

Related Party Transactions and Earnings Quality: The Moderating Role of Female Directors

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ABSTRACT

Purpose

This study aims to analyse the effect of related party transactions (RPTs) on earnings quality in a sample of Spanish-listed firms as well as the moderating role played by female directors in the relationship between RPTs and earnings quality.

Design/methodology/approach

Our sample includes non-financial Spanish listed firms from 2005 to 2019. We use panel data analysis based on the firm fixed-effect estimator (FE). Additionally, we use the two-step system GMM estimator to test the robustness of our results.

Findings

Our results show a negative effect of RPTs on earnings quality. Further analysis reveals that the negative effect is mainly driven by transactions between the firm and its directors and major shareholders as well as by RPTs that are more likely to reflect insiders' self-interest. Moreover, we show that the presence of female directors reduces the negative impact of RPTs on earnings quality.

Practical implications

Our study provides practical implications for investors, auditors, and policymakers, who should be aware that RPTs might harm earnings quality and adversely affect the flow of financial capital to promising investment opportunities. Additionally, our study evidences the key governance role played by female directors regarding financial reporting policies as RPTs increase.

Social implications

Our findings promote the need for a higher representation of women in leadership positions since we reveal the key governance role played by female directors regarding financial reporting policies as RPTs increase.

Originality/value

The results to emerge from the study complement available evidence concerning the effect of RPTs on earnings quality in a continental European country. We also provide novel evidence vis-à-vis the role of female directors in the relationship between RPTs and earnings quality.

Keywords: related party transactions, earnings quality, controlling shareholders, tunnelling, female directors

Paper type: Research paper

1. Introduction

Financial scandals in recent decades have threatened the credibility of financial reporting. In such a context, RPTs have been a major concern (Ferrarini and Giudici, 2005; Gordon *et al.*, 2004; Gordon *et al.*, 2007; Kahle and Shastri, 2004). These diverse and often complex transactions have attracted academics' and policy-makers' attention, and regulation thereof has become a priority in the international agenda.

Although RPTs may be efficient transactions and may even prove crucial to the firm's long-term survival in the presence of poorly functioning institutions or during a financial crisis (Chang and Hong, 2000; Khanna and Palepu, 2000), previous studies have also highlighted significant risks associated with RPTs. Several studies evidence that RPTs are widely associated with tunnelling (Berkman *et al.*, 2009; Bertrand *et al.*, 2002; Gupta and Maheshwari, 2022; Johnson *et al.*, 2000), and international standards on auditing state that fraud may be more easily committed through RPTs (ISA 550).

Previous studies posit that RPTs provide insiders with a channel to pursue certain short-term objectives in particular settings where insiders have incremental incentives to resort to earnings management in order to meet regulatory requirements and/or maintain their listing status (Jian and Wong, 2010; Aharony et al., 2010), whereas others adopt a different perspective and provide evidence concerning what effect RPTs have on earnings quality (Ge *et al.*, 2010; Kohlbeck and Mayhew, 2017; Jian and Wong, 2010; Rahmat, Ahmed, and Lobo, 2020; Rahmat, Muniandy, and Ahmed, 2020; Wang and Yuan, 2012; El-Helaly, 2016; Chen et al., 2020). However, in the context of this latter group of studies, the available evidence is generally recent and far from conclusive. Chen *et al.* (2020) conclude that non-operating RPTs in affiliated firms reduce earnings quality whereas related party sales in affiliated companies improve earnings quality. Additionally, in the Greek context, El-Helaly (2016) finds no significant difference in earnings quality between listed firms with and without RPTs. Moreover, some previous studies centre their analysis on certain RPTs, such as transactions in affiliated firms (Chen et al., 2020). These differ substantially from the ones that prevail in the Spanish context, which are transactions with blockholders (Bona et al., 2017). This is particularly important because not all RPTs pursue the same purpose and while some might induce expropriation, others might seek legitimate business purposes. Finally, some previous studies (Rahmat, Ahmed, and Lobo, 2020; Rahmat, Muniandy, and Ahmed, 2020) adopt a cross-country perspective, which makes interpreting the results difficult due to the complexity of disentangling firm-level from country-level effects (King and Santor, 2008; Miller, 2004).

In line with the above, the existing literature shows a clear gap, since it fails to present a comprehensive understanding of the global impact of related party transactions on earnings quality. Exploring what effect RPTs have on earnings quality in the Spanish context is thus an interesting and unresolved research question. In the current study, we investigate the effect of RPTs on earnings quality in a sample of Spanish listed firms from 2005 to 2019. Our results show that firms exhibit lower earnings quality as RPTs increase. Further analysis reveals that the negative effect of RPTs on earnings quality is mainly driven by transactions between the firm and its directors and major shareholders as well as by RPTs that are more likely to capture opportunistic insider behaviour (Tone transactions) [1] rather than normal business transactions. Our results are consistent with controlling owners' supplying less earnings quality as RPTs increase in an effort to conceal opportunistic use of these internal transactions in order to escape needless scrutiny from market participants and regulators. Our results are thus consistent with RPTs creating incentives in controlling shareholders to manage earnings for their private gains. We also show that the presence of women on the board of directors mitigates the negative effect of RPTs on earnings quality. The results are consistent with female directors being an effective corporate governance mechanism regarding financial reporting policies as RPTs increase.

Our study contributes to previous literature in several ways. First, we add to studies which explore the effect of RPTs on earnings quality in a setting characterized by weak investor protection, low litigation risk, and the presence of dominant shareholders (Djankov et al., 2008; La Porta et al., 1998), where state ownership is almost non-existent among listed firms and where companies prioritise business goals. In such a context, accounting

information does not prove key to reducing the agency conflict between shareholders and managers. Rather, greater transparency comes at the cost of reducing the controlling owner's private benefits of control, which might be high in the presence of RPTs. Our study thus provides an incremental contribution to previous studies that have mainly been carried out in East Asia and the US setting. Since ownership concentration is the norm rather than the exception (La Porta et al., 2002), our focus enlarges the scope of the resulting outcomes.

