Article Type: Original Article

Parents' Use of Subsidiaries to "Push Down" Earnings Management: Evidence from Italy*

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ABSTRACT: We find evidence consistent with Italian nonlisted subsidiaries engaging in accrual and real earnings management, so that their listed parents can meet or beat benchmarks. Thus, the parent firm drives the earnings management of the subsidiaries.We identify parents that are more likely to have managed earnings as the ones that avoid a small loss or meet or beat analyst forecast by a few cents. Cross-sectional analysis reveals that Big 4 auditors mitigate accrual earnings management at the subsidiary level and that family-owned firms use earnings management through nonlisted subsidiaries mainly to avoid reporting losses. Finally, we find that parent firms communicate earnings management strategies to their subsidiaries using board proximity. Our evidence shows that business groups manage earnings differently from single firms, pushing earnings management down to subsidiaries. It also supports the monitoring role of Big 4 auditors in a business group setting and contributes to understanding financial reporting decisions in family-owned firms.

Keywords Business group; private subsidiaries; earnings management; consolidation
JEL Classification M40; M41; M42

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*Accepted by Sarah McVay. We thank Sarah McVay and two anonymous referees for helpful comments and suggestions. We also thank Matthew Cedergren, Daniel Cohen, Lucie Courteau, Claudia Curi, Kalin Kolev, Baruch Lev, Claudia Marangoni, Antonio Marra, Maurizio Murgia, Joshua Ronen, Stephen Ryan, Ron Shalev and seminar participants at the NYU Accounting Workshop, Syracuse University, Bocconi University, the 2013 European Accounting Association conference, the 2013 Financial Reporting workshop, and the 2013 Temple Accounting Conference for insightful comments and discussions. Finally, we thank our respective schools for financial support. All errors remain our own. Prior versions of the paper were circulated under the title "All in the family: Earnings Management Through Non-listed subsidiaries."

1. Introduction

We examine the earnings management practices of Italian business groups to shed light on the link between the public parents' consolidated financial statements and their private subsidiaries' financial statements. Although a great deal of literature exists on earnings management, almost all of it focuses on the final consolidated financial statements. We hypothesize and show that, when *parents* are more likely to have managed earnings, their *subsidiaries* have abnormally high discretionary accruals, unusually low cash flows from operations, or both. We identify parents that are more likely to have managed earnings as those that report a small profit or meet or beat an analyst forecast by few cents—we refer to these firms as "suspect firms." This is consistent with a parent using its subsidiaries to manage its own (i.e., parents') earnings to meet or beat a benchmark.

Prior research has examined several drivers of earnings management of subsidiaries, such as the subsidiary's location in terms of the rule of law and the location's tax-haven status (Dyreng, Hanlon, and Maydew 2012) and its ownership structure (Gopalan and Jayaraman 2012; Kim and Yi 2006) as well as the parent's governance characteristics (Beuselinck, Cascino, Deloof, and Vanstraelen 2016) and its tax minimization incentives (Beuselinck and Deloof 2014). However, as Prencipe (2012) suggests, these analyses fail to examine whether the parent manages its earnings through its subsidiary or the subsidiary is managing its earnings based on its own incentives. We examine a sample of Italian listed firms and their domestic subsidiaries that are directly owned at a percentage higher than 50 percent. This characteristic allows us to focus on subsidiaries that are consolidated with the parent. We focus on Italy because the Italian capital market consists of a relatively large proportion of listed firms that are family-owned, have concentrated ownership, or both (Bianchi and Bianco 2006; La Porta, Lopez-de-Silanes, and Shleifer 1999; Lins, Volpin, and Wagner 2013).

When a firm is family-owned, the managers of its subsidiaries have incentives that are aligned with those of the controlling family (or owner), since families tend to be more involved and more knowledgeable about the business (for example, having subsidiary directors chosen from family members or parents' directors), enabling them to better monitor the subsidiary managers (Anderson and Reeb 2003; Bertrand and Schoar 2006).[1] Furthermore, the advantage of using Italian firms, or European firms in general, is the availability of three sets of financial statements: consolidated, unconsolidated, and subsidiary. By contrast, in Canada and in the United States, only the parent's consolidated data is publicly available, precluding the examination of links between a parent and its subsidiaries.[2]

We contribute to the earnings management literature by showing that parent firms drive the accrual and real earnings management in subsidiaries to meet or beat a benchmark, in effect managing their consolidated earnings through their subsidiaries.

Consistent with previous research and theory, we find that different types of firms adhere to different benchmarks. On the one hand, listed firms have incentives to beat the zero earnings benchmark and analyst forecasts, but not the previous year earnings.[3] On the other hand, family firms focus on zero earnings, which we interpret based on their incentive to lower transaction costs with stakeholders (debtholders, suppliers) who use an heuristic cutoff at zero for performance evaluation (Bowen, DuCharme, and Shores 1995; Burgstahler and Dichev 1997; Graham, Harvey, and Rajgopal 2005). Family firms are not willing to bear the costs of managing earnings to beat analysts' forecasts, since controlling shareholders tend to

[1] As argued by Anderson and Reeb (2003): "because the family's wealth is so closely linked to firm welfare, families may have strong incentives to monitor managers and minimize the free-rider problem inherent with small, atomistic shareholders." Such monitoring is achieved by the choice of directors.

[2] Asker, Farre-Mensa, and Ljungqvist (2014) and Hope, Thomas, and Vyas (2013) use a database provided by Sageworks Inc. that has income statement and balance sheet data for U.S. private companies. However, because the database does not disclose the firms' names, we cannot observe whether a private company is a subsidiary of a listed company.

[3] Coppens and Peek (2005: page 15) show empirical evidence that firms in countries where there is financial and tax accounting alignment, such as Italy, do not avoid reporting earnings decreases. Moreover, Burgstahler and Dichev (1997) note: "costs imposed at heuristic cutoffs are likely to be more substantial for losses than for earnings decreases because the heuristic interpretation of earnings decreases is often mitigated by surrounding circumstances."

be long-term investors who are less sensitive to short-term price movements, and who are not interested in raising capital from new stakeholders in order to retain control (Amihud, Lev, and Travlos 1990).

Cross-sectional analysis reveals that Big 4 auditors at the parent level mitigate accrual earnings management at the subsidiary level and that family-owned firms are more likely than nonfamily-owned firms to manage earnings through their nonlisted subsidiaries. We also examine the mechanism that parent firms use to communicate the earnings management strategies. We find that board proximity (parent and subsidiaries sharing more than 50 percent of their directors), largely present in family-owned firms, is used to manage earnings to avoid losses.

Our evidence matters because it shows that, to evaluate the reporting quality of a business group, it is not sufficient to examine the parent's consolidated financial statements. While we address this issue in Italy, it is also likely to occur elsewhere where family-owned firms are common. Thus, understanding *whether*, *why*, *when* and *how* Italian business groups manage earnings may shed light on this phenomenon in other countries. Moreover, because our analysis is based on a single country, where the institutional features are common to all of the firms by construction, correlated omitted factors are not likely to be driving our results.

In addition to contributing to the literature on earnings management, we also contribute to the current debate on the financial reporting of public versus private firms. While the literature has examined public and private firms independently, we show that the quality of the financial reporting might be affected when the two are intertwined. For this reason, it is important to examine the subsidiaries' financial statements, especially given that previous researchers have explicitly excluded subsidiaries from their analyses (Ball and Shivakumar 2005; Burgstahler, Hail, and Leuz 2006).

The rest of the paper is organized as follows. Section 2 provides background information on the Italian context, reviews the earnings management literature for business groups, and discusses the nature of the agency conflict in the context we are studying. Section 3 states our hypotheses. Section 4 describes our empirical methodology, including our sample construction, earnings management proxies, estimation models, and descriptive statistics. Section 5 discusses our empirical evidence. Section 6 concludes.

2. Italian setting and prior literature

The Italian setting

In Italy three sets of the financial statements are publicly available:

a. The parent's consolidated financial statements (PC)
b. The parent's unconsolidated financial statements (PU)
c. The subsidiaries' financial statements (SUB)

For our purposes, the most important set is the financial statements of the private subsidiaries of a listed firm. These statements must be audited (Article 165 of Legislative Decree 24 no. 58, February 1998, and its implementation provisions issued by Consob), and the private subsidiaries are subject to the same Civil Code and tax laws as public firms. Note, too, that Italy is among the European countries where financial and tax accounting practice are closely aligned (Burgstahler et al. 2006).

The literature

Two strands of literature pertain to our research: earnings management in business groups and earnings management through affiliated transactions.

The first strand of literature attempts to find what drives the subsidiaries' earnings management, in particular their location (in terms of rule of law and tax-haven status) (Dyreng et al. 2012), their ownership structure (Gopalan and Jayaraman 2012; Kim and Yi

2006), their parents' governance characteristics (Beuselinck et al. 2016), and their tax minimization incentives (Beuselinck and Deloof 2014).

Dyreng et al. (2012) examine the geographical location of earnings management within U.S. multinationals and show that firms with extensive foreign subsidiaries located in weak rule-of-law countries or tax havens manage earnings more than other firms and that the difference in earnings management is concentrated in foreign income. However, the authors do not specify the roles played by the parent firm and the subsidiaries. Moreover, because the nonlisted firms' financial statements are unavailable in the United States, Dyreng et al. (2012) cannot directly examine the earnings management of domestic subsidiaries.

Beuselinck et al. (2016) also look at multinational firms and show that the corporate governance characteristics of the parent firm (ownership structure and analyst coverage) and the institutional features of the subsidiary's country affect the reporting quality of the subsidiary. However, they do not examine whether the subsidiaries' earnings are managed to optimize the reporting outcomes of the parent's consolidated financial statements (i.e., earnings management of the subsidiary as a function of the incentives of the consolidated group).

Kim and Yi (2006) find that Korean firms affiliated with a Chaebol group manage earnings more opportunistically than unaffiliated firms. They argue that group-affiliated firms have both more instruments and more opportunities than unaffiliated ones to divert resources at the expense of minority shareholders. They also argue that the controlling shareholders of group-affiliated firms manage earnings to hide these diversions, thereby avoiding disciplinary actions. Gopalan and Jayaraman (2012) examine the earnings management practices of insider-controlled firms in 22 countries to shed light on the link between the consumption of private benefits and earnings management. They show that in countries with weak investor protection, insider-controlled firms are associated with more earnings management than

noninsider-controlled firms. Kim and Yi (2006) and Gopalan and Jayaraman (2012) explain the earnings management in business groups as a way to disguise value expropriation at the expense of the minority shareholders, but they do not consider the alternative explanation that a parent might want to push earnings management down to its subsidiaries to manage its own (consolidated) earnings. Beuselinck and Deloof (2014) show that firms affiliated with a business group strategically manage earnings in response to tax incentives.

