with firm characteristics that might be seen as proxies for governance.

As illustrated in the theoretical framework, variations in time use can either be seen as optimal responses to different circumstances faced by different firms if the CEO's ad the firm's incentives are perfectly aligned ($b = 1$) or as consequences of differences in the quality of governance. We now make precise the conditions under which the findings can be reconciled with either the perfect and the imperfect governance view. It is important to stress that our data does not allow us to implement a formal test of the two models, but the rich set of correlations we uncover allows us to be precise about the set of assumptions needed to reconcile the findings with either view. We leave it to the reader to assess which is more plausible.

In the perfect governance view, where the CEO's ad the firm's incentives are perfectly aligned, the observed correlations must be due to shocks that affect the pattern of time use, hours worked, firm performance and firm characteristics as follows. First, shocks that increase the marginal return to CEO's effort- so that CEOs work longer hours, also increase the marginal product of time with at least one insider and at the same time decrease the marginal product of time alone with outsiders, especially so for time alone in one-to-one meetings. Second, shocks that increase the firm's productivity, also increase the marginal product of time with at least one insider and leave the marginal product of time alone with outsiders constant. Third, this type of shocks are more likely to hit multinationals (especially if foreign) and family firms but only when the CEO does not belong to the family, whereas symmetrically opposite shocks are more likely to hit family firms headed by family CEOs.

In the imperfect governance view, the observed variation in time use can derives from differences in governance that determine the extent to which the CEOs' interests are aligned with the firm. If we take this view, then the observed correlations have the following impli-

cations for the relationship between time use and governance. First, that time spent with insiders contributes to the firm's output while time spent *alone* with outsiders only benefits the CEO. Second, that firms with better governance hire CEOs who work longer hours and devote more time to productive activities and less time to activities that benefit them but not the firm. Third, that external CEOs hired by family firms devote more time to productive activities and less time to activities that benefit them, while the opposite holds for CEOs who belong to the family. This suggests that the incentives of external CEOs in family firms are better aligned than the incentives of CEOs in firms that are widely held, which is consistent with the view that family owners might have a comparative advantage in monitoring. The findings however also suggest that incentive alignment is worst for family CEOs- the category that spends most time with outsiders and least time with insiders. While these should have a sizeable claim on the firm's profits, the literature has suggested several reasons for why family CEOs might want to pursue objectives -such as petty projects, or the amenity value of control- that are at odds with profit maximization. The final implication is that CEOs of multinational firms- especially if foreign- adopt a more productive pattern of time use, which is consistent with the fact that these firms face global competition and therefore need to provide steeper incentives to maintain their productivity advantage.

# 5 Conclusions

[To Do]

# 6 Appendix 1: Desired Time Allocation and Observed Time Allocation

The points discussed in this section can be made in a much more general setting, but to fix ideas suppose that there are two firms (1 and 2) and two activities (a productive activity $y$ and a networking activity $r$). Assume that in both firms the CEO spends the same time at work (not a key assumption – but it allows us to use a binomial distribution rather than a multinomial one). Hence, time allocation is fully described by the proportion of time spent on the productive activity. Let's define

$$p = \frac{x_y}{x_y + x_r}$$

and $p_1$ represents the time allocation in firm 1 while $p_2$ represents the allocation in firm 2.

However, we do not observe $p_1$ and $p_2$ directly, but just the diary of the CEO's of the two firms for a certain amount of time. Suppose that each diary contains $T$ time slots. For

each CEO $j$, we observe the number of slots, $K_j$, devoted to activity $y$ (the other slots are by definition used for activity $r$)

### 6.0.1 No Autocorrelation Case

For now, assume that there is no time correlation between time slots or across CEO's. So that the probability that CEO $j \in \{1, 2\}$ engages in activity $r$ in time slot $t$ is simply $p_j$.

We are looking for a test of the hypothesis that the CEO have the same desired time allocation ($p_1 = p_2$ – null hypothesis) vs different allocations ($p_1 \neq p_2$ – alternative hypothesis).

