Earnings Management and Contest to the Control: An Analysis of European Family Firms

Mauricio Jara-Bertin and Félix J. López-Iturriaga

University of Valladolid

11. July 2008

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Mauricio A. Jara Bertin
University of Valladolid (Spain)
Dept. of Financial Economics and Accounting
majbcl@yahoo.com

Félix J. López Iturriaga*
University of Valladolid (Spain)
Dept. of Financial Economics and Accounting
flopez@eco.uva.es
Tel. +34-983-42 30 00
Fax +34-983-18 38 30

* *Corresponding author*. The data used in this paper are available from the authors on request. The authors are grateful to Alisa Larson for her comments on a previous version.

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Abstract: This paper analyzes the influence of large shareholders on earnings management in family-owned firms using a sample of firms from 11 European countries. We consider how the contest to the control of the largest shareholder and the existence of a controlling coalition in family-owned firms affect earnings management in these firms. We find that increased contestability of the control of the largest shareholder reduces earnings management in family-owned firms. Our results also show that in firms in which the largest shareholder is a family, a second or third family shareholder increases discretionary accruals.

Keywords: corporate control, discretionary accruals, earnings management, family firms

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I. Introduction

Managers' discretionary behavior is one of the areas of capital markets that have made the greatest contribution to our knowledge of accounting numbers (Beaver, 2002). Managers can improve or impair the quality of financial statements through a number of actions such as voluntary disclosure, the choice of accounting methods, and the estimation of accruals. Because motive for accrual management may be opportunistic, earnings management can be sometimes perceived as detrimental for the interest of some stakeholders (Beaver and Engel, 1996; Dechow and Skinner, 2000).

Thus, research about earnings management is often linked to the mechanisms of corporate governance potentially affecting managerial discretionary behavior (Bedard and Johnstone, 2004) and to the institutional framework (Burgstahler et al., 2006; Larcker et al., 2007; Leuz et al., 2003). For instance, the literature has studied the effect of the size and composition of the board of directors (Beasley, 1996; Peasnell et al., 2005; Xie et al., 2003), the audit committee (Defond and Jiambalvo, 1991; Klein, 2002), managerial ownership (Cheng and Warfield, 2005), external auditors (Becker et al., 1998; DeFond and Subramanyam, 1998), and institutional investors (Jiambalvo et al., 2002).

We focus on earnings management in family-owned firms because these firms are particularly sensitive to the problems of corporate governance. In addition, family-owned firms play a significant role in Europe and all around the world. According to Faccio and Lang (2002),

44 percent of the firms in Western Europe are family controlled, and Claessens et al. (2000) find that over two-thirds of the East Asian firms are controlled by families or individuals. Although not as prevalent in the United States, Anderson and Reeb (2003) find that founding families are present in one-third of the S&P 500 corporations, and Villalonga and Amit (2006) show that family firms represent 37 percent of Fortune 500 firms.

The relevance of family firms is not limited to their quantitative significance; they are also a suitable framework to analyze the distribution of the power. Although these firms are affected less severely by Agency Problem I, which arises from the separation of ownership and management, they are are often characterized by Agency Problem II, which results from the conflict between controlling and noncontrolling shareholders (Ali et al., 2007; Villalonga and Amit, 2006). That is, when minority shareholders face the possibility of expropriation by large shareholders, the contest to the control of the dominant shareholders becomes a key issue (Lehman and Weigand, 2000, Maury and Pajuste, 2005; Volpin, 2002).

We base our analysis both on the effects of discretionary accounting behavior and on the specific agency problems of family-owned firms. We examine how the distribution of the ownership and the contest to the control of the largest family shareholder impacts the earnings management of family-owned firms. Using a sample of 594 firms from 11 European countries, our results show that the distribution of the control among several block holders reduces earnings management in family firms. We also find that coalitions among families or individual shareholders reduce the quality of financial statements by triggering earnings management.

The contribution of our paper is twofold. First, we are not aware of any study that examines the influence of shared control on earnings management; thus, we demonstrate a specific channel

through which ownership structure can modify earnings management. Second, as prior literature has focused primarily on data from a single country (mainly the United States), we expand the research to a multinational context. In so doing, we show that the influence of a controlling coalition is not a country-specific issue but, rather, is very common to a number of Western European firms. This multinational context also allows us to control for the characteristics of the legal and institutional setting of each country, which provides further insight on a multinational level.

The remainder of the paper is organized as follows. In the next section, we develop our hypotheses concerning the relation between abnormal accruals and the contest to the control of family shareholders. In Section III, we describe the sample and data. Section IV contains the research design and empirical results. We summarize and conclude in Section V.

II. Theoretical background and hypotheses

The influence of family ownership and control on the firm's accounting choices remains a relatively unexplored topic. The most relevant literature is recent, not explicitly focused on the shared control of firms, and provides conflicting results. This mixed evidence seems to run parallel to the evidence concerning the effect of family ownership on the firm's performance (Miller et al., 2007). The higher risk of minority expropriation by family controlling shareholders (Claessens et al., 2002; Cronqvist and Nilsson, 2003; Gómez-Mejía et al., 2001; Maury and Pajuste, 2005) contrasts with a more long-term concern with the survival of the company and more commitment with the reputation of the family/firm (Anderson and Reeb, 2003; Barontini and Caprio, 2005; Villalonga and Amit, 2006).

Two characteristics of family firms can influence corporate disclosure practices: ownership concentration and the possibility of executive entrenchment. First, the high managerial stake so common in family firms may provide managers with incentives to engage in earnings management to increase the value of the shares (Cheng and Warfield, 2005). Conversely, Ali et al. (2007) show that, compared with their nonfamily counterparts, family firms manipulate discretionary accruals less and are more skilled at interpreting earnings components to predict future cash flows. In the same vein, Wang (2006) reports a positive influence of the founding family ownership on earnings quality, which is consistent with the alignment effect of family ownership.

Second, high ownership concentration in the hands of a small number of shareholders can result in executive entrenchment. Fan and Wong (2002) discuss two ways through which concentrated ownership reduces earnings informativeness. First, outside investors may perceive the accounting information reported by controlling owners to be self-interested, causing the reported earnings to lose credibility. Second, ownership concentration prevents leakage of proprietary information about the firms' possible rent-seeking activities. This lose of informativeness of earnings is exacerbated when cash flow rights are separated from voting rights (Francis et al., 2005). Consistent with the theory of entrenchment (Morck et al., 1988), Sánchez-Ballesta and García-Meca (2007) show that the relation among insider ownership, discretionary accruals, and the informativeness of earnings is nonlinear, so that insiders' attitude depends on their ability to control the firm and on the cost of extracting private benefits.