Additionally, our study focuses on all significant RPTs and thus helps to provide a global picture of the impact of RPTs on earnings quality. This is particularly important since not all RPTs pursue the same purpose, and while some might induce expropriation, others might seek legitimate business purposes. Our study thus adds to the existing body of literature by showing that the effect of RPTs on earnings quality in a continental European setting is not straightforward but depends on the nature of the RPTs and the related party involved in the internal dealing. Our results therefore stress the need to pay particular attention to Tone transactions as well as RPTs with directors and major shareholders. Finally, we also contribute to studies exploring the role of corporate governance mechanisms by extending the debate concerning the governance role of female directors in particular settings. As far as we know, this is the first study to examine the effect of board gender diversity on the relation between RPTs and earnings quality in a continental European context. We therefore provide novel evidence on this issue by showing that female directors fulfil an effective governance role regarding corporate financial reporting policies as RPTs increase.

The rest of the study is organized as follows. The following section describes the institutional background. Section 3 presents the theoretical background and section 4

provides the literature review and hypothesis development. In section 5, we set out our research design, while section 6 presents our findings. In section 7, we run our sensitivity analyses and, in section 8 we report further analyses. Finally, section 9 presents the conclusions.

2. Institutional background

Financial scandals in the 2000s have emphasized the debate concerning the need for greater transparency to protect external investors. The key role played by RPTs in previous scandals has increased regulators' concerns regarding these transactions and have made them a priority in policymakers' agendas (Ge *et al.*, 2010; Kohlbeck and Mayhew, 2010; OECD, 2012). Many legal systems have now adopted International Financial Reporting Standards (IFRS), thereby ensuring there is substantial consensus when defining related parties and RPTs, with Spain's being one such legal system. Since 2005, all Spanish listed firms must prepare their consolidated financial statements in accordance with IFRS. Additionally, numerous regulations regarding RPTs, aimed at both enhancing transparency and reducing agency conflicts, have been passed at the national level.

In this sense, Law 44/2002 concerning the Measures for the Reform of the Financial System extends Article 35 of Stock Market Law 24/1988 by including a requirement for listed companies to disclose all RPTs in their semi-annual financial report. Moreover, this regulation also requires Spanish listed companies to provide individual information on all significant RPTs. According to Order EHA/3050/2004, of September 15th, concerning the RPT information that companies must provide when issuing securities admitted to trading on official secondary markets, transactions exceeding the company's ordinary course of

business and which are deemed significant in terms of their amount –and which fit within the parameters set out in Directive 2002/87/EC of December 16th– shall be considered significant RPTs by their amount, as established by the National Securities Market Commission. Additionally, transactions involving members of the board of directors and the issuing company or any affiliated company –whether directly or indirectly– shall be considered relevant for a proper understanding of periodic public information, provided that they do not fall within the scope of the ordinary course of business and are not carried out under normal market conditions. In this context, Directive 2002/87/EC (the European Parliament and Council Directive) states that a transaction shall be presumed to be significant if its amount exceeds at least 5% of the company's own resources.

Moreover, the Unified Good Governance Code of Listed Companies (2006) –which includes OECD principles and European Commission recommendations– advocates that RPTs should be approved by the whole board of directors, subsequent to the audit committee's favourable report. However, this approval is not necessary for RPTs that simultaneously meet the following three criteria:

1. Transactions carried out under contracts whose conditions are standardized and applied *en masse* to a large number of customers.

2. Transactions conducted at market rates, generally established by a supplier of the good or service in question.

3. The amount of the transactions does not exceed one per cent of the company's annual income.

These recommendations –included in the Unified Good Governance Code of Listed Companies– became mandatory in 2014 under the modification of Spanish Corporate Law (art. 529 ter.) approved by Royal Legislative Decree 1/2010. In this sense, as the purpose of this regulation is to reduce the inappropriate use of RPTs, features of the transactions exempt from board approval make them less likely to be used for opportunistic purposes.

Spanish regulation thus aims to reduce agency conflicts associated with RPTs by enhancing transparency and supervision of these transactions. However, in addition to regulation, the institutional setting may also play an important role in shaping insiders' incentives to engage in RPTs (Jorgensen and Morley, 2017), thereby affecting financial reporting policies. In this line, Ball *et al.* (2003) document that the incentives of financial statement preparers play an essential role in shaping earnings quality.

In this sense, ownership concentration, as a consequence of the low investor protection provided by the Spanish institutional setting (Cuervo, 2002; Djankov *et al.*, 2008; La Porta *et al.*, 1999; Ruiz-Mallorquí and Santana-Martín, 2011; Santana-Martín and Aguiar-Díaz, 2006), will increase controlling shareholders' incentives to closely supervise managers. This will reduce the agency conflict between managers and shareholders, which is traditional in US firms (*e.g.*, Fama, 1980; Fama and Jensen, 1983), but will increase the risk of expropriation of minority shareholders by controlling owners (La Porta *et al.*, 2000; Villalonga and Amit, 2006). Moreover, the presence of pyramidal structures, which allow the dominant shareholder to separate voting from cash flow rights, may exacerbate this latter agency conflict (Aguiar-Díaz, and Santana-Martín, 2008; Santana-Martín and Aguiar-Díaz, 2006). In a context where both investor protection and litigation risk are low, controlling

shareholders' incentives to engage in opportunistic RPTs might thus increase, because this opportunistic use of RPTs is less likely to be pursued and penalized.

Elistratova *et al.* (2016) posit that over half of Spanish listed firms engaged in RPTs and that most of these internal transactions are carried out between firms and their directors and major shareholders (Elistratova *et al.*, 2022). RPTs undertaken by Spanish listed firms thus differ from those analysed in other studies (Chen *et al.*, 2020) that focus solely on related transactions in affiliated firms which are mostly eliminated in the consolidation process. This difference is important, since anecdotal and empirical evidence shows that transactions with directors and controlling shareholders –particularly loans– involve a greater risk of insider opportunism (Kohlbeck and Mayhew, 2010; 2017; OECD, 2012). All of the above makes an analysis of the effect of RPTs on earnings quality in the Spanish setting a particularly interesting research topic.