The likelihood function given $p$ is

$$\begin{aligned} & L(K_1, K_2, p_1, p_2) \\ = \; & \tilde{f}(K_1, K_2 | p_1, p_2) \\ = \; & f(K_1|p_1) f(K_2|p_2) \\ = \; & \left( \begin{array}{c} T \\ K_1 \end{array} \right) p_1^{K_1} (1-p_1)^{T-K_1} \cdot \left( \begin{array}{c} T \\ K_2 \end{array} \right) p_2^{K_2} (1-p_2)^{T-K_2} \end{aligned}$$

The maximum value of the likelihood function for the null hypothesis is found through a maximization problem under the constraint ($p_1 = p_2 = p$), namely

$$\max_p L(K_1, K_2, p, p) = \max_p f(K_1|p) f(K_2|p);$$

while the maximum value of the likelihood function for the alternative hypothesis is given by the unconstrained maximization problem

$$\max_{p_1, p_2} L(K_1, K_2, p_1, p_2) = \max_{p_1} f(K_1|p_1) \cdot \max_{p_2} f(K_2|p_2).$$

Following classical statistical inference, we construct a maximum likelihood ratio:

$$\Lambda(K_1, K_2) = \frac{\max_p L(K_1, K_2, p, p)}{\max_{p_1, p_2} L(K_1, K_2, p_1, p_2)}$$

and we reject/accept the null hypothesis with a certain significance level based on whether the likelihood ratio is higher or lower than a certain critical value $c$.

In practice, if $T$ is sufficiently large we can apply the Central Limit Theorem and replace the binomial distribution $f(K_1|p)$ with its normal approximation.

### 6.0.2 Autocorrelation

The test proposed above may be biased against the null hypothesis if activity choice is positive autocorrelated across time.

To account for this problem, organise activities by days, so that $K_{t,j}$ represents the number of time slots in day $t$ that CEO $j$ devoted to the productive activity (for simplicity assume that the number of slots is the same in every day).

Now assume that the proportion of time that the CEO wishes to devote to a certain activity in a given day is given not only by the overall desired time allocation $p_j$ but also by what he did in the recent past. For instance, the firm is in the process of preparing the yearly budget and the CEO needs to spend more time than usual with the finance director. Let $\tilde{p}_{t,j}$ be the desired allocation in day $t$ by CEO $j$. We write

$$\tilde{p}_{t,j} = \rho \frac{K_{t-1,j}}{T_{t,j}} + (1-\rho)\, p_j$$

If $\rho = 0$, there is no autocorrelation and the model reduces to the model seen in the previous subsection. Of course, we assume that the econometrician does not know $\rho$.

Suppose – again for simplicity – that we only observe two days. The likelihood function for the second day is

$$\begin{aligned}
& L\left(K_{t=1,j=1}, K_{t=2,j=1}, K_{t=1,j=2}, K_{t=1,j=2}, p_1, p_2, \rho\right) \\
= \; & \tilde{f}\left(K_{t=1,j=1}, K_{t=2,j=1}, K_{t=1,j=2}, K_{t=1,j=2} | p_1, p_2, \rho\right) \\
= \; & f\left(K_{t=1,j=1}, K_{t=2,j=1} | p_1, \rho\right) f\left(K_{t=1,j=2}, K_{t=1,j=2} | p_2, \rho\right) \\
= \; & \left( \begin{array}{c} T_2 \\ K_{2,1} \end{array} \right) \tilde{p}_{2,1}^{K_{2,1}} \left(1 - \tilde{p}_{2,1}\right)^{T - K_{2,1}} \cdot \left( \begin{array}{c} T_2 \\ K_{2,2} \end{array} \right) \tilde{p}_{2,1}^{K_{2,2}} \left(1 - \tilde{p}_{2,1}\right)^{T - K_{2,2}} \\
= \; & \left( \begin{array}{c} T_2 \\ K_{2,1} \end{array} \right) \left( \rho \frac{K_{1,1}}{T_{1,1}} + (1-\rho)\, p_1 \right)^{K_{2,1}} \left( 1 - \rho \frac{K_{1,1}}{T_{1,1}} - (1-\rho)\, p_1 \right)^{T_2 - K_{2,1}} \\
& \cdot \left( \begin{array}{c} T_2 \\ K_{2,2} \end{array} \right) \left( \rho \frac{K_{1,2}}{T_{1,2}} + (1-\rho)\, p_2 \right)^{K_{2,2}} \left( 1 - \rho \frac{K_{1,2}}{T_{1,2}} - (1-\rho)\, p_2 \right)^{T_2 - K_{2,2}}
\end{aligned}$$

