Importance of Managers for Corporate Policies: Evidences of Fixed Management Effects in Brazil

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Abstract

Most Economics and Finance research relegates the possible influence of managers' personal characteristics or "style" on the main corporate policies and company performance to a secondary level, preferably looking at market, activity sector or company characteristics. However, increasing theoretical and empirical literature shows that managers' idiosyncrasies, opinion differences and business "views" can substantially affect corporate performance and decisions. This study presents the first evidence in the Brazilian market of the so-called "fixed management effects", using a sample of publicly traded companies that were observed between 1998 and 2003. More specifically, there are signs that manager changes (Chief Executive Officer or Chairman of the Board) during this period are associated with significant variations in capital structure and Tobin's q of the sample components, even after isolating the specific effects of time and companies, besides a wide range of their observable attributes. In addition, this study proposes improved strategies for the empirical identification of management effects in comparison with earlier methods.

Key-words: Fixed Management Effects, Capital Structure, Behavioral Finance, Corporate Decisions and Policies, Methodological Issues.

EFM classification: 120, 140, 220.

1 Introduction

To what extent are companies' performance and policies influenced by their main managers? In other words, is the heterogeneity of opinions and view or, more generically, of "management style" among high administration members relevant to explain behavioral and performance variations among companies and over time? Finance researchers have only recently started to address this kind of question directly, giving rise to an important academic debate.

In the business community, managers' personal style is commonly considered as a key factor for the company's course. According to the former Chief Executive Officer of Citicorp John Reed: "In the old days I would have said it was capital, history, the name of the bank. Garbage – it's about the guy at the top. I am very much a process person, a builder. Sandy [Weil] is an acquirer. Just totally different." (BERTRAND; SCHOAR, 2003, p. 1169-70). On the other hand, most Economics and Finance research looks at market, activity sector or company characteristics, ignoring the possible influence of managers' heterogeneous views and styles.

The prevalent approaches in Finance studies seem to be in line with the so-called "school of restrictions", a thought line according to which managers' actions are too constrained by environmental and internal restrictions to the company for their personal styles to exert a significant impact on organizational performance or policies. At the other end, the "leadership school" defends that organizational leaders' personal characteristics exert significant influence on their performance (WASSERMAN et al., 2001).

This research uses a sample of Brazilian publicly-traded companies, observed between 1998 and 2003, to empirically examine whether, on the average, changes in Chief Executive Officer and Chairman of the Board during the study period exerted a significant impact on some performance or market value ratios, besides corporate finance policies. Empirical methods attempt to isolate the so-called "fixed management effects" and test their significance, based on the procedures used by Bertrand and Schoar (*Op. cit.*), but proposing methodological improvements in some strategies adopted by these authors. Specifically, the analyzed corporate variables are: companies' accounting and market leverage degree, profitability measures based on two operational profit versions, Tobin's q, the ratio between shares' market value and equity value, and two ratios related to companies' dividend distribution policy.

The results suggest that some corporate policies and companies' market value can be significantly influenced by their main managers' idiosyncrasies. In particular, manager

changes were consistently associated with variations in companies' relative indebtedness level and Tobin's q. The results are weaker or insignificant for the other variables. As far as we know, this study presents the first evidence of fixed management effects in Brazil, adding up to the incipient but growing international literature.

The rest of this paper is structured as follows: section 2 presents a short discussion of theory and earlier empirical studies. Section 3 presents data and discusses the research method. Section 4 discusses the main results and section 5 presents final considerations.

2 Theoretical discussion and earlier studies

According to Bertrand and Schoar (*Ibid*., p. 1173):

> Many empirical studies of corporate decisions implicitly assume a neoclassical view of the firm in which top managers are homogeneous and selfless inputs into the production process. Under this quite narrow view, different managers are regarded as perfect substitutes for one another. An even more extreme assumption is that top managers simply do not matter for what is going on within the firm. While executives might differ in their preferences, risk-aversion or skills levels, none of this translates into actual corporate policies, if a single person cannot easily affect these policies. Under either of these scenarios, we would not expect individual managers to matter for corporate decisions. Two firms sharing similar technologies, factor and product market conditions will make similar choices, whether or not they also share the same management team.