3. Theoretical background

Different motivations might lead firms to commit to RPTs. According to the contracting theory, RPTs can be part of an efficient contracting strategy (Coase, 1937; Williamson, 1964), which could be particularly important in settings where external funds are uncertain and costly. In such a setting, internal dealings can provide firms with a promising and cost-effective alternative to reduce financing frictions and promote financial flexibility, which may help deserving projects to be financed (Khanna and Palepu, 1997). According to this view, RPTs can be considered an efficient instrument for meeting specific economic needs and for dealing with market imperfections –decreasing transaction costs (Gordon *et al.*, 2004). Wong *et al.* (2015) show that intragroup sales improve firm value in

the Chinese context. Similarly, Wang *et al.* (2019) find a positive relation between RPTs and firm performance in the Taiwanese setting. Finally, Chang and Hong (2000) reveal that Korean business groups engage in RPTs to minimize the transaction costs that stem from market inefficiencies.

However, according to the agency theory, RPTs might also promote agency conflicts between managers and shareholders because the former might commit to RPTs for their own benefit at the expense of shareholder wealth. Previous literature has evidenced that RPTs provide insiders with a channel to pursue certain short-term objectives (Aharony *et al.*, 2010; Jian and Wong, 2010). Berkman *et al.* (2009) document that Chinese controlling blockholders use RPTs to expropriate minority shareholders' wealth. In the US, Kohlbeck and Mayhew (2010) find that RPT firms exhibit lower firm value and marginally lower subsequent returns than non-RPT firms. Also in the US, Ryngaert and Thomas (2012) evidence that ex-ante transactions which predate the counterparty becoming a related party are not associated with firm performance and increase firm value. However, ex-post RPTs – after a party becomes a related party– have a negative relation with the firm's profitability and share prices, and increase the likelihood of financial distress.

However, the effect of RPTs on earnings quality is not so straightforward and requires careful consideration of the different channels through which RPTs would affect the supply and demand of financial reporting quality. According to the agency theory, RPTs might thus affect the supply of earnings quality by increasing insider agents' incentives to expropriate shareholders' wealth and, consequently, influence their incentives to report lower earnings

quality in order to mask this non-value maximizing behaviour in an attempt to reduce public scrutiny and the possibility of outside interference.

From a different perspective, the contracting theory can also provide a rationale for the relation between RPTs and earnings quality because RPTs might also affect the demand for earnings quality. Internal dealings might reduce transaction costs (Jian and Wong, 2010, Khanna and Palepu, 2000) by creating internal capital markets which decrease the firm's exposure to external contracting. In the presence of these internal capital markets, managers increase their incentives to share information with the controlling shareholder, making information asymmetries between managers and shareholders more likely to be resolved by private communication channels (Bona *et al.*, 2011). This decrease in external contracting therefore reduces the demands for earnings quality as a way to resolve information asymmetries between managers and shareholders. Rahmat, Muniandy and Ahmed (2020) posit that features of the institutional setting clearly shape the effect of RPTs on earnings quality, such that it is important to consider these features in order to obtain a clear picture of the previous relation. In the next section, we revise the previous literature and develop our hypotheses concerning the effect of RPTs on earnings quality in the Spanish context.

4. Literature review and hypotheses development

One recent stream of research has considered the implications of RPTs for financial reporting quality. Cullinan *et al.* (2006) find that US listed companies that granted loans to their executives are more likely to misstate their financial statements. Aharony *et al.* (2010) show that Chinese firms use related party sales of goods and services to manage earnings upwards in the pre-IPO period, with these activities being motivated by tunnelling

opportunities through the non-repayment of corporate loans in the post-IPO period. Ge *et al.* (2010) find that the reported earnings of Chinese listed firms selling goods or assets to related parties exhibit a lower valuation coefficient than those of firms without such transactions. Jian and Wong (2010) find that controlling shareholders in Chinese listed firms use abnormal related party sales to prop up firms' earnings. Wang and Yuan (2012) find that earnings of Chinese listed firms who engage in related party sales are at least 33% less informative than earnings of firms that do not commit to this type of transaction. The authors also document that financial analysts provide less accurate and more optimistic earnings forecasts for firms with more related party sales. Their results thus provide evidence of the negative impact of RPTs on the usefulness of accounting earnings to investors and financial analysts. In the US, Kohlbeck and Mayhew (2017) find that RPTs can serve as a "red flag" to signal potential financial misstatement.

In a cross-country study, Rahmat, Muniandy and Ahmed (2020) explore the effect of RPTs on discretionary accruals, with the authors finding a positive relation between the two variables. According to the authors, previous results are consistent with controlling shareholders using earnings management to mask minority shareholders' wealth expropriation activities through RPTs, thereby contributing to reducing earnings quality. In a similar cross-country study, Rahmat, Ahmed and Lobo (2020) evidence a negative effect of RPTs on earnings informativeness. Their results are consistent with market participants perceiving RPTs as opportunistic, and consequently giving less credibility to these firms' earnings. Additionally, the authors find that a higher level of investor protection moderates this negative effect. However, in the case of Taiwan, Chen *et al.* (2020) find that related party

sales in affiliated firms enhance the informativeness of future earnings, while related party non-operating revenue in affiliated firms deteriorates the informativeness of current and future earnings. According to the authors, non-operating income will make the firm record a transitory item in earnings which will introduce noise into current earnings, weakening their ability to predict future cash flows. In contrast, in the authors' view, related party sales might reflect a long-term contracting relation which encourages certain private knowledge about future earnings, thereby increasing earnings informativeness. Focusing on Greek listed firms, El-Helaly (2016) finds no significant difference in earnings quality between firms with and without material RPTs. The author attributes the findings to these firms' preference for real earnings management instead of accrual earnings management or to the particular ownership structure of Greek firms. Greece's stock market is dominated by family firms, and family members are usually involved in firms' management, which may reduce the agency conflict between managers and shareholders. According to the author, the results show that the opportunistic behaviour of managers might not be prevailing.

As shown, studies analysing the relation between RPTs and earnings quality are scarce, and are mainly based on the US and East Asian countries or even adopt an international perspective, which makes it hard to disentangle firm-level from country-level effects. According to the above, the findings concerning what impact RPTs have on earnings quality are far from conclusive. Moreover, while some previous studies focus on related transactions in affiliated firms (Chen *et al.*, 2020), in the Spanish setting, transactions with directors and major shareholders prevail (Elistratova *et al.*, 2022). This is particularly important because previous empirical studies have provided evidence that transactions with

directors and major shareholders –particularly loans– involve a greater risk of insider opportunism (Kohlbeck and Mayhew, 2010; 2017; OECD, 2012). All of the above highlights the difficulty in extrapolating the results from previous studies to the Spanish context, since prior differences might translate to key variations in internal agents’ incentives to alter accounting earnings.