Taken together, these results show a diverse portrait of the impact of family ownership on corporate disclosure. On the one hand, less separation between ownership and control leads to less manipulation of earnings for opportunistic reasons and, therefore, to better quality of

earnings forecasts. On the other hand, family ownership can lead to the development of informal relationships that may harm the credibility of or access to earnings information.

Our intuition is that this evidence, which is seemingly inconsistent, can be explained on the basis of the interaction of family ownership with other characteristics of corporate governance. Despite various studies on the influence of corporate governance on accounting outcomes (Bedard and Johnstone, 2004; Farber, 2005; Larcker et al., 2007), little is known about how family ownership operates as a mechanism of corporate governance to modify the quality of financial statements, and the few studies existing have stressed how the interaction among family and individual shareholders affects the value of the firm. Consistent with the hypothesis that more severe agency problems are found at firms with large controlling shareholders and minority shareholders, family-owned firms face a higher risk of expropriation by family shareholders. In such situations, the contest to the control of the largest shareholder becomes a key issue (Bloch and Hege, 2001; Edwards and Weichenrieder, 2004; Maury, 2006; Maury and Pajuste, 2005).

If the largest shareholder faces greater contest and his or her control is more disputed, he or she must solicit a consensus with other shareholders to maintain the control necessary to make the main strategic decisions. Therefore, when the position of the largest shareholder is challenged, he or she may form control coalitions with other reference shareholders to reach the majority of the vote rights. Thus, the role of large shareholders and the formation of the controlling coalition within family firms are vital and can have a significant impact on the performance of the firm (Bennedsen and Wolfenzon, 2000; Bloch and Hege, 2001; Claessens et al., 2002; Gomes and Novaes, 2001). While these reference shareholders can join with the largest shareholder to help him or her retain control, they are also may prevent the largest shareholder from behaving opportunistically and reduce the private benefits he or she might extract. In other

words, when other reference shareholders intervene in the preparation of financial information, concealing or manipulating information by the largest shareholder becomes costly and more difficult.

We assess the contest to the control of the largest shareholder to reduce the discretionary accruals, our empirical proxy for earnings management, by investigating whether more contested control reduces discretionary accruals and by comparing the results from family-owned firms with the results from nonfamily owned firms. Hence, we test the following hypothesis:

H1: The distribution of ownership among several reference shareholders reduces earnings management more among family-own firms compared with nonfamily-owned firms due to the higher incentives for opportunistic behavior.

The family nature of the largest shareholder and the degree to which his or her control is contested by other reference shareholders is not the only factor that influences earnings management: The nature of the other shareholders can also be relevant. Maury and Pajuste (2005) and Ball et al. (2003) suggest that family groups have a higher propensity to seek private benefits. Since many of the dynamics that apply to family shareholders also hold for large individual shareholders, family or individual shareholders can more easily achieve consensus to the detriment of the other shareholders. Conversely, in a firm whose largest shareholder is a family but the other reference shareholders are nonfamily members (i.e., nonfinancial corporations, institutional investors, banks, etc.), the connivance of interests becomes more difficult as do agreements to extract private benefits.

A coalition formed by families faces lower costs of extracting private benefits than a coalition that includes an institutional investor or a bank that is under stricter supervision by

regulatory authorities, which, consequently, increases the costs of extracting private benefits. Thus, the possibility of agreement among family shareholders is more feasible. In other words, forming coalitions to expropriate minority shareholders among institutional investors is more difficult than among families or private shareholders. As far as accounting information is concerned, the more difficult the expropriation is, the less the need for earnings management to hinder the controlling shareholders from extracting private benefits.

Accordingly, we set our second hypothesis:

H2: A family or individual as a second or third shareholder has a positive influence on earnings management in the firms in which the largest shareholder is also a family or and individual.

The transparency of financial statements is often affected by the legal and institutional setting (Haw et al., 2004). Preparers' financial reporting incentives depend on the extent of political influences relative to market influences on their practices (Ball et al., 2000). Investor protection measures also must be taken into account because insiders, in an attempt to protect their private control benefits, may use earnings management to conceal firm performance from outsiders when investor protection is weak (Leuz et al., 2003). Likewise, Maury (2006) shows that the influence of family ownership is conditional on the protection of minority shareholders against family opportunism. Accordingly, we also control for the legal protection of each country through the classification provided by La Porta et al. (1998, 1999, 2000)

III. Empirical design

Sample

We obtain our sample from two databases: data from financial statements (i.e., balance sheet and income and expenditures statement) and the market value of the firms come from the Compustat database, and information on the ownership structure of the firms comes from the Amadeus database. As shown in Table 1, the sample includes 594 firms from 11 European Union countries and contains 2,113 observations between 1996 and 2000.[1] Although not balanced across countries, our sample is relatively balanced in terms of the legal origin of each financial system (359 firms in common law countries vs. 235 firms in civil law countries).

<<TABLE1 ABOUT HERE>>

Variables

The dependent variable that proxies earnings management is the absolute value of discretionary accruals (ABSDA). We present a more in-depth description of this variable in the following discussion on the empirical method. Total accruals (TA) are depend on the growth in total revenues (ΔREV) and the level of depreciable assets, which are defined as the gross level of property, plants, and equipment (GPPE). To avoid heteroskedasticity, the variables are scaled by total assets at book value.

[1] We use a secondary database for the estimation of earnings management. This sample includes 11,736 observations from the analyzed counties from Compustat.

To examine the contest to the control, we build an index to measure how the power of the largest shareholder can be contested (CONTEST), which is defined as the sum of the ownership of the second and the third largest shareholders relative to the ownership of the largest shareholder:[2] that is, the higher the value of CONTEST, the more contested the largest shareholder can be. However, this variable not only depends on the difference between the largest and the other reference shareholders but also can be affected by the number of shares owned by the main shareholder.[3] Thus, to reinforce CONTEST and avoid problems created by the size of largest owner's holdings, we define a dummy variable, TC, which equals 1 when the cash flow rights of the largest shareholder are in the first tercile (i.e., the third of the firms with the highest values for the ownership held by the largest shareholder), and zero otherwise. This variable allows us to test the specific effect of largest owner share size on his or her ability and incentives to extract private benefits.