The arguments listed above, especially in the last part of the paragraph, fit into the so-called "school of restrictions" (WASSERMAN et al., *op*. *cit*.). In this line of reasoning, Hannan and Freeman (1989) argue that different reasons justify managers' little active behavior. Sources of organizational inertia include internal factors, such as established policies and control systems, company standards and managers' commitment to earlier investments in fixed assets; and external factors, such as competitive pressures and entry or exit barriers. These and other authors also highlight behaviors and attitudes' degree of institutionalization inside the company and cultural elements as factors inhibiting high management efforts to change the organization (MARTIN, 1992). Wasserman et al. (*Op*. *cit*.) also mention the studies by Cyert and March (1963) and Simon (1976), for whom the complexity inherent in the corporate decision process imposes important political, organizational and cognitive restrictions on decision makers. Finally, we could add that the managers' discretion could be particularly limited by the company's corporate governance mechanisms.

As opposed to the above described thought line, the "leadership school" sustains that the managers' quality and personal performance are fundamental for the business' success and survival. This point of view, shared by many authors in Administration (e.g. DRUCKER, 1954), defends that managers are the force that creates, foresees and pursues opportunities, thus determining performance differences among organizations to a large extent. Company leaders particularly formulate the collective objectives uniting its members and adapt organizational structures in response to environmental changes (WASSERMAN et al., *op. cit*.). In line with these arguments, some theoretical studies in Economics, fleeing from the neoclassical paradigm, suggest that managers can have "views" about the future evolution of their activity sector, which are mutually distinguishing (ROTEMBERG; SALONER, 2000; VAN DEN STEEN, 2001; HART; HOLMSTROM, 2002). Moreover, these mathematically formalized analyses propose that the heterogeneity of management perspectives can affect the organization's functioning and performance.

Wasserman et al. (*Op. cit*.) review some empirical studies examining the relevance of managers (especially Chief Executive Officers – CEO). Among these, Lieberson and O'Connor's (1972) pioneering test of the management impact on a performance measure stands out. Using procedures to decompose the variance, these authors verified that 14.5% of total variance in the sample companies' profit margin can be attributed to their CEO's influence. However, their conclusions are biased. A much larger number of studies focus specifically on the influence of company performance on the probable resignation of its CEO. According to Ahn et al. (2004), results in general suggest that bad performance leads to the CEO's replacement. Nevertheless, few studies, such as Murphy and Zimmerman (1993) for example, examine whether this replacement influences the company's subsequent performance. This literature is revised by Brickley (2003).

Bertrand and Schoar (*Op. cit.)* recently offered an econometrically sounder and also more direct test of managers' relevance for corporate performance and policies. The proposed procedure attempts to capture in financial data what the authors called "fixed management effects", while maintaining the companies' observable and non-observable characteristics constant. The study results suggest that the main managers are quite important to determine different corporate policies and that their "management style" influences companies' performance in the North American market. In contrast, a methodologically similar research applied to the Japanese market and offered by Ahn et al. (*Op. cit*.) reaches opposite conclusions. The authors are not capable of identifying any influence by company managers in that country on their organizations' behavioral variations during the 1990's. They

hypothetically attribute this result to Japanese companies' governance structure and to the country's collective culture. Hence, the most recent empirical evidence shows that the observation or not of significant management effects can crucially depend on the focused business environment.

Another research line concentrates on the influence of managers' specific personal characteristics, such as their education level, age and presence of cognitive bias on corporate variables. Chevalier and Ellison (1999), for example, report that the performance of investment funds managed by individuals trained at more renowned universities is systematically superior to that of other persons. Malmendier and Tate (2003), in turn, report that companies managed by especially optimistic or excessively confident individuals show stronger tendencies to acquire other companies.

3 Research method

3.1 Data

The research database consists of a sample of 153 non-financial companies, whose stocks are negotiated on the São Paulo Stock Exchange - Bovespa. The collected data cover the period from 1998 to 2003, although not all companies possess available data across all years for all variables, characterized the sample as a non-balanced panel.

As stock price quotations are used to calculate the companies' market value, a liquidity criterion was imposed to select the sample. Using the annual stock liquidity ratio made available by the information system Economática, we only selected the (153) companies with sufficient data and a ratio of more than 0.001% of the most liquid company's ratio during at least 50% of the research years.

Personal information about the managers (Chief Executive Officer and Chairman of the Board) was collected through the DIVEXT system, i.e. the External Dissemination ITR/DFP/IAN issued by the Brazilian Securities Commission - CVM. More specifically, these data, which tend to be available from 1998 only, were collected from the IAN – Annual Information forms, which publicly-traded companies that are authorized to trade their stocks are obliged to fill out. IAN forms include different types of information about the company and its managers and counselors. In particular, we registered the names of all company managers for each year in the sample period. Finally, different secondary data about the sample components were obtained from Economática and CVM's DIVEXT.

3.2 Operational definition of available variables

Next, we describe the response and control variables used in this research.