In this sense, the Spanish legal system provides relatively weak protection for minority shareholders’ rights, such that ownership concentration becomes prevalent (Cuervo, 2002; Djankov *et al.*, 2008; Faccio and Lang, 2002; La Porta *et al.*, 1999; La Porta *et al.*, 1998). Since dominant owners possess non-diversified wealth and show a long-term investment horizon, they have great incentives to supervise managers’ opportunistic use of RPTs. Closer monitoring by dominant owners is thus expected to reduce managers’ opportunistic use of RPTs.

However, the described setting might increase agency conflicts between controlling and minority shareholders because the former may engage in opportunistic RPTs in an effort to expropriate minority shareholders’ wealth (Berkman *et al.*, 2009; Djankov *et al.*, 2008). At this point, it is important to acknowledge that when an owner effectively controls a firm, they also control its financial reporting policies. As a result, when shedding light on what effect RPTs have on earnings quality in the Spanish setting, it is important to further our knowledge on how these internal transactions might shape the controlling shareholders’ incentives to alter financial reporting quality, since agency conflicts between controlling and minority owners constitute the main agency conflict among Spanish listed firms (Cuervo, 2002). There is anecdotal evidence concerning the use of RPTs as a tunnelling device in

continental Europe. One example is the Parmalat case, where the controlling family used RPTs to increase income that was later diverted from the firm to other companies directly owned by the controlling family (Enriques and Volpin, 2007). Another case is that of Pescanova, where the company chairman, together with other board members, masked the company's true financial situation by using fraudulent transactions with related parties in order to access bank finance and attract private investors. In the academic field, Bona *et al.* (2017) find that transactions with blockholders negatively affect firm value in the Spanish context.

In the Spanish setting, RPTs could affect the demand and supply of quality financial reporting in different ways. The low litigation risk and investor protection that characterize the Spanish setting (Djankov *et al.*, 2008) make dominant shareholders less likely to be sued when engaging in opportunistic RPTs. In such a context, dominant shareholder incentives to expropriate minority shareholder wealth through RPTs are likely to be greater, and controlling shareholders might increase their incentives to alter accounting earnings in order to conceal their expropriation activities through RPTs in an attempt to protect their reputation and reduce the probability of outside interference. This in turn helps dominant shareholders to maintain this favourable position and to safeguard their reputation. This seems particularly important in a context where contracts are primarily organised based on relationships rather than on market mechanisms, such that company reputation becomes critical to successfully concluding not only market-based but also relationship-based contracting (La Porta *et al.*, 2000). Such action is still compatible with dominant shareholders trying to engage in long-term projects that improve firm value. Even though current accruals will reverse in the future,

the adverse effect of this reversal will be counterbalanced by the likely positive earnings provided by long-term projects (Bona *et al.*, 2011). Consequently, according to this supply perspective, a negative relation between RPTs and earnings quality is anticipated in the Spanish context.

From a different perspective, previous studies have pointed out that market demand can also shape the quality of financial reporting (Ball and Shivakumar, 2005). According to this view, if—as previously stated—RPTs are associated with the supply of lower earnings quality, users of financial statements will increase their demands for earnings quality if they perceive that these firms are associated with inferior corporate governance and a higher risk of insider wealth expropriation. Although at this point one might argue that insider agents will increase their incentives to meet these demands in exchange for better contracting terms, such as a lower cost of capital, this might not be the case in Spanish firms who commit to RPTs. In the Spanish context, where investor protection is weak and capital markets show limited development (Djankov *et al.*, 2008; Faccio and Lang, 2002), RPTs might thus contribute to reducing transaction costs (Jian and Wong, 2010, Khanna and Palepu, 2000) by creating internal capital markets. These internal markets provide the company with an alternative and less costly source to finance new growth opportunities without the need to resort to external capital markets. This reduces controlling shareholders' incentives to meet external users' demands for earnings quality in exchange for better contracting terms in firms who commit to RPTs. In the considered setting, earnings quality provides lower benefits and comes at the cost of greater scrutiny over the controlling owners' opportunistic use of RPTs.

According to the above, and in line with the “supply perspective”, this “demand perspective” also predicts a lower effect of RPTs on earnings quality.

Considering all of the above, we predict the following hypothesis:

H1. RPTs reduce earnings quality.

Board composition can play an important governance role in constraining agency problems derived from the separation between ownership and control (Beasley, 1996; Peasnell *et al.*, 2005; Davidson *et al.*, 2005; Klein, 2002). In particular, the presence of women directors may help to reduce agency conflicts due to their more ethical, people-oriented and democratic leadership style (Bernardi *et al.*, 2009; Thiruvadi and Huang, 2011; Eagly and Johnson, 1990; Osland *et al.*, 1998). Previous studies generally agree on the superior monitoring ability of female directors (Adams and Ferreira, 2009; Agyemang-Mintah and Schadewitz, 2019; Damak, 2018; Guizani and Abdalkrim, 2021; Harakeh *et al.*, 2019; Lucas *et al.*, 2015; Nekhili *et al.*, 2021; Nielsen and Huse, 2010; Ongsakul *et al.*, 2021; Orazalin, 2020; Sial *et al.*, 2019; Srinidhi *et al.*, 2011).

As regards corporate financial reporting, Thiruvadi and Huang (2011) find that audit committee gender diversity increases earnings quality in US listed firms. Moreover, the authors also observe a positive relation between audit committee gender diversity and audit committee meeting frequency. In the UK, Arun *et al.* (2015) find that female directors have a positive effect on earnings quality by restraining earnings management. In a similar vein, Gull *et al.* (2018) provide evidence of a negative relation between female directors and earnings management. Critically, the authors also show that the governance role of female

directors is highly dependent on their business expertise and their membership of the audit committee. These findings are supported by Zalata *et al.* (2022) who reveal that the presence of female directors on the audit committee reduces earnings management in US firms, with this effect being driven by female directors' financial background. Zalata, Ntim, Aboud *et al.* (2019) find that while female and male CEOs increase earnings management during the pre-SOX period, this declines significantly following the passage of SOX in firms with female CEOs. The authors attribute their results to female CEO risk-aversion. Zalata, Ntim, Choudhry *et al.* (2019) posit that while female directors who act as monitors restrain earnings management, advisory female directors have no significant effect on managerial opportunism. When adopting a cross-country perspective, Kyaw *et al.* (2015) find that gender diversity reduces earning management in European countries, albeit only in those where there is high gender equality. The authors argue that the level of women's rights empowered by the institutional setup promotes such an effect.