To test the robustness of our results, we define two alternative measures of contest as variations of the Herfindahl index, HERF1 and HERF2. Previously used by Maury and Pajuste (2005), HERF1, which is measured by the sum of the squares of the differences between the first and the second largest ownership stakes and the second and third largest ownership stakes,[4] emphasizes the differences in the voting stakes among the three largest shareholders. HERF2, also employed by Maury and Pajuste, is defined as the sum of squares of the three largest

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[2] CONTEST = $(C_2+C_3)/C_1$, where C_i is the cash flow rights of the first, second, and third shareholder; 5% is the lowest ownership proportion to be considered a reference shareholder.

[3] CONTEST has the same value for a firm in which C_1 is 30%, C_2 is 20%, and C_3 is 15% as for a firm in which C_1 is 3%, C_2 is 2%, and C_3 is 1.5%.

[4] HERF1 = $(C_1 - C_2)^2 + (C_2 - C_3)^2$, where C_i is the cash flow rights of the first, second, and third shareholder.

ownership stakes.[5] As the value of both Herfindahl indexes increases, the concentration of largest shareholder's power also increases, and, consequently, contest to the manager's power decreases.

The definition of the family nature of the firm is key to this study. According to Villalonga and Amit (2006), the family nature of a firm depends on three aspects: ownership, control, and management. Because the conflict between family and nonfamily shareholders is likely to be most costly in family firms, we focus on ownership, paying particular attention to the distribution of ownership. Consequently, we define two dummy variables, DFAM2 and DFAM23, depending on the characteristics of the two largest secondary shareholders: DFAM2 equals 1 when the second owner is a family, and zero otherwise; and DFAM23 equals 1 when both the second and the third shareholders are members of a family, and zero otherwise. Following Barontini and Caprio (2006), we classify reference shareholders as families, institutional investors, the state, banks, and nonfinancial firms. We also take into account the percentage of cash flow rights of the first, second, and third largest shareholders (C1, C2, and C3, respectively).

To address the legal protection of the shareholders other than the largest shareholder, we use a dummy variable, LEGAL, which equals 1 when the firm belongs to a common law country, and zero otherwise.[6] In employing this variable, which links the legal and institutional framework of each country to the legal protection of shareholders, we make the assumption that shareholders' rights are better protected in common law countries (La Porta et al., 1997, 1998).

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[5] HERF2 = $C_1^2 + C_2^2 + C_3^2$, where Ci is the cash flow rights of the first, second, and third shareholder.

[6] Although Djankov et al. (2005) provide a corrected measure for the legal protection of minority shareholders, it applies to legal changes made after 2003, so we do not use it as our sample dates back prior to 2003.

Finally, as control variables, we include firm size, defined as the log of total assets (LOGAST); leverage ratio (LEV), measured as the debt-to-equity ratio; and payout ratio (DIV). LEV and DIV act as traditional mechanisms of corporate discipline and have been commonly included in the research on earnings management (Ahmed et al., 2002; Dechow and Skinner, 2000; Defond and Jiambalvo, 1994; Sweeney, 1994), thus making our results comparable to previous research. We control for some potential industry effects by defining a set of ten dummy variables based on the one-digit SIC codes. We also control for time effects with a set of yearly dummy variables. The Appendix provides complete definitions of all variables.

Empirical method

We divide our methodology into two stages. First, we estimate total accruals and separate the discretionary from the nondiscretionary component. Second, we regress the discretionary or abnormal accruals against the variables of ownership structure in family firms to test their effect on managers' discretionary accounting decisions.

Total accruals are estimated according to Jones' (1991) model (Phillips et al., 2003). This widely used model is based on the idea that changes in a firm's economic condition and managers' discretion result in accruals. Although several alternative models identify earnings management (e.g., Dechow et al., 1995; Dechow and Dichev, 2002; Kothari et al., 2005), Jones' model performs better than its time-series counterparts in detecting earnings management (Bartov et al., 2000). This performance is improved, and even more consistent estimations are achieved, when suitable statistical methodology (i.e., panel data) is implemented.

Total accruals are the difference between results and cash flow of the firm's ordinary activities. In Jones' (1991) model, nondiscretionary accruals are calculated by regressing total accruals (TA) against the growth in total revenues (ΔREV) and the gross level of property, plants and equipment (GPPE). Nevertheless, the possible mean reversion or momentum in earnings or in turnover necessitates the inclusion of a measure of performance (Kothari et al., 2005; Louis and Robinson, 2005). Accordingly, we incorporate ROA as a possible factor affecting total accruals because it provides better estimations than other measures of operational performance or return of stocks (Barber and Lyon, 1996; Ikenberry et al., 1995; Lyon et al., 1999).

Thus, total accruals are dependent on ΔREV, GPPE, and ROA as expressed in equation (1):

$$TA_{it} = \alpha_0 + \alpha_1 \Delta REV_{it} + \alpha_2 GPPE_{it} + \alpha_3 ROA_{it} + \eta_i + \varepsilon_{it}\,, \qquad (1)$$

where the subscripted i identifies the individual and the subscripted t identifies the time period; η_i is the term of fixed effects and can include several effects that are specific to the firm and constant through time; and ε_{it} is the random error of each observation, which captures the possible misspecification of measurement in the independent variables as well as any other omitted independent variable.

The estimated values of TA in equation (1) are considered the normal accruals given the sales of the firm and the depreciation of the assets. Consequently, the errors of the regression are the abnormal or discretionary accruals (DA) because that they are not motivated by either sales or the depreciation of assets and they could arise due to the discretionary decisions of managers. Therefore, DA is defined as follows:

$$ABSDA_{it} = \left|DA_{it}\right| = TA_{it} - (a_0 + a_1 \Delta REV_{it} + a_2 GPPE_{it} + a_3 ROA_{it})\,, \qquad (2)$$

where a_i is the estimated coefficient of α_i.