The maximum likelihood ratio is now

$$\Lambda\left(K_{1,1}, K_{1,2}, K_{2,1}, K_{2,2}\right) = \frac{\max_p L\left(K_{1,1}, K_{1,2}, K_{2,1}, K_{2,2}, p, p, \rho\right)}{\max_{p_1, p_2} L\left(K_{1,1}, K_{1,2}, K_{2,1}, K_{2,2}, p_1, p_2, \rho\right)}$$

and one can perform an analogous hypothesis test.

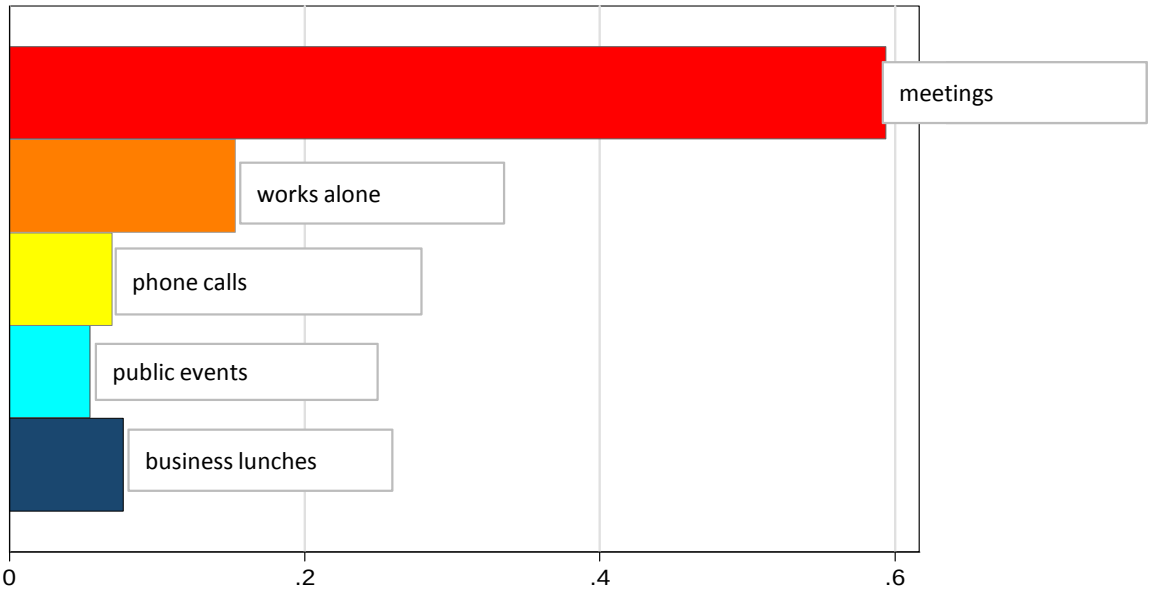
A by-product of this test is an estimated value for the autocorrelation parameter $\rho$.

# 7 References

[TO DO]