However, no previous study has considered how female directors might affect the relation between RPTs and earnings quality. In the current paper, we thus extend previous literature by providing novel evidence on the issue. Since features of the Spanish context might contribute to reducing earnings quality in firms who commit to RPTs, we thus expect female directors –due to their greater monitoring ability– to help reduce controlling shareholders' incentives to opportunistically use RPTs and therefore moderate the negative effect of RPTs on earnings quality. We thus state our second hypothesis as follows:

H2. Female directors moderate the negative effect of RPT on earnings quality.

5. Research design

5.1 Sample

We initially consider all Spanish non-financial listed firms (112 firms). We then eliminate firms that lack financial information in the Osiris database by Moody's (13 firms). Most of these 13 firms were not included in the Osiris database because they had not been listed for at least one year. Our sample thus includes a non-balanced panel of 99 firms from 2005 to 2019 (1,199 firm-year observations). We select 2005 as the starting point of our analysis period because it was the year when International Financial Reporting Standards became mandatory for all listed firms in Spain. In order to eliminate outliers, our variables are winsorized top and bottom at 1%. Table I shows the sample selection process in tabular form.

[Table I near here]

5.2 Independent variables

Data on RPTs were hand-collected from the ACGR. We collected all RPTs disclosed by firms, distinguishing them according to the nature of the transaction and the related party involved. We then follow previous literature by defining RPT as the aggregated monetary value of a firm's RPTs deflated by the firm's total assets (*e.g.*, Al-Dhamari *et al.*, 2018; Habib *et al.*, 2017).

5.3 Dependent variable

We consider two widely used proxies for earnings quality; earnings management, and earnings informativeness (Ali *et al.*, 2007; Bona *et al.*, 2007; Deng *et al.*, 2017; Fan and Wong, 2002; Wang, 2006; Zhao and Chen, 2009). We follow the method proposed by Jones (1991) and modified by Dechow *et al.* (1996) and Kothari *et al.* (2005) to obtain the absolute

value of discretionary accruals (ADA) as our first proxy for earnings quality (Appendix A, Eq. A 1 and Eq. A 2). According to this method, a low ADA value indicates a high quality of reported earnings. To obtain our second measure for earnings quality (CAR) we measure the informativeness of accounting earnings by examining the earnings response coefficient from a regression of cumulative abnormal stock returns on net income (Appendix A, Eq. A 3). The coefficient on net income would reveal that the market incorporates earnings credibility into the price formation process.

5.4 Moderating variable

Data on board gender diversity was collected from the firms' ACGR. We define the gender diversity variable as B_GEN_IND, which takes the value 1 if there is at least one female independent director on the board, and zero otherwise.

We specifically focus on independent directors, since preserving their reputation is considered their most valuable asset and shapes their main motivation to actively monitor managers (Fama and Jensen, 1983; Neville et al., 2019). However, female independent directors may face a heightened reputational risk. This risk is likely amplified due to the relative scarcity of women in boardrooms and their vulnerability to stereotyping and bias (Gupta et al., 2009; Koenig et al., 2011; Terjesen et al., 2009). This prompts them to be more vigilant and proactive in safeguarding long-term success and sustainability in their roles.

5.5 Control variables

Moreover, we control for a set of characteristics commonly considered in previous literature as determinants of earnings quality (*e.g.*, Ali et al., 2007; Bona et al., 2007, 2011;

Klein, 2002; Zhao and Chen, 2008). We control for ownership structure (OWNER), voting-cash flow wedge (DIVERG), firm leverage (LEV), size (SIZE), negative income (LOSS), growth (MTB), profitability (ROA), board size (BOARD), and board independence (B_IND). Financial data were obtained from the OSIRIS database, with the remaining data being drawn from the ACGR. All the variables are defined in Appendix B.10

6. Results

6.1 Descriptive analysis

The descriptive statistics are presented in Table II. Panel A (Table II) shows that the average values of our dependent variables are 0.098 for ADA and -0.022 for CAR, while the average value of RPTs is 0.047. We also find that almost half of the firms in our sample (46.88%) have an independent female director. Panel B (Table II) shows the correlation matrix of our variables. This panel shows some correlation values near 0.6. For this reason, in Panel C (Table II) we obtain the Variance Inflation Factor (VIF). Since the highest VIF value is 2.39, we conclude that multicollinearity is not a concern in our study (Studenmund, 1997).

6.2 Multivariate test. RPTs and earnings quality

To test our hypotheses, we run the regressions (equations 1 and 2) using the fixed effect (FE) model to control for endogeneity arising from unobserved heterogeneity [2]. This problem may arise when certain variables related to specific firm characteristics affect the impact of RPTs on earnings quality.

$$\begin{aligned}
ADA_{it} = & \alpha_0 + \alpha_1 RPT_{it} + \alpha_2 OWNER_{it} + \alpha_3 DIVERG_{it} + \alpha_4 LEV_{it} + \alpha_5 SIZE_{it} \\
& + \alpha_6 LOSS_{it} + \alpha_7 MTB_{it} + \alpha_8 ROA_{it} + \alpha_9 BOARD_{it} + \alpha_{10} B_IND_{it} + \lambda_j \\
& + \varepsilon_i
\end{aligned}
\tag{Eq. 1}$$

$$\begin{aligned}
CAR_{it} = & \alpha_0 + \alpha_1 NET_INC_{it} + \alpha_2 RPT_{it} \times NET_INC_{it} + \alpha_3 OWNER_{it} \times NET_INC_{it} \\
& + \alpha_4 DIVERG_{it} \times NET_INC_{it} + \alpha_5 LEV_{it} \times NET_INC_{it} \\
& + \alpha_6 SIZE_{it} \times NET_INC_{it} + \alpha_7 LOSS_{it} \times NET_INC_{it} + \alpha_8 MTB_{it} \times NET_INC_{it} \\
& + \alpha_9 ROA_{it} \times NET_INC_{it} + \alpha_{10} BOARD_{it} \times NET_INC_{it} \\
& + \alpha_{11} B_IND_{it} \times NET_INC_{it} + \lambda_j + \varepsilon_i
\end{aligned}
\tag{Eq. 2}$$

