The earnings announcements consequences in public family firms

Elisabete F. Simões Vieira

GOVCOPP Unit Research,
ISCA-UA Department,
University of Aveiro,
Campus Universitário de Santiago,
3810-193 Aveiro, Portugal
Fax: +351-234-380-111
Email: elisabete.vieira@ua.pt

Abstract: This paper investigates market reaction to earnings announcements made by public family firms, to see whether these announcements affect a firm's returns, liquidity or cost of capital. We apply an event study and panel data approach to a sample of Portuguese firms listed between 2000 and 2013. Overall, we find no support for the earnings-signalling hypothesis. Firm size and the fact that a Big-4 company audits a firm contribute positively to the firm performance. The results show no significant relationship between earnings changes and firm liquidity or the weighted average cost of capital and, as such, do not support the pecking order theory. Finally, we find no significant differences between family and non-family firms as regards performance, liquidity and cost of capital. This study is of interest to scholars and practitioners in the field of finance, particularly those focusing on the information content of earnings announcements and the differences between the effects of earnings announcements made by listed family and non-family firms.

Keywords: earnings announcements; return; liquidity; cost of capital; family firms.

Reference to this paper should be made as follows: Vieira, E.F.S. (2020) 'The earnings announcements consequences in public family firms', *Int. J. Banking, Accounting and Finance*, Vol. 11, No. 1, pp.71–94.

Biographical notes: Elisabete F. Simões Vieira is a Coordinator Professor of Finance at the School of Accountability and Management to Aveiro at University of Aveiro, Portugal. She is a member of the Research Unit of Governance, Competitiveness and Public Policy (GOVCOPP). She has several international publications.

1 Introduction

There is ample evidence that many of the world's listed companies are family firms (FF) and that these play a significant role in the global economy (Burkart et al., 2003; Prencipe et al., 2014). La Porta et al. (1999) find that 50% of the firms in their 27-country sample are family-controlled. US studies find evidence that family-controlled firms account for

between 35% and 46% of public listed firms (Andersen and Reeb, 2003; Chen et al., 2008; Villalonga and Amit, 2006). Similar conclusions were drawn by Claessens et al. (2000) in East Asia, Faccio and Lang (2002) in Western Europe, Sraer and Thesmar (2007) in France, Esterin and Prevezer (2011) in Latin America and Culasso et al. (2012) in Italy. Faccio and Lang (2002) note that about 60% of the firms sampled in the Portuguese market are family businesses. Maloni et al. (2017) state that family-owned enterprises dominate global business and generate from 70 to 90% of the world's gross domestic product (GDP).

In recent decades, the number of empirical studies focusing on FF has gradually increased. Research interest in family businesses has grown, specifically in the areas of management, accounting, economics and finance (Benavides-Velasco et al., 2013). Despite increased research into finance issues at FF, only a limited amount of market-based research has been carried out (Essen et al., 2015; Prencipe et al., 2014).

In this context, we address three main issues. First, we analyse market reaction to earnings announcements made by public FF. Second, we provide evidence as to whether the effect of earnings announcements is different for family and non-family businesses. Finally, we investigate how this type of announcement affects a firm's returns, liquidity and cost of capital. Our research is based on a sample of non-financial Portuguese firms listed on the Euronext Lisbon (EL) exchange between 2000 and 2013.

Overall, our findings do not support the earnings-signalling hypothesis or the efficient markets hypothesis. Furthermore, we find no significant performance differences between family and NFF. The results show that firm size and age contribute positively to firm performance. Finally, we find no evidence to support the pecking order theory in the form of a significant relationship between earnings changes and a firm's liquidity or weighted average cost of capital (WACC).

This paper contributes in several ways to the literature on the ownership of public firms and the signalling hypothesis. First, we contribute to the research on market reaction to earnings announcements made by listed FF, which are the predominant form of enterprise in global terms. From an investor perspective, it is important to understand whether market reaction to earnings announcements differs as a function of ownership structure. Howorth and Ali (2001) report that, despite the preponderance of family businesses and their contribution to Portuguese economic growth, little research has been done on such firms in Portugal. Indeed, the Austrian Institute for SME Research (2008) estimates that FF represent about 70%–80% of all Portuguese firms, contribute more than 60% of GDP and employ about 50% of the country's workforce. Second, and to the best of our knowledge, this study is pioneering in terms of the effects of earnings announcements on Portuguese FF. Finally, the Portuguese market forms a suitable backdrop for this study, given the business environment in which firms operate. This environment is characterised by a high level of ownership concentration, which might mitigate the information asymmetry problem, weak legal protection for shareholders (La Porta et al., 1999; Setia-Atmaja et al., 2009) and extensive family-controlled ownership. These characteristics might generate different results than those obtained in countries where outside investors are well protected by the legal system (e.g., the USA and the UK), the level of transparency is high and most equity ownership is relatively dispersed (González and García-Meca, 2014). In fact, we expect that the market reaction to earnings announcements in Portugal will be weaker than in Anglo-Saxon countries.

We think these are subjects of interest to scholars and practitioners in the field of finance, particularly those focusing on the information content of earnings

announcements and the differences between the effects of earnings announcements made by listed family and non-family firms (NFF).

The remainder of the paper is organised as follows. Section 2 covers the theoretical framework, previous empirical studies, and the hypotheses. In Section 3, we outline the data sample, variables and the estimation method. The empirical results are reported in Section 4 and Section 5 comprises our conclusions.

2 Theoretical framework, previous empirical studies, and hypotheses

2.1 Market reaction to earnings change announcements

According to the efficient market hypothesis, share prices already reflect the past information. When the information is revealed to the market, the share price instantaneously increases (positive information) or decreases (negative information), so as to adjust to the present value of expected future cash flows. Consequently, securities will be fairly priced and it will not be possible to consistently earn superior returns (Fama, 1970).

In the context of the information asymmetry between managers and shareholders (Myers and Majluf, 1984), earnings announcements can be one of the most relevant channels of communication between managers and investors (Beaver, 1968; Diamond and Verrecchia, 1991; Kim and Verrecchia, 1991a, 1991b, 1994). Beaver's (1968) seminal study on earnings announcements concludes that earnings possess information content, as both stock price volatility and trading volume increase in the week surrounding the announcements.

However, the empirical evidence is not consensual.

There is empirical evidence that market reacts positively to earnings change announcements, supporting the information content of earnings, such as Ball and Brown (1968), Atiase and Bamber (1994), Bailey et al. (2003) and Hope et al. (2009). Nevertheless, some studies find no evidence of a significant relationship between earnings announcements and share prices reaction and others raises some doubts as to whether the earnings announcements provide significant new information to the market, such as Ball and Shivakumar (2008) and Ball (2013). In addition, there are evidence that supports the hypothesis that losses are less informative than profits about firm's future prospects, because losses are likely to be considered temporary (e.g., Hayn, 1995).

Some studies focused on the concern about the increase or decrease of the usefulness of earnings announcements. On the one hand, some studies find evidence of an increase in the information content of earnings across time, such as Francis et al. (2002), Landsman and Maydew (2002) and Collins et al. (2009). By the other hand, there are evidence of a decline in the relevance of earnings along the years, like Collins et al. (1997), Francis and Schipper (1999) and Lev and Zarowin (1999). Other studies find evidence of a delayed annual earnings announcements caused by tax avoidance reasons (Atwood et al., 2010; Crabtree and Kubick, 2014). However, reporting delays may reduce the value of the information to investors (Atiase et al., 1989), which can reduce the information content of earnings. Fan and Wong (2002), analysing the seven East Asian economies, characterised by high levels of equity ownership, conclude that concentrated ownership is associated with low informativeness of earnings.

On the basis of the earnings-signalling hypothesis in the literature and the empirical evidence of a positive relationship between earnings change announcements and the subsequent market reaction, we formulate our first hypothesis:

H_1 There is a positive relationship between earnings change announcements and the share price reaction in the period surrounding the announcement date.

The research on information content of earnings has focused on listed companies in general. To our knowledge, no study has specifically examined the signalling hypothesis in relation to earnings changes in FF.

FF may behave differently from non-family ones because of their specific governance characteristics (Prencipe et al., 2008), their long-term management orientation (Anderson et al., 2003; Jiraporn and DaDalt, 2009; Salvato and Moores, 2010) and their desire to hand firms down through the generations (Achleitner et al., 2014; Berrone et al., 2012; Hasso and Duncan, 2013).