The second strand of literature examines earnings management through affiliated transactions by delving into the relation between the parent's consolidated and unconsolidated earnings. Shuto (2009) and Thomas et al. (2004) explore the consolidated and unconsolidated earnings of Japanese parent firms. However, neither investigates the financial statements of the subsidiaries. In particular, Thomas et al. (2004) point out that the parent's managers can manage their unconsolidated earnings through affiliated transactions because the parent has significant control over the related subsidiaries. However, this result cannot be extended to the consolidated earnings. As a result, the study predictably suggests that the consolidation process washes out the earnings management at the consolidated level (i.e., the effects of earnings management via intercompany transactions are eliminated during consolidation).

Shuto (2009) demonstrates that, to avoid an earnings decrease, the earnings management is more pronounced in the parents' unconsolidated earnings for the period of 1980–1999 and is then less pervasive following the introduction of a new consolidated reporting system. But the authors of these papers are not interested in the financial reporting quality of the subsidiaries. Rather, they are concerned with the relation between the parents' unconsolidated and consolidated earnings.

What all of the preceding papers fail to examine is *whether* a parent might use its subsidiaries to manage its consolidated earnings, *why* the parent would do that, *when* and *how* it might implement this push-down strategy.

3. Hypotheses development

Nature of the agency conflict

In order to motivate our hypotheses, we first discuss the agency conflict in Italian firms. Earnings management is motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations (Healy and Wahlen 1999). Graham et al. (2005) document that managers attach a high importance to meeting earnings targets. In fact, reporting negative earnings, reporting earnings that do not exceed last year's earnings, and reporting earnings that do not meet or beat analyst expectations can lead to a drop in stock price and negative publicity for a firm and, therefore, worsen future "terms of transactions" with stakeholders (Bowen et al. 1995; Burgstahler and Chuk 2015). In the Italian setting, the analysis of the agency problem must also consider the high concentration of family-owned listed firms (64 percent in our sample).[4] These firms are interesting to analyze because, when the listed parent is family-owned (or has concentrated ownership), the subsidiary managers are more likely to manage their unit's earnings to align with the parent's goals instead of with their own (Prencipe, Markarian, and Pozza 2008).[5]

A second important feature of family firms is that the controlling shareholders normally aim at keeping their investment for the long term (Anderson and Reeb 2003) and

[4] Note that family firms, which comprise the majority of our sample, are a common form of ownership in Canada and in the United States and in general around the world (Anderson, Mansi, and Reeb 2003; La Porta et al. 1999).

[5] Consistent with this observation, in our sample of family-owned parents, almost 40 percent of the subsidiaries' directors are chosen from among parents' managers.

limit the amount of capital contributed by other shareholders (Amihud et al. 1990; Lins et al. 2013), so as not to dilute their control. These factors plus the closer relationships between executives and the controlling family make such firms less sensitive to the short-term oscillations of financial markets following the reporting of disappointing earnings numbers. Thus, relationships with other stakeholders, such as banks and suppliers, become crucial and family firms manage earnings to affect the terms of transactions with their stakeholders. More specifically, Bowen et al. (1995) discuss incentives to report positive earnings with respect to employees, suppliers, lenders, and other stakeholders. Burgstahler and Dichev (1997) assume that terms of transactions are generally more favorable for higher earnings firms.

Main hypothesis

To detect earnings management at the subsidiary level when the parent wants to beat a benchmark, we hypothesize and test *whether* during suspect years the private subsidiaries controlled by a listed parent firm exhibit abnormally high discretionary accruals or abnormally low cash flows from operations (our real earnings management proxy).[6] Thus we state the following (alternative) hypothesis.

HYPOTHESIS 1. *In the years when a parent firm is suspect, its subsidiaries have either abnormally high discretionary accruals or abnormally low cash flows from operations or both*.

[6]Subsidiary accruals only affect consolidated earnings to the extent that they are not eliminated. Since elimination entries are unobserved, we assume that at least some of the subsidiary's positive discretionary accruals would flow through to the parent (i.e., not be eliminated) and thus raise the consolidated net income. In effect, our results confirm this assumption.
Following Roychowdhury (2006), abnormal CFO captures real earnings management through sales manipulation; i.e., accelerating the timing of sales and/or generating additional unsustainable sales through increased price discounts or more lenient credit terms, which leads to lower current-period CFO than what is normal given the sales level (i.e., abnormal CFO is expected to be negative).

Cross-sectional variation in the use of subsidiaries for the parent's earnings management

To investigate the incentives to manage earnings, we follow Bowen et al. (1995), Burgstahler and Dichev (1997), and Graham et al. (2005), who hypothesize that firms manage earnings to lower the cost of transactions with stakeholders. As Roychowdhury (2006, 342) states, "there are stakeholders of the firm who use heuristic cut-offs at zero to evaluate its performance. Among the stakeholders whom these studies identify are suppliers, lenders, employees, and customers worried about future services." In particular, in our analysis, we investigate relations with two main stakeholders: Debtholders and Suppliers.

a. Debtholders: Earnings management incentives are positively related to the need for external financing (Hope et al. 2013). Accordingly, we predict a positive relation between earnings management and debt raised in the following year. [7]

   HYPOTHESIS 2a. *In the years when a parent firm is suspect, its subsidiaries' abnormally high discretionary accruals or abnormally low cash flows from operations relates positively to the debt raised by the parent in the following year*.

b. Suppliers: Similar to lenders, suppliers are exposed to counterparty credit risk of the firm. As discussed by Roychowdhury (2006, 342), "If the firm's earnings performance falls below a certain threshold, like zero, the firm's ability to pay suppliers in time and its potential as a future buyer are in doubt. This leads suppliers to tighten credit and other terms." Accordingly, we predict a positive relation between earnings management and the importance of the supplier relation. Following Hope,

[7] According to Efendi, Srivastava, and Swanson (2007, p. 676), "a firm's ability to raise new debt and equity depends upon its financial health, which is evaluated largely by accounting numbers. This provides the CEO with an incentive to misrepresent the financial health of a firm to capital providers by misstating accounting numbers […]. Dechow, Sloan, and Sweeney (1996) conclude that an important reason for earnings manipulation by firms that engage in fraud is the desire to attract low-cost external funding."

Thomas, and Vyas (2016), we use as a proxy for supplier relationships the ratio inventory/total assets.

HYPOTHESIS 2b. *In the years when a parent firm is suspect, its subsidiaries' abnormally high discretionary accruals or abnormally low cash flows from operations relates positively to the parent's ratio of inventory/total assets*.

Next, we examine two other sources of cross-sectional variation to understand *when* the parent uses its subsidiaries to beat the benchmarks: (i) the parent firm's choice of a Big 4 auditor, and (ii) the parent firm's family ownership.

Big 4 auditors

Prior studies demonstrate that Big 4 auditors constrain managers' ability to manage their reported earnings through accruals (Francis, Maydew, and Sparks 1999). Thus, the scrutiny of the subsidiary's financial statements likely increases with the presence of a Big 4 auditor, either because a non-Big 4 auditor does not have comparable resources or does not have the same reputational concerns. However, if the presence of a Big 4 auditor constrains earnings management, a parent might resort to managing the earnings in a subsidiary that is further from the auditor's oversight. Therefore, the subsidiary's discretionary accruals could be lower or higher in the years when a parent is suspect and is being audited by a Big 4 auditor. Thus, the relation between a Big 4 auditor and earnings management at the subsidiary level is an empirical question. Our nondirectional hypothesis is as follows.

HYPOTHESIS 3. *In the years when a parent firm is suspect, the levels of the subsidiaries' discretionary accruals relate systematically to whether the parent is audited by a Big 4 auditor*.

Regarding real earnings manipulation, we assume that the auditor's scrutiny should not affect uncovering real manipulation, which typically falls outside of the auditor's responsibility (Cohen and Zarowin 2010).

Family ownership

Although the quality of the financial reporting in family firms is increasingly attracting researchers' attention, the extent of their earnings management remains an open issue (Salvato and Moores 2010). On the one hand, Wang (2006) and Ali et al. (2007) find that family firms engage, on average, in less earnings management; on the other hand, Prencipe et al. (2008) show that family firms manage earnings to secure the family's controlling interests and long-term benefits.

Thus, the relation between family ownership and earnings management is an empirical question. Because this literature provides competing and alternative predictions about the effects of family ownership on earnings management, our hypothesis is nondirectional.

HYPOTHESIS 4. *In the years when a parent firm is suspect, the levels of the subsidiaries' discretionary accruals or abnormal cash flows from operations relates systematically to the parent firm's family status*.

Communication channels: Board proximity

Earnings management by the subsidiary on behalf of the parent requires coordination, particularly in the case of real earnings management. We seek to explain *how* parents communicate the earnings management strategy to their subsidiaries, focusing on board proximity. Board proximity, also known as board connection or interlocks (Cai and Sevilir 2012), refers to the situation when the parent and the subsidiaries share one or more common directors, which improves communication between the firms, facilitating accrual and real

earnings management. In our empirical analysis we proxy board proximity by parent and subsidiaries sharing more than 50 percent of their directors.

4. Empirical methodology

Data and sample description

Data are obtained from the AIDA database supplied by Bureau Van Dijk. The AIDA database covers one million firms in Italy and provides detailed financial statement data and governance information (subsidiaries' ownership, management information, auditor information). We also obtain stock prices from Bloomberg Professional and analysts' consensus earnings from I/B/E/S.

We begin with all of the Italian listed firms covered by AIDA during the period of 2003–2014. We exclude parents that do not provide consolidated financial statements, small firms (total assets less than €1 million or lagged assets less than €1 million and sales less than €1 million) and firms in regulated industries (SIC codes 4900–4999 and 6000–6699).[8] Next, we examine subsidiaries directly controlled (with more than 50 percent of the voting equity) by their parents. We exclude foreign subsidiaries to avoid the confounding effect of differing institutional environments. We also exclude subsidiaries that have their own subsidiaries to consolidate, firms in regulated industries, and small firms. We also exclude firms with missing values needed to compute the Jones model's accruals (including lagged assets for the scalar and 10 industry-year observations to estimate equation 1).[9]

Table 1 presents the frequency of each type of financial statement (PC and SUB) by fiscal year (panel A) and industry (panel B).