FIGURE 1: WHAT CEOs DO

1.A Share of time devoted to different activities




1B. Share of time spent with different categories of people

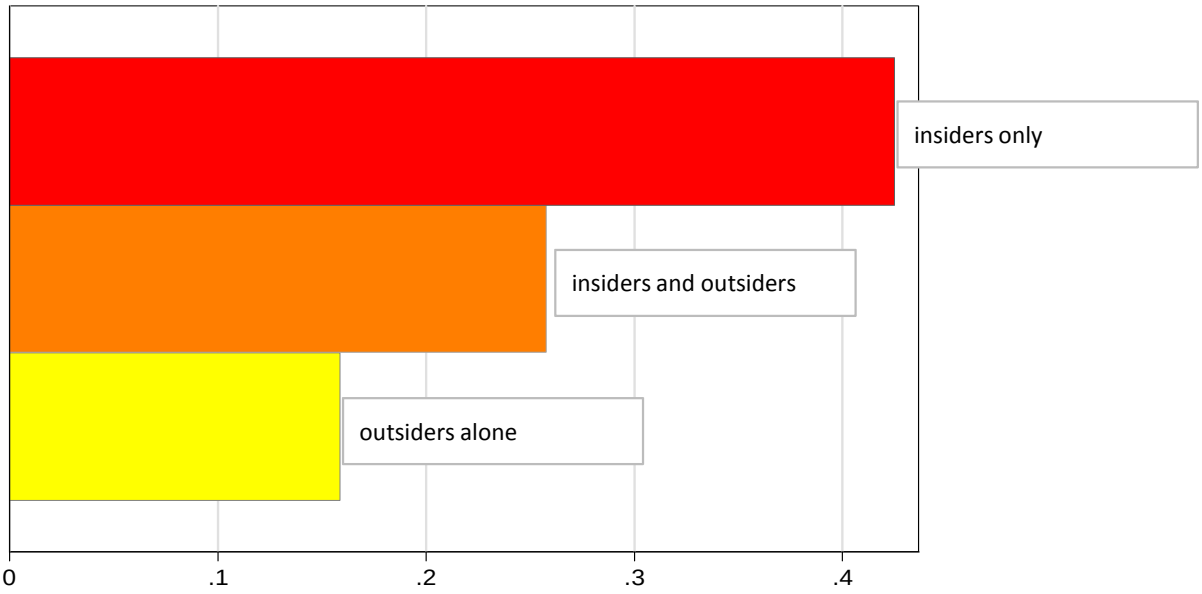
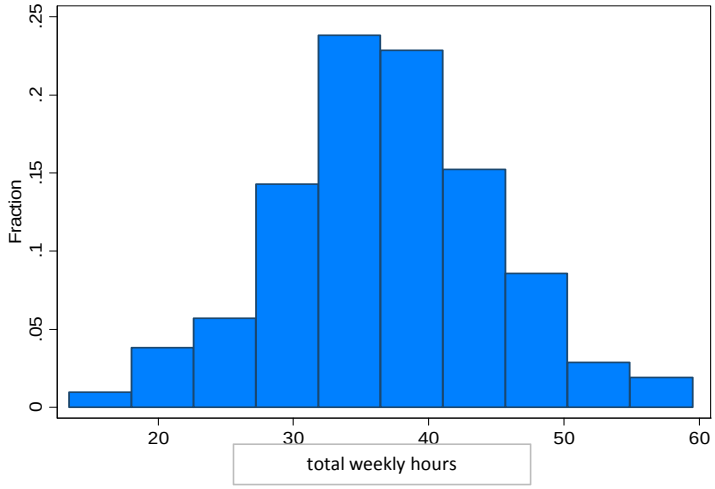
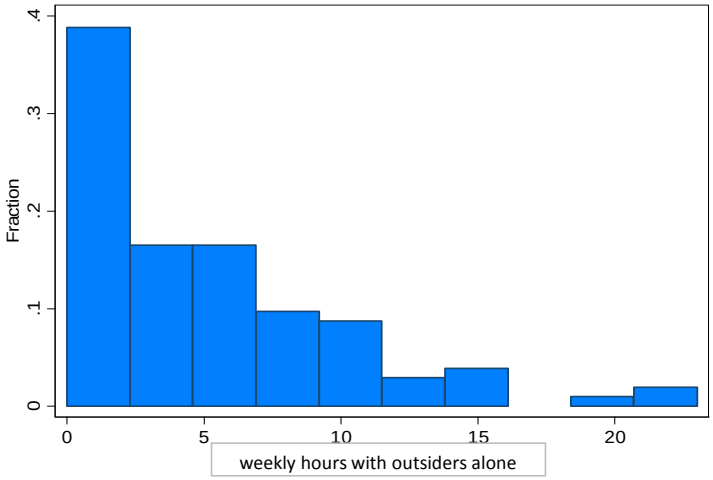