3.2.1 Leverage

Four alternative definitions are used, considering total or long-term indebtedness and the book or market value of assets. More specifically, the numerator comprises the company's total financial indebtedness (E_{it}), including loans and long- and short-term funding and debentures or, alternatively, its long-term financial indebtedness (ELP_{it}). The denominator, on the other hand, consists of the total book value of company assets (A_{it}) or its "market value" version, defined as $A_{it} - PL_{it} + VA_{it}$, in which PL_{it} is company equity and VA_{it} the total market value of its stocks. The subscribed i and t refer, respectively, to company and year.

3.2.2 Market value and growth opportunities

Two main definitions are used to capture companies' market value, as described below.

a) Price on equity ratio ($IPVP_{it}$): ratio between the market value of company stocks and their respective book value.

The market value of company stocks is calculated on the quotations and mean quantities of its ordinary and preferential stock during each year t. More specifically, to calculate the mean market values, the closing prices at the end of each of the four quarters of the fiscal year are used. In the same way, the book value per stock in the same periods is used to calculate the mean book value. Next, the ratio between these two values is calculated.

b) Tobin's Q: calculated according to the formula proposed by Chung and Pruitt (1994), based on the market value of the company's ordinary and preferential stocks (VA_{it}), which is calculated in the same way as described in the previous item, on the book value of its debt ($DIVT_{it}$), defined as current liabilities plus long-term liabilities plus inventories minus current assets; and on its total assets (A_{it}):

$$Q_{it} \cong \frac{VA_{it} + DIVT_{it}}{A_{it}}$$

Although the above described variables partially describe the growth opportunities available to companies, more specific operational definitions for this construct will also be used and are listed below.

c) Revenue growth (CR_{it}): accumulated percentage variation rate company i's net operational income during the three years before year t.

d) Asset variation rate (dA_{it}): calculated as $(A_{it} - A_{it-1}) / A_{it}$.

3.2.3 Profitability

The main substitute variable for company profitability is defined below.

a) LAJIRDA on assets ($LAJIRDA_{it}$): calculated as $LAJIRDA_{it} / A_{it}$, where $LAJIRDA_{it}$ stands for company profit before interests, taxes, depreciation and amortization.

Alternatively, the two following definitions are considered:

b) Earnings before Interest and Taxes on assets ($LOPA_{it}$): calculated as LOP_{it} / A_{it}, where LOP_{it} corresponds to company i's earnings before interest and taxes in year t.

c) Operating Profit on assets (LOA_{it}): calculated as LO_{it} / A_{it}, where LO_{it} stands for company i's operating profits in year t.

3.2.4 Asset tangibility and warranty value

Sum of inventories (EST_{it}) and fixed assets before depreciation (IM_{it}) over total company assets:

$$TANG_{it} \equiv \frac{EST_{it} + IM_{it}}{A_{it}}$$

3.2.5 Size

Defined as:

a) Natural logarithm of the company's net income ($\ln R_{it}$).

or

b) Natural logarithm of the company's total assets ($\ln A_{it}$).

3.2.6 Singularity

Companies with relatively singular products will probably need to spend more on publicity and sales and promotion activities in general. Hence, degree of singularity is defined as company sales expenses (DV_{it}) over net income:

$$SING_{it} \equiv \frac{DV_{it}}{R_{it}}$$

This definition is in line with definition used by Titman and Wessels (1988), among others.

3.2.7 Volatility

Two specific definitions for this construct are considered:

a) The 'systematic risk' of company stock ($BETA_{it}$), calculated by Economática, using the last day of each year t as the baseline date and covering the 60 previous weeks.

b) The volatility of company stock (DPA_{it}), calculated by Economática as the standard deviation of these stocks' daily returns during each year t.

The above definitions have been used in Brazil by Gomes and Leal (2000). An alternative proxy for volatility is the natural logarithm of company assets. As suggested by Fama and French (2002), this alternative assumes that, on the average, larger companies tend to be less instable.

3.2.8 Extra-debt fiscal benefits

Defined as depreciation and amortization expenses (DA_{it}) over total company assets:

$$BFED_{it} \equiv \frac{DA_{it}}{A_{it}}$$

This operational definition is similar to the definitions used by Titman and Wessels (*Op. cit.*).

3.2.9 Dividend distribution

Two alternative definitions are used to try and capture companies' dividend distribution policies:

a) Payout ratio ($PAYOUT_{it}$): calculated as the dividend value proposed in the Statement of Resource Origins and Applications – DOAR over company *i*'s net profits in year t.

b) Dividends on assets ($DIVA_{it}$): dividend value paid in year t over total company assets.