Model 1 (Table III) reports the effect of RPTs on discretionary accruals. The results show that RPTs have a positive and statistically significant effect on the absolute value of discretionary accruals ($\alpha_1 = 0.107$, $t = 3.35$). Model 2 (Table III) shows the effect of RPTs on earnings informativeness. The results reveal that RPTs have a negative and statistically significant effect on earnings informativeness ($\alpha_2 = -0.550$, $t = -2.71$). These findings evidence that earnings quality deteriorates as RPTs increase. Taken all together, these results are consistent with hypothesis 1 and show that controlling shareholders obscure the firm's earnings in an effort to conceal the opportunistic use of RPTs. Our results differ from those of El-Helaly (2016), who find no difference in earnings quality between firms with and without significant RPTs in Greece. However, the author focuses on the RPTs of firms who have a website and who disclose their financial statements in English, which is less than half of Greek listed firms. In contrast, our sample includes all the RPTs reported by all Spanish non-financial listed firms. Here, it is important to remember that, in accordance with Spanish legislation, all listed firms must provide detailed information in their ACGR related to significant RPTs.

As regards the control variables, the results are generally consistent with prior research (Ali *et al.*, 2007; Bona *et al.*, 2011; Klein, 2002; Wang, 2006). Model 1 (Table III) shows that the amount of discretionary accruals is higher in firms displaying a greater dominant owner voting-cash flow wedge (DIVERG), leverage (LEV), return on assets (ROA), and in firms with two consecutive years of negative income (LOSS). However, firms with a larger board (BOARD) have a smaller level of discretionary accruals. Model 2 (Table III) shows that earnings credibility is greater in firms with a larger market to book ratio (MTB) and in firms with a higher proportion of independent directors (B_IND). However, it is smaller in firms with two consecutive years of negative income (LOSS) and as the larger dominant owner's voting-cash flow wedge (DIVERG) increases.

[Table II near here]

[Table III near here]

6.3 Multivariate test. The moderating role of female directors

To test our second hypothesis, we expand equations 1 and 2 by adding our moderating variable (B_GEN_IND):

$$\begin{aligned}
 ADA_{it} = & \alpha_0 + \alpha_1 RPT_{it} + \alpha_2 B_GEN_IND_{it} + \alpha_3 RPT_{it} \times B_GEN_IND_{it} + \alpha_4 OWNER_{it} \\
 & + \alpha_5 DIVERG_{it} + \alpha_6 LEV_{it} + \alpha_7 SIZE_{it} + \alpha_8 LOSS_{it} + \alpha_9 MTB_{it} \\
 & + \alpha_{10} ROA_{it} + \alpha_{11} BOARD_{it} + \alpha_{12} B_IND_{it} + \lambda_j + \varepsilon_i \quad (Eq. 3)
 \end{aligned}$$

$$\begin{aligned}
CAR_{it} = & \alpha_0 + \alpha_1 NET_INC_{it} + \alpha_2 RPT_{it} x NET_INC_{it} + \alpha_3 B_GEN_IND_{it} x NET_INC_{it} \\
& + \alpha_4 RPT_{it} x B_GEN_IND_{it} x NET_INC_{it} + \alpha_5 OWNER_{it} x NET_INC_{it} \\
& + \alpha_6 DIVERG_{it} x NET_INC_{it} + \alpha_7 LEV_{it} x NET_INC_{it} \\
& + \alpha_8 SIZE_{it} x NET_INC_{it} + \alpha_9 LOSS_{it} x NET_INC_{it} \\
& + a_{10} MTB_{it} x NET_INC_{it} + a_{11} ROA_{it} x NET_INC_{it} \\
& + a_{12} BOARD_{it} x NET_INC_{it} + a_{13} B_IND_{it} x NET_INC_{it} + \lambda_j \\
& + \varepsilon_i \quad (Eq. 4)
\end{aligned}$$

In Table IV, we present our results. Model 3 shows that female independent directors moderate the positive effect of RPTs on earnings management ($\alpha_1 = 0.175$, $t = 4.03$ and $\alpha_3 = -0.127$, $t = -1.78$). Additionally, Model 4 shows that female independent directors moderate the negative effect of RPTs on earnings informativeness ($\alpha_2 = -1.372$, $t = -4.01$ and $\alpha_4 = 1.363$, $t = 2.96$). Taken all together, our results evidence that female independent directors play an effective governance role regarding financial reporting quality as RPTs increase – which is consistent with Hypothesis 2.

The results of the control variables are in line with those of Table III.

[Table IV near here]

7. Sensitivity analyses

In this section, we perform a series of analyses to provide robustness to our results. We first use an alternative method to estimate our models to address potential endogeneity concerns. Specifically, in models 5 and 6 (Table V) we estimate our equations 1 and 2, respectively by applying the GMM estimator. We also estimate our equations 3 and 4 by

applying the GMM estimator (models 9 and 10, Table VI) [3]. We use all the right-hand-side variables in the model lagged two to six times as instruments [4]. The year and industry effects variables are considered exogenous [5]. Secondly, in order to determine whether our results are sensitive to our measure of RPT, we follow Kohlbeck and Mayhew (2017) and replace our continuous variable (RPT) for a dummy variable (RPT_DUM), which takes the value of 1 if the firm discloses at least one RPT during the year, and 0 otherwise. In models 7 and 8 (Table V), we show the results for equations 1 and 2. In models 11 and 12 (Table VI), we present the results for equations 3 and 4. As shown, the results are consistent with those obtained in our main models.

[Table V near here]

[Table VI near here]

8. Further analysis

When analysing the consequences of RPTs on corporate behaviour, previous studies emphasize the importance of considering the related party involved in the transaction as well as the nature of the RPTs (Kohlbeck and Mayhew, 2010, 2017; Habib *et al.*, 2015; Ryngaert and Thomas, 2012). Hereafter, we test the effect of different types of RPTs on earnings quality. Following Kohlbeck and Mayhew (2010, 2017), we first group RPTs according to the related party involved; namely, transactions with directors and major shareholders (RPT_DOS), and transactions with affiliates (RPT_AFFILIATES) [6].