[8] We exclude pure holding companies because, by definition, all of the earnings management must happen at the subsidiary level. We also exclude three companies that own soccer clubs due to a special accounting regulation.
[9] We exclude the subsidiaries of subsidiaries to avoid confounding effects on our results since the subsidiary that owns other subsidiaries can have multiple incentives that are difficult to empirically test. Since we look at direct control only (i.e., subsidiaries directly owned by the parent), our sample does not include pyramidal structures, where a shareholder achieves control by a chain of ownership relations, that is, the ultimate owner directly controls a firm that in turn controls another firm that might itself control another firm, and so forth (Faccio and Lang 2002).

In the main test we focus on earnings management at the subsidiary level. The models for normal accruals and normal cash flows from operations (*CFO*) are estimated by using a sample of stand-alone private firms (i.e. firms that do not file consolidated financial statements and are not subsidiaries that are consolidated) that are matched by year and two-digit SIC code with our sample of subsidiaries.[10] Panel B of Table 1 reports the frequency by industry of the stand-alone firms. There is no industry with more than 23.78 percent of the firms. Most industries account for 1–5 percent. We provide variable definitions in the Appendix.

Earnings management proxies

The literature identifies two main ways of managing earnings: accrual and real earnings management. We rely on these studies to develop our proxies. We estimate abnormal accruals by using the the cross-sectional Jones model as advanced by Kothari, Leone, and Wasley (2005) including an intercept term and controlling for performance by including ROA as an additional independent variable. We estimate abnormal *CFO* by using the model developed by Dechow, Kothari, and Watts (1998) and implemented in Roychowdhury (2006) and Cohen and Zarowin (2010).[11] As pointed out before, we estimate these abnormal accrual and abnormal cash flow models using all private firms that do not prepare a consolidated financial statement and are not subsidiaries of a parent firm (i.e. stand-alone firms).[12]

[10] To make the two groups comparable, we select only those private companies that provide only unconsolidated financial statements (i.e. stand-alone) and that are required to have their financial statements audited by a board of statutory auditors, namely those with sales exceeding €8.8 million and assets exceeding €4.4 million. As panel B of Table 1 shows, there are over 188,000 such firms in the sample, so these requirements are not too restrictive.

[11] We cannot calculate the other two proxies for real earnings management, abnormal level of discretionary expenses and abnormal production cost, because Italian companies do not disclose this information.

[12] In order to validate our proxies, since accruals reverse and the implications of real earnings management are realized in subsequent periods, we examined the relation between a subsidiary's discretionary accruals and/or abnormal CFO and its future performance. The results of this analysis (untabulated) support the inference that beating a benchmark is negatively associated with next year's performance (i.e., earnings management has a cost, a negative impact on future performance).

Accrual-based earnings management proxy

Each year, we estimate (1), below, for every industry classified by its two-digit SIC code. Thus our approach controls for industry-wide changes in the economic conditions that affect the total accruals while allowing the coefficients to vary across time (DeFond and Jiambalvo 1994).

$$TA_{i,t}/Assets_{i,t\text{-}1} = \propto_0 + \propto_1 (1/Assets_{i,t\text{-}1}) + \beta_1 (\Delta S_{i,t}/Assets_{i,t\text{-}1}) + \beta_2 (PPE_{i,t}/Assets_{i,t\text{-}1}) + \beta_3 (EBXI_{i,t}/Assets_{i,t\text{-}1}) + \varepsilon_{i,t}, \quad (1)$$

where, for firm *i* and fiscal year *t*, TA represents total accruals, ΔS is the change in revenues over the previous year, $PPE_{i,t}$ is the net value of total tangible and intangible assets,[13] $Assets_{i,t-1}$ represents total assets at the beginning of the year, $EBXI_{i,t}$ is earnings before extraordinary items, and $EBXI/Assets$ is the return on the assets. *TA* is defined as follows (Dechow and Sloan 1995):[14]

$$TA_{i,t} = \left(\Delta CA_{i,t} - \Delta Cash_{i,t}\right) - \left(\Delta CL_{i,t} - \Delta D_{i,t}\right) - Dep_{i,t}, \quad (2)$$

where, for firm *i* and fiscal year *t*, ΔCA represents the change in total current assets, $\Delta Cash$ represents the change in cash and cash equivalents, ΔCL represents the change in current liabilities, ΔD represents the change in the financial debt included in the current liabilities, and Dep represents depreciation and amortization expense. The changes in cash and cash equivalents and financial debt are excluded from accruals because they relate to financing transactions as opposed to operating activities.

[13] We include intangible assets because, for private companies, they may be a source of earnings management (Ball and Shivakumar 2008). The results are qualitatively and quantitatively the same if we limit the analyses to tangible assets. We use net instead of gross PPE because the database does not allow us to retrieve the gross value of long-term assets.

[14] We cannot estimate accruals from earnings and CFO because private subsidiaries do not provide cash flow statements, that is, CFO is estimated from successive balance sheets. Hribar and Collins (2002) note that this balance sheet approach is misspecified in the presence of nonoperating events, such as mergers, acquisitions, and divestitures. To address this issue, we repeat our main analysis with a sample of subsidiaries that did not experience mergers, acquisitions, or divestitures. The results (untabulated) confirm our main results. We use the Zephyr database (Zephyr and AIDA are provided by a common data vendor Bureau Van Dijk) to retrieve the subsidiaries that undergo mergers and acquisitions during the 2003–2014 period.

The coefficient estimates from model (1) are used to estimate the firm-specific normal accruals (*NA*) for our sample of subsidiaries according to equation (3):

$$NA_{i,t}/Assets_{i,t\text{-}1} = \hat{\alpha}_0 + \hat{\alpha}_1(1/Assets_{i,t\text{-}1}) + \hat{\beta}_1(\Delta S_{i,t}/Assets_{i,t\text{-}1}) + \hat{\beta}_2(\mathrm{PPE_{i,t}}/\mathrm{Assets_{i,t-1}}) + \hat{\beta}_3(EBXI_{i,t}/Assets_{i,t-1}). \quad (3)$$

Our measure of discretionary accruals is the difference between the total accruals and the fitted normal accruals, which is defined as $DA_{i,t} = (TA_{it}/Assets_{it-1}) - (NA_{it}/Assets_{it-1})$.

Real earnings management proxy

Following the literature on real earnings management (Dechow et al. 1998; Roychowdhury 2006), we express normal *CFO* as a linear function of sales and the change in sales in the current period. To estimate this model, similar to the previous section, we run the following cross-sectional regression for each industry and year:

$$CFO_{i,t}/Assets_{i,t\text{-}1} = \alpha_0 + \alpha_1(1/Assets_{i,t\text{-}1}) + \beta_1(S_{i,t}/Assets_{i,t\text{-}1}) + \beta_2(\Delta S_{i,t}/\mathrm{Assets}_{t\text{-}1}) + \varepsilon_{i,t}, \quad (4)$$

where *CFO* is computed indirectly by subtracting the accrual component from earnings before extraordinary items (*EBXI*) because the direct information on the firms' cash flows is unavailable for nonlisted firms. The abnormal *CFO* is then computed for each firm-year as the actual *CFO* minus the normal CFO, calculated using the estimated coefficients from model (4).

Based on the conclusions of Roychowdhury (2006), we expect real earnings management through increased price discounts or more lenient credit terms to lead to lower current-period *CFO* than what is normal given the sales level (i.e., abnormal *CFO* is expected to be negative).

Selection of suspect firm-years

Following the literature, we identify suspect firm-years as those likely to have managed earnings based on three benchmarks shown in the literature that firms have incentives to meet

or beat: the zero earnings threshold, last year earnings and analyst forecasts. It's important to remember that while the definition of suspect refers to the parent's consolidated data, the earnings management proxies are estimated from each individual subsidiary's financial statements. The parent is considered suspect in years when it: [15]

a. reports small profits that are defined as EPS in the range [0, €0.03). The histogram in Figure 1, panel A for our Italian firms resembles the one presented by Roychowdhury (2006) for U.S. firms, with a prominent upward shift in the frequency of firm-years going from the left of zero to the right, implying that Italian firms manage earnings to beat the zero earnings benchmark.

b. reports a small change in profits that is defined as ΔEPS in the range [0, €0.03). This definition is consistent with evidence in prior research that firms manage earnings in order to meet prior years' earnings numbers (Graham et. al. 2005). Figure 1, panel B shows that Italian firms do not exhibit significant discontinuities around zero earnings changes, implying that Italian firms do not manage earnings to beat this benchmark.

c. reports positive analyst forecast errors (FE) that are in the interval [0, €0.03), where FE is the difference between actual earnings per share (EPS) as reported by I/B/E/S less the final analysts' consensus forecast of EPS. The histogram in Figure 1, panel C for our Italian firms resembles the ones of Bartov, Givoly, and Hayn (2002); Bhojraj, Hribar, Picconi, and McInnis (2009); Degeorge, Patel, and Zeckhauser (1999) showing a disproportionate number of cases where earnings per share are slightly (by a few cents) above analysts' forecasts, implying that Italian firms manage earnings to beat this benchmark.[16]

[15] As robustness checks we: a) use different intervals, i.e. one and two cents; and b) examine the zero earnings benchmark and the change in earnings scaling earnings by assets. Results are qualitatively and quantitatively the same. We use a three-cent interval because this allows for enough observations to run all the cross sectional tests.

[16] Following Roychowdhury (2006), we consider the mean of all analysts' final forecasts outstanding prior to the earnings announcement date as the final consensus forecast.

Table 1, panel C, shows that, for the zero earnings benchmark, our sample includes 1,688 parent firm-years (corresponding to 3,196 subsidiary firm-years) of which 165 are suspect (corresponding to 288 subsidiary firm-years); for the earnings change benchmark our sample includes 1,688 parent firm years (corresponding to 3,196 subsidiary firm-years) of which 295 are suspect (corresponding to 621 subsidiary firm-years); and for the analyst forecast benchmark, our sample includes 1,039 parent firm years (corresponding to 2,392 subsidiary firm-years) of which 142 are suspect (corresponding to 296 subsidiary firm-years).[17]

Descriptive statistics

Table 2 reports the descriptive statistics comparing the suspect firm-years to the rest of the sample.[18]

To analyze the impact of the subsidiaries' data on consolidated financial statement data, we present in Table 2 the ratio of parent-only accounting data to consolidated accounting data (*PU*/*PC* ratio). The *PU*/*PC* ratio is calculated based on two financial variables for each year: sales and total assets (Shuto 2009). The lower the ratio is, the greater the importance of the subsidiaries in the consolidated results. Examining our data, both ratios demonstrate the importance of the subsidiaries to the economy of these firms.