In the second stage of our study, we examine the effect of the contest to the largest family shareholder on earnings management. Consistent with the literature on earnings management (Dechow, 1994; Dechow and Skinner, 2000), we introduce the lagged value of the dependent variable (DA_{it-1}) as an explanatory variable because earnings management tends to smooth earnings, so it is likely to be conditioned by accounting decisions in previous years. Our model, which includes the control variables, is expressed as follows:

$$ABSDA_{it} = \alpha_1 + \beta_1 \cdot ABSDA_{it-1} + (\beta_2 + \alpha_2 \cdot TC) \cdot CONTEST_{it} + (\beta_3 + \alpha_3 \cdot DFAM2) \cdot C2_{it} + (\beta_4 + \alpha_4 \cdot DFAM23) \cdot C3_{it} + \beta_5 \cdot LEGAL_{it} + \beta_6 \cdot LEV_{it} + \beta_7 \cdot LOGAST_{it} + \beta_8 \cdot DIV_{it} + \eta_i + \eta_t + \varepsilon_{it}, \quad (3)$$

η_t stands for the time effect and includes macroeconomic effects that affect all the companies in the same period in a cross-sectional manner.

We base our empirical analysis on the econometrics of panel data, which is the most suitable method when data are combined from different firms over several years. Panel data methodology also allows us to control for the unobservable constant heterogeneity (i.e., fixed effects) and provides us with more efficient estimators than cross-sectional models (Arellano, 2003; Baltagi, 1996).

We estimate Jones' (1991) model, as stated in equation (1), by the within-groups method because TA is exogenous. Conversely, equation (3) poses a problem of endogeneity due to the introduction of lagged dependent variables among the set of explanatory variables. To address this problem, we estimate our model using Blundell and Bond's (1998) and Bond's (2002) panel

data system estimator, which is an improved version (based on the suitability of the instruments) of the generalized method of moments. Given the possibility that weak instruments could induce poor asymptotic precision (Alonso-Borrego and Arellano, 1999), a generalized method of moments system estimator provides the most efficient estimates. In this context, the choice of instruments becomes a key decision, and we use all the right-hand-side variables up to three years lagged.

The consistency of the estimates depends critically on the absence of second-order serial autocorrelation in the residuals and on the validity of the instruments (Arellano and Bond, 1991). Accordingly, we report the Auto(2) test. To test the validity of the instruments, we use the Hansen test of overidentifying restrictions, which allows us to test the absence of a correlation between the instruments and the error term and, therefore, to check the validity of the selected instruments. We present two Wald tests: $z1$ and $z2$, which report the joint significance of the reported coefficients and the industry dummies, respectively. We also report three t-tests for linear restrictions for the interacted dummies: $t2$, $t3$, and $t4$, which test for the significance of $\beta_2 + \alpha_2$, $\beta_3 + \alpha_3$, and $\beta_4 + \alpha_4$, respectively.

IV. Results

Descriptive analysis

Table 2 provides descriptive statistics for our sample. Because the family nature of the firm is a relevant feature, we also provide a mean comparison test and the associated p-values. As expected, contestability differs significantly across firms, with family firms reporting less

contested control; that is, in family firms, CONTEST is significantly lower, and both HERF1 and HERF2 are significantly higher. These differences in contestability may be due higher ownership concentration as suggested by C1 and C2. Interestingly, there are no systematic differences in terms of discretionary accruals, and the null hypothesis of equal means across subsamples cannot be rejected either for DA or ABSDA. These findings are consistent with our theoretical framework and the uncertain impact of family ownership on earnings management.

<<TABLE 2 ABOUT HERE>>

Table 3 presents the Pearson correlation matrix among the variables. As expected, CONTEST is negatively and significantly correlated with HERF1 and HERF2 as they are opposite measures of control concentration. We also emphasize the close correlation between ABSDA and the contestability variables. We provide the variance inflation factor (VIF) to test for multicollinearity. Our VIF scores are below 2, and, thus, we confirm that collinearity does not skew our results (Belsley et al., 2004; Kutner et al., 2005)

<<TABLE 3 ABOUT HERE>>

To test our first hypothesis regarding the impact of ownership distribution among reference shareholders on earnings management, we examine the differences in discretionary accruals depending on the degree of contestability. We split the sample according to the mean value of our three measures of contestability (CONTEST, HERF1, and HERF2) and report the mean values of ABSDA in Table 4. We find that higher contestability is negatively related to ABSDA and that this relation is consistent for family firms regardless of the criteria used to divide the sample.

<<TABLE 4 ABOUT HERE>>

Explanatory analysis

Given the key role of our measure of earnings management, we calculate ABSDA using three different models: the Jones (1991) cross-sectional model, the cross-sectional Jones modified model (Dechow et al., 1995), and the cross-sectional ROA-adjusted Jones model (Kothari et al., 2005). The results of the estimations of the three models are shown in Table 5. Since all of them provide analogous results, the estimates of equation (3) will be only reported for the ROA-adjusted model.[7]

Table 5 reports the results of the estimation of the earnings management models. For each model, we estimate 1,033 industry-year–country regressions.[8] We report the mean, standard deviation, and minimum, maximum, and median coefficients. For the Jones (1991) model, shown in Panel A, the coefficient of ΔREV is generally negative, with a mean (median) of –0.02 (0.00) and a mean (median) *t*-test of –0.09 (0.04). The results are statistically significant in 286 of 1,033 regressions. As expected, the coefficient of GPPE is usually negative, with a mean

[7] This model was selected on the basis of the *t*-test for means according to Kothari et al. (2005). We run two tests in 250 randomly defined subsamples of 100 firms: The first test relates to the null hypothesis that discretionary accruals are no-negative, and the second test addresses the null hypothesis that discretionary accruals are no-positive. *t*-statistics are computed as the mean of each subsample divided between the estimation error once standardized by the squared root of the number of observations. This value is compared with a *t*-distribution with *n*-1 degrees of freedom. The ROA-adjusted Jones model (Kothari et al., 2005) is the best specified because it gives the lowest rates of reject of the null hypothesis of lack of earnings management.

[8] We split the sample by two SIC-codes digits. As previously explained, estimations have been run with a sample of 11,736 observations from Compustat database from 1997 to 2000.

(median) of –0.46 (–0.42) and mean (median) *t*-test of –1.10 (–0.46). The coefficient is statistically significant in 261 of 1,033 regressions. The significance of both coefficients are analogous to similar research. The mean (median) of the adjusted-R^2 coefficient is 0.46 (0.42), suggesting that the model has substantial explanatory power.

