

DETERMINANTS OF PERFORMANCE OF CLOSELY – HELD (FAMILY) FIRMS AFTER GOING PUBLIC: THE ROLE OF THE OWNERSHIP STRUCTURE, ECONOMY, CHANGES IN TOP MANAGEMENT, PARTIAL SALE, EQUITY CONCENTRATION AFTER THE IPO AND SHAREHOLDERS IN MANAGEMENT

J. Vaz Ferreira*

Abstract

When a closely-held (family) company goes public, there are very specific and particular determinants that have crucial influences on the post-going public operational, social and financial performance of those firms. We investigate why firms decline significantly their profitability, efficiency, employment and activity levels, and show an increase on sales and capital investment when there is a transition from private to public ownership. We conclude that this decrease in performance is significantly higher, when one or more than one of the following facts happen after firms going public: first, when there are not shareholders in management, what implies increased agency costs; secondly, when the level of equity concentration after going public is low; in third place, when the level of equity retention by the founding shareholder is low; fourth, when the economy health during the timing of the sale is not in good shape; and lastly, when the old CEO is changed.

Keywords: Initial public offerings; Going public; Separation of ownership and control; Economic, social, financial and dividend performance of closely held companies

Please address correspondence to: J. VAZ FERREIRA, Coimbra University, School of Economics and Management, Av. Dias da Silva, nº 165, 3004-512 Coimbra, Portugal; Tel.: 351 239 790 500, e-mail: jvazfer@fe.uc.pt.

1. Introduction

The decision to go public is, probably, one of the most important steps on a firm's life. There is an idea that, going public, through an initial public offering (IPO) or through a direct sale (DS) is a simple normal stage in the growth of a company. This idea is not correct, since there are old and large companies that stay closely (family) held companies forever. According to Anderson and Reeb [2003], family firms are those in which the founder or a member of his family is director, or blockholder. According to Pagano *et al.* [1998] companies go public for the following reasons: in first place, the market-to-book ratio at which firms in the same industry trade, can induce additional investment, mainly in sectors with great growth opportunities; in second place, the size of the company, since greater companies are more likely to go public; in third place, most of the times, companies go public after major investments and abnormal growth; therefore, the decision to go public can be explained as an attempt to rebalance their balance sheet after large investments and growth. If we consider the post going public process, Pagano *et al.* [1998] concluded for a reduction in the financial leverage and a reduction on the cost of bank credit of

firms after going public. By last, they found little evidence on portfolio diversification in the decision to go public.

While our study follows the spirit of a few early studies, we make the following empirical contributions. First, we perform the first panel data estimation of the effects of the going public process using firm-level data, rather than just country-level information. Employing specific individual observations for the all sample, allows us to examine the company-specific sources of any performance changes documented after becoming public. In particular, we can study how shareholders in management, ownership, the equity concentration after the IPO or the CEO change, have or have not impact in the profitability, efficiency, activity levels, employment, real sales, short term equilibrium or the capital structure of the new public firms. Second, our investigation is the first work developed in Portugal for a sample of closely (family) firms to empirically examine the causes (determinants) of a certain family firm behaviour after the going public process, concluding, among others things that, per se, going public does not mean operational, social and financial performance improvements. Third, becoming public is a complex and extended process. We distinguish

between markets for dispersed shares, from markets for controlling blocks that can happen with direct sales (DS). Fourth, our database includes information about companies going public from 1986 to 2004 (25 (twenty five) companies). That is, our sample is dispersed for a large period of time and, in addition, our database includes companies in multi-sectors, multi-industries and multi-samples, to better understand the determinants of certain performance behaviour of those firms after the going public process. Lastly, we feel that a multi-industry sample of closely-held firms provides a general perspective of the process of opening the capital to investors and it gives us interesting opportunities to identify the sources, the determinants of the operational and financial performance of the companies after going public. Using panel data analysis, we research the economic, ownership structure and other causes of performance changes in closely-held firms after going public. Such insights regarding the determinants of post-IPO performance behaviour should provide valuable guidance to investors, managers and financial economists.

This paper is organized as follows. Section 2 provides the theoretical and empirical research on the process of going public for the closely-held companies. Section 3 appoints some potential determinants of post-going decision on the operational, social and financial performance of the new open firms. Section 4 describes the methodology, empirical proxies. Data and sample collection we employ are described in Section 5. Section 6 presents the empirical results. Section 7 presents the summary and conclusions.

2. Literature review

Does ownership structure matter to firm performance? Why certain companies have large block holders and other do not? Should the power of large shareholders be limited to avoid expropriation or encouraged to curb managerial discretion? These and other questions have been investigated in corporate finance literature, trying to understand the relationship between ownership structure and firm performance.

When a company decides to go public, their shareholders believe that they obtain several benefits, in spite of some costs, that will result from the decision to raise an IPO or sale directly to the public in general; as a matter of fact, the decision to go public will have very important consequences on the short and long term company future, since, from that point of view, many aspects related with the company life, will change due to that so crucial decision on the firm's future life. Pagano *et al.* [1998] investigated the determinants of the decision to go public and he concluded that they can be inferred both from the ex ante characteristics of the companies that go public and from the ex post consequences of that decision on a company's investment and financial policy. They pointed out a few determinants and some effects of

the decision to go public as follows (before IPO): in first place, they found that the main factor affecting the probability of an IPO is the market-to-book ratio at which companies in the same industry trade. The second most important determinant is the size of the company: larger and more profitable companies are more likely to go public. Among the post-IPO effects that they found a reduction in profitability, what is consistent with other authors, such as, Jain and Kini [1994] and Mikkelsen *et al.* [1996]. They also found that independent companies experience a reduction in the cost of the bank credit after the IPO. On the contrary, Duque and Febra [2002, 2003] did not find a significant reduction on the bank credit cost. They found little evidence that portfolio diversification is relevant to go public.