3.2.10 Governance and ownership structure

Various measures, listed below, are used to capture differences in companies' governance standards and company structure.

a) Percentage of stocks with voting rights (CON_{it}, which stands for 'control') in the hands of the controller or group controlling the company.

b) Accumulation or not of CEO and CB functions by the same person: $ACUM_{it} = 1$ in case of function accumulation and $ACUM_{it} = 0$ if not.

c) Issuing of American Depositary Receipts ($ADR_{it} = 1$ if the company issued ADRs and $ADR_{it} = 0$ if not).

d) Company's adherence or not to Bovespa differentiated governance levels ($BOV_{it} = 1$ if the company adhered to Differentiated Corporate Governance Levels or the New Market and $BOV_{it} = 0$ if not).

These measures indicate companies' governance quality and standards in different ways and, in principle, can be used jointly.

3.2.11 Year dummies

Binary variables ($dAno_t$) defined as $dAno_t = 1$ in $t-$th year and $dAno_t = 0$ if not, with $t = 1998, ..., 2003$. These variables capture the macroeconomic shocks and aggregated effects in general that affected the group of companies within the analyzed time window.

3.2.12 Asset liquidity

The liquidity ratio (LIQ_{it}) of each company's stocks was calculated as:

$$LIQ_{it} \equiv \frac{p_{it}}{P_t}\sqrt{\left(\frac{n_{it}}{N_t}\right)\left(\frac{v_{it}}{V_t}\right)}$$

where p_{it} is the number of days when company *i*'s (preferential or ordinary) stock was traded at least once during year t; P_t is the total number of days in that year; n_{it} the number of times that stock type was traded during the same period; N_t the number of times all stocks were traded during year t; v_{it} the money volume of deals involving that stock type during the year; e V_t the money volume of deals involving all stock types during the same period. When the company issues more than one type of stocks, the most liquid stock's ratio is selected.

3.3 Empirical methods and methodological discussion

This study aims to empirically distinguish high-level managers' influence on the analyzed corporate variables. For this purpose, an intuitive procedure would be to estimate a regression of these variables against a set of dummies representing each of the identified

managers, while maintaining constant all relevant observable company characteristics by including control variables. One evident problem in this approach, however, is the possible existence of systematic differences among companies (in terms of their corporate practices), motivated by non-observable factors (such as elements in their organizational culture for example), which can be correlated with the dummies that attempt to capture management effects. In this case, the estimated relationship between these dummies and the performance or corporate policy ratios would not be genuine, reflecting a typical problem of omitted variables. In practical terms, this means that the estimation procedure should be able to distinguish between the specific (non-observable) effects of companies and the specific effects of managers. Fortunately, some appropriate estimation methods for panel data permit this isolation.

The procedure proposed by Bertrand and Schoar (*Op.cit.*) inspired the estimation strategy. The basic empirical model can be represented by the equation below:

$$y_{it} = \boldsymbol{\beta}^T \mathbf{x}_{it} + u_i + \lambda_t + \lambda_G + \eta_{it} \quad (1)$$

In the above expression, t represents the year ($t = 1,2,...,6$ years) and i the company ($i = 1,2,...,153$ companies). The term u_i captures all of the i-th company's non-observed characteristics that do not vary over time (known as its "specific effects" or "fixed effects") and influence y_{it}. The error term in the model is η_{it}, assuming that $\mathbb{E}[u_i] = \mathbb{E}[\eta_{it}] = 0$ ($\mathbb{E}[.]$ is the expectation operator). y_{it} is a corporate policy or performance variable, such as the company's funding structure for example, and λ_t represents the specific effects associated with the passage of time. λ_t captures, for example, the common impact in all companies of any macroeconomic shock that occurred in year t and influenced the response variable. This includes that part of the effects exerted by inflation, basic interest rate or exchange rate policy changes all sample companies feel in common. Vector $\mathbf{x}_{it}$ contains a series of observed company characteristics that will serve as control variables. Finally, λ_G represents the fixed management effect and $\boldsymbol{\beta}^T$ corresponds to the transposed parameter vector $\boldsymbol{\beta}$.