**FIGURE 2: CEOs' STYLES**

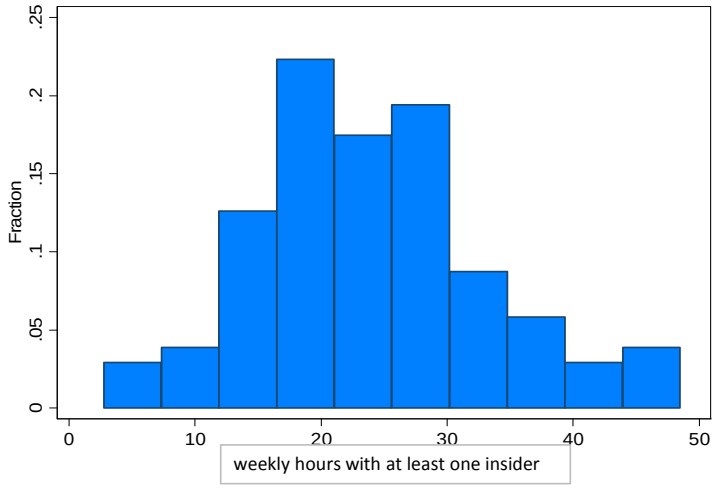
2A. Hours Worked




2B. Hours spent with outsiders alone




2C. Hours spent with at least one insider




Note: Weekly hours are computed as the sum of time spent in all activities longer than fifteen minutes. Weekly hours with outsiders alone is the sum of time spent in all activities where the CEO was alone with outsiders for longer than fifteen minutes. Weekly hours with outsiders alone is the sum of time spent in all activities where the CEO was with at least one insider for

**Table 1 Sample Descriptives**

| **1.A Firms** | Mean | Median | Std. Dev. | Obs |
|---|---|---|---|---|
| Size (Number of Employees) | 8140 | 1297 | 29260 | 99 |
| Productivity (Sales/Employees X1000 USD) | 3748 | 620 | 12296 | 99 |
| Sector: (%) | | | | 103 |
| *Manufacturing* | 39.4 | | | |
| *Services* | 15.1 | | | |
| *Finance, Insurance, Real Estate* | 15.1 | | | |
| *Transportation and Communication* | 13.1 | | | |
| *Wholesale and Retail* | 11.1 | | | |
| *Mining* | 3 | | | |
| *Construction* | 3 | | | |
| Ownership (%) | | | | 99 |
| *Widely Held* | 38.4 | | | |
| *Family* | 21.1 | | | |
| *State* | 18.2 | | | |
| *Other* | 22.2 | | | |
| Nationality (%) | | | | 98 |
| *Domestic* | 32.7 | | | |
| *Italian MNE* | 32.7 | | | |
| *Foreign MNE* | 34.6 | | | |
| **1.B. CEOs** | | | | |
| Gender (=1 if female) | 0.02 | | | 103 |
| Age | 53.1 | 53.5 | 7.57 | 82 |
| MBA or other graduate degree (=1 if yes) | 0.24 | | | 90 |
| Work or study experience abroad (=1 if yes) | 0.53 | | | 88 |
| Promoted internally (=1 if yes) | 0.63 | | | 70 |
| Tenure as CEOs | 3.54 | 2 | 5.34 | 74 |
| Tenure in firm | 7.7 | 2.5 | 9.89 | 70 |

**TABLE 2: CEOs' Time Use**

| | Average | Share of CEOs with hrs>0 | Average Hours (if >0) |
|---|---|---|---|
| Total Hours | 47.5 | | |
| | (9.85) | | |
| Total Hours Recorded | 36.89 | | |
| | (8.20) | | |
| Working Alone | 5.78 | | |
| | (4.87) | | |
| Insiders Only | 14.72 | | |
| | (8.67) | | |
| Outsiders Only | 5.00 | | |
| | (4.97) | | |
| Insiders and Outsiders | 8.95 | | |
| | (6.62) | | |
| **Insiders, Top 5 Categories:** | | | |
| Finance | 8.64 | .93 | 9.26 |
| | (6.92) | | (6.74) |
| Marketing | 8.09 | .87 | 9.32 |
| | (7.40) | | (7.18) |
| BU Directors | 6.7 | .82 | 8.18 |
| | (7.19) | | (7.15) |
| Strategy | 5.69 | .79 | 7.20 |
| | (5.91) | | (5.78) |
| Human Resources | 5.42 | .87 | 6.26 |
| | (5.74) | | (5.72) |
| **Outsiders, Top 5 Categories** | | | |
| Clients | 2.56 | .47 | 5.49 |
| | (3.97) | | (4.20) |
| Suppliers | 1.19 | .39 | 3.05 |
| | (2.13) | | (2.44) |
| Investors | 1.82 | .41 | 4.44 |
| | (3.18) | | (3.62) |
| Consultants | 4.72 | .78 | 6.04 |
| | (4.83) | | (4.68) |
| Banks | 1.34 | .35 | 3.81 |
| | (2.62) | | (3.18) |