Pagano *et al.* [1998] found that the change in the ownership structure and in the controlling shareholder is considered a very important determinant to go public. As a matter of fact, if the IPO is followed by substantial divestment by the controlling shareholders, the motivation of the IPO is to allow those shareholders to diversify their portfolio or increase consumption, rather than to look for new sources of finance for company investment. Pagano *et al.* [1998] concluded that IPOs are followed by a very high turnover in control and this happens even though the controlling group always retains a large controlling block after the IPO. This is consistent with Zingales [1995] conclusion that IPOs are undertaken to maximize the proceeds from the sale of the company. This is a crucial area that can give us some insights into the motives to go public if the change in the structure of ownership and control of the company turns to be a significant reason. For instance, if the IPO is followed by considerable divestment by the old shareholders, the most likely reason for the IPO is to allow them to diversify their investments or increase consumption. According to Duque and Febra [2002, 2003], companies go public through an Initial Public Offering (IPO) to rebalance their capital structure, increase their short run profitability and to finance their future investments. In addition, they concluded that the increase of the company leverage in a certain moment of time does not mean that the firm will decide to go public, through an IPO or other method. Their explanation is that a company with high leverage, that is, with no financial equilibrium, is a negative factor and, as a consequence, these are not good conditions to attract investors through an IPO and a good financial health is a necessary condition for any company to go public. The presence of foreign allocation of control may affect the degree of post going public performance. Anderson *et al.* [1997] find that profitability as measured either by return on equity or revenue per employee is significantly higher for the firms with foreign allocation of control.

A key decision to families is the choice of the method of sale that may be influenced by the following factors: (1) the history of the asset's ownership, (2) the competitive position of the family

company (3) the capital market conditions (4) the sophistication of potential investors. One of the most important methods of going public is through the sale of family property, under which the families trade their ownership position for a cash payment. There are two relevant forms. The first form is direct sales (DS) (or asset sales). The second form is through an initial public offering (IPO). Going public, it may also expose the firm to the discipline of product market competition. Having to compete with other firms for customers and market share may provide the pressure required to stimulate greater efficiency and profitability. The pressure of national and international product market competition may force the firm to operate more efficiently. Vickers and Yarrow [1991] defend that the introduction of competition is the driving force behind post-IPO performance improvements.

3. Potential causes (determinants) of post-going public decision on the operational, social and financial performance of the new public companies

There are many divergences about the causes, the determinants that origin a certain type of performance. In fact, Shleifer and Vishny [1997] concluded that founding-family ownership and control is sometimes understood as a less profitable ownership structure than dispersed ownership and controlling shareholders seek to extract private benefits from the company. On the contrary, DeGeorge and Zeckhauser [1993] and Mikkelsen *et al.* [1997] found a reduction in profitability and efficiency after closely held firms go public. The literature about the determinants of a certain type of performance, after firms going public are not extensive, since only a few authors have developed some investigation on this area. For example, Vickers and Yarrow [1991] defend that the market competition, is the driving force behind post-IPO performance improvements. Therefore, there are different perspectives and findings, not only about the operational, social and financial performance of firms after going public, but also, several visions about the causes that justify a certain type of performance. Our panel data analysis has the aim of testing a certain number of possible determinants and their impact on the performance of firms after the going public process. According to Table 2, we will test the determinants that are shown in the next sections.

Pagano *et al.* [1998] found a higher *investment* need in sectors with high growth opportunities and correspondingly high market-to-book ratio or the entrepreneurs' attempt to time the market. As far as the total investment after going public is concerned, we test the operational, social and financial consequences from companies that developed expansion and modernization projects after going public and we compare the results to those that did not invest significantly after the going public process.

Debt may be related to agency costs in certain firms. If higher debt is used as a bonding device and the fixed committed debt repayments constrain management access to cash [Grossman and Hart, 1986; Jensen, 1986], we may find that the debt level actually relates negatively to agency costs. Since debt ratios vary by industry, debt may be a proxy for industry membership. According to Pagano *et al.* [1998] and Duque and Febra [2002] companies do not go public to finance subsequent investment and growth, but to rebalance their accounts after a period of high investment and growth. Mikkelsen *et al.* [1997] also found that, in the United States, older firms are more likely to use funds raised to pay down debt than to finance growth. To Pagano *et al.* [1998], the going public process enables companies to borrow more cheaply. For those authors, around the IPO date, the interest rate on their short term credit falls and the number of banks willing to lend cheaper to them rises. As far as the total debt after going public is concerned, we test the operational, social and financial consequences from a lower leverage.

A nation's *economic environment* may also affect the magnitude of the change in the firm's operational and financial performance following going public. Kikeri *et al.* [1992] suggest that a country with a sophisticated economy and higher income is more likely to have a market-friendly policy framework. Such factors should increase the chances of successful privatization. To determine the effect of growth in the economy during the pre and post going public period, we use the real GDP growth in the economy (percentage growth in real GDP for three years post-going public over the three year pre-privatization period), as the proxy for the growth in the economy. We expect that going public in high growth economy periods will generate the greatest operational, social and financial performance improvements.

The presence or not of *shareholders in management* has a great influence on the following agency costs: the direct agency cost, which is the difference in dollar expenses between a company with a specific ownership and management structure and the no-agency-cost base case firm. Another type of agency cost can be a proxy for the loss in revenues due to no-efficient asset management, which can be the result of weak capital investment decisions.

According to Jensen and Mecking [1976] and Ang *et al.* [2000], agency costs increase with a reduction in managerial ownership. Considering a firm where a single owner controls 100 percent of the stock but hires an outsider to manage the business. Jensen [1993] 'convergence of interest' hypothesis suggests that managerial shareholdings help align the interest of shareholders and managers, and as the proportion of managerial equity ownership increases, so does corporate performance.

Selling the required number of shares to a *few large investors* or even only one has the advantage of minimizing the information production cost. According to Morck *et al.* [1988] companies with a

large number of dispersed shareholders have little incentive to monitor managers and prevent them from putting their own personal interest above that of the company's shareholders. Equity concentration in blockholders generally conducts to a better operational and financial performance after going public. Holderness and Sheeham [1985] and Barclay and Holderness [1991] show empirical evidence that stock performance gain following block share purchases. Allen and Phillips [2000] also concluded for improved operational and financial performance following block concentration purchases. Allen and Phillips [2000] give additional evidence that activist block concentration purchases are followed by corporate restructuring, abnormal share price appreciation and industry adjusted operational profitability gains. In spite of some findings, some empirical evidence on the impact of shareholders with significant equity holdings on corporate performance remains ambiguous. Some authors, using different samples of firms and different empirical strategies, get different results difficult to compare and sometimes much contradictory.