More importantly, Table 2 reports the descriptive statistics of the subsidiaries for the dependent and independent variables used in the empirical analyses. Consistent with our first hypothesis, during the parents' suspect years the subsidiaries have on average higher discretionary accruals (the difference in median is 1 percent) and lower abnormal *CFO* (the difference in median is −1 percent), but both subsidiaries of suspect and nonsuspect parents have similar sizes, profitability and leverage (based on their medians). This evidence suggests

[17] The drop in number of observations for the meeting or beating analyst forecast sample stems from the fact that I/B/E/S does not cover all Italian parents in our sample.
[18] In the interest of brevity we only include descriptive statistics for the full sample; results are qualitatively and quantitatively the same if we look only at firms for which we have analyst forecasts.

that, while the suspect subsidiaries might differ from the nonsuspect ones in their earnings management in the suspect year, they are otherwise similar.

Estimation models

Subsidiaries' normal level of accruals and cash flow from operations

Table 3 reports the mean coefficients from the first-stage regressions used to estimate the normal accruals and *CFO* and *t*-statistics calculated by using the standard error of the mean across the industry-years. The signs and magnitudes of the coefficients in Table 3 resemble those obtained by Jones (1991) and Roychowdhury (2006).

Correlations

Table 4 presents the correlations between the various variables. Consistent with previous studies, the accruals and *CFO* as percentages of total assets at the beginning of the year exhibit a strong negative correlation (−78 percent Pearson, −67 percent Spearman). *EBXI* is correlated positively with both *CFO* (40 percent Pearson, 44 percent Spearman) and *Accruals* (22 percent Pearson, 22 percent Spearman). The correlation between discretionary accruals and abnormal *CFO* is negative (−77 percent Pearson, −49 percent Spearman). This correlation can be explained by firms engaging in accrual-based earnings management and real earnings manipulation at the same time (Cohen and Zarowin 2010).

5. Results

Main test

To test Hypothesis 1, we estimate the following regression:[19]

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4\ Suspect\_PC_{i,t} + \beta_5\ Suspect\_EBXI\_SUB_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t}\,, \quad (5)$$

The dependent variable, $Y_{i,t}$, is the discretionary accruals (abnormal *CFO*) for subsidiary firm *i* in period *t*. *Suspect_PC* is an indicator variable that is set equal to one when, alternatively: (i) the parent's consolidated *EPS* is in the range [0, €0.03); (ii) the parent's consolidated Δ*EPS* is in the range [0, €0.03); or (iii) the final consensus forecast error is in the range of [0, €0.03).

To control for subsidiaries' size, we scale all of the variables, except indicators, by the subsidiaries' lagged total assets $Assets\_SUB_{t-1}$. In addition, to control for the parent's size, we include the variable *Size_PC* ($Asset\_PC/Assets\_SUB_{t-1}$), which measures the size of the parent relative to the size of the subsidiary.

To control for the systematic variation in abnormal accruals (cash flows) due to growth opportunities and profitability, the regression includes two control variables: the change in sales ($\Delta S\_SUB/Assets\_SUB_{t-1}$) scaled by the lagged assets and the return on assets ($EBXI\_SUB/Assets\_SUB_{t-1}$).[20] In equation (5) to control for the subsidiary's own earnings management incentives, we add *Suspect_EBXI_SUB*, which is an indicator variable that equals one when the subsidiary's *EBXI_SUB* (scaled by its total assets) is in the range [0, 0.01).[21] To control for innate earnings management factors (e.g., sales and cash flow

[19] We use a robust regression to control for outliers (Leone, Minutti-Meza, and Wasley 2013). Our Robust Least Square (RLS) coefficients are estimated using the R function rlm (MASS package). To compute clustered standard errors, we used exactly the same approach employed with OLS, the only difference being we replaced the usual OLS variance-covariance matrix and estimating function with the corresponding quantities coming from RLS.

[20] Roychowdhury (2006) controls for growth opportunities using the market-to-book ratio. We use sales growth because our subsidiaries are unlisted.

[21] We deflate by assets because the subsidiaries are not listed, so shares outstanding are not available.

volatility), firm differences in average discretionary accruals, and potential correlated omitted variables, we estimate the model with firm and year fixed effects; we cluster by firm and year to control for time-series and cross-sectional dependences (Gow, Ormazabal, and Taylor 2010; Petersen 2009).

Table 5 reports the primary regression results. The results provide strong evidence that private subsidiaries engage in accrual and real earnings management when the listed parent firms are reporting small annual profits or beat the analyst forecast by 3 cents per share or less. As previously noted, beating last year's earnings is not a relevant target.

When the dependent variable in (5) is discretionary accruals (Table 5, column 1), the coefficient on *Suspect_PC* is positive (0.023) and significant at the 5 percent level ($z = 2.36$). This coefficient means that a subsidiary, in the years when the parent is suspect, has abnormal accruals that are on average 2.3 percent of its total assets at the beginning of the year. This amount is economically significant, given that the median accruals across all of the nonsuspect firm-years for the subsidiaries is −2.30 percent of the total assets at the beginning of the year (see Table 2).

When the dependent variable in (5) is abnormal *CFO* (Table 5, column 2), the coefficient on *Suspect_PC* is −0.020, which resembles that found in Roychowdhury (2006) and is significant at the 5 percent level ($z = -2.01$). This coefficient implies that the subsidiaries, in firm-years when the parent is suspect, have negative abnormal *CFO* that is on average 2.0 percent of its total assets. This is also economically significant, given that the median cash flow across the rest of the subsidiaries' firm-years is 4.11 percent of the total assets as measured at the beginning of the year (see Table 2). Importantly, the coefficient on *Suspect_EBXI_SUB*, our proxy for the subsidiary's incentive to manage its own earnings, does not differ from zero (Table 5, columns 1 and 2), indicating that we are capturing the

parent's influence in determining the subsidiary's abnormal accruals and abnormal *CFO*. Table 5 columns 5 and 6 show similar results when suspect firm-years are defined as parent companies that meet or beat analyst expectations. The coefficients on *Suspect_PC* are not different than zero both for discretionary accruals and abnormal *CFO* (Table 5, columns 3 and 4), when the benchmark is last year's earnings. We do not find support for Italian parent firms using subsidiaries to beat previous year's earnings.[22]

Cross-sectional variation in the use of subsidiaries for parent earnings management

We interpret the results in Table 5 as evidence that suspect parents use their subsidiaries to manage their consolidated earnings in order to avoid losses and to beat analyst forecasts. We now focus on cross-sectional analysis to understand variation in parents' incentives for using the subsidiaries for earnings management. Based on our results above, we focus on the zero earnings and analyst forecast benchmarks. As discussed above, we use debt raised in the following year (*DebtNeed_PC*) and inventory intensity (*InvInt_PC*) to explain *why* the parent manages earnings (Hypotheses H2a and H2b), and Big 4 auditor and family-owned parent to explain *when* a parent is more likely to engage in earnings management (Hypotheses H3 and H4).

Debt incentives

To test H2a, we estimate the following regressions:

[22] We also examined whether parents manage their own earnings, by estimating (5) using the parents' unconsolidated (PU) financial statements instead of the subsidiaries'. We estimate abnormal accruals and *CFO* for the parent unconsolidated firms using equations (3) and (4), respectively, by year, with industry fixed effects. We cannot estimate separate industry regressions by year, due to having too few listed firms. Results (untabulated) show that there is no association between PU discretionary accruals and abnormal *CFO*, and the parent being suspect at the consolidated level. This implies that the parent at the unconsolidated level is not managing its own earnings. This results is consistent with our hypothesis of business groups managing earnings differently from stand-alone firms (i.e., using subsidiaries).

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \beta_5 DebtNeed\_PC_{i,t} + \beta_6 DebtNeed\_PC_{i,t} \times Suspect\_PC_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t}. \quad (6)$$

Table 6, columns 1, 3, 5, and 7 present the results of regression (6). *DebtNeed_PC* is an indicator variable that equals one when the percentage change in debt in the following year, at the parent level, is in the upper quartile and zero otherwise. Hypothesis 2a predicts that the coefficient on *DebtNeed_PC* should be positive for *DA* and negative for *AB_CFO* . When we look at the zero earnings benchmark, consistent with our hypothesis 2a, β_6 is 0.078, significant at the 1 percent level, for the discretionary accruals proxy (Table 6, column 1). For the abnormal *CFO* , β_6 is

–0.062, significant at the 5 percent level (Table 6, column 3). Table 6, columns 5 and 7, show that when the earnings benchmark is analysts' forecasts, the coefficients on *DebtNeed_PC* are insignificantly different from zero.

Supplier incentives

To test H2b we estimate the following regression:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \beta_5 InvInt\_PC_{i,t} + \beta_6 InvInt\_PC_{i,t} \times Suspect\_PC_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t}. \quad (7)$$

Table 6, columns 2, 4, 6, and 8 present the results of regression (7). *InvInt_PC* is an indicator variable that equals one when the parent's ratio of total inventory to total assets is in the upper quartile, and zero otherwise. Hypothesis 2b predicts that the coefficient on *InvInt_PC* should be positive for *DA* and negative for *AB_CFO*. When we look at the zero earnings benchmark, consistent with our hypothesis 2b, β_6 is 0.105, significant at the 1 percent level, for the discretionary accruals proxy (Table 6, column 2). For abnormal *CFO* ,

β_6 is –0.123, significant at the 1 percent level (Table 6, column 4). Columns 6 and 8 show that when the earnings benchmark is analysts' forecasts, the coefficients on *InvInt_PC* are insignificantly different from zero.

The likely reason for the insignificant β_6 coefficients for the analysts' forecast benchmark in Table 6 is that, as pointed out above, lenders and suppliers are stakeholders who use an heuristic cutoff at zero to evaluate performance.