**TABLE 3. CEOs' Time Use and Hours Worked**

| log(total hours) spent: | with at least one insider | with outsiders only | with one category of insiders | with more than one category of insiders | with one category of ousiders | with more than one category of outsiders | with fewer than 2 participants and at least one insider | with more than 2 participants and at least one insider | with outsiders only and fewer than 2 participants | with outsiders only and more than 2 participants |
|---|---|---|---|---|---|---|---|---|---|---|
| log (total hours) | 1.145*** | -0.467 | 0.923*** | 0.991** | -0.650* | 0.357* | 0.639** | 1.321*** | -0.570* | -0.071 |
| | (0.146) | (0.348) | (0.265) | (0.418) | (0.334) | (0.214) | (0.309) | (0.204) | (0.302) | (0.387) |
| H0: log(total hours)=1 | 0.323 | .000 | .773 | .983 | .000 | .003 | .247 | .119 | .000 | .007 |
| Adjusted R-squared | 0.456 | 0.019 | 0.041 | 0.139 | 0.024 | 0.046 | 0.026 | 0.409 | 0.021 | -0.010 |
| Firm Size | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Industry Dummies | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Observations | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 99 |

**Table 4: CEOs' Time Use and Firm Performance**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| dependent variable: | Log(productivity) | Log(productivity) | Log(productivity) | Log(productivity) | Log(productivity) | Profits/Employees | Log(productivity) | ROCE |
| Total hours | 1.430** | | | | | | | |
| | (0.577) | | | | | | | |
| Total hours working alone | | 0.120 | 0.149 | 0.154 | 0.099 | 24.155 | 0.106 | 2.528 |
| | | (0.162) | (0.160) | (0.160) | (0.182) | (14.716) | (0.144) | (2.374) |
| Total hours with at least one insider | | 0.832** | 0.879** | 0.881** | | 78.384** | 0.614** | 9.770 |
| | | (0.368) | (0.363) | (0.356) | | (37.770) | (0.269) | (8.569) |
| Total hours with outsiders only | | 0.185 | | | | 23.399 | 0.112 | -0.306 |
| | | (0.221) | | | | (14.905) | (0.119) | (2.755) |
| Total hours with outsiders at HQ | | | 0.153 | | | | | |
| | | | (0.238) | | | | | |
| Total hours with outsiders outside | | | 0.176 | | | | | |
| | | | (0.154) | | | | | |
| Total hours with outsiders planned in advance | | | | 0.224 | 0.260 | | | |
| | | | | (0.189) | (0.196) | | | |
| Total hours with outsiders unplanned | | | | -0.157 | -0.251 | | | |
| | | | | (0.286) | (0.272) | | | |
| Total hours with insiders planned in advance | | | | | 0.578** | | | |
| | | | | | (0.280) | | | |
| Total hours with insiders unplanned | | | | | 0.439* | | | |
| | | | | | (0.240) | | | |
| **H0: hours with insiders=hours with outsiders** | | **.010** | **.008** | **.012** | | **.078** | **.052** | **.262** |
| H0: hours with outsiders at HQ=hours with outsiders outside | | | .919 | .227 | | | | |
| H0: hours with insiders planned=hours with insiders unplannec | | | | | .675 | | | |
| H0: hours with outsiders planned=hours with outsiders unplanned | | | | | .100 | | | |
| Industry Dummies | yes | yes | yes | yes | yes | yes | yes | yes |
| Controls | size | size | size | size | size | size | size, logk, log materials | size |
| Adjusted R-squared | 0.290 | 0.267 | 0.262 | 0.264 | 0.268 | 0.245 | 0.643 | 0.066 |
| Observations | 99 | 99 | 99 | 99 | 99 | 98 | 81 | 88 |