It is recognized by some authors that the problem in disentangling this relationship is largely due to the pervasive endogeneity of ownership which has to be taken into account in order to get unbiased findings. In addition, the existing empirical evidence suggests that the relationship between ownership and performance may depend on the type of the firm and on the period of observation in the life of the company. As far as we get equity concentration or not in a few shareholders are concerned, we test the operational, social and financial consequences from this concentration after the IPO. To know the consequences of a *total or a partial* initial public offering on the operational, social and financial performance of firms after going public is a pertinent question that we want to investigate in this work. As a matter of fact, if we talk about a partial IPO (less than fifty percent), the founding owner choose the managers. In such a case, the main conflict of interest is between the founding shareholder and the minority shareholders.. A large owner will want to monitor his conduct more closely than a large group of small investors. As far as the founding owner chooses or not a partial or a total IPO are concerned, we test the operational, social and financial consequences for partial versus total initial public offering.

Before or immediately after going public, turnover among members of the Board of Directors and the *change of CEO* is very frequent, most of times, due to political reasons; therefore, there is no stability inside the Board. Anderson and Reeb [2003] found that performance appears to be better in the presence of founder CEOs or hired CEOs, with no changes on the CEO. They concluded that family firms, with either a family member or a hired CEO, without changes at this level, exhibit superior firm performance relative to no family firms with CEO changes. As far as the CEO is concerned, we test

whether or not a CEO change has a positive or a negative impact on post-going performance.

According to Allen and Faulhaber [1989], Grinblatt and Hwang [1989] and Welch [1989] have suggested that issuers use *underpricing* as a mechanism to signal their quality to the market. In addition, these models posit that high-quality firms underprice their stock at the IPO and, thereafter, they conduct a seasoned offering when market prices are established and there has been an opportunity for information revelation. For those authors, underpricing may be understandable as a signal of future higher operational performance. On the contrary, Jain and Kini [1994] found no relation among IPOs as far as underpricing is concerned.

4. Methodology, empirical proxies and testable predictions

This section is devoted to the used methodology, that is, the panel data analysis, and the empirical proxies and testable predictions.

4.1. The panel data analysis

Panel data estimation has many benefits in what concerns the capture of the variations over time, the pre and post going public periods, of the economic indicators of the firms. It is possible to control differences in individual's specificities and temporal chances over time in every individual; this study will focus in this last one. This estimation has more information and more efficient estimators than cross-section estimation, so the results will be more robust.

The general specification of a panel data regression is as follows, where the individual effects are reflected in the vector z'_i :

$$y_{it} = x'_{it} \beta + z'_i + \varepsilon_{it} \quad (1)$$

As is usual in panel data analysis, as in Baltagi [1995], this study will estimate both a fixed effect and a random effect model for each performance indicator. The fixed effect specification assumes that company-specific effects are fixed parameters to be estimated, whereas the random effect model assumes that companies constitute a random sample. In a fixed effects model, it is assumed that differences between individuals will be obtained by the constant term, so that, for each individual, the model is as follows, where 1 is a vector of 1's:

$$y_i = X_i + 1\alpha_i + \varepsilon_i \quad (2)$$

For all individuals, we have the following equation, where D is a matrix of 1's and zeros and ε is the error term that is uncorrelated with the independent variable:

$$y = X\beta + D\alpha + \varepsilon \quad (3)$$

In a random effects model, the constant term is unique for every individual and there exists a random specific effect for each individual, so, this effect will be obtained, but it will not be seen. The equation for estimation of this model is, as follows, where U_i is the

specific random effect and ε_{it} is the common error term. In order to test which model is more appropriate, it will be used the Hausman test that, following the estimation of both models, will inference which model has the most efficient estimator:

$$y_{it} = x'_{it} \beta + \alpha + u_i + \varepsilon_{it} \quad (4)$$

In other words, the Hausman test measures whether the random effects are correlated with the explanatory variables, which in turn implies that coefficients estimated by the fixed-effect estimator and those estimated by the random effect estimator do not statistically differ.

4.2. Empirical proxies

The principal aim of our panel data analysis is to test the determinants of a certain operational, social and financial performance behaviour of closely (family) held companies after becoming public. We will test the impact on performance of expansion and modernization investment projects, the impact of the amount of debt on post-IPO performance, the consequences of changes in the development progress of the economy health on the operational behaviour of those closely-held firms, we test whether or not shareholders in management is a significant determinant of future performance for those firms. In addition, we test the consequences of high concentration of the equity sold to a few number of shareholders or, on the contrary, to a high number of minority shareholders. We test the differences in performance between partial and total IPOs and, lastly, we test if it is better for those family firms to keep their CEOs after the IPO or, on the contrary, it is better to change them. In order to pursue this objective, we define the following independent variables to control for company specific effects: investment, assets, total debt and the growth in the economy. To test the effects on the closely-held stock of the going public process, we also construct the following indicators: the dummy "Shareholders in Management" that takes the value 1 if the old closely-held company has shareholders in management after going public. The dummy "Concentration after the IPO" with the value 1 if the old closely-held company sold its equity to one or to a few shareholders with more than 50 percent of the capital sold. The dummy "Partial IPO" with the value 1 if we deal with a partial IPO. Finally, if the dummy "CEO" has the value 1, the firm going public does not change its CEO after the IPO. We expect that performance improvements for those firms after going public will be much more pronounced if they develop investment projects, if total debt declines, in high growth economy periods, when there are shareholders in management, when the firm becomes with its equity concentrated in one or a few shareholders after the IPO, when the founding shareholder decides for a partial IPO and when there is no change on CEO.