<<TABLE 5 ABOUT HERE>>

Panel B of Table 5 shows that the difference between the growth of turnover and the increase in receivables (ΔREV – ΔREC) in the Jones modified model (Dechow et al., 1995) has a positive coefficient, with a mean (median) of 0.003 (0.00) and a mean (median) *t*-test of 0.43 (0.10). The coefficient is positive in 290 of 1,033 regressions. The coefficient of GPPE is generally negative with a mean (median) of –0.05 (–0.01) and a mean (median) *t*-test of –1.85 (–0.45). The coefficient is statistically significant in 269 of 1,033 regressions. This model also explains a significant part of the variation in total accruals as the mean (median) of the adjusted-R^2 coefficient is once again 0.46 (0.42).

Panel C of Table 5 shows that the coefficient of ΔREV in the ROA-adjusted Jones model (Kothari et al., 2005) is positive with a mean (median) of 0.24 (0.00) and a mean (median) *t*-test of 0.10 (0.06). The coefficient is significant in 232 of 1,033 industry–year–country regressions. The coefficient of GPPE is usually negative with a mean (median) of –0.09 (–0.01) and a mean (median) *t*-test of –0.78 (–0.54). The coefficient is significant in 217 of 1,033 regressions. The ROA coefficient has a mean (median) of –0.19 (–0.00) and a mean (median) *t*-test of –1.09

(-0.14). This ROA-adjusted model has more explanatory power than its counterparts, as indicated by the mean (median) of the adjusted-R^2 coefficient of 0.71 (0.82).

From these results, we are able to compute the discretionary component of total accruals (DA) as shown in equation (2). We use the absolute value (ABSDA) as a proxy of earnings management and run differentiated regressions for family versus nonfamily firms as reported in Tables 5 and 6.

<<TABLE 6 ABOUT HERE>>

The results, as shown in columns 1 through 3 in Table 6, support Hypothesis 1, which states that the distribution of ownership among several reference shareholders reduces earnings management among family-own firms compared with nonfamily-owned firms due to the higher incentives for opportunistic behavior. We find that more contested corporate control (CONTEST) significantly reduces abnormal accruals in family firms, whereas it has the opposite effect in the firms whose largest shareholder is not a family (column 1). This result is robust to alternative specifications of contestability as shown in columns 2 and 3. If we use HERF1 and HERF2, which account for the concentration of control, we find a positive influence on earnings management in family firms and a negative impact in nonfamily firms.

This inference is corroborated by the effect of the stake owned by the second and third largest shareholders (C2 and C3). Both variables are negatively and significantly related to ABSDA (columns 1–3). Thus, the greater involvement of these shareholders reduces the control of the largest shareholder and, therefore, limits his or her ability to make discretionary accounting decisions.

The second hypothesis addresses the effect of the possible agreements among reference shareholders when the second and third largest shareholders are families. The results in Table 6 show that although C2 and C3 negatively affect earnings management, the effect turns positive when these shareholders are families. Specifically, the interacted variables C2·DFAM2 and C3·DFAM23 have a significant positive effect on ABSDA, which means that in the firms in which the largest shareholder is a family, higher ownership in the hands of a second family shareholder (C2·DFAM2) or both a second and a third family shareholder (C3·DFAM23) provides higher incentives to manage earnings.

To perform a test of the joint effect of C2 and C2·DFAM2, we report the linear constraints tests, *t3* (*t4*), relative to the joint significance of $\beta_3 + \alpha_3$ ($\beta_4 + \alpha_4$) coefficients, namely, the ownership of the second (third) largest shareholder and the interaction with his or her family nature. Both tests are significant.

Regarding the control variables, as expected, the legal and institutional framework has a negative effect on earnings management, but this effect applies only to nonfamily firms. Surprisingly, financial leverage is positively related to discretionary accruals. This result deviates from previous research but could be due to systematic differences in the leverage ratio between common and civil law countries so that its impact is subsumed in the institutional effect. Another explanation could be based on a possible complementary use of dividends and leverage as mechanisms of control, so that dividends partially reflect the influence of leverage.

To check robustness and to test further the impact of control concentration in family firms, we run new regressions focused on family-owned firms as reported in Table 7. The most important feature of these new analyses is the introduction of TC, a dummy variable, which

equals 1 when the cash flow rights of the largest shareholder are in the first tercile, and zero otherwise. By interacting TC with CONTEST, we can examine the specific effect of contestability in the firms with the most concentrated ownership structure.

<<TABLE 7 ABOUT HERE>>

We report the simplest version of our analysis in the first column of Table 7. Results corroborate the negative influence of the contest to the control on earnings management even when CONTEST is isolated from the influence of C2 and C3. In column 2, we introduce the interacted variable CONTEST·TC. Its negative and significant coefficient stresses how the contest to the control plays a significant role in the family firms with the most concentrated ownership structure. That is, more concentrated ownership in family firms gives the managers additional incentives to entrench themselves and additional means to extract private benefits through earnings management.

The results reported in columns 3 through 5 of Table 7 concern the influence of the second and third largest shareholders in family firms along with the specific effect of contestability in family firms with the most concentrated ownership structure. Column 3 (column 4) shows the results of our tests of the effect of the second (third) reference shareholder; in column 5, we introduce the combined effect of the second and third shareholder.

Consistent with previous results, our findings show that as the stakes of the second and third largest shareholder (i.e., C2 and C3) increase, the control of the largest shareholder also increases, and, thus, earnings management decreases. Conversely, the interacted variables (i.e., the specific effects of ownership when the reference shareholders are also families) point at a possible entente among family shareholders to expropriate nonfamily shareholders. Furthermore,

the absolute value of the coefficients of C2·DFAM2 and C3·DFAM23, respectively, exceeds the absolute values of the coefficients of C2 and C3. In turn, we find a net amplifying effect. This inference is supported by the tests of linear constraints *t3* and *t4*, given that they show that the coefficients $\beta_3 + \alpha_3$ and $\beta_4 + \alpha_4$ are both significant. Consequently, families as second or third largest shareholders in family firms offset the positive effect of higher ownership stakes for other reference shareholders in terms of the quality of the financial statements.