The managers focused on in this research are the Chief Executive Officer (CEO) and the Chairman of the Board (CB). Hence, term λ_G can be subdivided in λ_{CEO} and λ_{CB}, as shown by equation (2).

$$y_{it} = \beta^T x_{it} + u_i + \lambda_t + \lambda_{CEO} + \lambda_{CB} + \eta_{it} \quad (2)$$

Of course the model can be estimated with λ_{CEO} and λ_{CB} or with only one of these terms. The management effects can be correlated with different observed and non-observed company characteristics. This demonstrates the crucial importance of control variables, particularly u_i, which are capable of isolating a large part of systematic differences among firms. In practice, the fixed time effect λ_t will be implemented through a set of year dummies, included as regressors in vector $\mathbf{x}$. Similarly, λ_{CEO} is captured by binary variables, which are equal to 1 when the Chief Executive Officer called 'h' is observed and zero if not, with $h = 1,...,H$. H is the total number of different CEO's in the sample. An analogue procedure is adopted to produce dummies for the different companies' Chairmen of the Board. These two sets of binary variables can also be added to vector $\mathbf{x}$. Finally, the management irrelevance hypothesis is tested through the joint significance test of estimated coefficients for the dummies related to the CEO's and/or CB's.

In the available sample, we found 225 different individuals who occupied the function of CEO (i.e. $H = 225$) in one or more companies and during one or more years. Thus, 225 binary CEO variables were constructed. In the same way, 231 persons served as CB's in one or more research companies during at least one of the six study years.

Most international studies only define the CEO as the "relevant" company manager. This probably is not the most adequate strategy in Brazil, due to the ambiguity in many companies in terms of who is the actual ultimate decision maker for the main corporate decisions. Although the CEO is definitely responsible for the most immediate decisions, in some companies, especially family-held ones, the organizations is probably more adapted to the Chairman of the Board's profile, who is frequently the company founder and/or controller. In these cases, not considering this person as a possible relevant decision maker could distort analyses.

3.3.1 Performance ratios/corporate policies and control variables

In the first place, the empirical analysis aims to verify managers' impact on companies' funding decisions. For this purpose, y_{it} will be replaced by accounting and market measures of relative indebtedness, as defined in Section 3.2.1. In addition, managers' influence on organizational performance and dividend policy will also be verified. In the first case, the approximate measure of the company's Tobin's *q*, its 'price on equity ratio' and two

profitability measures (variables $LAJIRDA$ and $LOPA$, defined in Section 3.2.3) are used as dependent variables. For the dividend distribution policy, the 'payout ratio' and 'dividends paid over total assets' are used as variables.

Most of the control variables used in the regressions focusing on the company's funding decisions result from previous literature on capital structure. Harris and Raviv (1991) and, more recently, Myers (2003) offer a broad view of this study area and its different subdivisions. Leal and Saito (2003) present a review of empirical studies using Brazilian data. In line with research by Fama and French (*Op. cit.*), the controls include proxies for growth opportunities ($IPVP$ and CR), profitability ($LAJIRDA$), extra-debt fiscal benefits ($BFED$), volatility ($BETA$), tangibility ($TANG$), size ($\ln R$), singularity ($SING$) and dividend policy (DIV). Moreover, special attention was given to control variables that permit capturing companies' heterogeneity in terms of corporate governance standards and ownership structure, including voting rights concentration (CON), accumulation or not of CEO and CB functions by the same person ($ACUM$) and two dummies indicating the company's participation in ADR programs (ADR) or its adherence to Bovespa's differentiated governance levels (BOV). The operational definitions are presented under Section 3.2. It should be highlighted that the adopted estimation methods do not permit the use of regressors without time variations. Therefore, binary sector variables were not included among the regressors, as none of the companies changed its activity sector during the study period.

The controls for the regressions whose response variables are market value ratios (Tobin's q and price on equity ratio) are proxies for growth opportunities (CR), relative indebtedness ($E/(VMA + A - PL)$), stock liquidity (LIQ), profitability ($LAJIRDA$), size ($\ln R$) and the governance variables highlighted in the previous paragraph (CON, $ACUM$, ADR and BOV). In those regressions where the dependent variable is one of the profitability measures, the same indicators for growth opportunities, relative indebtedness (leverage) and company size were used as controls. In both cases, the choice of these regressors also followed previous literature. These controls are particularly similar to the ones used by Bertrand e Schoar (*Op. cit.*) and McConnell and Servaes (1995). Finally, when the dependent variable refers to the company's dividend policy, the regressors described in the previous paragraph will be used, representing growth opportunities, profitability, extra-debt fiscal benefits, volatility, tangibility and company size. The same governance (CON, $ACUM$, ADR and BOV) and market leverage ratios ($E/(VMA + A - PL)$) will also be used. This set

of controls is similar to Fama and French`s study (*Op. cit.*) on companies' dividend policy and capital structure determinants.