5. Data and sample collection

We limit our analysis to those closely-held companies that fully or partially open their capital to outside investors through an Initial Public Offering or Direct Sale. We select the initial public offerings or direct sales with information from 1989 to 2004 and have, at least, three annual observations of the annual reports in the years N-5 to N-1 and in the period N+1 to 2004, where the year of going public is defined as year N. In all cases, we required directly from the firms: (1) the offering prospectus for their initial offer, which systematically presents several years of pre going public financial data, as well as details about the offering itself, and (2) the annual reports from the post going public periods. Approximately 80% of the companies we approached, fully or partially, complied with the requests. In multiple cases, we supplemented financial statements sent with secondary sources, namely, financial institutions, Bank of Portugal and Euronext Lisbon databases. We also used personnel contacts with managers of some of those firms. In case of doubts about some aspects of the firms, we also made several phone calls. We did not include any company by relying on secondary sources exclusively. Our data includes 25 closely-held firms that went public with operational, social and financial information from 1989 to 2004. Therefore, our data span a larger time period than any other initial public offering study developed in Portugal. Table 1 provides the following descriptive information on these companies: the name of the company, type of industry, the going public date and the percentage of capital that was sold at the date of the sale. The sample is well diversified, exhibiting a wide temporal dispersion.

6. Empirical results

The panel regressions were done, on one hand, with time effects and, on the other hand, with fixed or random effects. We conclude that the model of random effects is more suitable, so it can be said that firms have a random specific effect, which can be derived of the specificity of their prior going public life activity combined with the specificity of their sector; nevertheless, most of the closely-held firms that went public, show common signs on their direction for certain performance indicators.

In this panel data regression model, the dependent variables are: Profitability I (Operating Income), Profitability II (Return on Sales), Operational Efficiency (Sales Efficiency), Capital Investment (Capital Investment), Real Output (Real Sales), Employment (Employment), Dividend Policy (Dividend to Sales), Activity Levels (Sales to Total Assets), Short Term Equilibrium (Cash and Banks to Short Term Debt) and Capital Structure (Total Debt to Total Assets).

Table 1. Sample of firms going public from 1989 to 2004

Company	Industry	IPO Date	Company	Industry	IPO Date
Água do Luso	Water	2000	Lisgráfica	Graphic Industry	1998
Amieiros Verdes	Textile	1990	Mota & Companhia	Construction	1997
Auto - Industrial	Automobile retail	1997	Orey Antunes	Transportation	1992
Banco Comercial dos Açores	Banking	1996	Papelaria Fernandes	Commerce	1991
Caima	Cellulose and paper	1998	Pararede	Telecommunication and information systems	1999
Cofina	Media and cellulose	1998	Sacor Marítima	Transportation	1989
Compta	Telecommunication and information systems	1995	Salvador Caetano	Automobile Retail	1992
Dom Pedro	Tourism	1996	Soares da Costa	Construction	1991
Engil	Construction	1989	Sonae Imobiliária	Immovable property	1997
Est. Jerónimo Martins	Retailing	1989	Soporcel	Cellulose and paper	1999
Estoril Sol	Tourism	1991	Teixeira Duarte	Construction	1997
F. Ramada	Cellulose and paper	1993	Telecel	Telecommunication	1996
Finibanco	Banking	1998			

Table 2. Definitions of explanatory variables

Variable	Proxy for	Empirical Definition
Investment	Firms' Investment	Firms' Investment after going public.
Total Assets	Efficiency	Ratio of Total Sales to Total Assets.
Total Debt	Capital Structure	Ratio of Total Debt to Total Assets.
Real GDP Growth	Growth in the Economy	Percentage growth in Real GDP for three year post-going public period over the three year pre-going public period.
Shareholders in Management	Corporate Governance	Indicator variable with value = 1 if firm has shareholders in management after going public, 0 otherwise; There are shareholders in management when, at least one shareholder belongs to the Board of Directors.
Equity concentration after going public	Ownership Concentration	Indicator variable with value = 1 if, after going public, shares are concentrated in the same owners, 0 otherwise. There is equity concentration when the majority of equity becomes concentrated in one or a few shareholders.
Partial IPO	Ownership Structure	Indicator variable with value = 1 if it is a partial IPO, 0 otherwise. A partial IPO happens when the founding owner keeps more than 50% of the total capital.
CEO	Top Management	Indicator variable with value = 1 if the firm going public does not change the CEO, 0 otherwise.

Trying to investigate the determinants of the post-going public operational, social and financial performance, we employ the following independent variables: investment and total assets, total debt, real GDP growth, shareholders in management, equity concentration after going public, partial IPO and changes in the top management (CEO). Table 2 present all the independent variables.

6.1. The main determinants and its effects in the operational, social and financial performance of privatized firms

The number of shares sold by the founding owner is a crucial determinant to explain changes on the operational and financial behaviour of the new public firms. A *partial IPO* with large amounts of stock retention by the family owners proves to be a better solution in terms of operational and financial performance than a total IPO, where the majority of

stock is sold to public investors. In a partial IPO (equity sale less than fifty percent), we document significant improvements in profitability, efficiency and financial equilibrium, what did not happen with total IPO, where the founding owner had transferred the control of the firm to new owners. Jain and Kini [1994] and Berle and Means [1932] suggested that a ownership concentration structure should have a positive effect on firm performance and its value because it alleviates the conflicts of interest between owners and managers.

The existence of *management ownership* is one of the most important determinants of firms' performance after going public. We found performance improvements in profitability, efficiency, real sales, capital investment and activity levels, what did not happen with firms with no shareholders in management. Shareholders in management are more likely to show initiative if they have some latitude to make effort and undertake innovative actions. In

Aghion and Tirole [1997] concentrated ownership provides incentives to monitor, but also reduces the manager's initiative or incentive to acquire information.

Recognizing the importance of managerial initiative is at the heart of the theory of Burkart *et al.* [1997]. They argue that increased monitoring by shareholders may be costly because it may depress initiative displayed by managers: managers are less likely to be active if they know that shareholders are likely to interfere. So, too much monitoring may negatively affect managerial initiative and profitable investment opportunities will be lost. Burkart *et al.* [1997] view firm ownership structure as an instrument to solve the trade-off between control and initiative. Through more dispersed ownership structure shareholders commit themselves to weaker intervention which makes managers confident enough that they will not be dispossessed of the benefits of their initiative.