Agency theory is concerned with the interaction between shareholders and managers, where the managers' decision-making process must protect the shareholders' interests (Jensen and Meckling, 1976). However, this theory provides a mixed perspective in the context of FF (Setia-Atmaja et al., 2009; Wang, 2006) because of the relation between the alignment and entrenchment effects. In FF, owner and manager interests are aligned (Fama and Jensen, 1983; Jensen and Meckling, 1976), suggesting that the controlling family's interest is more likely to be aligned with that of the firm as a whole, which reduces agency conflict (González and García-Meca, 2014; Jensen and Meckling, 1976). Nevertheless, the entrenchment effect predicts that FF tend to have greater conflict of interest between controlling and non-controlling shareholders (Anderson and Reeb, 2003; Fama and Jensen, 1983; Shleifer and Vishny, 1997), which can worsen external agency conflict.

The stewardship theory states that managers frequently act altruistically for the benefit of their shareholders rather than for their own good (Davis et al., 1997; Donaldson and Davis, 1991). This will be particularly common in FF, because managers are family members or have emotional links with the family (Miller and Le Breton-Miller, 2006).

According to the alignment effect, FF are more likely to report higher quality earnings than non-family ones, for two reasons. The first is to protect the firm's long-term performance, by maintaining a favourable reputation (González and García-Meca, 2014; Hasso and Duncan, 2013; Jiraporn and DaDalt, 2009; Salvato and Moores, 2010; Sraer and Thesmar, 2007). The second is to hand firms down through the generations (Achleitner et al., 2014; Berrone et al., 2012; Hasso and Duncan, 2013). Indeed, there is ample evidence that FF are less likely to manage earnings than NFF and, so, deliver higher earnings quality (Ali et al., 2007; Ghabdian et al., 2012; Jiraporn and DaDalt, 2009; Prencipe et al., 2008; Wang, 2006).

Based on the alignment effect and the previous evidence, we expect FF earnings change announcements to convey more credible information to the market than those made by NFF. Consequently, we formulate our second hypothesis as follows:

H_2 The positive relationship between earnings change announcements and the share price reaction in the period surrounding the announcement date is stronger for family controlled firms than for non-family controlled firms.

2.2 Earnings change announcements and liquidity

Reported increases in earnings signal an improvement in expected future cash flows, while dividend decreases suggest a fall in expected future cash flows. We expect the same to be true for the relationship between earnings changes and firm liquidity. However, to the best of our knowledge, no studies have been carried out into this relationship.

The disaggregation of profitability ratios predicts a positive relationship between profitability and turnover or activity ratios (Robinson et al., 2009). Moreover, turnover influences liquidity ratios positively. Consequently, we formulate the following hypothesis:

H_3 There is a positive relationship between earnings changes and firm liquidity.

Overall, we conjecture that there is a positive relationship between earnings changes and firms' liquidity. We expect FF to convey more credible information to the market than their non-family-controlled counterparts, because of the alignment effect (Jensen and Meckling, 1976; Fama and Jensen, 1983; González and García-Meca, 2014). Consequently, we formulate the following hypothesis:

H_4 The positive relationship between earnings changes and firm's liquidity is stronger for family controlled firms than for non-family controlled firms.

2.3 Earnings change announcements and the cost of capital

According to the trade-off theory (Myers, 1977), the use of tax shield helps reduce the WACC. For low levels of debt, the probability of bankruptcy is irrelevant. However, for higher levels of indebtedness, agency and bankruptcy costs become significant, and the tax benefits of debt are covered by bankruptcy costs (Kraus and Litzenberger, 1973). Thus, in accordance with the trade-off hypothesis, there is an optimal debt ratio; one that maximises firm value and minimises the WACC.

Pecking order theory (Myers, 1984; Myers and Majluf, 1984) holds that firms follow a hierarchical sequence in the selection of their funding sources. They prefer to finance investment opportunities through the least expensive form of funding, in order to minimise the cost of capital. Companies prefer to use internal financing initially and only use new debt when retained earnings are insufficient and only issue new shares as a last option. More profitable firms are expected to have lower levels of leverage because they are able to use internal financing and do not need to rely on external resources (Rajan and Zingales, 1995). A number of studies support the pecking order theory, including González and González (2011) and Mostarac and Petrovic (2013). In this context, we expect that earnings increases (decreases) are associated with higher (lower) levels of internal financing, lower (higher) levels of external financing, and, consequently, with lower (higher) levels of WACC.

Taking pecking order theory and the empirical evidence into account, we expect earnings changes to be negatively related to the WACC. Thus, we state our next hypothesis as follows:

H_5 There is a negative relationship between earnings changes and the WACC.

FF are more adverse to risk and to loss of control than NFF and they tend to avoid debt in their capital structure (e.g., Mishra and McConaughy, 1999). Furthermore, the long-term perspective, the desire to pass the firm on to succeeding generations and the management's concern for reputation (Anderson et al., 2003; Jiraporn and DaDalt, 2009; Salvato and Moores, 2010; Berrone et al., 2012; Hasso and Duncan, 2013) can underpin the avoidance of leverage in FF. Finally, FF are more likely to avoid debt-covenant violations (Prencipe et al., 2008). Indeed, Sonnenfeld and Spence (1989), Gallo and Vilaseca (1996) and Mishra and McConaughy (1999) find that family-controlled firms use less debt. According to Sonnenfeld and Spence (1989), family businesses have lower debt-to-equity levels, in order to avoid losing everything in the case of loan failure and prevent damage to their family's reputation and their personal guarantees. Comparing family versus NFF, we state the last hypothesis as follows:

H_6 The negative relationship between earnings changes and the WACC is stronger for family controlled firms than it is for non-family controlled firms.

3 Data sample, variables, and methodology

3.1 Family firms

We need to distinguish between FF and NFF. Although there are no generally accepted classification criteria for FF (Bennedsen and Nielsen, 2010; Prencipe et al., 2014), definitions are usually based on three main features: ownership, management and governance (Villalonga and Amit, 2006). In line with La Porta et al. (2000), Miller and Le Breton-Miller (2006) and Setia-Atmaja et al. (2009), we identify FF as firms in which the founding family or a family member is involved in the top management of the firm and controls twenty per cent or more of the equity.

3.2 Methodology and variables

The methodology involves the event study approach and panel data analysis.

Previous evidence suggests that annual earnings are well described as a random walk (e.g., Watts and Leftwich, 1977). Following Nissim and Ziv (2001) and Grullon et al. (2005), we express annual earnings changes for firm i and year t ($EC_{i,t}$) as follows[1]:

$$EC_{i,t} = \frac{\left(E_{i,t} - E_{i,t-1}\right)}{BV_{i,t-1}} \tag{1}$$

where $E_{i,t}$ is the earnings of firm i in year t and $BV_{i,t-1}$ is the book value of equity for firm i at the end of year t – 1. We define year t as the fiscal year of the earnings announcement.

In accordance with the literature, we consider earnings changes in terms of percentage deviations. Based on Conroy et al. (2000), we consider earnings increases (decreases) if the EC is higher (lower) than 10%.

We calculate abnormal returns using the capital asset pricing model (CAPM):

$$AR_{i,t} = R_{i,t} - \left[R_{f,t} + \beta_i \left(R_{m,t} - R_{f,t}\right)\right] \tag{2}$$

where $AR_{i,t}$ is the abnormal return for share i on day t; $R_{i,t}$ is the return for share i on day t; $R_{f,t}$ is the risk-free rate on day t; $R_{m,t}$ is the market return for day t and β_i is the systematic risk of share i. The parameter β_i, is estimated for each share, by an ordinary least squares (OLS) regression based on the market model, using the period from day t = –120 to day = +120, excluding the 21 days around earnings announcements (t = –10 to t = +10).

The three-day cumulative abnormal return (CAR) is used to measure market reaction to the dividend announcements and is calculated for the period surrounding the announcement date:

$$CAR_{i,t} = \sum_{t=-1}^{t=1} \left(AR_{i,t} \right) \tag{3}$$

where t = 0 is the earnings announcement day.

If the earnings information content hypothesis is correct, the CAR would be statistically significantly and positive (negative) in the case of earnings increases (decreases).