Big 4 versus non-Big 4 auditors of suspect firms

We examine whether earnings management through the subsidiaries of suspect parents that are audited by Big 4 auditors differs from the rest of the sample firms by estimating the following regression:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \\ + \beta_5 Big4\_PC_i + \beta_6 Big4\_PC_i \times Suspect\_PC_{i,t} + \varepsilon_{i,t}. \quad (8)$$

Big4_PC is an indicator variable that equals one when the parent firm's auditor is one of the following accounting firms: Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers. The AIDA database provides only the last available auditor information. As a consequence, we assume that the firms audited by the Big 4 in 2014 choose among the Big 4 in the previous years also.[23]

Table 7 presents for both benchmarks the same evidence: Big 4 auditors reduce accrual earnings management. If we examine Table 7, column 1, when the dependent variable is abnormal accruals, the coefficient β_6 on *Big4_PC*×*Suspect_PC* is negative and significant: −0.043 (z = −2.03). This evidence is consistent with the mitigation effect of Big 4 auditors on the parent's ability to manage earnings through the subsidiary's discretionary accruals.

[23] The fact that the Big 4 indicators do not vary during the annualized period prevents us from using firm fixed effects in this model. In fact, usual estimation approaches used to remove firm fixed effects have the side effect of removing any time constant variable (Wooldridge 2012).

Because we control for the size of the parent, the Big 4 dummy is unlikely to represent a bigger firm that could have better governance.

Furthermore, as expected, the coefficient on *Big4_PC*×*Susp_PC* is not significant when abnormal *CFO* is the dependent variable (column 3) because the auditor's scrutiny should have no effect on uncovering real manipulation. In effect, *Big4_PC*×*Susp _PC* is like a "placebo" when we examine the real earnings management, so the insignificant coefficient supports our interpretation of our results.[24] Results are qualitatively the same when we look at companies that report earnings that exceed analyst expectations (Table 7 columns 5 and 7).

Family versus nonfamily suspect firms

We examine whether earnings management through the subsidiaries of suspect parents owned by a family differs from the rest of the sample firms by estimating the following regression:

$$Y_{i,t} =$$

$$\propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \quad (9)$$

$$+\beta_5 Family\_PC_i + \beta_6 Family\_PC_i \times Suspect\_PC_{i,t} + \varepsilon_{i,t} .$$

We define family-controlled parent firms, following Villalonga and Amit (2006), as those whose founder or member of the founder's family, by either blood or marriage, is an officer, director, or owner of at least 5 percent of the firm's equity, individually or as a group. Our data show that 62 percent percent of the listed parent firms in our sample are family-owned, consistent with the findings of Prencipe and Bar-Yosef (2011) and Cascino, Pugliese, Mussolino, and Sansone (2010).

[24]We also conducted a placebo test for our main test by redefining suspect as the interval to the left or to the right of the small profit interval.The results (untabulated) show that the coefficients on the redefined suspect are insignificant, increasing confidence in our interpretation of the results that the nonlisted subsidiaries engage in accrual and real earnings management only when the listed parent is suspect.

Columns 2 and 4 of Table 7 present the results for the positive earnings benchmark.[25] The coefficient on *Family_PC*×*Suspect_PC* is significantly positive, with discretionary accruals as the dependent variable, and significantly negative, with abnormal *CFO* (β_6 = 0.031 and −0.027 with z = 3.05 and −2.57, respectively), indicating that family firms are more inclined than nonfamily ones to manage earnings to avoid losses. When we examine the analyst forecast benchmark (Table 7, columns 6 and 8), the difference between family and nonfamily firms is not significant, when the dependent variable is discretionary accruals (β_6 = 0.014, z = 0.11), or abnormal *CFO* (β_6 = −0.004, z = −0.27). These results suggest that financial reporting decisions in family-controlled firms are driven by different motives than in nonfamily firms. In particular, family firms are more inclined to inflate earnings to avoid losses, but they are not motivated to manage earnings to beat analyst forecasts. [26]

Board proximity as a communication channel

Our results show that parents use subsidiaries to manage their own consolidated earnings. Earnings management by the subsidiary on behalf of the parent requires coordination, particularly in the case of real earnings management. We hypothesize that parents communicate their earnings management strategies to their subsidiaries by having representatives on the subsidiary's board, which we refer to as "board proximity." We examine this communication channel by estimating the following regression:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Susp\_PC_{i,t} + \beta_5 Board\_SUB_i + \beta_6 Board\_SUB_i \times Susp\_PC_{i,t} + \varepsilon_{i,t}. \quad (10)$$

[25] Similarly to the Big 4 dummy, the family dummy does not have variation, so we cannot use firm fixed effects in this model.

[26] As argued before family owners are long-term investors; thus, they care about the zero earnings benchmark, because it relates to terms of trade, which affects their long-term performance. However, family firms are less affected by the analysts forecast benchmark.

All variables are as before, and *Board_SUB* is an indicator variable set to one if the percentage of parent directors also holding a position in the subsidiary's board (*Parent_in_Sub_directors/ Total_Sub_directors*) is higher than 50 percent.

Table 8, columns 1 and 2, shows that board proximity is an important communication link between parents and subsidiaries for earnings management to beat the zero earnings threshold. The coefficient β_6 on *Board_SUB*×*Suspect_PC* has the expected sign and is significant at the 1 percent level, (0.039, $z = 2.91$, when the dependent variable is discretionary accruals and −0.045, $z = -4.14$ when the dependent variable is abnormal cash flow). We do not find evidence that this mechanism is used for earnings management to beat analysts' forecasts (β_6 in Table 8, columns 3 and 4, has the expected sign but it is not significant at conventional levels). These results might be related to the fact that board proximity is more prevalent in family firms than in nonfamily firms, and as shown above, family firms care about the zero earnings benchmark.

6. Conclusion

We examine earnings management in Italian business groups by focusing on the private subsidiaries of listed parent firms that just meet or beat two thresholds (zero earnings and analyst forecasts). We focus on Italy because, unlike Canada and the United States, financial information on private subsidiaries is publicly available and the characteristics of the Italian capital market, such as weak investor protection and the prevalence of family-owned firms (concentrated ownership), provide a setting where subsidiary managers are likely to manage earnings to align with the parent's goals. Although there is a great deal of literature on earnings management, ours is the first paper to examine *whether*, *why*, *when* and *how* a parent

imposes earnings management on its subsidiaries, in effect using the subsidiary to manage its consolidated earnings. To capture accrual-based earnings management, we use the cross-sectional version of the Jones model, as advanced by Kothari, Leone, and Wasley (2005). To account for real earnings management activities, we follow Roychowdhury (2006) and estimate abnormal cash flows from operations.

This paper contributes to the literature on earnings management in several ways. First, we show that parent firms use their subsidiaries when they seek to beat a threshold. Second, cross-sectional analyses reveals that Big 4 auditors at the parent level mitigate accrual earnings management at the subsidiary level and that family-owned firms are more likely to use earnings management through subsidiaries to avoid losses but not to beat analyst forecasts. Additionally, we show that parents coordinate earnings management in their subsidiaries through parent directors also holding a position on the subsidiary's board. Across all these tests, the results are consistent and comport with our main findings.

While our results might not generalize to countries where the features of the Italian setting are absent, we believe these results provide the first evidence for *whether*, *why*, *when* and *how* parent firms push earnings management down onto their subsidiaries to manage the parent's consolidated earnings. Overall, our findings show the importance of investigating the components of the consolidation process to evaluate the financial reporting quality of a firm.