There is a potential for increased agency costs when a firm makes the transition from private to public ownership. The reduction of management ownership that occurs when a firm goes public, normally, leads to agency problems, according to Jensen and Meckling [1976]. Agency theory says that family management has a positive effect on the value of firms. According to Burkart *et al.* [2002] this effect may be offset by the costs of family management if hired professionals are better managers than family founders of their heirs. Consistent with the view that family management mitigates the classic agency problems, Morck *et al.* [1988] found that founder-CEO firms trade at a premium relative to other firms. In spite of the transaction, the presence of some shareholders in management, not only attenuates those agency conflicts, but also, this mixed management structure gets better performance results than management structures without shareholders. Our findings are much closed to those of Singh and Davidson III [2003] who found that higher managerial ownership significantly and positively influences the corporate asset utilization efficiency and it acted as a significant deterrent to excessive discretionary expenses.

Our study appoints to a very important determinant of performance behaviour after the IPO: *the maintenance of the CEO after going public*. If this happens, the results are substantially better, probably because the hypothesis of a new hired CEO has several implications on performance. Firms with the same CEO after going public improved significantly their profitability, efficiency, output, activity levels and capital structure, what did not happen with companies that changed their CEOs.

In fact, family firms, with either a family member or a hired CEO, without changes at this level, exhibit superior firm performance relative to no family firms with CEO changes. The new CEO takes time to get all

the information to run the new public company with the best conditions: knowledge of the business, the sector, the people, the systems, etc. Our conclusions on performance of firm that change or do not change their CEOs after going public are similar to those presented by Anderson and Reeb [2003].

The real output empirical tests provide evidence that the timing of the offer and the amount of *national wealth (GDP)* at that time is a relevant determinant. If the IPO happens when the economy is growing, that is, when the GDP growth rate is high, we found significant performance improvements in output, capital investments, and payout ratio and capital structure, what did not happen in years with low economic growth. The timing and the state of the economy, has a very significant positive relation with post-IPO operational, social and financial performance of the new public firms, leading, in particular, to a real output increase. During the period under analysis, it was demonstrated that economic health conducted to better results for the new public firms.

We found that *equity concentration* is a very relevant determinant of firms after going public. Firms with a more concentrated equity structure perform better than firms with a more dispersed structure. In fact, our findings show that more concentrated structures after the IPO, mean performance improvements, higher profitability and efficiency, improved activity levels and capital structure, what did not happen with dispersed equity structures after going public. Companies with a large number of dispersed shareholders have little incentive to monitor managers and prevent them from putting their own personal interest above that of the company's shareholders. Large shareholders alleviate the agency problem arising from the separation between ownership and control, getting better performance results.

6.2. The determinant's results in performance of the newly privatized firms

The determinants results are developed as follows: profitability I, profitability II, operational efficiency, capital investment, real output, employment, dividend policy, activity levels, short term equilibrium, and capital structure.

In order to measure *profitability*, we used two different indicators: the operational income in absolute terms (OI), and the return on sales indicator (ROS). The results for operating income and ROS are presented in Table 3a. When we analyse the panel regression results of the operating income and the return on sales indicator, we conclude that the observable results are, in a similar way, very similar, no matter the model used on the panel regression.

Some literature, such as, Jain and Kini [1994] concluded that, in general, profitability declines after closely-held firms go public.

TABLE 3a. Results of Panel Data Estimations:
Profitability I, Profitability II, Operational efficiency, and Capital Investment

This table reports the estimates of panel data estimations for operating income of the 25 closely-held firms that went public for the pre and post - IPO period (-3 years; +3 years). The independent variables are explained in Table 2. Each coefficient T-statistics is in brackets and *, denotes significance at 5 percent level.

Independent Variables	Operating Income		Return on Sales		Sales Efficiency		Capital Investment	
	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects
CONSTANT	0.021 (0.022)	0.010 (0.012)	0.034 (0.012)	0.054 (0.042)	0.002 (0.021)	0.003 (0.092)	0.012 (0.002)	0.011 (1.478)
INVEST	2.112* (2.783)	3.343* (2.949)	2.688* (2.897)	3.677* (4.202)	2.278* (3.221)	3.987* (4.323)	7.989* (3.767)	9.455* (4.787)
ASSETS	0.148 (0.176)	0.123 (1.133)	0.122 (0.434)	2.443 (1.332)	1.134 (1.456)	2.109 (1.872)	5.949* (3.293)	7.404* (5.323)
TOTAL DEBT	1.190 (1.232)	1.353 (1.365)	1.354 (1.422)	1.403 (1.544)	1.332 (1.112)	1.343 (1.232)	1.603 (1.430)	1.205* (3.023)
GDP	2.665* (2.569)	2.756* (2.966)	2.656* (2.836)	2.304* (2.833)	2.345 (1.554)	2.437 (1.443)	9.040* (6.356)	11.309* (7.388)
SHAREHOLDERS IN MANAGEMENT	1.129* (2.786)	1.148* (2.103)	1.323* (2.774)	2.332* (3.332)	3.787* (4.677)	4.754* (5.787)	3.738* (3.305)	4.767* (4.060)
CONCENTRATION AFTER THE IPO	1.625* (2.344)	1.254* (2.772)	1.333* (2.940)	2.477* (3.254)	2.506* (2.664)	3.452* (3.776)	2.044 (2.032)	2.775* (2.207)
PARTIAL IPO	1.877* (2.232)	1.467* (3.162)	1.767* (2.274)	2.502* (2.868)	1.343* (2.454)	2.202* (3.320)	1.201 (1.211)	1.244 (1.343)
CEO	2.986* (2.254)	3.453* (2.728)	1.232* (2.284)	3.121* (3.332)	2.323* (2.848)	3.332* (3.101)	1.343 (1.301)	1.405 (1.477)
Nobs	92	92	92	92	92	92	92	92
Tests								
F	5.09	6.12	2.11	4.22	1.76	3.44	2.33	4.23
Hausman	1.22	1.34	1.23	1.55	1.32	1.56	1.23	1.44

* rejection of H0 at five percent level of significance

However, our results show that, in certain specific situations, Jain and Kini [1994] findings are not confirmed, that is, profitability presents positive relations in certain situations: for example, one potential explanation for the more or less decline in the post-issue operational and financial performance of IPO firms, are the increased agency costs. There is some work about the relationship between managerial ownership and firm performance. The results are mixed in Hermalin and Weisbach [1991], Demsetz and Lehn [1985], and others. The empirical ambiguity is often referred as evidence of a complex role of insider ownership: while it aligns the interests of managers and shareholders and thus enhances performance, it also negatively affects performance. Because of a reduction on agency costs or other factors, when there are shareholders in management, we observe that profitability is not reduced when firms go public. The same results may happen when the economy is in a good shape, or with a partial IPO or when the closely-held firm CEO doesn't change. All these and other results can be observed in Table 3a.