In order to explore the relation between earnings changes and the wealth effect, and to test H_1 and H_2, we estimate the following regression model:

$$CAR_i = \alpha + \beta_1 FF_{i,t} + \beta_2 EC + \beta_3 EI + \beta_4 ED + \beta_5 FF + \beta_6 FF * ED + \varepsilon_{i,t} \tag{4}$$

where $FF_{i,t}$ is a dummy variable with a value of 1 if a firm is a family firm, and zero otherwise. EI is a dummy variable with a value of 1 if earnings increase by 10% or more and zero otherwise and ED is a dummy variable with a value of 1 if the dividend decreases10% or more and zero otherwise. We consider the interaction terms FF * EI and FF * ED in order to examine asymmetric effects of earnings increase and decrease in FF.

In addition to the above tests, we analyse the influence of earnings changes on the post-announcement financial and economic performance (PERF) of our sample, by estimating the following regression:

$$\begin{aligned} PERF_{i,t} = {} & \alpha + \beta_1 FF_{i,t} + \beta_2 EC + \beta_3 EI + \beta_4 ED + \beta_5 FF * EI + \beta_6 FF * ED \\ & + \beta_7 SIZE_{i,t} + \beta_8 AGE_{i,t} + \beta_9 OWN_{i,t} + \beta_{10} BIG_{i,t} + \beta_{11} IND_{i,t} \\ & + \beta_{12} YEAR_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{5}$$

where the dependent variable (PERF) measures the firm's financial and economic performance in terms of a number of measures. We consider two accounting performance measures: the return on equity (ROE), computed as the net income divided by equity (e.g., Shukeri et al., 2012), and the return on assets (ROA), calculated as the operating income divided by the firm's total assets (e.g., Prencipe et al., 2008). For market performance, we use the market-to-book ratio (MB), as a proxy for growth opportunities, computing this as the market value of the equity to its book value (Ali et al., 2007; Prencipe et al., 2008).

As control variables, we consider firm size (SIZE), firm age (AGE), managerial ownership (OWN) and audit firm (BIG).

We control for SIZE, measured as the natural logarithm of the book value of total assets of a firm (e.g., Prencipe et al., 2008). In line with Majumdar and Chhibber (1999) and Garcia-Teruel and Martinez-Solano (2007), we expect a positive relationship between SIZE and firm performance.

As found in previous studies, we expect a positive relationship between AGE (calculated as the natural logarithm of the difference between incorporation year and a fiscal year) and firm performance (Bhaird and Lucey, 2009; Nunes et al., 2012).

We also control for managerial ownership, because family members are usually involved in several firm management functions, some of them crucial to the firm's strategy, As there is previous evidence that FF outperform NFF (Anderson and Reeb, 2003, 2004; Sraer and Thesmar, 2007; Vieira, 2014), we expect this variable to be positive. OWN is the percentage of shares held by the biggest shareholder (Shukeri et al., 2012).

The audit firm is a control variable, because auditing is a way of reducing agency costs (Watts and Zimmerman, 1979) and various authors conclude that large audit firms provide higher quality auditing (e.g., Francis and Yu, 2009), which, in turn, can influence earnings credibility positively. BIG is a dummy variable with a value of 1 if the auditor is a Big-4 audit firm (PricewaterhouseCoopers, Ernst & Young, Deloitte or KPMG) and 0 otherwise. We expect a positive relationship between this variable and firm performance.

Finally, we include dummy industry (IND) variables to account for any variation in the dependent variable due to industry differences and dummy year (YEAR) variables to remove any time effects on the independent variable.

To test the relationship between earnings changes and firm liquidity (LIQ) (H_3 and H_4), we apply two dependent variable ratios that measure the firm's ability to meet its short-term payments. These are the working capital ratio (WCR), calculated as total current assets divided by total current liabilities (e.g., Gunasekarage and Power, 2002), and the quick assets ratio (QAR), computed as total current assets minus total stocks divided by total current liabilities (e.g., Gunasekarage and Power, 2002). Consequently, we estimate the following regression:

$$\begin{aligned} LIQ_{i,t} &= \alpha + \beta_1 FF_{i,t} + \beta_2 EC + \beta_3 EI + \beta_4 ED + \beta_5 FF * EI + \beta_6 FF * ED \\ &+ \beta_7 SIZE_{i,t} + \beta_8 AGE_{i,t} + \beta_9 OWN_{i,t} + \beta_{10} BIG_{i,t} + \beta_{11} IND_{i,t} \\ &+ \beta_{12} YEAR_{i,t} + \varepsilon_{i,t} \end{aligned} \tag{6}$$

where the dependent variable (LIQ) measures firm liquidity, as explained above.

Finally, we analyse the relationship between earnings changes and the WACC, in order to test H_5 and H_6. To do this, we use the leverage ratio (LEV), calculated as total liabilities divided by total assets (Prencipe et al., 2008; Wang, 2006), and the WACC calculated using the following expression:

$$WACC = \frac{E}{E+D} R_E + \frac{D}{E+D} R_D (1-T) \tag{7}$$

where E is the value of equity; D is the value of debt; RD is the cost of debt; RE is the cost of equity and T is the marginal corporate tax rate. We calculate RD as the ratio of the interest cost of interest-bearing short-term and long-term debt. We use the CAPM model to estimate RE:

$$R_E = R_{f,t} + \beta (R_m - R_f) \tag{8}$$

We state the regression model as follows:

$$\begin{aligned} WACC_{i,t} = {} & \alpha + \beta_1 FF_{i,t} + \beta_2 EC + \beta_3 EI + \beta_4 ED + \beta_5 FF * EI + \beta_6 FF * ED \\ & + \beta_7 SIZE_{i,t} + \beta_8 AGE_{i,t} + \beta_9 OWN_{i,t} + \beta_{10} BIG_{i,t} + \beta_{11} IND_{i,t} \\ & + \beta_{12} YEAR_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (9)$$

Table 1 describes the variables used in this study.

Table 1 Variables definition

Variables		*Definition*
Dependent variables		
Cumulative abnormal return	CAR	Sum of abnormal returns for the period –1 to +1
Return on equity	ROE	Net income divided by total equity
Return on assets	ROA	Net income divided by total assets
Market-to-book ratio	MB	Market value of equity divided by the book value of the equity
Working capital ratio	WCR	Total current assets divided by total current liabilities
Quick assets ratio	QAR	Total current assets minus total stocks, divided by total current liabilities
Weighted average cost of capital	WACC	Cost of equity weighted by the percentage of equity on total assets plus the liquid cost of debt, weighted by the percentage of debt on total assets
Independent variables		
Family firms	FF	Dummy variable that assumes the value of 1 if the firm is considered as a FF, and 0 otherwise
Earnings changes	EC	The earnings for year t minus the earnings of year $t - 1$, scaled by the book value of equity
Earnings increases	EI	Dummy variable that takes value 1 if earnings increases more than 10% and zero otherwise
Earnings decreases	ED	Dummy variable that takes value 1 if earnings decreases more than 10% and zero otherwise
Control variables		
Firm size	SIZE	Natural logarithm of the book value of total assets of a firm
Firm age	AGE	Natural logarithm of the difference between incorporation year and a fiscal year
Managerial ownership	OWN	Percentage of shares held by the biggest shareholder
Audit firm	BIG	Dummy variable that assumes the value of 1 if the auditor is PricewaterhouseCoopers, Ernest & Young, Deloitte or KPMG, and 0 otherwise
Industry variables	IND	Industry dummy variables
Year variables	YEAR	Year dummy variables

For the regression models, we employ the panel data method, using the pooled OLS, the fixed effects model (FEM), and the random effects model (REM)[2] to estimate panel data models. To determine the most appropriate model, we perform the F-statistic and the Hausman (1978) tests. Standard errors are corrected for heteroscedasticity and covariance using White's (1980) heteroscedasticity consistent standard errors method. The panel

data approach allows us to control for individual heterogeneity (Baltagi, 2013) and increase the number of observations. This latter is important because of the small number of Portuguese firms listed on the EL and because it increases the degrees of freedom, which reduces the problem of multicollinearity.