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Appendix

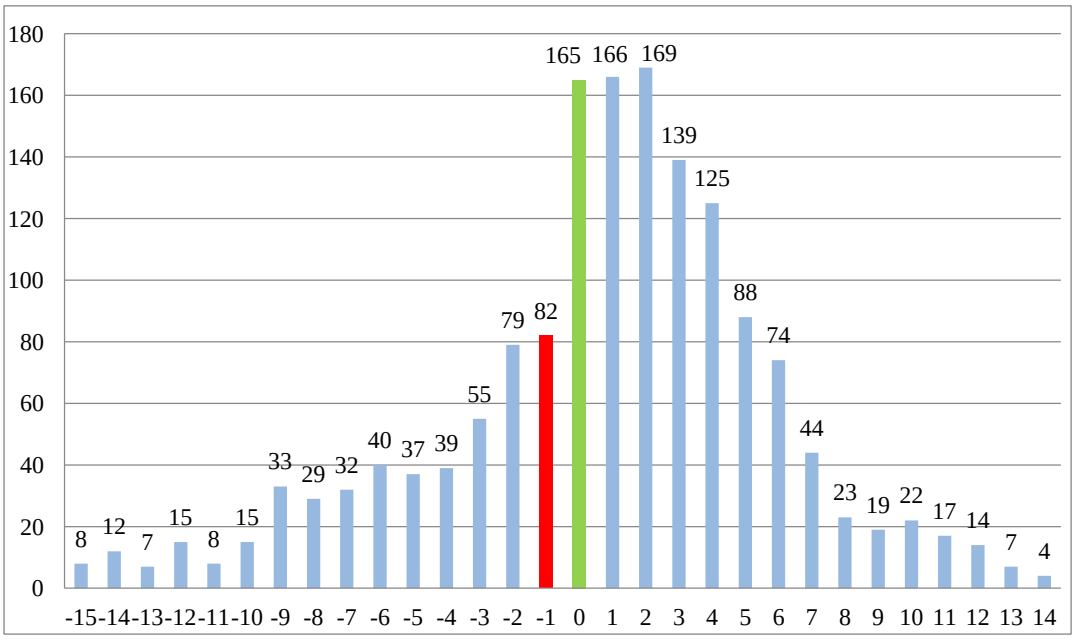
Variable Definitions

DebtNeed_PC	Percentage change in debt in the following year, at the parent consolidated level
InvInt_PC	Ratio of total inventory divided by total assets, at the parent consolidated level
Big4_PC	Dummy variable that equals one when the parent firm's auditor is one of the following accounting firms: Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers
Family_PC	Dummy variable that equals one if the founder or a member of the family by either blood or marriage is an officer, a director, or the owner of at least 5 percent of the firm's equity, individually or as a group
S_PU/S_PC	Ratio of unconsolidated sales to consolidated sales, at the parent level
Assets_PU/Assets_PC	Ratio of unconsolidated assets to consolidated assets, at the parent level
DA_SUB	Discretionary accruals measured, at the subsidiary level, as the deviations from the predicted values from the corresponding industry-year regression computed using a version of the Jones model as advanced by Kothari et al. (2005).
AB_ CFO_SUB	Abnormal cash flow from operation (CFO) measured, at the subsidiary level, following Roychowdhury (2006)
Board_SUB	Dummy variable that equals one if the percentage of parent directors holding a position also in the subsidiary (Parent_Sub directors/Total_Subs directors) is higher than 50 percent.
Assets	Total assets
Assets_SUB	Total assets at the subsidiary level
S	Sales
S_SUB	Sales from product and services at the subsidiary level
ΔS	Change in sales over the prior year
ΔS_SUB	Change in sales over the prior year, at the subsidiary level
EBXI	Earnings before extraordinary items
EBXI_SUB	Earnings before extraordinary items at the subsidiary level
TA	Total accruals definedas the change in (current assets − cash/cash equivalents) – (current liabilities – financial debt included in current liabilities) − depreciation and amortization expense;
TA_SUB	Total accruals, at the subsidiary level, defined as the change in: (current assets – cash/cash equivalents) – (current liabilities – financial debt included in current liabilities) – depreciation and amortization expense
CFO	Cash flows from operations computed as *EBXI*−Total Accruals
CFO _SUB	Cash flows from operations computed as *EBXI*−Total Accruals, at the subsidiary level
Leverage_SUB	Total liabilities divided by total assets, at the subsidiary level, at end of the year
Normal Accruals_SUB	Normal accrual calculated, at the subsidiary level, using estimated coefficients from the corresponding industry year regression computed using the a version of the Jones model as advanced by Kothari et al. (2005)
Normal CFO_SUB	Normal cash flow from operation (CFO) calculated, at the subsidiary level, using estimated coefficients from the corresponding industry year regression following Roychowdhury (2006)
PPE	Net value of total tangible and intangible assets
Suspect_PC	Dummy variable that equals one if either: - the parents' consolidated EPS is in the range [0, €0.03) and zero otherwise (*Susp_EPS_PC*) - the parents' consolidated ΔEPS is in the range [0, €0.03) and zero otherwise (*Susp_ΔEPS_PC*) - the difference between actual EPS as reported by I/B/E/S less the consensus forecast of earnings per share is in the range [0, €0.03) and zero otherwise (*Susp_MBE_PC*)
Susp_EPS_PC	Dummy variable that equals one if the parents' consolidated EPS is in the range [0, €0.03) and zero otherwise
Susp_ΔEPS_PC	Dummy variable that equals one if the change in EPS is in the range [0, €0.03) and zero otherwise

Susp_MBE_PC	Dummy variable that equals one if the difference between actual parents' EPS as reported by I/B/E/S less the consensus forecast of earnings per share is in the range [0, €0.03) and zero otherwise
Suspect_EBXI_SUB	Dummy variable that equals one if the subsidiary's *EBXI* that is scaled by the total assets is in the range [0, 0.01) and zero otherwise

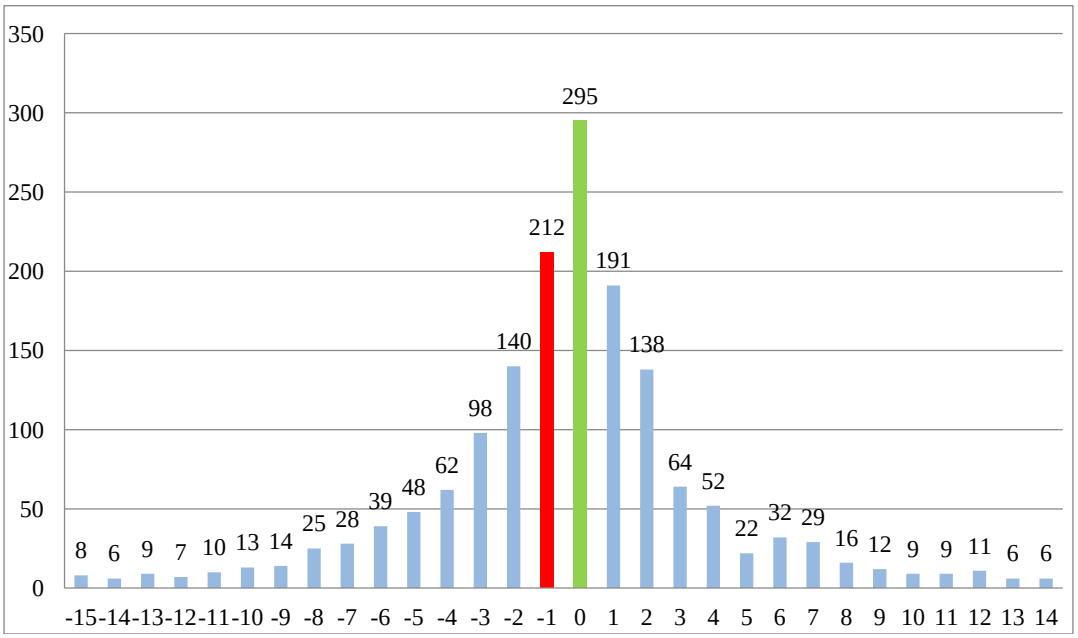
Figure 1 Beating a threshold

Panel A: The distribution of the parents' EPS



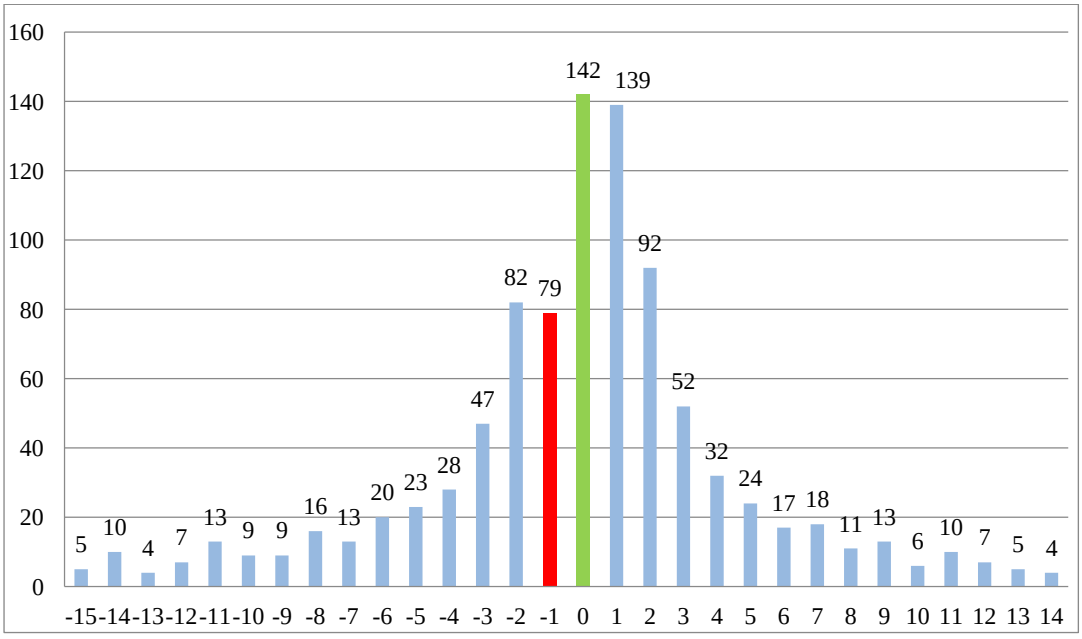
Notes: The distribution of parent consolidated EPS. The distribution interval widths are 0.03 Euro. The zero bin contains all of the observations in the interval [0, €0.03). The minus one bin contains [−€0.03, 0), and so on. The vertical axis represents the number of observations in each earnings interval (frequency for each bin). The parents' firm-years equal 1,688 over the period of 2003–2014. The figure is truncated at the two ends and contains 1,567 firm-years.

Panel B: The distribution of the parents' change in EPS



Notes: The distribution of parent consolidated ΔEPS. The distribution interval widths are 0.03 Euro. The zero bin contains all of the observations in the interval [0, €0.03). The minus one bin contains [−€0.03, 0), and so on. The vertical axis represents the number of observations in each earnings interval (frequency for each bin). The parents' firm-years equal 1,688 over the period of 2003–2014. The figure is truncated at the two ends and contains 1,611 firm-years.

Panel C: The distribution of the parents' analyst Forecast Error



Notes: The distribution of firm-year analyst forecast errors (i.e., difference in cents between reported earnings per share and the mean consensus forecast). The distribution interval widths are €0.03 Euro. The zero bin contains all of the observations in the interval [0, €0.03). The minus one bin contains [−€0.03, 0), and so on. The vertical axis represents the number of observations in each forecast error interval (frequency for each bin). The parents' firm-years equal 1,039 over the period of 2003–2014. The lower number of firm-years for the meeting/beating analyst forecast is

due to the availability of analyst forecast on I/B/E/S. The figure is truncated at the two ends and contains 937 firm-years.

TABLE 1
Sample frequency by fiscal-year, industry, threshold beaters
Panel A: Time distribution

	Zero earnings threshold and meeting/beating last year earnings		Meeting/beating analyst forecast	
Year	PC	SUB	PC	SUB
2003	106	188	56	120
2004	109	205	59	139
2005	111	217	63	144
2006	117	233	73	191
2007	133	284	91	229
2008	150	316	96	263
2009	164	335	96	256
2010	170	341	113	271
2011	163	279	103	212
2012	156	252	99	187
2013	159	284	101	214
2014	150	262	89	166
Total	**1,688**	**3,196**	**1,039**	**2,392**

Notes: **The distribution of sample firm by years. PC is the parents' consolidated financial statements, and SUB is the subsidiaries' financial statements. The lower number of firm-years for the meeting/beating analyst forecast is due to the I/B/E/S data availability.**

TABLE 1 (continued)
Panel B: Industry distribution

Industry	2-digit SIC codes	PC	SUB	%	Stand-alone sample	%
Oil and Gas	13, 29	22	27	0.84%	622	0.3%
Heavy Construction and Building	15, 16, 17	96	338	10.58%	10,703	5.7%
Food Product	20	41	57	1.78%	12,327	6.5%
Apparel and Other Textile Products	22, 23	57	53	1.66%	7,879	4.2%
Furniture and Fixtures	25	22	50	1.56%	2,973	1.6%
Printing and Publishing	27	101	329	10.29%	2,540	1.3%
Chemicals and Allied Products	28	47	66	2.07%	7,691	4.1%
Manufacturing	30-34	142	140	4.38%	32,001	17.0%
Industrial Machinery and Computer Equipment	35	125	304	9.51%	14,149	7.5%
Electronic and Other Electric Equipment	36	149	102	3.19%	6,207	3.3%
Instruments and Related Products	38	24	47	1.47%	1,748	0.9%
Miscellaneous Manufacturing	39	20	14	0.44%	1,451	0.8%
Transportation	37, 40-45	111	206	6.45%	9,970	5.3%
Communication	48	30	137	4.29%	769	0.4%
Wholesale—Durable Goods	50	72	155	4.85%	35,863	19.0%
Wholesale—Non-Durable Goods	51	23	90	2.82%	18,127	9.6%
Retail	53,54, 56,57,59	67	98	3.07%	9,530	5.1%
Operating Holding	67	351	0	0.00%	731	0.4%
Business Services	73	109	760	23.78%	7,828	4.2%
Entertainment services	70, 78, 79	32	23	0.72%	2,104	1.1%
Engineering and Management Services	87	47	200	6.26%	3,140	1.7%
TOTAL		**1,688**	**3,196**	**100.0%**	**188,353**	**100.0%**

Notes: PC is the parents' consolidated financial statements. SUB is the subsidiaries' financial statements. Stand-alone sample is made up of private firms that do not prepare a consolidated financial statement and are not subsidiaries of a parent firm, they are matched by year and two-digit SIC code with the sample of subsidiaries.