3.3.2 Estimation methods, endogeneity problems and proposed solutions

To estimate their regression coefficients, Bertrand and Schoar (*Op. cit.*), as well as Ahn *et al.* (*Op. cit.*), use the well-known Fixed Effect or Intra-Group estimator (EF-IG). The implementation of this procedure is equivalent to including a dummy variable for each sample company among the model regressors (see WOOLDRIDGE, 2002, p. 267-9 for example). In this case, if a certain individual served as the CEO (or CB) in the same company during the six study years (or during the entire period of the company's presence in the sample), that individual's personal influence cannot be separated from the specific effect (non-observed heterogeneity) associated with this company, as the dummies related to the company and the manager will be perfectly collinear. Hence, only the coefficients of management dummies with some time variation will be estimated. In other words, on the whole, the binary management variables' coefficients capture the impact of manager changes during the study period on y_{it}, excluding managers who occupied the same function across that period from the analysis. This strategy, combined with the use of year dummies as additional controls, grants considerable soundness to the inferences, as it actually isolates companies' non-observable characteristics and fixed effects of time that could affect the relation between the variables of interest.

Nevertheless, the EF-IG ignores some problems that are common in corporate finance models and can seriously impair the correct identification of pertinent relations. Perhaps the most important of these is the probable simultaneous determination of some of the ratios mentioned in the previous section. Funding and dividend distribution decisions, for example, can be jointly determined at the same time. In other words, there may be a two-way causal relation between these variables, with leverage influencing and at the same time being influenced by dividend policy. The same applies to the relations between other variables. Moreover, the diagnostic analyses carried out in this research after the preliminary estimation of the models by EF-IG clearly show that strict exogeneity premise of the regressors, which is fundamental for the validity of this method, probably is not realistic, as may be expected when we model relations among corporate variables (for a theoretical discussion about this problem and the description of the calculated test procedure, see WOOLDRIDGE, *ibid.*, p.

146-7; 285). Any of the two problems discussed above results in the inconsistency of the EF-IG estimator, which impairs the inferences.

To surround the above difficulties, in this study, we propose the application, inedited in relevant literature, of alternative estimation procedures based on the Generalized Method of Moments (GMM), using the estimator developed by Arellano and Bond (1991), which is appropriate for dynamic models and known as GMM in Differences (GMM-Dif). Like in the previous case, estimation by GMM-Dif exclusively captures the influence of manager changes on corporate variables, thus preserving the same soundness and conservatism characteristics as in the EF-IG method. Nevertheless, the GMM-Dif procedure does not depend on the unrealistic premise of all regressors' strict exogeneity and is capable of solving or mitigating all problems deriving from the simultaneous determination of some corporate variables and errors in the measurement of covariates. The strategy is based on the use of lagged values of these same regressors, suspected of endogeneity as instrumental variables. Arellano and Bond (*Ibid.*) describe the conditions guaranteeing the validity of these instruments and the diagnostic analyses that permit testing its statistical plausibility.

An additional advantage of the GMM-Dif is the possibility of estimating dynamic empirical models like the following:

$$y_{it} = \alpha y_{it-1} + \beta^T x_{it} + u_i + \lambda_t + \lambda_{CEO} + \lambda_{CB} + \eta_{it} \tag{3}$$

The lagged dependent variable in (3) can be useful to capture the accentuated persistence over time characterizing a large part of the variables used in corporate finance studies. Ignoring the inertial component in the behavior of the response variable can result in incorrectly specified models with inadequate statistical properties (FINKEL, 1995 presents a detailed discussion of the arguments justifying why dynamic models are preferred). Particularly when y represents company leverage, the dynamic formulation option seems more appropriate, as shown by recent empirical literature in this area (e.g. GAUD et al., 2005).

Tables 1 and 2 show the joint significance tests of the CEO and/or CB dummies, included in static formulations, like the one shown in (2), and dynamic formulations, like the one represented above, with parameters estimated by the GMM-Dif method. Details about the implementation of the estimation procedures are given in the explanatory notes to the tables.

4 Results

The results reported in tables 1 and 2 clearly show the significance of fixed management effects for the analyzed companies' funding policy. In most specifications, the average effect of manager changes on accounting and market leverage measures is significant at 1%. In particular, the persons serving as Chairman of the Board (CB) exert a significant joint influence of at least 5%, in static as well as dynamical specifications, while the combined impact of people serving as Chief Executive Officer (CEO) is significant at 10% at the least. Variations in Tobin's q are also significantly explained by management effects. More specifically, the CEO exerts a significant impact at 1% in all specifications, although the influence of CB reveals to be non-significant at the usual levels after controlling for the CEO effect. As to the two profitability ratios, results are ambiguous. In the static specification shown in Table 1, the management effects are significant at 5% (for CEO) in one case and at 10% (for CB) in another. In the dynamic formulations shown in Table 2, on the other hand, both effects are clearly non-significant. The analyzed companies' price-equity ratio does not seem to be significantly influenced by the CEO or CB dummies and the same conclusions apply to the ratio between dividends paid and total company assets. The payout ratio seems to be influenced by the CEO dummies in the static specification, but no significant management effect appears when the lagged dependent variable is used among the regressors.