Table 2 Sample selection

	Earnings increases	*No changes*	*Earnings decreases*	*Total*
Family firms				
Total number of earnings events	64	272	78	414
Earnings events with other potentially contaminating announcements	2	9	2	13
Earnings events with missing data	10	42	10	62
Total number of earnings events for analysis	52	221	66	339
Non-family firms				
Total number of earnings events	38	159	54	251
Earnings events with other potentially contaminating announcements	2	5	1	8
Earnings events with missing data	8	5	12	25
Total number of earnings events for analysis	28	149	41	218
Total firms				
Total number of earnings events	102	431	132	665
Earnings events with other potentially contaminating announcements	4	14	3	21
Earnings events with missing data	18	47	22	87
Total number of earnings events for analysis	80	370	107	557
Events percentage – family firms	65.0%	59.7%	61.7%	60.9%
Events percentage – non-family firms	35.0%	40.3%	38.3%	39.1%

Notes: This table provides the earnings events for FF, NFF and the full sample. To be included in the sample, the earnings change announcements must satisfy the following criteria:
1. The announcement date is available on the CMVM
2. Any other contaminate announcements, such as dividends, stock splits, and mergers, did not occur within 5 trading days of the earnings announcement.

3.3 Data

Our sample includes earnings events for non-financial firms listed on the EL (increases, no change and decreases) between 2000 and 2013, where such announcement dates are made available by the Portuguese stock market regulator (CMVM). The data were collected from CMVM, a private database provided by Bureau van Dijk (SABI) and the firms' annual reports.

We start by considering the earnings announcements of the 63 non-financial Portuguese firms listed on the EL between 2000 and 2013,[3] as well as data from unbalanced panel data. Of the total number of firms, 35 are FF (about 56%) and the remaining 28 (44%) are NFF. The percentage of FF suggests the predominance of this

type of firm, as suggested by Faccio and Lang (2002), who find that about 60% of their Portuguese sample firms are FF.

To be considered in the final sample, the firms must not have made any other contaminating announcements, such as dividends, stock splits, and mergers, within five trading days of the earnings announcement. Table 2 comprises the sample data.

The full sample includes 557 events: 80 earnings increases, 370 no change observations and 107 decreases. We consider also two sub-samples:

1 339 FF events (52 increases, 221 no changes and 66 decreases)

2 218 NFF events (28 increases, 149 no changes and 41 decreases).

The final sample of events corresponds to 44 firms (31 FF and 13 NFF). Nineteen firms were excluded from the calculation of the CAR, because of missing data, namely market prices in the years they were listed.

4 Results

4.1 Descriptive analysis

The main descriptive statistics (mean, median, standard deviation, minimum and maximum) for the selected variables and the sub-samples of FF and NFF, as well as the mean differences are reported in Table 3.

The results suggest that FF differ from NFF with respect to EC, ROA, MB, WACC, SIZE and AGE. FF present higher earnings stability, higher levels of return, lower levels of WACC, and are bigger and older.

FF present lower levels of variation in earnings changes than NFF. The mean for earnings increases is 34.4% and for earnings decreases it is 41.5%, whereas, for NFF, the means are 50.5% and 69%, respectively. The standard deviation is lower for earnings changes in the sub-sample of FF than it is for NFF.

The evidence that FF outperform their counterparts in terms of ROA and MB ratios (the ROE mean is higher for FF, but the difference is not statistically significant) is consistent with previous findings, such as Anderson and Reeb (2003, 2004), Sraer and Thesmar (2007) and Berrone et al. (2016).

The lower mean WACC for FF (5.1%) than for NFF (6.3%) is consistent with the fact that FF perform better than NFF and suggests that low levels of WACC contribute to higher levels of return.

Table 4 reports the Pearson correlations among the independent variables.

The highest levels of correlation are between ED and AGE, ED and OWN and AGE and OWN. These are positive in the first case, and negative in the other two. The other correlation coefficients are below 0.8, in absolute terms. Moreover, and with the exception of two correlation coefficients (ED/AGE and AGE/OWN), none of the other variance inflation factors (VIF) are greater than 10, which indicates there is no problematic degree of collinearity.

Table 3 Descriptive statistics for the sub-samples

	FF					*NFF*					*Mean differences*	*t*	
	Mean	*Median*	*Minimum*	*Maximum*	*SD*	*Mean*	*Median*	*Minimum*	*Maximum*	*SD*			
EI	0.344	0.229	0.106	1.563	0.310	0.505	0.341	0.100	1.706	0.450	–0.161	–1.947	*
ED	–0.415	–0.228	–1.919	–0.100	0.412	–0.690	–0.477	–1.904	–0.102	0.566	0.274	3.049	***
ROE	0.052	0.076	–2.746	3.677	0.497	0.051	0.071	–3.809	3.297	0.744	0.001	0.015	
ROA	0.070	0.041	–0.536	1.692	0.225	0.040	0.032	–0.532	1.153	0.191	0.030	1.988	**
MB	1.984	0.961	–11.790	35.843	4.391	1.454	0.800	–8.141	30.792	2.969	0.529	1.984	**
WCR	1.066	1.010	0.019	3.197	0.492	1.077	0.917	0.054	4.337	0.850	–0.011	–0.201	
QAR	0.868	0.842	0.019	3.188	0.434	0.908	0.780	0.005	4.076	0.692	–0.039	–0.847	
WACC	0.051	0.045	0.000	0.186	0.035	0.063	0.046	0.000	0.490	0.055	–0.011	–3.101	***
SIZE	19.644	19.755	12.506	22.837	2.051	19.056	18.804	15.219	23.311	2.114	0.588	3.768	***
AGE	3.401	3.511	0.000	5.094	0.788	3.003	3.258	0.000	4.317	0.924	0.398	6.097	***
OWN	0.448	0.410	0.200	0.942	0.199	0.429	0.400	0.057	0.998	0.247	0.019	1.077	

Notes: This table provides the means, medians, minimums, maximums and standard deviations (SD) of the variables for the FF and NFF sub-samples, as well as the differences in mean variables between FF and NFF. FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Table 1. The significance levels for means differences are based on a two-tailed t-test.
***, **, *significantly different from zero at the 1%, 5%, 10% level.

Table 4 Pearson correlation matrix

	EI	*ED*	*SIZE*	*AGE*	*OWN*	*BIG*
EI	1					
ED	0.622	1				
SIZE	–0.093	–0.130	1			
AGE	0.620	0.969	–0.228	1		
OWN	–0.798	–0.937	0.177	–0.988	1	
BIG	0.048	0.107	0.045	0.026	–0.003	1

Notes: This table presents the Pearson correlations among independent variables. FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Table 1.

4.2 Models results

Table 5 reports the abnormal returns for the announcement period, as well as for other periods.

Table 5 Abnormal returns for the announcement period

	N	*CAR*						
		(–10, –5)	*(–2, +2)*		*(–1, +1)*	*(–5, +5)*		*(+5, +10)*
Panel A: CAR mean for different periods: earnings increases								
All firms	80	–0.0021	–0.0006		–0.0009	0.0019		0.0037
FF	52	0.0000	0.0006		–0.0011	0.0044		0.0060
NFF	28	–0.0083	–0.0041	**	–0.0003	–0.0051	*	–0.0029
Panel B: CAR mean for different periods: earnings no changes								
All firms	370	–0.0008	–0.0182		–0.0007	–0.0062		–0.0046
FF	221	–0.0012	–0.0238		–0.0238	–0.0087		–0.0084
NFF	149	–0.0057	–0.0009		–0.0004	0.0016		0.0079
Panel C: CAR mean for different periods: earnings decreases								
All firms	107	0.0102	–0.0079		–0.0027	–0.0079		–0.0022
FF	66	0.0233	–0.0032		0.0001	–0.0089		–0.0145
NFF	41	–0.0204	–0.0190	**	–0.0095	–0.0054		0.0267

Notes: This table shows the abnormal returns for the announcement period and for different event periods. Cumulative abnormal returns are based on the CAPM and are calculated as follows:

$$CAR_{i,t} = \sum_{t=1}^{t=1} \left(AR_{i,t} \right)$$

where (CAR) is the cumulative abnormal return between days –1 and +1. $AR_{i,t}$ is the abnormal return for share i in day t, computed as:

$$AR_{i,t} = R_{i,t} - \left[R_{f,t} + \beta_i \left(R_{m,t} - R_{f,t} \right) \right]$$

where $R_{i,t}$ is the return for share i in day t; $R_{f,t}$ is the risk-free rate in day t; $R_{m,t}$ is the market return for day t and β_i is the systematic risk of share i.
**, *significantly different from zero at the 5%, 10% level.