We provide the Hansen test of overidentifying restrictions in both Table 6 and 7. This test allows us to accept the null hypothesis of validity of the instruments in our estimations. Additionally, the Auto(2) test suggests the lack of second-order serial correlation. In all the estimates, we control for time effects with dummy variables.

We run several additional models. First, we consider alternative measures of firm size and of financial leverage. Second, we introduce industry dummy variables based on two-digits SIC codes. These estimates (not reported) corroborate our previously reported results and are available from the authors on request.

IV. Conclusions

In recent years a number of studies have emphasized an agency problem that arises between large, controlling shareholders and minority shareholders. In firms with a concentrated ownership structure, controlling shareholders may have incentives to expropriate the small—albeit larger in number—minority shareholders. This problem, which is widely spread among European firms, is exacerbated by family ownership because family members have more incentives than other types of investors to form coalitions to extract private benefits.

Research regarding the influence of family ownership on earnings management is not conclusive. Our paper takes a step forward by focusing on the influence of contest to the control of the largest shareholder on earnings management in family firms. Consistent with analogous research about the relevance of the contestability of the largest shareholder on the firm's value, we find that contest to control plays a critical role in improving the transparency of financial statements. More specifically, our results show that, in family-owned firms, the absence of contestability of control is positively related to earnings management, whereas this finding does not hold for nonfamily owned firms. Moreover, the presence of another individual or family as the second or third largest reference shareholder has an amplifying effect on earnings management in the firms in which the largest shareholder is a family.

Our results point to the shared control among several reference shareholders as a balanced solution between two extremes: the lack of control often found in a widely disperse ownership structure and the discretionary behavior typical of firms with only one controlling shareholder. Especially in family firms, the need for the consensus of family members with other reference shareholders may reduce the use of private information and improve the quality of the accounting information.

Our findings suggest several directions for future research. A more complete description of the controlling coalition would of interest. We base our work solely on the ownership of the reference shareholders, but the analysis could be broadened to include the involvement of the family members in firm management. Another direction for further study would be an analysis of how the composition of the controlling coalition interacts with other governance mechanisms such as the board of directors. Finally, some particular characteristics of the legal regime could

be analyzed in more depth to identify the issues of the institutional setting potentially affecting the quality of the financial statement.

Appendix. Definition of variables

Abbreviations	*Variable*	*Definition*
C1	Ownership concentration	Ownership held by the largest shareholder
C2	Ownership concentration	Ownership held by the second largest shareholder
C3	Ownership concentration	Ownership held by the third largest shareholder
CONTEST	Contestability of the power of the largest shareholder	$(C_2 + C_3)/C_1$
TC	Tercile of ownership concentration	Equals 1 if the ownership of the largest shareholder is in the tercile of the highest C1 in the sample, and zero otherwise
HERF1	Lack of contestability of the power of the largest shareholder	$(C_1 - C_2)^2 + (C_2 - C_3)^2$
HERF2	Lack of contestability of the power of the largest shareholder	$C1^2 + C2^2 + C3^2$
DFAM2	Nature of the second shareholder	Equals 1 when the second largest shareholder is a family or an individual, and zero otherwise
DFAM23	Nature of the second and third shareholders	Equals 1 when both the second and the third largest shareholders are families or individuals, and zero otherwise
LEGAL	Institutional effect	Equals 1 if the firms belong to the Anglo-Saxon corporate system, and zero otherwise
LOGAST	Size of the firm	Log of total assets
LEV	Financial leverage	Debt book value/Equity book value
DIV	Dividend payout	Dividends/Equity
TA	Total accruals	(ΔNonmonetary current assets – ΔNonmonetary current liabilities + amortization expense)/Total assets
DA	Discretionary accruals	Error of equation (1): $TA_{it} = \alpha_0 + \alpha_1 \times \Delta REV_{it} + \alpha_2 \times GPPE_{it} + \alpha_3 \times ROA_{it} + \eta_i + \varepsilon_{it}$
ABSDA	Discretionary accruals	Absolute value of DA
ΔREV	Growth in revenues	Relative increase in total revenues
GPPE	Gross property, plant and equipment	Gross property, plant, and equipment/Total assets
ΔREC	Growth in receivables	Relative increase in receivables
ROA	Return on assets	Gross income/Total assets

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Table 1: Composition of the sample by countries

Country	Firms	Observations
Austria	2	5
Belgium	9	23
Denmark	18	68
Finland	12	39
France	122	348
Germany	45	136
Great Britain	359	1,379
Greece	2	4
Spain	30	121
Sweden	34	89
The Netherlands	25	97
Total	594	2,113

Table 2: Main descriptive statistics of the sample
This table provides the mean, median, standard deviation, and minimum and maximum value of the main variables. C1, C2, and C3 are the ownership held by the first, second and third largest shareholders, respectively; CONTEST is a measure of contestability; HERF1 and HERF2 are measures of lack of contestability; LEV is the ratio between debt and equity; LOGAST is the log of total assets; DIV the ratio between dividend payments and equity; TA is total accruals; GPPE is gross plant, property, and equipment; ΔREV is the relative change in total revenues; DA is discretionary accruals; and ABSDA is the absolute value of discretionary accruals. The *p*-value is the highest level of significance to reject the null hypothesis of equal means between both subsamples.

	Mean							
	Total	Family firms	Nonfamily firms	*p*-value	Std. dev.	Median	Min.	Max.
C1	0.254	0.260	0.200	0.002	0.148	0.235	0.018	0.510
C2	0.131	0.133	0.112	0.099	0.093	0.100	0.010	0.500
C3	0.075	0.074	0.074	0.987	0.055	0.062	0.000	0.330
CONTEST	0.984	0.965	1.139	0.010	0.505	0.947	0.086	2.000
HERF1	0.041	0.042	0.023	0.010	0.055	0.014	0.000	0.250
HERF2	0.121	0.124	0.083	0.006	0.112	0.080	0.001	0.500
LOGAST	5.351	5.322	5.602	0.302	2.022	4.839	0.161	11.288
LEV	0.312	0.317	0.310	0.823	0.215	0.319	0.000	0.909
DIV	0.056	0.055	0.058	0.804	0.102	0.040	0.000	1.386
TA	0.043	0.043	0.037	0.675	0.113	0.059	–0.552	0.518
GPPE	0.642	0.645	0.613	0.547	0.396	0.601	0.000	2.366
ΔREV	0.219	0.136	0.251	0.357	0.333	0.102	–3.412	1.770
ROA	0.074	0.067	0.073	0.033	0.049	0.060	0.000	0.557
DA	–0.033	–0.031	–0.045	0.509	0.151	–0.026	–0.682	1.598
ABSDA	0.113	0.091	0.102	0.527	0.317	0.000	0.000	1.000

Table 3: Pearson correlation matrix and variance inflation factors

This table provides the coefficients of correlation (*p*-value) among variables and variance inflation factor to test the absence of multicollinearity. ABSDA is the absolute value of discretionary accruals; CONTEST is a measure of contestability; HERF1 and HERF2 are measures of lack of contestability; C2 and C3 are the ownership held by the second and third largest shareholders, respectively; LOGAST is the log of total assets; and LEV is the ratio between debt and equity. The *p*-value is the highest level of significance to reject the null hypothesis of correlation among variables.