With the panel data methodology, we employ sales per employee (SALEFF) in thousands of euros, to test for changes in *efficiency* after firms going public, and we control for different levels of the economic development. The results of these estimations are presented in Table 3a. To understand ownership structure is very relevant, since it has a direct influence in the operating efficiency of the market and specifically, in family firms that go public.

A large portion of literature looking for causes of a certain behaviour of firms after going public, has been concerned with explaining the problem of ownership control and management, trying to find out the best way to control firm managers.

Efficiency is related with the level of equity concentration after the firm goes public. When the owners of a company do not exercise control, there is a separation between ownership and control. When this happens, this is a potential agency problem between owners and minority shareholders. The former will not necessarily pursue the objective of the later, which is to maximize the return of their investment. Therefore, mechanisms are needed to be sure that hired managers defend the company investors. Efficiency is directly linked to the possibility of modernization of the firm after going public through investment projects. Besides the determinants developed before (shareholders in management and equity concentration after firms go public), if the old CEO stays on his job is determinant to efficiency after the IPO. Our findings are similar to those as defended by Morck *et al.* [1988].

The results presented in Table 3a for *capital investment* show a significant positive relation with economic growth. When the economy is growing, there are much more investment opportunities and, therefore, it is reasonable to find a positive relationship between both variables. Additionally, the capital investment after the IPO is directly linked with the presence of shareholders in management, since that the presence or not of shareholders in

management has a great influence on agency costs. If agency costs are lower, that means management shareholders are more motivated to invest, since a great part of the firm's efforts before absorbed by those type of costs, are under this scenario, more concentrated on the firm's modernization and on

expansion investment increasing, thus, the capital investment. Lastly, when the economy is in a good shape and it is growing everyday, firms will tend to invest more after going public. This can be done for expansion and for modernization reasons.

TABLE 3b. Results of Panel Data Estimations: Real sales, Employment, and Dividend policy

This table reports the estimates of panel data estimations for operating income of the 25 closely-held firms that went public for the pre and post - IPO period (-3 years; +3 years). The independent variables are explained in Table 2. Each coefficient T-statistics is in brackets and *, denotes significance at 5 percent level.

Independent Variables	Real sales		Employment		Dividend to Sales	
	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects
CONSTANT	0.003 (0.014)	0.055 (1.221)	0.002 (0.015)	0.007 (0.028)	0.001 (0.001)	0.004 (0.254)
INVEST	1.766* (1.482)	1.965 (1.455)	2.659* (2.565)	2.986* (2.776)	-0.004 (-0.056)	-0.101 (-0.022)
ASSETS	1.757 (1.532)	2.040 (1.604)	1.232 (1.776)	1.734 (1.432)	1.389 (1.022)	1.102 (1.101)
TOTAL DEBT	0.454 (0.545)	1.094 (1.367)	0.122 (0.178)	1.005 (1.016)	-1.232 (-1.112)	-1.108 (-1.203)
GDP	7.565* (6.889)	9.776* (8.778)	6.305* (4.505)	9.452* (8.777)	4.210* (2.883)	6.334* (3.045)
SHAREHOLDERS IN MANAGEMENT	5.676* (4.678)	6.656* (5.434)	-0.012 (-0.297)	-0.676 (-0.143)	2.343 (2.667)	2.776* (2.756)
CONCENTRATION AFTER THE IPO	3.403* (2.565)	4.787* (3.676)	-0.202 (-0.101)	-0.378 (-0.209)	1.567 (1.224)	2.112 (1.366)
PARTIAL IPO	1.587 (1.761)	1.901 (1.347)	1.676 (1.787)	2.798 (1.766)	1.969 (1.130)	1.112 (1.287)
CEO	3.177* (3.662)	5.474* (5.707)	1.755 (1.444)	1.546 (1.343)	2.978* (2.788)	3.121* (3.533)
Nobs	92	92	92	92	92	92
Tests						
F	2.54	1.86	4.22	2.44	4.55	3.66
Hausman	0.66	0.78	1.33	1.10	1.21	1.14

* rejection of H0 at five percent level of significance

In spite of a decline in post-issue profitability, relative to their pre-IPO levels, our results show that firms, after going public, exhibit an increase in *real sales*. That is, the declining profitability of IPO firms can not be linked to a lack of sales growth, because, in general, sales increase after the IPO. However, there are a number of factors that are determinant to the rising of sales. First, our real sales panel regression provides evidence that the amount of national wealth (GDP) and its growth, for a certain period of time, has a very significant positive relation with sales increase after firms going public (see Table 3b).

In addition, another important factor is the presence of shareholders in management. In fact, when shareholders are present in the Board of Directors, sales growth is much more pronounced and significant than if they were not inside the Board, probably, because, by this way, shareholders can make commercial and marketing decisions to increase sales that were not possible if they were not inside the Board of Directors. Another conclusion from our data is the relation between equity concentration and sales increase. In fact, after family firms had gone public, when sales tend to increase, there is an equity concentration in one or a few group of shareholders. That is, the closely-held companies with more

concentrated structures are more successful, showing an improved operational and financial performance. All these and other results can be observed in Table 3b. Both models, (random and fixed effects) present similar tendencies and, in general, about the same coefficients. Investment appears to be one of the most significant variables to explain changes in *employment* after going public; as a matter of fact, our panel regression tests for employment at five percent significance level, presents a positive relation with investment expenditure. This relationship means that as investment (expansion or modernization) increases, companies need more employees to work with the new machinery, new equipments, and new technology environment. Our empirical results confirm some of the expectations about employment of several authors, such as Jain and Kini [1994]. In addition, another positive relation with employment is the economy health during the years after companies going public.