We find no significant abnormal returns in the event period, suggesting no market reaction to earnings announcements, whatever the type of earnings change (increase, no change or decrease). Although these results do not support the hypothesis that there is a positive relationship between earnings change announcements and the share price reaction in the period surrounding the announcement date (H_1), they concur with the doubts expressed by Ball and Shivakumar (2008) and Ball (2013). Moreover, our findings agree with those of Fan and Wong (2002), who conclude that concentrated ownership is related with low earnings informativeness.

The lack of market reaction in the event period could be due to market illiquidity or to the concentration of corporate ownership. This latter factor makes earnings announcements less relevant, since the major shareholders are involved in management, so they are aware of the firm's earnings before the market is informed. This idea is supported by Aivazian et al. (2003), who conclude that a heavy reliance on bank financing and a relatively low emphasis on external capital markets as a source of finance in developing economies alleviate the information asymmetry problems and reduce the signalling effect. Our findings also suggest that the need to use earnings as a signalling device must be less pronounced in Portugal than in developed capital markets, such as the USA and the UK.

The only statistically significant market reactions to earnings announcements are associated with longer announcement periods (–2, +2; –5, +5 and +5, +10). This suggests that firms with concentrated ownership are associated with low earnings infomativeness, which is consistent with the conclusion drawn by Fan and Wong (2202).

Table 6 Regression results

	OLS	
	Coefficient	*t-value*
Constant	–0.0010	–0.022
FF	0.0300	0.594
EC	–0.0289	–0.039
EI	0.0241	0.031
ED	0.0412	0.054
FF * EI	–0.0868	–0.345
FF * ED	–0.1045	–0.578
IND dummy	Yes	
YEAR dummy	Yes	
N	557	
F-test	0.860	
Hausman test	4.146	

Notes: This table shows the regression (4) results. FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Table 1. The table presents the results estimated for the best model among pooled OLS, FEM and REM. The t-statistics are corrected for heteroscedasticity using the White (1980) method. It reports the F test, a test for the equality of sets of coefficients, and the Hausman (1978) test, a test with H_0: random effects are consistent and efficient, versus H_1: random effects are inconsistent, in order to choose the most appropriate model for each particular sample. The significance levels for means differences are based on a two-tailed t-test.

In order to explore the relation between earnings changes and the wealth effect, and to test H_1 and H_2, we estimate regression model (4). The results of this model are reported in Table 6. Although we consider the OLS, the FEM and the REM, we only present the pooled OLS here, as these are the best model results.[4]

The FF coefficient is not statistically significant, suggesting that FF do not behave differently from NFF as regards the relationship between earnings changes and market reaction. None of the coefficients for earnings changes is statistically significant, so we cannot reject the null hypothesis and, thus, our results do not support the earnings-signalling hypothesis. Since the interaction terms are not statistically significant, we find no evidence of any asymmetric effects of EI and EC in FF.

Table 7 Regression results

	Model 1 (ROE)			*Model 2 (ROA)*			*Model 3 (MB)*		
	OLS			*REM*			*REM*		
	Coefficient	*t-value*		*Coefficient*	*t-value*		*Coefficient*	*t-value*	
Constant	0.0170	0.291		0.0116	0.390		1.2422	1.999	**
FF	–0.0112	–0.201		0.0265	0.706		1.0168	1.494	
EC	0.2551	0.293		0.0780	0.499		6.6815	1.257	
EI	–0.1291	–0.145		0.0800	0.496		7.1291	1.301	
ED	–0.0659	–0.075		0.0326	0.207		6.3082	1.181	
FF * EI	–0.0207	–0.073		0.0112	0.214		0.5008	0.283	
FF * ED	–0.4303	–2.187	**	0.0129	0.348		0.9763	0.777	
SIZE	–0.0004	–0.057		0.0008	0.470		0.1015	1.914	*
AGE	–0.0079	–0.252		0.0085	0.966		0.4203	1.555	
OWN	–0.0740	–0.598		0.0140	0.450		0.3196	0.322	
BIG	0.1997	3.156	***	0.0073	0.551		1.4961	3.421	***
IND dummy	Yes			Yes			Yes		
YEAR dummy	Yes			Yes			Yes		
N	557			557			557		
F-test	1.204			18.034		***	5.286		***
Hausman test	5.270			13.030			9.849		

Notes: This table shows the regression (5) results, considering as dependent variables the ROE (model 1), the ROA (model 2) and the MB (model 3). FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Appendix A. The table presents the results estimated for the best model among pooled OLS, FEM and REM. The t-statistics are corrected for heteroscedasticity using the White (1980) method. It reports the F test, a test for the equality of sets of coefficients, and the Hausman (1978) test, a test with H_0: random effects are consistent and efficient, versus H_1: random effects are inconsistent, in order to choose the most appropriate model for each particular sample. The significance levels for means differences are based on a two-tailed t-test.
***, ** and *indicate significance at the 1, 5 and 10% level, respectively.

The results for the market reaction to earnings announcements agree with our previous findings (Table 5) and reinforce the conclusion that the market does not react significantly to earnings change announcements. Furthermore, we find no evidence to support the hypothesis that the positive relationship between earnings change announcements and the share price reaction in the period surrounding the announcement date is stronger for FF than for NFF (H_2).

In addition to the above tests, we analyse the influence of earnings changes on post-announcement financial and economic performance, estimating the regression (5). Table 7 shows the results, based on our use of ROE (model 1), ROA (model 2) and MB (model 3) as dependent variables. Although we look at the OLS, FEM and REM, we only present the best model results for each of the regressions.

The coefficient on FF is not statistically significant for all the three models, so we can conclude that this type of firm is not different from NFF as regards performance. This conclusion coincides with those of Khanna and Rivkin (2001), Claessens et al. (2002), and Block et al. (2011).

Table 8 Regression results

	Model 1 (WCR)		*Model 2 (QAR)*	
	REM		*REM*	
	Coefficient	*t-value*	*Coefficient*	*t-value*
Constant	0.4222	0.339	0.3881	0.311
FF	1.9568	1.470	1.9033	1.429
EC	5.7879	0.400	5.8484	0.405
EI	7.3272	0.492	7.3075	0.491
ED	4.5858	0.315	4.7120	0.324
FF * EI	0.8125	0.170	0.5996	0.126
FF * ED	0.6703	0.199	0.4944	0.147
SIZE	0.0567	0.442	0.0526	0.409
AGE	0.4984	0.782	0.4562	0.716
OWN	1.7662	0.726	1.8618	0.765
BIG	1.3921	1.225	1.4348	1.264
IND dummy	Yes		Yes	
YEAR dummy	Yes		Yes	
N	557		557	
F-test	2.134	***	2.135	***
Hausman test	4.243		4.115	

Notes: This table shows the regression (6) results, considering as dependent variables the WCR (model 1) and the QAR (model 2). FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Appendix A. The table presents the results estimated for the best model among pooled OLS, FEM and REM. The t-statistics are corrected for heteroscedasticity using the White (1980) method. It reports the F test, a test for the equality of sets of coefficients, and the Hausman (1978) test, a test with H_0: random effects are consistent and efficient, versus H_1: random effects are inconsistent, in order to choose the most appropriate model for each particular sample. The significance levels for means differences are based on a two-tailed t-test.
***indicate significance at the 1% level.

For both the ROE (model 1) and MB (model 3) regressions, the coefficient for BIG is positive and statistically significant, suggesting that firms that are audited by a big 4 company are more likely to be more profitable, which is consistent with the findings of Watts and Zimmerman (1979) and Francis and Yu (2009).

In terms of the ROE, the FF * ED interaction coefficient is negative and statistically significant, whereas the FF * EI coefficient is not statistically significant, thus suggesting that, for this performance measure, there is a symmetric effect of earnings increase and decrease in FF.

Finally, the SIZE coefficient for the MB performance measure (model 3) is significant and positive. The evidence that SIZE contributes positively to firm performance agrees with the findings of Majumdar and Chhibber (1999) and Garcia-Teruel and Martinez-Solano (2007).