We re-run equations 1 and 2 considering these different categories. Model 13 (Table VII) shows that transactions with directors and major shareholders increase discretionary

accruals (the coefficient on RPT_DOS is positive and statistically significant). Model 14 (Table VII) reports a negative and statistically significant coefficient on RPT_DOS*NET_INC, showing that RPTs with directors and major shareholders reduce earnings informativeness. In the case of transactions with affiliates, the coefficient on this variable is statistically insignificant in both models. Overall, our results are consistent with RPT_DOS reducing earnings quality and with RPT_AFFILIATES showing a non-significant effect on earnings quality. These results are consistent with those obtained in Kohlbeck and Mayhew (2017) who –for the US setting –find that RPTs with managers and major shareholders increase the risk of financial reporting misstatement because of the opportunistic nature of these transactions.

Secondly, in line with Kohlbeck and Mayhew (2017), we now consider the nature of these internal dealings by classifying RPTs into two different categories: namely, Tone (RPT_TONE), and Business (RPT_BUSINESS) [7] transactions. According to previous authors, Tone transactions are more likely to capture opportunistic insider behaviour, while Business transactions are more likely to capture normal business activities. Model 15 (Table VII) shows that Tone RPTs increase discretionary accruals (the coefficient on RPT_TONE is positive and statistically significant), and Model 16 (Table VII) reports that Tone RPTs reduce earnings informativeness (the coefficient on RPT_TONE*NET_INC is negative and statistically significant). Overall, the results are consistent with Tone RPTs reducing earnings quality. In contrast, as regards Business RPTs, Model 16 (Table VII) shows that these internal dealings enhance earnings informativeness (the coefficient on RPT_BUSINESS*NET_INC is positive and statistically significant). These findings are fairly consistent with those

reported in Chen *et al.* (2020), who show that related party sales in affiliated firms enhance the informativeness of future earnings in Taiwanese listed firms. As these authors state, these business transactions might show a long-term contracting relation which encourages private knowledge about future earnings, thereby increasing earnings informativeness (Chen *et al.*, 2020).

Finally, Table VIII shows the effect of female independent directors on the relation between RPTs and earnings quality by type of RPT. In Models 17 and 18, we evidence the moderating effect of female independent directors on the relation between transactions with directors and major shareholders and earnings quality. Furthermore, Models 19 and 20 show the moderating effect of female independent directors on the relation between Tone transactions and earnings quality. These results are consistent with our previous findings (Table IV) and provide further evidence concerning the governance role of female independent directors in the presence of opportunistic RPTs. The results of the control variables are in line with those of Table IV and are available upon request.

[Table VII near here]

[Table VIII near here]

9. Conclusions

Major accounting scandals over the last few decades have raised concerns about RPTs and particularly about their effect on financial reporting policies. Empirical evidence shows that these complex transactions might be used by insider agents to extract corporate resources (Bertrand *et al.*, 2002; Cheung *et al.*, 2009; Johnson *et al.*, 2000). However, their effect on

earnings quality is not so straightforward. While some studies find a negative relationship between RPTs and earnings quality (Rahmat, Muniandy, and Ahmed, 2020; Rahmat, Ahmed, and Lobo, 2020;), others find that certain RPTs might have a positive impact on earnings quality (Chen *et al.*, 2020), with other studies finding no significant differences in earnings quality between firms who do or who do not engage in substantial RPTs (El-Helaly, 2016). These inconclusive results reveal the importance of carefully considering the institutional context under which firms commit to RPTs, because features of this institutional setting might have a different effect on internal agents' incentives to alter earnings quality in the presence of RPTs. The current paper sheds light on the different channels through which RPTs would affect the supply and demand of financial reporting quality in the Spanish context.

Our study shows that RPTs reduce earnings quality in Spanish listed firms. The results are consistent with controlling shareholders engaging in opportunistic RPTs and supplying less earnings quality in an effort to conceal this self-dealing behaviour. Features of the Spanish institutional setting –combined with the internal markets promoted by RPTs– decrease controlling shareholder incentives to meet external users' demands for earnings quality as RPTs increase. Further analysis reveals that the negative effect of RPTs on earnings quality is mainly driven by Tone transactions and by transactions with directors and major shareholders. Our results also show that female directors play an effective governance role by moderating the negative impact of RPTs on earnings quality.

These results contrast with those reported by El-Helaly (2016) in the Greek context, with the latter authors reporting no difference in earnings quality between firms with and

without RPTs. However, since the author points to a potential explanation of his results on the grounds of the firm's preference for real earnings management rather than accrual earnings management, this finding might not preclude the opportunistic use of RPTs. Moreover, although the author concludes that his results might also be explained by a reduction in the agency conflict between managers and shareholders –which leads to less managerial opportunism– we go a step further by exploring this relation in the context of the agency conflict between controlling and minority shareholders, which is the main agency conflict in the Spanish context. The study most closely related to our research is the one by Kohlbeck and Mayhew (2017) who focus on the relation between RPTs and the probability of accounting restatements. There are, however, important differences between our study and that by Kohlbeck and Mayhew (2017). Whereas we focus on accruals quality, Kohlbeck and Mayhew (2017) centre on the probability of accounting restatement. Additionally –and more importantly– the previously mentioned authors focus on a setting where quality accounting information proves key to reducing the agency conflict between shareholders and managers (Type I agency conflict). In contrast, in Spain, investor protection is relatively weak, litigation risk is low and capital markets are underdeveloped (Djankov et al., 2008; Faccio and Lang, 2002), such that ownership concentration becomes prevalent (Cuervo, 2002). Such a setting reduces the agency conflict between managers and shareholders (Type I agency conflict) and moves the main concern of corporate governance to the potential expropriation of minority shareholders by controlling owners (Type II agency conflict). In the scenario considered, our study shows that greater transparency might come at the expense of reducing the controlling owner's private benefits of control, which might be high in the Spanish context, particularly in the presence of RPTs.