TABLE 1 (continued)
Panel C: Distribution by each threshold

	Zero earnings	Meeting/beating last year earnings	Meeting/beating analyst forecast
Parents			
Suspect	165	295	142
Nonsuspect	1,523	1,393	897
Parents final sample	1,688	1,688	1,039
Subsidiaries			
With suspect parent	288	621	296
With nonsuspect parent	2,908	2,575	2,096
Subsidiaries final sample	3,196	3,196	2,392

Notes: Number of firms-years in our sample for each threshold. The lower number of firm-years for the meeting/beating analyst forecast is due to the availability of analyst forecast on I/B/E/S.

TABLE 2
Descriptive statistics

	Suspect firm-years [0, €0.03)			Nonsuspect firm-years			Difference in	
	# Firm-years	Mean	Median	# Firm-years	Mean	Median	Means	Medians
Public listed (consolidated)								
Cross-sectional variables								
DebtNeed_PC (%)	142	1.06	0.10	1,326	1.45	0.39	-0.40***	-0.29**
InvInt_PC (%)	165	14.83	11.36	1,523	13.43	11.66	1.40***	-0.30**
BIG4_PC (%)	164	78.66		1,512	81.35		-2.69***	
Family_PC (%)	162	69.14		1,485	63.16		5.97***	
Other variables								
S_PU/S_PC (%)	142	46.06	49.19	1,328	49.47	53.54	-3.40***	-4.34**
Assets PU/Assets PC (%)	142	70.98	74.90	1,328	73.25	77.86	-2.27***	-2.96**
Private subsidiaries								
Dependent variables								
DA_SUB	288	0.01	0.00	2,908	-0.01	-0.01	0.02***	0.01**
AB_CFO_SUB	288	-0.03	-0.01	2,908	0.00	0.00	-0.03***	-0.01**
Proxy for earnings management coordination								
Board_SUB (%)	209	0.36		2,236	0.31		0.05***	
Other variables								
Assets_SUB (€ mil.)	288	351.68	19.45	2,908	119.31	18.11	232.37***	1.34**
S_SUB (€ mil.)	288	177.74	17.66	2,908	80.96	16.25	96.77***	1.41**
EBXI_SUB/Assets_SUB$_{t-1}$(%)	288	0.68	0.66	2,908	1.70	0.92	-1.01***	-0.26**
TA_SUB /Assets_SUB$_{t-1}$ (%)	288	-1.57	-1.68	2,908	-2.63	-2.30	1.07***	0.62**
CFO_SUB /Assets_SUB$_{t-1}$(%)	288	2.25	3.34	2,908	4.22	4.11	-1.97***	-0.77**
Leverage_SUB (%)	285	71.95	76.51	2,882	72.86	76.76	-0.91***	-0.25**
Normal Accruals_SUB	288	-0.03	-0.03	2,908	-0.02	-0.02	-0.01***	-0.01**
Normal CFO_SUB	288	0.05	0.05	2,908	0.04	0.04	0.01***	0.01**

***Notes:* *, **, *** represent significance levels of 10 percent, 5 percent and 1 percent, respectively. The significances of the mean and median are evaluated based on a *t*-test and a Wilcoxon test, respectively (*p*-values are for the *t*-statistics, and *z*-statistics are two-tailed). The table reports the summary statistics for the firm-years with available data. The sample period spans over a period of twelve years from 2003–2014. Suspect firm-years are the firm-years in which the parents' consolidated EPS is in the interval between 0 and €0.03. All variables are as defined in the Appendix and are winsorized at 1 percent and 99 percent.**

TABLE 3
Model parameters to estimate accruals and real earnings management

	$TA_t/Assets_{t-1}$	$CFO_t/Assets_{t-1}$
Intercept	-0.011*** (-4.69)	0.038*** (16.78)
$1/Assets_{t-1}$	0.082*** (3.90)	-0.133 *** (-5.36)
$S/Assets_{t-1}$		0.009*** (4.46)
$\Delta S/Assets_{t-1}$	0.018*** (4.72)	0.016*** (3.16)
$PPE/Assets_{t-1}$	-0.104*** (-21.39)	
$EBXI/Assets_{t-1}$	0.030*** (24.39)	
Adjusted R^2	7,99%	2.44%
# of industry-year portfolios	467	467

Notes: *, **, *** represent significance levels of 10 percent, 5 percent and 1 percent, respectively. We estimate the earnings management model using all private firms that do not prepare a consolidated financial statement and are not subsidiaries of a parent firm (i.e. stand-alone). This table reports the estimated parameters of the following regressions:

1. $TA_{i,t}/Assets_{i,t-1} = \propto_0 + \propto_1 (1/Assets_{i,t-1}) + \beta_1(\Delta S_{it}/Assets_{i,t-1}) + \beta_2(PPE_{i,t}/Assets_{i,t-1}) + \beta_3(EBXI_{i,t}/Assets_{i,t-1}) + \varepsilon_{i,t}$
2. $CFO_{i,t}/Assets_{i,t-1} = \propto_0 + \propto_1 /Assets_{i,t-1} + \beta_1(S_{i,t}/Assets_{i,t-1}) + \beta_2(\Delta S_{i,t}/Assets_{i,t-1}) + \varepsilon_{i,t}$

The regressions are estimated for every industry every year. Two-digit SIC codes are used to define industries. Industry years with fewer than 10 firms are eliminated from the sample. There are 467 separate industry years over 2003–2014. The table reports the mean coefficient across all industry years and *t*-statistics calculated using the standard error of the mean across industry years. The table also reports the average adjusted R^2s (across industry years) for each of these regressions. All variables are as defined in the Appendix.

TABLE 4
Correlation matrix

	EBXI_SUB /Assets	*CFO_SUB /Assets*	*TA_SUB /Assets*	*DA_SUB*	*AB_CFO_SUB*	*Susp_EPS_PC*	*Susp_ΔEPS_PC*	*Susp_MBE_PC*	*Big4_PC*	*Family_PC*
EBXI_SUB/Assets	-	**0.396**	**0.221**	-0.008	**0.035**	-0.006	**0.049**	**0.054**	**0.056**	**0.030**
CFO_SUB/Assets	**0.445**	-	**-0.777**	**-0.113**	**0.131**	-0.010	**0.044**	0.004	**0.035**	-0.010
TA_SUB/Assets	**0.224**	**-0.668**	-	**0.113**	**-0.114**	0.005	-0.016	**0.031**	-0.005	**0.033**
DA_SUB	**-0.025**	**-0.603**	**0.668**	-	**-0.766**	**-0.038**	-0.001	0.005	0.005	-0.020
AB_CFO_SUB	**0.366**	**0.761**	**-0.518**	**-0.494**	-	**0.031**	0.012	0.023	0.033	**-0.051**
Susp_EPS_PC	**-0.047**	**-0.027**	0.013	0.002	-0.001	-	-0.033	-0.013	-0.034	**0.068**
Susp_ΔEPS_PC	**0.078**	**0.045**	0.007	0.010	**0.060**	**-0.033**	-	**0.077**	0.015	**-0.083**
Susp_MBE_PC	**0.066**	0.014	0.022	0.002	**0.033**	-0.013	0.077	-	-0.021	**-0.047**
Big4_PC	**0.099**	**0.067**	0.000	0.001	**0.125**	**-0.034**	0.015	-0.021	-	**0.024**
Family_PC	**0.045**	-0.003	**0.041**	**-0.035**	**-0.031**	**0.068**	**-0.083**	**-0.047**	**0.024**	-

Notes: Bold denotes significant correlation coefficients at the 10 percent level. This table reports the Pearson (above diagonal) and Spearman (below diagonal) correlations for the sample of subsidiaries over 2003–2014. All variables are as defined in the Appendix.

TABLE 5
Comparison of suspect firm-years with the rest of the sample

	Zero earnings threshold		Meeting/beating last year earnings		Meeting/beating analyst forecast	
	DA_SUB (1)	*AB_CFO_SUB* (2)	*DA_SUB* (3)	*AB_CFO_SUB* (4)	*DA_SUB* (5)	*AB_CFO_SUB* (6)
Size_PC/Assets_SUB$_{t-1}$	-0.000	0.000	-0.000	0.000	-0.000	0.000
	(-0.17)	(0.28)	(-0.22)	(0.32)	(-0.06)	(0.10)
ΔS_SUB/Assets_SUB$_{t-1}$	-0.038**	0.042***	-0.038**	0.042***	-0.033**	0.032**
	(-2.54)	(2.87)	(-2.57)	(2.90)	(-2.37)	(2.29)
EBXI_SUB/Assets_SUB$_{t-1}$	0.306***	-0.385***	0.312***	-0.390***	0.336***	-0.424***
	(3.06)	(-4.18)	(3.12)	(-4.21)	(2.78)	(-3.24)
Suspect_PC	**0.023****	**-0.020****	**-0.000**	**0.001**	**0.026****	**-0.022****
	(2.36)	**(-2.01)**	**(-0.02)**	**(0.09)**	**(2.44)**	**(-2.03)**
Suspect_EBXI_SUB	0.006	-0.006	0.007	-0.007	-0.008	0.007
	(0.47)	(-0.52)	(0.54)	(-0.57)	(-0.75)	(0.56)
Firm & year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
# obs	3,196	3,196	3,196	3,196	2,392	2,392
# *Suspect_PC*	288	288	621	621	296	296
# *Suspect_EBXI_SUB*	423	423	423	423	316	316
Adj R^2	1.27%	1,66%	1.17%	1.16%	1.47%	1.62%

Notes: *, **, *** represent significance levels of 10 percent , 5 percent and 1 percent , respectively.
This table reports the results over a period of 12 years from 2003–2014. The numbers in parentheses are *z*-statistics. The regressions being estimated are of the form:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4\, Suspect\_PC_{i,t} + \beta_5\, Suspect\_EBXI\_SUB_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t}.$$

For each benchmark the respective columns presents the results of the above regression for a different dependent variable, *Discretionary Accruals* and *Abnormal CFO*. All variables are as defined in the Appendix and winsorized at 1 percent and 99 percent . Firm and year fixed effects are included in all models and standard errors are clustered by firm and year.