Table 9 Regression results

	WACC		
	FEM		
	Coefficient	*t-value*	
Constant	0.0029	0.746	
FF	0.0031	0.711	
EC	0.0751	1.831	*
EI	0.0043	0.102	
ED	0.1236	2.995	***
FF * EI	0.0426	3.134	***
FF * ED	0.0355	3.691	***
SIZE	0.0018	4.770	***
AGE	0.0030	1.551	
OWN	0.0064	0.888	
BIG	0.0033	1.013	
IND dummy		Yes	
YEAR dummy		Yes	
N	557		
F-test	3.310	***	
Hausman test	13.481		

Notes: This table shows the regression (9) results, considering as dependent variables the WACC. FF are those in which the founding family or family member controlled 20% or more equity, and was involved in the top management of the firm. The variables are defined in Appendix A. The table presents the results estimated for the best model among pooled OLS, FEM and REM. The t-statistics are corrected for heteroscedasticity using the White (1980) method. It reports the F test, a test for the equality of sets of coefficients, and the Hausman (1978) test, a test with H_0: random effects are consistent and efficient, versus H_1: random effects are inconsistent, in order to choose the most appropriate model for each particular sample. The significance levels for means differences are based on a two-tailed t-test.

*** and *indicate significance at the 1 and 10% level, respectively.

The differences between the results from the three models suggest that performance is sensitive to the variables used to measure it.

To test the relationship between earnings changes and liquidity (Hypothesis 3) and whether this relationship is different for FF and NFF (Hypothesis 4), we estimate the model regression (6). Table 8, in which the dependent variables are the WCR (model 1) and the QAR (model 2), presents the best model results for each of the two regressions.

None of the models presents significant coefficients. Consequently, we find no evidence to support the hypotheses that there is a positive relationship between earnings changes and firm liquidity (H_3) or that the positive relationship is stronger for FF than for NFF (H_4).

Finally, we analyse the relationship between earnings changes and the WACC, to estimate model (9). Table 9 details the best model results.

The coefficients on earnings changes (EC and ED) are statistically significant. However, contrary to what we expect, they are positive. Consequently, we cannot support the hypothesis that there is a negative relationship between earnings changes and the WACC (H_5), and, thus, cannot offer support for the pecking order theory. Moreover, the coefficient for FF is not statistically significant, which indicates that FF do not differ from NFF with respect to the WACC and there is no support for (H_6).

The SIZE coefficient is positive and statistically significant, suggesting that bigger firms have higher WACC.

5 Conclusions

This study investigates the market reaction to earnings announcements in public FF and how this type of announcement affects returns, liquidity and the cost of capital. It also provides evidence on whether family businesses differ from non-family ones as regards the effects of earnings announcements. FF represent an important and significant form of ownership in publicly traded Portuguese firms.

Using data from non-financial Portuguese family-controlled firms dating from between 2000 and 2013, we find that, compared to their non-family-controlled counterparts, FF are more profitable, older and bigger, and have a lower WACC.

We find no significant abnormal returns, suggesting no market reaction to earnings announcements, irrespective of the earnings themselves. Consequently, we find no support for the earnings signalling hypothesis (Ball, 2013; Ball and Shivakumar, 2008). The lack of market reaction in the event period could be due to market illiquidity or to the concentration of corporate ownership. This latter factor makes earnings announcements less relevant, since the major shareholders are involved in management, so they are aware of the firm's earnings before the market is informed. The fact that Portugal is a bank-based system alleviates informational asymmetry problems and reduces the signalling effect (Aivazian et al., 2003).

The only market reactions to earnings announcements that were statistically significant are associated with longer announcement periods. This suggests that firms with concentrated ownership are associated with low earnings infomativeness, which is consistent with the findings of Fan and Wong (2202).

Overall, we find no significant performance differences between FF and NFF, and our findings in this regard agree with those of Khanna and Rivkin (2001), Claessens et al. (2002), and Block et al. (2011). However, we find evidence that SIZE (Garcia-Teruel and

Martinez-Solano, 2007; Majumdar and Chhibber, 1999), and BIG (Watts and Zimmerman, 1979; Francis and Yu, 2009) contribute positively to the firm performance. The findings for our performance proxies suggest that results are sensitive to the measures used.

Furthermore, as we find no evidence of a significant relationship between earnings changes and either firm liquidity or the WACC; our findings do not support the pecking order theory.

Finally, the results show no differences between FF and NFF as regards performance, liquidity or the cost of capital.

This paper contributes to the debate on the relationship between earnings announcements and the subsequent market reaction, as well as on the effect of the ownership of public firms and the earnings-signalling hypothesis. Our study finds that family and NFF do not behave differently with respect to this relationship and that there is a decline in the relevance of earnings along the years, in line with Collins et al. (1997), Francis and Schipper (1999) and Lev and Zarowin (1999). Moreover, it suggests that country and firm characteristics may explain the results. Portugal is a bank-based system and offers weak legal protection for shareholders (La Porta et al., 1999; Setia-Atmaja et al., 2009). There is also a high level of ownership concentration, which might mitigate the information asymmetry problem. These characteristics may lead to results that are different from those obtained in countries where outside investors are well protected by the legal system (e.g., the USA and the UK), the level of transparency is high and most equity ownership is relatively dispersed (González and García-Meca, 2014).

We think these are subjects of interest to scholars and practitioners in the field of finance, particularly those focusing on the information content of earnings announcements and the differences between the effects of earnings announcements made by listed family and NFF.

This study has some limitations. First, we draw our sample from the universe of Portuguese firms on the EL. Our full sample of 557 events, which breaks down as 339 FF and 218 NFF events, is relatively small. Moreover, it is focused on the Portuguese institutional setting, thus our findings may not hold true for countries with a different context. The fact that our context is one of concentrated ownership, weak investor protection and a small stock market suggests caution should be taken in generalising our conclusions to other countries, particularly economies with relatively dispersed ownership, strong investor protection, and large stock markets.

Given the small size of the sample, our future research may focus on extending the event period, so as to enlarge the sample. Future studies may also address other economies, particularly as a function of the level of stock market development. These approaches may increase the robustness of the results and improve the generalisability of the findings. Finally, we believe it would be interesting to control for other effects that may influence market reaction to dividend change announcements, such as the effect of accounting irregularity allegations, the effect of societal trust, the effect of a firm's strategy, and the effect of investor sentiment.

References

Achleitner, A., Günther, N., Kaserer, C. and Siciliano, G. (2014) 'Real earnings management and accrual based earnings management in family firms', *European Accounting Review*, Vol. 23, No. 3, pp.431–461.

Aivazian, V., Booth, L. and Cleary, S. (2003) 'Do Emerging market firms follow different dividend policies from U.S. firms?', *The Journal of Financial Research*, Vol. 26, No. 3, pp.371–388.

Ali, A., Chen, T.Y. and Radhakrishnan, S. (2007) 'Corporate disclosures by family firms', *Journal of Accounting and Economics*, Vol. 44, Nos. 1–2, pp.238–286.

Anderson, R.C. and Reeb, D.M. (2003) 'Founding family ownership and firm performance: Evidence from the S&P 500', *Journal of Finance*, Vol. 58, No. 3, pp.1301–1328.

Anderson, R.C. and Reeb, D.M. (2004) 'Board composition: balancing family influence in S&P 500 firms', *Administrative Science Quarterly*, Vol. 49, No. 2, pp.1301–1328.

Anderson, R.C., Mansi, S.A. and Reeb, D.M. (2003) 'Founding family ownership and the agency cost of debt', *Journal of Financial Economics*, Vol. 68, No. 2, pp.263–285.

Atiase, R. and Bamber, L. (1994) 'Trading volume reactions to annual accounting earnings announcements: The incremental role of pre-disclosure information asymmetry', *Journal of Accounting and Economics*, Vol. 17, No. 3, pp.309–329.

Atiase, R.K., Bamber, L.S. and Tse, S. (1989) 'Timeliness of financial reporting, the firm size effect, and stock price reactions to annual earnings announcements', *Contemporary Accounting Research*, Vol. 5, No. 2, pp.526–552.

Atwood, T., Drake, M. and Myers, L. (2010) 'Book-tax conformity, earnings persistence and the association between earnings and future cash flows', *Journal of Accounting and Economics*, Vol. 50, No. 1, pp.111–125.

Austrian Institute for SME Research (2008*) Overview of Family Business Relevant Issues Country Fiche Portugal* [online] http://foreigners.textovirtual.com/apef/grupo-de-peritos-1.pdf (accessed 15 December 2016).