**TABLE 5A. CEOs' TIME USE AND FIRM'S CHARACTERISTICS**

| log(total hours) spent with: | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only |
|---|---|---|---|---|---|---|---|---|
| Foreign MNE | 0.330*** | -0.711*** | | | | | 0.310*** | -0.643*** |
| | (0.101) | (0.217) | | | | | (0.108) | (0.232) |
| Italian MNE | 0.327** | -0.304 | | | | | 0.231* | -0.144 |
| | (0.125) | (0.220) | | | | | (0.133) | (0.242) |
| Family Firm | | | 0.051 | 0.045 | 0.290** | -0.376 | 0.244* | -0.468 |
| | | | (0.104) | (0.225) | (0.124) | (0.263) | (0.129) | (0.287) |
| Family FirmX Family CEO | | | | | -0.425*** | 0.946*** | -0.308** | 0.781** |
| | | | | | (0.137) | (0.356) | (0.145) | (0.378) |
| Industry Dummies | yes | yes | yes | yes | yes | yes | yes | yes |
| Firm Size | yes | yes | yes | yes | yes | yes | yes | yes |
| Adjusted R-squared | 0.230 | 0.179 | 0.116 | 0.086 | 0.190 | 0.137 | 0.272 | 0.216 |
| Observations | 98 | 98 | 99 | 99 | 96 | 96 | 95 | 95 |

**TABLE 5B. CEOs TIME USE, CEOs and FIRM'S CHARACTERISTICS**

| log(total hours) spent with: | with at least one insider | with outsiders only | with at least one insider | with outsiders only |
|---|---|---|---|---|
| Foreign MNE | 0.302*** | -0.665*** | 0.195 | -0.338 |
| | (0.113) | (0.245) | (0.130) | (0.257) |
| Italian MNE | 0.261* | -0.109 | 0.260* | -0.105 |
| | (0.155) | (0.272) | (0.148) | (0.234) |
| Family Firm | 0.226 | -0.588 | 0.215 | -0.553* |
| | (0.167) | (0.406) | (0.141) | (0.293) |
| Family FirmX Family CEO | -0.340* | 0.836* | -0.320** | 0.774** |
| | (0.171) | (0.456) | (0.151) | (0.362) |
| Work or Study Experience Abroad (=1 if yes) | | | 0.270*** | -0.826*** |
| | | | (0.093) | (0.213) |
| Industry Dummies | yes | yes | yes | yes |
| Firm Size | yes | yes | yes | yes |
| Adjusted R-squared | 0.317 | 0.212 | 0.373 | 0.330 |
| Observations | 81 | 81 | 81 | 81 |

**TABLE A1. CEOs' Time Use and CEOs' Characteristics**

| log(total hours) spent with: | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only | with at least one insider | with outsiders only |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MBA or other graduate education (=1 if yes) | 0.175* | -0.197 | | | | | | | | | | | 0.117 | 0.058 |
| | (0.095) | (0.246) | | | | | | | | | | | (0.105) | (0.320) |
| Work or Study Experience Abroad (=1 if yes) | | | 0.332*** | -0.950*** | | | | | | | | | 0.258** | -0.773*** |
| | | | (0.074) | (0.188) | | | | | | | | | (0.108) | (0.268) |
| Internally promoted (=1 if yes) | | | | | 0.028 | -0.385 | | | | | | | -0.092 | 0.252 |
| | | | | | (0.101) | (0.236) | | | | | | | (0.218) | (0.501) |
| Tenure as CEO | | | | | | | -0.002 | 0.050 | | | | | 0.050 | 0.071 |
| | | | | | | | (0.051) | (0.145) | | | | | (0.044) | (0.140) |
| Tenure in other jobs, same firm | | | | | | | | | 0.014 | -0.173* | | | 0.034 | -0.176 |
| | | | | | | | | | (0.035) | (0.094) | | | (0.079) | (0.185) |
| Age | | | | | | | | | | | -0.654* | 0.384 | -0.599 | 0.595 |
| | | | | | | | | | | | (0.380) | (0.803) | (0.395) | (0.950) |
| Industry Dummies | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Firm Size | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| R-squared | 0.194 | 0.087 | 0.283 | 0.277 | 0.255 | 0.127 | 0.170 | 0.073 | 0.255 | 0.145 | 0.183 | 0.066 | 0.415 | 0.255 |
| Observations | 86 | 86 | 84 | 84 | 68 | 68 | 71 | 71 | 68 | 68 | 79 | 79 | 62 | 62 |