	ABSDA	CONTEST	HERF1	HERF2	C2	C3	LOGAST	LEV
CONTEST	0.0951							
	(0.0003)							
HERF1	–0.1360	–0.6310						
	(0.0000)	(0.0000)						
HERF2	–0.2053	–0.3976	0.7818					
	(0.0000)	(0.0000)	(0.0000)					
C2	–0.1980	0.0282	0.3384	0.7901				
	(0.0000)	(0.2866)	(0.0000)	(0.0000)				
C3	–0.0751	0.3153	–0.1158	0.3778	0.5154			
	(0.0046)	(0.0000)	(0.0000)	(0.0000)	(0.0000)			
LOGAST	–0.1369	–0.1003	0.0324	0.0352	–0.0061	–0.1223		
	(0.0000)	(0.0001)	(0.2222)	(0.1846)	(0.8175)	(0.0000)		
LEV	–0.0126	0.0270	–0.0234	–0.0308	–0.0411	–0.0445	0.2559	
	(0.5639)	(0.3086)	(0.3769)	(0.2453)	(0.1213)	(0.0930)	(0.0000)	
DIVE	–0.0158	0.0312	–0.1062	–0.1512	–0.1439	–0.1049	0.0432	–0.0086
	(0.4698)	(0.2397)	(0.0001)	(0.0000)	(0.0000)	(0.0001)	(0.0481)	(0.6935)
VIF		0.422	0.090	0.036	0.123	0.308	0.871	0.905

Table 4: Discretionary accruals according to firm ownership and level of contestability
This table provides the absolute value of discretionary component of total accruals (ABSDA) according to the degree of contestability to the first shareholder (high vs. low contestability). The degree of contestability is segmented according to the mean value of CONTEST, HERF1, and HERF2. The *p*-value is the highest level of significance to reject the null hypothesis of equal means between high and low contestability.

	CONTEST			HERF1			HERF2		
	High ABSDA	Low ABSDA	*p*-value	High ABSDA	Low ABSDA	*p*-value	High ABSDA	Low ABSDA	*p*-value
Family firms	0.083	0.102	0.072	0.099	0.140	0.023	0.096	0.143	0.008
Nonfamily firms	0.094	0.110	0.510	0.073	0.113	0.000	0.102	0.062	0.000

Table 5: Estimation of total accruals

This table shows the mean, standard deviation, minimum, maximum and median coefficient, *t*-statistics and adjusted-R^2 coefficient of the cross-sectional regressions of Jones model (Panel A), cross-sectional Jones modified model (Panel B), and cross-sectional return on assets (ROA)-adjusted Jones model (Panel C). The dependent variable is total accruals scaled by total assets (TA) and the explanatory variables are the relative change in total revenues (ΔREV), the relative change in receivables (ΔREC), ROA, and the proportion of gross property, plant and equipment over total assets (GPPE).

Panel A: Jones (1991) crossed-sectional model

		Intercept		ΔREV		GPPE		ROA		
	No. obs.	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Adj. R^2
Mean	11.37	0.00	0.39	–0.02	–0.09	–0.46	–1.10	—	—	0.46
Std. dev.	15.71	0.30	6.54	8.22	4.69	0.32	7.91	—	—	0.32
Mín.	7	–3.93	–16.46	–93.64	–93.58	0.0004	–57.03	—	—	0.0004
Max.	156	2.07	42.60	87.05	26.13	1.00	21.80	—	—	1.00
Median	11	0.00	0.02	0.00	0.04	–0.42	–0.46	—	—	0.42

Panel B: Jones modified crossed-sectional model (Dechow et al., 1995)

		Intercept		ΔREV – ΔREC		GPPE		ROA		
	No. obs.	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Adj. R^2
Mean	11.37	0.01	1.24	0.003	0.43	–0.05	–1.85	—	—	0.46
Std. dev.	15.71	0.33	22.41	0.63	11.06	0.48	19.74	—	—	0.32
Mín.	7	–2.97	–16.88	–9.80	–96.68	–8.87	–66.62	—	—	0.0001
Max.	156	6.91	57.46	9.00	68.40	5.04	22.80	—	—	1.00
Median	11	0.00	0.02	0.00	0.10	–0.01	–0.45	—	—	0.42

Panel C: ROA-Adjusted Jones model (Kothari et al., 2005)

		Intercept		ΔREV		GPPE		ROA		
	No. obs.	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Coeff.	*t*-stat	Adj. R^2
Mean	11.37	–0.02	–0.29	0.24	0.10	–0.09	–0.78	–0.19	–1.09	0.71
Std. dev.	15.71	0.92	7.22	5.96	22.93	1.01	4.79	5.99	18.17	0.30
Mín.	7	–26.34	–89.80	–13.50	–86.43	–15.25	–70.73	–41.05	–39.31	0.01
Max.	156	4.34	76.44	80.09	79.06	13.87	61.74	31.06	22.92	1.00
Median	11	0.00	–0.09	0.00	0.06	–0.01	–0.54	0.00	–0.14	0.82

Table 6: Results of the generalized method of moments estimations

This table provides the estimated coefficients (*t*-statistic) from the system estimator of the generalized method of moments estimation. The dependent variable is the absolute value of discretionary accruals (ABSDA). The dependent variables are defined in the Appendix. We control for time and institutional effects. Auto(2) is a test of second order serial autocorrelation of the residuals under the null hypothesis of no serial correlation. *t*2, *t*3, and *t*4 are tests for linear restrictions under the null hypothesis of no significance. *z*1 and *z*2 are Wald tests of the joint significance of the reported coefficients and time dummy variables, respectively, asymptotically distributed as χ^2 under the null hypothesis of no significance (degrees of freedom). The Hansen test is a test of overidentifying restrictions, asymptotically distributed as χ^2 under the null hypothesis of no correlation between the instruments and the error term (degrees of freedom). *** denotes 99% confidence level. ** denotes 95% confidence level. * denotes 90% confidence level.