On the contrary, we have results of negative relations between certain coefficients and employment. This is the case of shareholders in management that tend to show a negative relation with the number of employees after going public. We may conclude from here, that shareholders in management, probably, wish to cut costs, as personnel

costs, in order to add value to the company. The same happens with the equity concentration. All these and other results can be observed in Table 3b.

When testing the explanation for *dividend policy* changes, fixed and random effects models show nearly similar same results. First, our regression tests show as a positive relation with economic growth. When the economy is growing, firms tend to be more profitable and, therefore, firms show more conditions to increase their payout ratio. Keeping the same CEO after going public and when shareholders are in management, seem to be two positive conditions to impact the dividend policy of the firm. That is, when CEOs stay in management and when shareholders are directly present in the Board of Directors, the payout ratio tend to be higher due an improved operational and financial performance, that is, due to an increased profit. Simultaneously, we observe negative relations of Dividend Payout Ratio with debt. This may be the result of the development of new projects after going public. In other words, when companies present a high level of debt, the consequence is a more restrictive dividend policy. All these and other results can be observed in Table 3b.

When testing the reasons why *activity level* changes after IPOs, we find a negative influence of

firms in sales in relation to total assets on the additional activity degree. That is, lower activity levels mean less efficiency, losses of productivity and firms use relatively more production factors (labour and capital intensive), to produce and sale the same, becoming less competitive. Shareholders in management after firms going public, is another determinant that causes a more professional and efficient management, with positive consequences on the operational performance of firms after going public. An explanation is in the presence of stockholders in the management team, that gives the other members of the Board of Directors, an additional motivation to develop a more professional management. Equity concentration also has a positive impact on activity levels and, in consequence, on the economic performance of firms after going public, since, under these circumstances, with a strong equity concentration in the same owners, some important management decisions can be taken in a more easy way. By last, the permanence of the same CEO also has a positive impact on activity levels and efficiency, due to his own knowledge of the firm and its business and procedures. All these and other results can be observed in Table 3c.

TABLE 3c. Results of Panel Data Estimations: Activity levels, Short term equilibrium, and Capital structure

This table reports the estimates of panel data estimations for operating income of the 25 closely-held firms that went public for the pre and post - IPO period (-3 years; +3 years). The independent variables are explained in Table 2. Each coefficient T-statistics is in brackets and *, denotes significance at 5 percent level.

Independent Variables	Activity levels		Cash and Banks to Short Term Debt		Total Debt to Total Assets	
	Fixed Effects	Random Effects	Fixed Effects	Random Effects	Fixed Effects	Random Effects
CONSTANT	0.033 (0.022)	0.011 (0.012)	0.001 (0.002)	0.004 (0.008)	0.002 (0.033)	0.003 (0.073)
INVEST	-0.144 (-1.383)	-0.177 (-1.454)	0.009 (0.004)	0.103 (0.101)	1.019 (1.128)	1.210 (1.209)
ASSETS	-3.868* (-2.848)	-4.238* (-3.949)	0.103 (0.277)	0.155 (0.299)	-3.838* (-3.433)	-4.756* (-4.766)
TOTAL DEBT	0.003 (0.012)	0.005 (0.022)	-2.454* (-2.855)	-3.575* (-3.565)	9.030* (7.858)	13.959* (8.747)
GDP	2.867* (2.767)	2.747* (2.949)	2.787* (2.699)	3.887* (3.877)	1.294 (1.088)	1.002 (1.066)
SHAREHOLDERS IN MANAGEMENT	2.588* (2.505)	3.398* (4.389)	1.655 (1.485)	1.667 (1.479)	2.928* (3.829)	3.838* (3.747)
CONCENTRATION AFTER THE IPO	3.856* (2.599)	4.878* (2.997)	2.657* (2.466)	3.335* (3.577)	2.202* (2.767)	2.989* (2.828)
PARTIAL IPO	1.102 (1.490)	1.788 (1.258)	1.503 (1.232)	1.343 (1.676)	2.575* (2.748)	3.928* (3.424)
CEO	2.476* (2.523)	2.356* (5.786)	1.978 (1.676)	1.877 (1.887)	2.535* (2.944)	3.736* (3.838)
Nobs	92	92	92	92	92	92
Tests						
F	4.8	3.7	3.5	3.4	4.4	5.7
Hausman	1.1	1.8	1.2	1.8	2.2	2.3

* rejection of H0 at five percent level of significance

We employ Cash and Banks to Short Term Debt (CBTSTD), to test for changes in the *short term equilibrium* after firms going public. The total debt seems to have a negative influence on the short term equilibrium, that is, there are no performance improvements after firms going public, at least on the

financial side. This result in the financial side of the firm is a consequence of what happen in the economic side, that is, firms after going public, with a lower performance in their profitability, efficiency and activity levels, necessarily have negative consequences in their financial structure, which

means a weak short term equilibrium. The variable GDP is positively related with short term equilibrium, meaning that this financial indicator is directly dependent on the financial wealth of the economy. Necessarily, when the economy is growing, it pushes up firms to increasing business, namely sales, what conducts firms going public to a better operational and financial performance. All these and other results can be observed in Table 3c.

Finally, we studied *capital structure* changes after firms going public. We employ Total Debt to Total Assets (TDTA), to test for changes in the capital structure. Our panel data tests show that the economic wealth of the economy and its growth is a very relevant cause for explaining changes in the capital structure level following privatization. The GDP level in the economy is significantly positive related to the financial wealth of the firm and to its capital structure. We observe that the total debt independent variable, present a significant positive coefficient related the currents liabilities; on the contrary, the total assets present a negative relation with capital structure.