TABLE 6

Why parents manage earnings: Cross-sectional variation in the use of subsidiaries for the parents' earnings management

	Zero earnings threshold				Meeting/beating analyst forecast			
	DA_SUB		*AB_CFO_SUB*		*DA_SUB*		*AB_CFO_SUB*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Size_PC/Assets_SUB$_{t-1}$	-0.000	-0.000	0.000	-0.000	0.000	-0.000	-0.000	0.000
	(0.01)	(-0.17)	(0.03)	(-0.01)	(1.18)	(-0.10)	(-0.70)	(0.15)
ΔS_SUB/Assets_SUB$_{t-1}$	-0.041***	-0.057***	0.043***	0.061***	-0.033***	-0.032***	0.044***	0.033***
	(-2.88)	(-3.16)	(3.08)	(3.61)	(-2.84)	(-5.50)	(3.22)	(3.06)
EBXI_SUB/Assets_SUB$_{t-1}$	0.252**	0.285***	-0.318***	-0.351***	0.263***	0.304***	-0.319***	-0.423***
	(2.24)	(3.28)	(-2.81)	(-4.69)	(3.90)	(2.75)	(-4.04)	(-6.77)
Suspect_PC	0.012	0.008	-0.013	-0.000	0.026**	0.023**	-0.043**	-0.018
	(1.01)	(0.71)	(-1.10)	(-0.01)	(2.04)	(1.93)	(-2.39)	(-1.47)
DebtNeed_PC	-0.013		0.015		-0.001		-0.001	
	(-1.12)		(1.28)		(-0.12)		(-0.10)	
***DebtNeed_PC*×**	**0.078*** **		**-0.062** **		**0.027**		**0.006**	
Suspect_PC	**(3.04)**		**(-2.29)**		**(0.88)**		**(0.19)**	
InvInt_PC		0.007		-0.012		-0.006		0.016
		(0.23)		(-0.34)		(-0.31)		(0.07)
InvInt_PC*×*Suspect_PC		**0.105*** **		**-0.123*** **		**0.013**		**-1.83**
		(2.62)		**(-3.11)**		**(0.53)**		**(-0.71)**
Firm & year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs	2,685	3,196	2,685	3,196	2,051	2,392	2,051	2,392
# *Suspect_PC*	288	288	288	288	296	296	296	296
Adj R^2	1.21%	1.77%	1.32%	1.17%	1.19%	1.37%	1.57%	1.56%

Notes: *, **, *** represent significance levels of 10 percent , 5 percent , and 1 percent , respectively.

This table reports the results over a period of twelve years from 2003–2014. The numbers in parentheses are *z*-statistics. The regressions being estimated are of the form:

1. Odd columns:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \beta_5 DebtNeed\_PC_{i,t} + \beta_6 DebtNeed\_PC_{i,t} \times Suspect\_PC_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t};$$

2. Even columns:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Suspect\_PC_{i,t} + \beta_5 InvInt\_PC_{i,t} + \beta_6 InvInt\_PC_{i,t} \times Suspect\_PC_{i,t} + \sum_{i=1}^{n-1} \delta_i FirmFE_i + \sum_{t=1}^{T-1} \gamma_t YearFE_t + \varepsilon_{i,t}.$$

For each benchmark the respective columns presents the results of the above regression for a different dependent variable, *Discretionary Accruals* and *Abnormal CFO*. All variables are as defined in the Appendix and winsorized at 1 percent and 99 percent. Firm and year fixed effects are included in all models and standard errors are are clustered by firm and year.

TABLE 7
When parents manage earnings: Cross-sectional variation in the use of subsidiaries for the parents' earnings management

	Zero earnings threshold				Meeting/beating analyst forecast			
	DA_SUB		*AB_CFO_SUB*		*DA_SUB*		*AB_CFO_SUB*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	0.027*	-0.012*	-0.026	0.015**	-0.009	-0.008*	0.010	0.009**
	(1.77)	(-1.77)	(-1.50)	(2.04)	(-1.00)	(-1.89)	(1.34)	(2.08)
Size_PC/Assets$_{t-1}$	0.000	0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.000
	(0.64)	(0.66)	(-0.86)	(-1.03)	(0.96)	(0.61)	(-1.12)	(-0.89)
ΔS_SUB/Assets$_{t-1}$	-0.014	-0.015	0.019	0.020***	-0.027*	-0.017*	0.027	0.017
	(-2.24)	(-1.26)	(1.61)	(1.75)	(-1.84)	(-1.65)	(1.62)	(1.37)
EBXI_SUB /Assets$_{t-1}$	0.019	0.026	-0.122***	-0.129***	0.025	0.026	-0.120***	-0.123**
	(0.52)	(0.73)	(-3.18)	(-3.21)	(0.55)	(0.71)	(-2.72)	(-2.93)
Suspect_PC	0.056***	-0.005	-0.050**	0.005	0.198**	0.009**	-0.198*	-0.010
	(3.28)	(-0.76)	(-2.35)	(0.93)	(2.40)	(2.33)	(-2.06)	(-1.14)
Big4_PC	-0.030**		0.030*		-0.002		-0.001	
	(-2.09)		(1.85)		(-0.19)		(-0.09)	
Big4_PC*×*Suspect_PC	**-0.043****		**0.044**		**-0.186****		**0.184**	
	(-2.03)		**(1.56)**		**(-2.22)**		**(1.62)**	
Family_PC		0.021*		-0.024**		0.001		-0.007
		(1.84)		(-2.00)		(0.04)		(-0.87)
Family_PC*×*Suspect_PC		**0.031*****		**-0.027*****		**0.014**		**-0.004**
		(3.05)		**(-2.57)**		**(0.11)**		**(-0.27)**
# obs	3,196	3,127	3,196	3,127	2,392	2,368	2,392	2,368
# *Suspect_PC*	288	283	288	283	296	290	296	290
# *Suspect_PC* & *Big4*	233		233		247		247	
# *Suspect_PC* & *Family*		211		211		150		150
Adj R^2	0.22%	0.25%	0.79%	0.83%	1.13%	0.42%	1.53%	0.63%

Notes: *, **, *** represent significance levels of 10 percent , 5 percent , and 1 percent , respectively.
This table reports the results over a period of twelve years from 2003–2014. The numbers in parentheses are *z*-statistics.
The regressions being estimated are of the form:

1. Odd columns:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4\, Suspect\_PC_{i,t} + \beta_5 Big4\_PC_i + \beta_6 Big4\_PC_i * Suspect\_PC_{i,t} + \varepsilon_{i,t};$$

2. Even columns:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4\, Suspect\_PC_{i,t} + \beta_5 Family\_PC_i + \beta_6 Family\_PC_i * Suspect\_PC_{i,t} + \varepsilon_{i,t}.$$

For each benchmark the respective columns presents the results of the above regression for a different dependent variable, *Discretionary Accruals* and *Abnormal CFO*. All variables are as defined in the Appendix and winsorized at 1 percent and 99 percent. The standard errors are are clustered by firm and fiscal year.

TABLE 8
Board proximity as communication channel

	Zero earnings threshold		Meeting/beating analyst forecast	
	DA_SUB	*AB_CFO_SUB*	*DA_SUB*	*AB_CFO_SUB*
	(1)	(2)	(3)	(4)
Intercept	-0.006	0.008	-0.011	0.010
	(-0.93)	(1.16)	(-1.59)	(1.58)
Size_PC/Assets$_{t-1}$	0.000	-0.000	0.000	-0.000
	(0.58)	(-0.98)	(0.67)	(-1.24)
ΔS_SUB/Assets$_{t-1}$	-0.020**	0.024*	-0.026*	0.025**
	(-1.43)	(1.75)	(-1.69)	(1.99)
EBXI_SUB /Assets$_{t-1}$	-0.016	-0.091*	-0.027	-0.066
	(-0.33)	(-1.85)	(-0.41)	(-1.13)
Suspect_PC	0.005	-0.001	0.020*	-0.022**
	(0.90)	(0.29)	(1.93)	(-2.31)
Board_SUB	0.036***	-0.040***	0.013*	-0.014*
	(2.84)	(-3.58)	(1.91)	(-1.79)
Board_SUB×Susp_PC	**0.039*** **	**-0.045*** **	**0.015**	**-0.023**
	(2.91)	**(-4.14)**	**(0.38)**	**(-0.72)**
# obs	2,445	2,445	1.874	1.874
# *Suspect_PC*	209	209	230	230
# *Susp* & *Board*	75	75	63	63
Adj R^2	0.63%	0.90%	0.40%	0.44%

Notes: *, **, *** represent significance levels of 10 percent, 5 percent, and 1 percent, respectively.
This table reports the results over a period of twelve years from 2003–2014. The numbers in parentheses are *z*-statistics.
The regression being estimated are of the form:

$$Y_{i,t} = \propto_0 + \beta_1 Size\_PC_{i,t} + \beta_2 \Delta S\_SUB_{i,t} + \beta_3 EBXI\_SUB_{i,t} + \beta_4 Susp\_PC_{i,t} + \beta_5 Board\_SUB_i + \beta_6 Board\_SUB_i \times Susp\_PC_{i,t} + \varepsilon_{i,t}.$$

For each benchmark the respective columns presents the results of the above regression for a different dependent variable, *Discretionary Accruals* and *Abnormal CFO*. All variables are as defined in the Appendix and winsorized at 1 percent and 99 percent. The standard errors are are clustered by firm and fiscal year.