4.1 Analyses of soundness

In order to verify result stability, the model parameters with the general form shown in (2) were estimated through the traditional Fixed Effect method with the Intra-Group transformation (EF-IG), used by Bertrand and Schoar (*Op. cit.*) and Ahn et al. (*Op. cit.*). The tested specifications are similar to the ones mentioned in Table 1. In general, the non-reported results are qualitatively compatible with the constants in the same table.

A second soundness analysis considered different sets of control variables by exchanging, for example, the income logarithm by the total asset logarithm as a proxy for company size. In all specifications, the results reveal to be little sensitive to the choice of different regressor sets and point towards exactly the same conclusions. The use of different sets of instruments in the regressions estimated by the GMM-Dif method, such as the use of lags from $t-3$ instead of $t-2$ (see note in Table 1) for example, did not materially change conclusions either, although they reveal to be statistically more plausible in some cases. In

particular, some models whose residues showed signs of self-correlation presented better results in the diagnostic analyses after the respecification.

Some regressions were estimated with all Winsorized variables (except for the binary variables). Extreme observations were also temporarily excluded from the sample. In any case, the results remained practically unchanged.

In summary, on the whole, the results point towards the significant importance of CEO's or CB's "management style" or personal characteristics to determine certain corporate policies, although the research scope was limited to a reduced number of indicators. In particular, the expressive influence of "management effects' on companies' funding policy stands out, captured by their total accounting and market leverage. The impacts of management effects on organizational performance were especially reflected in their influence on Tobin's q levels. On the other hand, manager changes do not seem to significantly explain operating profit or dividend policy variations within the study period.

5 Conclusion

This research presents the first evidence in Brazil about the presence of significant "fixed management effects", using a sample of 153 companies traded on Bovespa and observed between 1998 and 2003. The research strategy, based on the seminal work by Bertrand and Schoar (*Op. cit.*), attempts to directly capture the impacts of manager changes on certain corporate variables, while controlling for specific effects of different observable company characteristics and specific time effects.

The results are sound to several variations in model specification and parameter estimation methods and particularly show that, on the average, manager changes (Chief Executive Officer or Chairman of the Board) in the analyzed companies are associated with significant variations in their funding policy, reflected in their financial leverage level. There are also signs of a significant influence of fixed management effects (related to the CEO) on Tobin's *q*, but not on the other study variables. However, it should be reminded that the research method does not allow for a clear distinction of a causal relation between the management effects and performance and corporate policy indices. Future studies can expand the scope of this research, increasing the number of response variables or sample size and incorporating, for example, event study methods, with a view to perceiving cause-and-effect relations between "management style" and the main company decisions more appropriately.

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Table 1 – "Fixed management effect" tests: statistical models

A: Funding policy (leverage)			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
E/*A*	47.41 (< 0.01; 26)	87.05 (0.0293; 64)	128.41 (< 0.01; 90)
E/(*VMA*+*A* – *PL*)	40.90 (0.0235; 25)	118.41 (< 0.01; 65)	166.85 (< 0.01; 90)
B: Performance			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
Profitability - *LAJIRDA*	54.81 (0.0478; 39)	78.41 (0.7333; 87)	140.62 (0.176; 126)
Profitability - *LOA*	49.85 (0.3228; 46)	102.86 (0.0911; 85)	155.51 (0.071; 131)
Tobin's q	102.02 (< 0.01; 40)	92.64 (0.2433; 84)	211.4 (< 0.01; 124)
Price/equity - *IPVP*	28.27 (0.8982; 39)	70.62 (0.8108; 82)	108.78 (0.779; 121)
C: Dividend policy			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
DIVA	18.21 (0.7927; 24)	15.36 (1.00; 66)	35.30 (1.00; 90)
PAYOUT	5.74 (1.00; 24)	198.68 (< 0.01; 66)	201.13 (< 0.01; 90)

The regressor coefficients were estimated through the one-stage GMM-Dif method by Arellano and Bond (*Op. cit.*), based on static specifications. The operational definitions of the dependent variables are detailed in Section 3.2.