Bailey, W., Li, H., Mao, C. and Zhong, R. (2003) 'Regulation fair disclosure and earnings information: market, analyst, and corporate responses', *The Journal of Finance*, Vol. 58, No. 6, pp.2487–2514.

Ball, R. (2013) 'Accounting informs investors and earnings management is rife: two questionable beliefs', *Accounting Horizons*, Vol. 27, No. 4, pp.847–853.

Ball, R. and Brown, P. (1968) 'An empirical evaluation of accounting income numbers', *Journal of Accounting Research*, Vol. 6, No. 2, pp.159–178.

Ball, R. and Shivakumar, L. (2008) 'How much new information is there in earnings?', *Journal of Accounting Research*, Vol. 46, No. 5, pp.975–1016.

Baltagi, B.H. (2013) *Econometric Analysis of Panel Data*, 5th ed., Wiley, Chichester.

Beaver, W.H. (1968) 'The information content of annual earnings announcements', *Journal of Accounting Research*, Vol. 6, No. Supplement, pp.67–92.

Benavides-Velasco, C.A., Quintana-García, C. and Guzmán-Parra, V. (2013) 'Trends in family business research', *Small Business Economics*, Vol. 40, No. 1, pp.41–57.

Bennedsen, M. and Nielsen, K. (2010) 'Incentive and entrenchment effects in European ownership', *Journal of Banking and Finance*, Vol. 34, No. 9, pp.2212–2229.

Berrone, P., Cruz, C. and Gomez-Meija, L. (2012) 'Socioemotional wealth in family firms: Theoretical dimensions, assessment approaches, and agenda for future research', *Family Business Review*, Vol. 25, No. 3, pp.258–279.

Berrone, P., Duran, P., Gomez-Meija, L., Heugens, P. and Essen, M.V. (2016) 'The family-legitimizing environment and the prevalence, strategy, and performance of family firms', *Proceedings of the Academy of Management Proceedings*, *Meeting Abstract Supplement*, p.11485.

Bhaird, C.M. and Lucey, B. (2009) 'Determinants of capital structure in Irish SMEs', *Small Business Economics*, Vol. 35, No. 5, pp.357–375.

Block, J., Jaskiewicz, P. and Miller, D. (2011) 'Ownership versus management effects on performance in family and founder companies: a Bayesian reconciliation', *Journal of Family Business Strategy*, Vol. 2, No. 4, pp.232–245.

Burkart, M., Panunzi, F. and Shleifer, A. (2003) 'Family firms', *Journal of Finance*, Vol. 58, No. 5, pp.2167–2202.

Chen, S., Chen, X. and Cheng, Q. (2008) 'Do family firms provide more or less voluntary disclosure?', *Journal of Accounting Research*, Vol. 46, No. 3, pp.499–536.

Claessens, S., Djankov, J.P., Fan, L.H. and Lang, L. (2002) 'Disentangling the incentive and entrenchment effects of large shareholdings', *Journal of Finance*, Vol. 57, No. 6, pp.741–772.

Claessens, S., Djankov, S. and Lang, L. (2000) 'The separation of ownership and control in East Asian corporations', *Journal of Financial Economics*, Vol. 58, Nos. 1–2, pp.81–112.

Collins, D., Li, O. and Xie, H. (2009) 'What drives the increased informativeness of earnings announcements over time?', *Review of Accounting Studies*, Vol. 14, No. 1, pp.1–30.

Collins, D., Maydew, E. and Weiss, I. (1997) 'Changes in the value-relevance of earnings and book values over the past forty years', *Journal of Accounting and Economics*, Vol. 24, No, 1, pp.39–67.

Conroy, R.M., Eades, K.M. and Harris, R.S. (2000) 'A test of the relative pricing effects of dividends and earnings: evidence from simultaneous announcements in Japan', *Journal of Finance*, Vol. 55, No. 3, pp.1199–1227.

Crabtree, A.D. and Kubick, T.R. (2014)'Corporate tax avoidance and the timeliness of annual earnings announcements', *Review of Quantitative Finance and Accounting*, Vol. 42, No. 1, pp.51–67.

Culasso, F., Broccardo, L., Giacosa, E. and Mazzoleni, A. (2012) 'Corporate governance in listed Italian family firms: impact on performance and comparison with non-family firms', *Journal of Management and Change*, Vol. 29, No. 1, pp.67–88.

Davis, J.H., Schoorman, D.L. and Donaldson, L. (1997) 'Towards a stewardship theory of management', *Academy of Management Review*, Vol. 22, No. 1, pp.20–47.

Diamond, D. and Verrecchia, R. (1991) 'Disclosure, liquidity, and the cost of capital', *Journal of Finance*, Vol. 46, No. 4, pp.1325–1359.

Donaldson, L. and Davis, J. (1991) 'Stewardship theory or agency theory: CEO governance and shareholder returns', *Australian Journal of Management*, Vol. 16, No.1, pp.49–64.

Essen, M., Strike, V.M., Carney, M. and Sapp, S. (2015) 'The resilient family firm: stakeholder outcomes and institutional effects', *Corporate Governance: An International Review*, Vol. 23, No. 3, pp.167–183.

Esterin, S. and Prevezer, M. (2011) 'The role of informal institutions in corporate governance: Brazil, Russia, India and China compared', *Asia Pacific Journal of Management*, Vol. 28, No. 1, pp.41–67.

Faccio, M. and Lang, L. (2002) 'The ultimate ownership of Western European corporations', *Journal of Financial Economics*, Vol. 65, No. 3, pp.365–395.

Fama, E.F. (1970) 'Efficient capital markets: a review of theory and empirical work', *Journal of Finance*, Vol. 25, No. 2, pp.383–417.

Fama, E.F. and Jensen, M.C. (1983) 'Separation of ownership and control', *Journal of Law and Economics*, Vol. 26, No. 2, pp.301–325.

Fan, J.P. and Wong, T.J. (2002) 'Corporate ownership structure and the informativeness of accounting earnings in East Asia', *Journal of Accounting and Economics*, Vol. 33, No. 3, pp.401–425.

Francis, J. and Schipper, K. (1999) 'Have financial statements lost their relevance?', *Journal of Accounting Research*, Vol. 37, No. 2, pp.319–352.

Francis, J., Schipper, K. and Vincent, L. (2002) 'Earnings announcements and competing information', *Journal of Accounting & Economics*, Vol. 33, No. 3, pp.313–342.

Francis, J.R. and Yu, M.D. (2009)'Big 4 office size and audit quality', *Accounting Review*, Vol. 84, No. 5, pp.1521–1552.

Gallo, M.A. and Vilaseca, A. (1996) 'Finance in family business', *Family Business Review*, Vol. 9, No. 4, pp.387–401.

Garcia-Teruel, J. and Martinez-Solano, P. (2007) 'Effects of working capital management on SME profitability', *International Journal of Managerial Finance*, Vol. 3, No. 2, pp.164–177.

Gaud, P., Elion, J., Hoesli, M. and Bender, A. (2005) 'The capital structure of Swiss companies: an empirical analysis using dynamic panel data', *European Financial Management Review*, Vol. 11, No. 1, pp.51–70.

Ghabdian, B., Attaran, N. and Froutan, O. (2012) 'Ownership structure and earnings management: evidence from Iran', *International Journal of Business and Management*, Vol. 7, No. 15, pp.88–97.

González, J.S. and García-Meca, E. (2014) 'Does corporate governance influence earnings management in Latin American markets?', *Journal of Business Ethics*, Vol. 121, No. 3, pp.419–440.

González, V. and González, F. (2011) 'Firm size and capital structure: evidence using dynamic panel data', *Applied Economics*, Vol. 33, No.36, pp.4745–4754.

Grullon, G., Michaely, R., Benartzi, S. and Thaler, R. (2005) 'Dividend changes do not signal changes in future profitability', *The Journal of Business*, Vol. 78, No. 5, pp.1659–1682.

Gunasekarage, A. and Power, D. (2002) 'The post-announcement performance of dividend-changing companies: the dividend-signalling hypothesis revisited', *Accounting and Finance*, Vol. 42, No. 2, pp.131–151.