	(1)		(2)		(3)	
	Family firms	Nonfamily firms	Family firms	Nonfamily firms	Family firms	Nonfamily firms
$ABSDA_{t-1}$	0.571***	0.140***	0.544***	0.072***	0.562***	0.074***
	(7.97)	(5.03)	(7.57)	(3.47)	(7.96)	(3.64)
CONTEST	–0.045*	0.055***				
	(–1.84)	(2.82)				
HERF1			0.725**	–0.617**		
			(2.51)	(–2.27)		
HERF2					0.381*	–0.422***
					(1.84)	(–2.67)
C2	–0.799***	0.506	–0.818***	0.376	–1.091***	0.654**
	(–2.77)	(1.40)	(–3.23)	(1.52)	(–2.75)	(2.53)
C2·DFAM2	0.394*	–0.656*	0.157**	0.492*	0.272*	0.449*
	(1.61)	(–1.90)	(2.46)	(1.81)	(1.78)	(1.55)
C3	–0.525*	0.393	–0.713**	0.209	–0.389*	0.307
	(–1.67)	(0.81)	(2.01)	(0.43)	(–1.83)	(0.63)
C3·DFAM23	0.590*	0.677	0.142**	0.455	0.304*	0.563
	(1.85)	(0.47)	(2.22)	(0.37)	(1.71)	(0.45)
LOGAST	–0.008	0.000	0.001	0.002	–0.002	0.003
	(–0.66)	(–0.01)	(0.09)	(0.54)	(–0.21)	(1.32)
LEV	–0.062	–0.071	–0.022***	0.053	–0.050***	0.041
	(–1.14)	(–1.45)	(–0.34)	(1.12)	(–0.84)	(0.89)
DIV	0.231*	0.060	0.309**	0.154	0.259**	0.081
	(1.80)	(0.41)	(2.38)	(0.98)	(2.04)	(0.53)
Institutional effect	Yes	Yes	Yes	Yes	Yes	Yes
Time effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	581	1,098	581	1,098	581	1,098
Auto(2)	–1.22	–0.56	–1.19	–0.86	–1.21	–0.95
*t*2	–1.93*	–0.31	–1.74*	2.29**	–2.57**	2.92
*t*3	1.77*	0.64	–2.92***	0.53	1.86*	0.62
*t*4	9.69(13)***	10.58(13)***	9.84(13)***	10.67(13)***	10.54(13)***	19.2(13)***
*z*1	4.68(2)***	2.4(2)*	2.53(2)**	2.45(2)*	2.85(2)*	2.97(2)*
*z*2	22.49 (24)	23.75(30)	20.98(24)	25.79(30)	21.62(24)	25.89(30)
Hansen test	22.49 (24)	23.75(30)	20.98(24)	25.79(30)	21.62(24)	25.89(30)

Table 7: Results of the generalized method of moments estimations (sensitivity analysis)
This table provides the estimated coefficients (*t*-statistic) from the system estimator of the generalized method of moments estimation. The dependent variable is the absolute value of discretionary accruals (ABSDA). The dependent variables are defined in the Appendix. We control for time and institutional effects. Auto(2) is a test of second order serial autocorrelation of the residuals under the null hypothesis of no serial correlation. *t*2, *t*3 and *t*4 are tests for linear restrictions under the null hypothesis of no significance. *z*1 and *z*2 are Wald tests of the joint significance of the reported coefficients and time dummy variables, respectively, asymptotically distributed as χ^2 under the null hypothesis of no significance (degrees of freedom). The Hansen test is a test of overidentifying restrictions, asymptotically distributed as χ^2 under the null hypothesis of no correlation between the instruments and the error term (degrees of freedom). *** denotes 99% confidence level. ** denotes 95% confidence level. * denotes 90% confidence level.

	(1)	(2)	(3)	(4)	(5)
$ABSDA_{t-1}$	0.788***	0.515***	0.582***	0.533***	0.569***
	(16.37)	(10.88)	(11.86)	(10.18)	(11.10)
CONTEST	–0.051***	–0.033*	–0.055***	–0.044**	–0.043**
	(–2.69)	(–1.81)	(–3.05)	(–2.43)	(–2.30)
CONTEST·TC		–0.060***	–0.080**	–0.135***	–0.110***
		(–2.62)	(–1.99)	(–5.48)	(–3.10)
C2			–0.151**		–0.016*
			(–2.23)		(–1.71)
C2·DFAM2			0.393**		0.136**
			(2.15)		(1.98)
C3				–0.716***	–0.700**
				(–3.50)	(–2.47)
C3·DFAM23				0.832***	0.987*
				(3.26)	(1.80)
LOGAST	–0.008	–0.005	0.006	0.019**	0.021**
	(–1.21)	(–0.80)	(0.79)	(2.50)	(2.55)
LEV	–0.068	–0.035	–0.058*	–0.090***	–0.122***
	(–1.1)	(–0.63)	(–1.62)	(–2.38)	(–3.11)
DIV	0.048	0.176	0.357**	0.419***	0.329*
	(0.31)	(1.37)	(1.98)	(2.83)	(1.89)
Institutional effect	Yes	Yes	Yes	Yes	Yes
Time effect	Yes	Yes	Yes	Yes	Yes
Observations	581	581	581	581	581
Auto(2)	–1.21	–1.23	–1.21	–1.14	–1.13
*t*2		–2.81***	–3.32***	–4.66***	–3.32***
*t*3			1.82*		2.07**
*t*4				3.74***	3.65***
*z*1	59.15(8)***	41.3(9)***	33.99(12)***	35.94(12)***	34.17(14)***
*z*2	2.78(2)**	2.83(2)**	4.25(2)*	2.81(2)*	2.37(2)*
Hansen test	15.00(18)	24.03(23)	19.04(24)	24.24(30)	25.21(28)