Columns 2 to 4 of the table show the joint significance tests of the Chief Executive Officer (CEO) and/or Chairman of the Board (CB) dummies included in the diverse regressions. They respectively refer to the chi-square statistical value, its corresponding descriptive level (p-value) and the number of tested restrictions.

In the regressions referring to block A (funding policy), a set of year dummies and the *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *SING*, *DIV*, *CON*, *ACUM*, *ADR* and *BOV* ratios were used as controls. To deal with the above discussed endogeneity problems, particularly those deriving from the possible simultaneous determination of some variables, the appropriate lags were used, starting from $t-2$ of the regressors *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *SING*, *DIV* and *CON* as instruments for their first differences.

In those regressions in which one of the profitability measures, *LAJIRDA* or *LOA*, serves as the dependent variable, a set of year dummies and the *CR*, *E*/(*VMA*+*A* – *PL*) and ln*R* ratios were used as controls. The three last regressors were instrumented in line with what we discussed in the previous paragraph.

In the regressions referring to block C (dividend policy), a set of year dummies and the *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *CON*, *ACUM*, *ADR*, *BOV* and *E*/(*VMA*+*A* – *PL*) ratios were used as controls. Similarly to what we described in the first paragraph, the appropriate lags were used, starting from $t-2$ of the regressors *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *CON* and *E*/(*VMA*+*A* – *PL*) as instruments for their first differences.

Table 2 – "Fixed management effect" tests: dynamic models

A: Funding policy (leverage)			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
E/*A*	31.64 (0.0636; 21)	94.31 (< 0.01; 59)	118.28 (< 0.01; 80)
E/(*VMA*+*A* – *PL*)	46.90 (< 0.01; 22)	127.01 (< 0.01; 58)	153.02 (< 0.01; 80)
B: Performance			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
Profitability - *LAJIRDA*	10.62 (1.00; 34)	45.98 (0.9944; 73)	57.77 (1.00; 107)
Profitability - *LOA*	12.78 (1.00; 38)	36.91 (0.999; 75)	47.41 (1.00; 113)
Tobin's q	68.13 (< 0.01; 34)	76.79 (0.3583; 73)	162.0 (< 0.01; 107)
Price/equity value - *IPVP*	42.14 (0.1323; 33)	51.31 (0.9624; 71)	80.19 (0.9599; 104)
C: Dividend policy			
Dependent variable	*Chi-square test for fixed effects of:*		
	CEO	CB	CEO + CB
DIVA	11.44 (0.9679; 22)	14.49 (1.00; 57)	28.07 (1.00; 79)
PAYOUT	5.01 (1.00; 23)	44.17 (0.8736; 56)	46.24 (0.9988; 79)

The regressor coefficients were estimated through the one-stage GMM-Dif method by Arellano and Bond (*Op*. *cit*.), based on dynamic specifications, that is, including the first lag of the dependent variable among the regressors. The operational definitions of the dependent variables are detailed in Section 3.2.

Columns 2 to 4 of the table show the joint significance tests of the Chief Executive Officer (CEO) and/or Chairman of the Board (CB) dummies included in the diverse regressions. They respectively refer to the chi-square statistical value, its corresponding descriptive level (p-value) and the number of tested restrictions.

In the regressions referring to block A (funding policy), the lagged dependent variable, a set of year dummies and the *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *SING*, *DIV*, *CON*, *ACUM*, *ADR* and *BOV* ratios were used as controls. To deal with the above discussed endogeneity problems, particularly those deriving from the possible simultaneous determination of some variables, the appropriate lags were used, starting from $t-2$ of the regressors *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *SING*, *DIV* and *CON* as instruments for their first differences. The lagged dependent variable was instrumented in an analogue way.

In those regressions in which one of the profitability measures, *LAJIRDA* or *LOA*, serves as the dependent variable, the lagged dependent variable, a set of year dummies and the *CR*, *E*/(*VMA*+*A* – *PL*) and ln*R* ratios were used as controls. The three last regressors, as well as the lagged dependent variable, were instrumented in line with what we discussed in the previous paragraph.

In the regressions referring to block C (dividend policy), the lagged dependent variable, a set of year dummies and the *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *CON*, *ACUM*, *ADR*, *BOV* and *E*/(*VMA*+*A* – *PL*) ratios were used as controls. Similarly to what we described in the first paragraph, the appropriate lags were used, starting from $t-2$ of the regressors *IPVP*, *CR*, *LAJIRDA*, *BFED*, *BETA*, *TANG*, ln*R*, *CON* and *E*/(*VMA*+*A* – *PL*) as instruments for their first differences.