Hasso, T. and Duncan, K. (2013) 'Valuation of family firms: the limitations of accounting information', *Australian Accounting Review*, Vol. 23, No. 2, pp.135–150.

Hausman, J.A. (1978) 'Specification tests in econometrics', *Econometrica*, Vol. 46, No. 6, pp.1251–1271.

Hayn, C. (1995) 'The information content of losses', *Journal of Accounting and Economics*, Vol. 20, No. 2, pp.125–153.

Hope, O., Thomas, W. and Winterbotham, G. (2009) 'Geographic earnings disclosures and trading volume', *Journal of Accounting and Public Policy*, Vol. 28, No. 3, pp.167–188.

Howorth, C. and Ali, Z. A. (2001) 'Family business succession in Portugal: An examination of case studies in the furniture industry', *Family Business Review*, Vol. 14, No. 3, pp.231–244.

Jensen, M. and Meckling, W. (1976) 'Theory of the firm: managerial behaviour, agency cost and ownership structure', *Journal of Financial Economics*, Vol. 3, No. 4, pp.305–360.

Jiraporn, P. and DaDalt, P. (2009) 'Does founding family control affect earnings management?', *Applied Economics Letters*, Vol. 16, No. 2, pp.113–119.

Khanna, T. and Rivkin, J. (2001) 'Estimating the performance effects of business groups in emerging markets', *Strategic Management Journal*, Vol. 22, No. 1, pp.45–74.

Kim, O. and Verrecchia, R. (1991a) 'Trading volume and price reactions to public announcements', *Journal of Accounting Research*, Vol. 29, No. 2, pp.302–321.

Kim, O. and Verrecchia, R. (1991b) 'Market reaction to anticipated announcements', *Journal of Financial Economics*, Vol. 30, No. 2, pp.273–309.

Kim, O. and Verrecchia, R. (1994) 'Market liquidity and volume around earnings announcements', *Journal of Accounting and Economics*, Vol. 17, Nos. 1–2, pp.41–67.

Kraus, A. and Litzenberger, R. (1973) 'A state preference model of optimal financial leverage', *The Journal of Finance*, Vol. 28, No. 4, pp.991–921.

La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (1999) 'Corporate ownership around the world', *Journal of Finance*, Vol. 54, No. 2, pp.471–517.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (2000) 'Agency problems and dividend policies around the world', *The Journal of Finance*, Vol. 55, No. 1, pp.1–33.

Landsman, W. and Maydew, E. (2002) 'Has the information content of quarterly earnings announcements declined in the past three decades?', *Journal of Accounting Research*, Vol. 40, No. 3, pp.797–808.

Lev, B. and Zarowin, P. (1999) 'The boundaries of financial reporting and how to extend them', *Journal of Accounting Research*, Vol. 37, No. 2, pp.353–385.

Majumdar, S.K. and Chhibber, P. (1999) 'Capital structure and performance: evidence from a transition economy on an aspect of corporate governance', *Public Choice*, Vol. 8, Nos. 3–4, pp.208–305.

Maloni, M.J., Hiatt, M.S. and Astrachan, J.H. (2017) 'Supply management and family business: a review and call for research', *Journal of Purchasing and Supply Management*, Vol. 23, No. 2, pp.123–136.

Miller, D. and Le Breton-Miller, I. (2006) 'Family governance and firm performance: agency, stewardship, and capabilities', *Family Business Review*, Vol. 19, No. 1, pp.73–87.

Mishra, S.C. and McConaughy, D.L. (1999) 'Founding family control and capital structure: the risk of loss of control and the aversion to debt', *Entrepreneurship Theory and Practice*, Vol. 23, No. 4, pp.53–64.

Mostarac, E. and Petrovic, S. (2013) 'Determinants of capital structure of Croatian enterprises before and during the financial crisis', *UTMS Journal of Economics*, Vol. 4, No. 2, pp.153–162.

Myers, S.C. (1977) 'Determinants of corporate borrowing', *Journal of Financial Economics*, Vol. 5, No. 2, pp.147–175.

Myers, S.C. (1984) 'The capital structure puzzle', *The Journal of Finance*, Vol. 39, No. 3, pp.575–592.

Myers, S.C. and Majluf, N.S. (1984) 'Corporate financing and investments decisions: when firms have information that inventors do not have', *Journal of Financial Economics*, Vol. 13, No. 2, pp.187–221.

Nissim, D. and Ziv, A. (2001) 'Dividend changes and future profitability', *The Journal of Finance*, Vol. 56, No. 6, pp.2111–2133.

Nunes, P.M., Viveiros, A. and Serrasqueiro, Z. (2012) 'Are the determinants of young SME profitability different? Empirical evidence using dynamic estimators', *Journal of Business Economics and Management*, Vol. 13, No. 3, pp.443–470.

Prencipe, A., Bar-Yosef, S. and Dekker, H. (2014) 'Accounting research in family firms: Theoretical and empirical challenges', *European Accounting Review*, Vol. 23, No. 3, pp.361–385.

Prencipe, A., Markarian, G. and Pozza, L. (2008) 'Earnings management in family-firms: evidence from R&D cost capitalization in Italy', *Family Business Review*, Vol. 21, No. 1, pp.71–88.

Prencipe, A., Markarian, G. and Pozza, L. (2008) 'Earnings management in family-firms: evidence from R&D cost capitalization in Italy', *Family Business Review*, Vol. 21, No. 1, pp.71–88.

Rajan, R.G. and Zingales, L. (1995) 'What do we know about capital structure? Some evidence from international data', *The Journal of Finance*, Vol. 50, No. 5, pp.1421–1460.

Robinson, T.R., Greuning, H.V., Henry, E. and Broihahn, M.A. (2009) *International Financial Statement Analysis*, John Wiley & Sons, Inc., New Jersey.

Salvato, C. and Moores, K. (2010) 'Research on accounting in family firms: past accomplishments and future challenges', *Family Business Review*, Vol. 23, No. 3, pp.193–214.

Setia-Atmaja, L.S., Tanewski, G. A. and Skully, M. (2009) 'The role of dividends, debt and board structure in the governance of family-controlled firms', *Journal of Business Finance & Accounting*, Vol. 36, Nos. 7–8, pp.863–898.

Shleifer, A. and Vishny, R. (1997) 'A survey of corporate governance', *Journal of Finance*, Vol. 52, No. 2, pp.737–783.

Shukeri, S.N., Shin, O.W. and Shaari, M.S. (2012) 'Does board of director's characteristics affect firm performance? Evidence from Malaysian public listed companies', *International Business Research*, Vol. 5, No. 9, pp.120–127.

Sonnenfeld, J.A. and Spence, P.L. (1989) 'The parting patriarch of a family firm', *Family Business Review*, Vol. 2, No. 4, pp.355–375.

Sraer, D. and Thesmar, D. (2007) 'Performance and behaviour of family firms: evidence from the French stock market', *Journal of European Economic Association*, Vol. 5, No. 4, pp.709–751.

Vieira, E. (2014) 'The effect on the performance of listed family and non-family firms', *Managerial Finance*, Vol. 40, No. 3, pp.234–253.

Villalonga, B. and Amit, R. (2006) 'How do family ownership, control, and management, affect firm value?', *Journal of Financial Economics*, Vol. 80, No. 2, pp.385–417.

Wang, D. (2006) 'Founding family ownership and earnings quality', *Journal of Accounting Research*, Vol. 44, No. 3, pp.619–656.

Watts, R. and Leftwich, R. (1977) 'The time series of annual accounting earnings', *Journal of Accounting Research*, Vol. 15, No. 2, pp.253–271.

Watts, R. and Zimmerman, J. (1979) 'The demand for and supply of accounting theories: the market for excuses', *The Accounting Review*, Vol. 54, No. 2, pp.273–305.

White, H. (1980) 'A heteroscedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity', *Econometrica*, Vol. 48, No. 4, pp.149–170.

Notes

1 For an explanation of the merits of deflating the earnings changes by the book value of equity, see Nissim and Ziv (2001, p.2117).

2 We would like to run dynamic panel regressions. However, to do so, we would need a minimum of six consecutive years worth of data for each company (Gaud et al., 2005), which is not possible for all the firms included in our sample.

3 The small size of the sample derives from the small size of the Portuguese Stock Exchange (EL).

4 For simplicity, we report only the results for the best model. However, the other outputs are available from the authors upon request.