This deterioration on the capital structure of the firm is a consequence of a decrease in profitability, efficiency and activity levels. This lower performance, as far as the operational and economic side of the company is concerned, necessarily conducts the firms going public, and to a weaker capital structure than it was before them becoming public. The equity concentration in a few shareholders after the IPO, the existence of shareholders in management after going public and the partial IPO have a positive influence on the capital structure of the firm. All these and other results can be observed in Table 3c.

7. Summary and conclusions

Over the last two decades, the process of going public through an Initial Public Offering or Direct Sale has been developed and, nowadays, many firms are no more family, closed-held firms. An initial public offering raises very relevant problems – most of which are, as yet, not completely answered. There is some evidence, Jain and Kini [1994] that, by the process of going public, IPO firms decline its operational and financial performance but, at the same time, those firms present evidence of growth in sales and in the capital investment and total assets. While there is no relevant empirical evidence about the financial and operating performance behaviour of closely-held companies after they go public, to date, there is very little investigation about the causes, the determinants, why certain performance behaviour occur. Consequently, this work looks for some evidence regarding the sources of certain financial and operating performance behaviour of those family companies after they go public. Our study is the first to make the following contributions:

In first place, it is the first empirical work developed in Portugal, for closely-held (family) firms,

to empirically examine *why* and how the process of going public works, to investigate *which* are the some of the principal determinants for those operational and financial performance. In second place, we do not limit our investigation to initial public offerings (IPOs), since we also include on our study several companies that went public by direct sale or public contest. In third place, our database includes information about Portuguese closely-held firms IPOs from 1989 to 2004 for 25 (twenty five) companies. For that reason, our data span a larger time period than any other study of this nature, and we feel that our findings are especially valuable because our database allows us to undertake the single most thorough multi-sector, multi-industry of the determinants of family firms that go public. In other words, this investigation looks for some answers regarding the sources, the causes, and the starting point of the operational, social and financial performance of family companies that went public in the past. The most relevant determinants of post-privatization operational and financial improvements are presented in the following paragraphs.

There is not a consensus on existing research about the consequences for firms that go public, as far as the operational, social and financial performance is concerned. The results are mixed as already mentioned on the literature review. For all that found that there is a decline on profitability and sales, such as, Anderson and Reeb [2003], Singh and Davidson III [2003], Jain and Kini [1994] and others, there are a few explanations for the drop in profitability and efficiency. One of them is related with accounting brought by the decision to go public. During the preparation of their accounts for the IPO, several companies try to provide a fair picture of the value of their assets. As a consequence, the value of the assets may be overvalued before the IPO. Other explanation for the decline in profitability is based on the adverse selection theory (companies go public when profitability is about to decline in a permanent way) or moral hazard theory (controlling shareholders have a great incentive to get special benefits). Consistent with the adverse selection and the moral hazard explanations, Pagano [1993] found that the decline in profitability after the IPO is negatively related to the change of the incumbent's stake at the IPO.

Apart those findings and explanations, our conclusions are very closed to those authors mentioned before. However, as we said above, we looked for the causes, for the determinants that explain that kind of performance. Our work concluded for the following determinants: in first place, the number of shares sold by the founding owner is a crucial determinant to explain changes on the operational and financial behaviour of the new public firms. A partial IPO with large amounts of stock retention by the family owners proves to be a better solution in terms of performance than it is a total IPO, where the majority of stock is sold to public investors. As a matter of fact, if we talk about a partial IPO (less

than fifty percent), the founding owner keep takes his own management and main management positions, results that are very closed to Jain and Kini [1994].

Secondly, the existence of management ownership is one of the most important factors that affect the firms' performance after going public. There is a potential for increased agency costs when a firm chooses the public ownership. The reduction of management ownership that occurs when a firm goes public, normally, leads to agency problems, according to Jensen and Meckling [1976]. In spite of the transaction, the presence of some shareholders in management, not only attenuates those agency conflicts, but also, this mixed management structure gets better performance results than management structures without shareholders. Our findings are much closed to those of Singh and Davidson III [2003] who found that higher managerial ownership significantly and positively influences the corporate asset utilization efficiency and it acted as a significant deterrent to excessive discretionary expenses.

In third place, our study appoints to a very important determinant of performance behaviour after the IPO: the maintenance of the CEO after going public. If this happens, the results are substantially better, probably because the hypothesis of a new hired CEO has several implications on performance. They concluded that family firms, with hired CEO or family member, without changes at this level, exhibit superior firm performance relative to no family firms with CEO changes. The new CEO takes time to get all the information to run the new public company with the best conditions: knowledge of the business, the sector, the people, the systems, etc. Our conclusions on performance of firm that change or do not change their CEOs after going public are similar to those presented by Anderson and Reeb [2003].

In fourth place, the real output empirical tests provide evidence that the amount of national wealth (GDP) is a crucial determinant, it has a very significant positive relation with pos-IPO operational,

social and financial performance, leading, in particular, to a real output increase. During the period under analysis, it was demonstrated that economic health conducted to better results for the new public firms.

In fifth place, it was demonstrated that equity concentration is a very crucial determinant of firms after going public. Firms with a more concentrated equity structure perform better than firms with a more dispersed structure. Companies with a large number of dispersed shareholders have little incentive to control. Large shareholders diminish the agency problem since ownership and control are separated. Our findings are similar to those as defended by Morck *et al.* [1988].

In short, when closely held (family) companies go public, in general, profitability, efficiency and activity levels decline. In spite of these operational findings, output and investment normally grows. On the social side, employment decreases after the going public process. In addition to the operational aspect, on the financial side, we see that debt may decline during the period after the IPO. Also, the financial equilibrium of those firms is negatively affected, partially explained by the poor performance on the economic and operational side. However, there are causes, determinants that influence these findings. That is, under certain conditions, after the IPO, these performance directions can be modified or minimized. This happens when certain conditions are verified after firms going public, IPO or direct sale, which we consider the causes, the determinants of the operational, social and financial performance, as follows: when shareholders are represented in management, when there is a significant equity concentration in one or in a few shareholders, when the old CEO stays on charge, when total debt declines, when the economy is in a good shape and when there are several investment projects under development.

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