We contribute to previous literature in different ways. First, we extend previous evidence concerning what impact RPTs have on earnings quality (Aharony *et al.*, 2010; Ge *et al.*, 2010; Kohlbeck and Mayhew, 2017; Jian and Wong, 2010; Wang and Yuan, 2012) by considering both the supply and the demand perspective in a context where state ownership is almost non-existent and where the main agency conflict arises between controlling and minority shareholders. Second, unlike previous studies which adopt an international perspective (Rahmat, Ahmed, and Lobo, 2020; Rahmat, Muniandy, and Ahmed 2020), our results are driven by firm-level and not country-level effects. Moreover, unlike studies that examine RPTs according to their nature (Chen *et al.*, 2020; Rahmat, Ahmed, and Lobo, 2020; Rahmat, Muniandy, and Ahmed 2020), we provide a clearer and more comprehensive picture regarding what effect of RPTs exert on earnings quality by examining RPTs not only according to their nature but also depending on the related party involved in the internal dealing. Our results thus further reveal the importance of considering the nature of the RPTs and the related party involved when exploring the link between RPTs and earnings quality.

Finally, our work adds to studies that examine the governance role of female directors in earnings quality (Arun *et al.*, 2015; Gull *et al.*, 2018; Kyaw *et al.*, 2015; Thiruvadi and Huang, 2011; Zalata, Ntim, Aboud *et al.*, 2019; Zalata, Ntim, Choudhry *et al.*, 2019; Zalata *et al.*, 2022) by providing novel evidence on the governance role that independent female directors play regarding financial reporting quality in a new setting characterized by the presence of internal dealings. In this sense, to the best of our knowledge, no previous study has looked at how female directors might affect the relation between RPTs and earnings quality.

Our study has important implications for investors, auditors, and policymakers alike by showing that RPTs might reduce earnings quality in continental European countries that share the same features as Spanish regulation regarding the use and reporting of RPTs. These findings may affect the economic system's efficient allocation of resources. Regulators concerned with promoting market confidence by increasing transparency should therefore pay close attention to firms engaging in RPTs –particularly when transactions involve Tone RPTs and internal dealings with directors and major shareholders. Policymakers might also be aware of the important governance role of female directors regarding financial reporting policies as RPTs increase.

Our study is not without limitations. First, our sample only includes RPTs disclosed by Spanish listed firms in the ACGR. As regards this point, some firms might engage in RPTs but not disclose them in their ACGR –thereby breaching Spanish legislation. Second, by focusing on a single country, the generalizability of our findings might decrease.

Our work also suggests some ideas for future research. Exploring how other corporate governance mechanisms might moderate the relation between RPTs and earnings quality offers one such line of future inquiry. It might also be interesting to examine whether the relationship studied could be dependent on the nature of the controlling shareholder. This is because –whereas ownership concentration measures shareholder power to influence managers– owner identity has implications for their objectives and how they exercise their power (Thomsen and Pedersen, 2000). We leave these enquires for future research.

Notes

1. Kohlbeck and Mayhew (2017) suggest that these transactions reflect weak “tone at the top”.

2. All the regressions include dummy variables to control for year effects (λ_j) and the error term (ϵ_i).
3. In an additional analysis, we replaced our variable B_GEN_IND –a dummy variable indicating the presence of a female director– with the proportion of female directors on the board. The results remained unchanged. As the new variable representing the proportion of female directors to board size is continuous, we use RPT_DUM –a dummy variable– in these regressions. The results are available upon request.
4. To test the consistency of the results obtained with the GMM estimator, we test the validity of the instruments by using the Hansen test. The null hypothesis shows the validity of the instruments. We also test for the non-existence of second-order autocorrelation. Since we cannot reject the null hypothesis (i.e., the non-existence of autocorrelation) we can conclude that the results obtained with the two-step GMM estimator are robust.
5. Specifically, we use the xtabond2 module in Stata provided by Roodman (2009).
6. See appendix C (Table C I) for a more comprehensive understanding of the value relevance of the different types of RPTs.
7. See appendix C (Table C II) for a more comprehensive understanding of the classification of RPTs proposed by Kohlbeck and Mayhew (2017).

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Table I. Sample selection

All listed Spanish firms	127
Financial firms	(15)
Companies without financial information in the Osiris database	(13)
Sample (firms)	99
Period	2005-2019
Missing observations	286
Sample (firm-year observations)	1,199

Source: Authors' own creation

Table II. Statistics and Correlation Matrix

Panel A. Statistics							
	Variables	Mean	SD	25 th percentile	Median	75 th percentile	
Dependent variables	<i>ADA_{it}</i>	0.098	0.097	0.034	0.071	0.129	
	<i>CAR_{it}</i>	-0.022	0.400	-0.220	0.010	0.200	
Independent variables	<i>NET_INC_{it}</i>	-0.042	0.375	0.004	0.048	0.081	
	<i>RPT_{it}</i>	0.047	0.122	0.000	0.003	0.032	
Control variables	<i>DIVERG_{it}</i>	3.631	6.463	0.000	0.000	4.858	
	<i>LEV_{it}</i>	0.658	0.225	0.513	0.665	0.800	
	<i>SIZE_{it}</i>	13.380	2.013	11.841	13.302	14.771	
	<i>MTB_{it}</i>	2.524	3.738	0.933	1.689	3.077	
	<i>ROA_{it}</i>	0.023	0.095	0.002	0.027	0.059	
	<i>BOARD_{it}</i>	2.302	0.326	2.079	2.303	2.485	
	<i>B_IND_{it}</i>	0.371	0.166	0.250	0.333	0.500	
	Dummy variables			Percentage			
	<i>OWNER_{it}</i>			62.46			
	<i>LOSS_{it}</i>			89.65			
Moderating variable	<i>B_GEN_IND</i>			46.88			
Panel B. Correlation matrix							
	<i>CAR_{it}</i>	<i>RPT_{it}</i>	<i>NET_INC_{it}</i>	<i>B_GEN_IND</i>	<i>OWNER_{it}</i>	<i>DIVERG_{it}</i>	<i>LEV_{it}</i>
<i>ADA_{it}</i>	0.006	0.118***	-0.046	-0.068**	0.001	0.001	0.161***
<i>CAR_{it}</i>		-0.027	0.224***	0.027	0.016	-0.005	-0.145
<i>RPT_{it}</i>			0.053*	-0.037	0.085***	0.004	0.021
<i>NET_INC_{it}</i>				0.055*	-0.002	0.007	-0.346***
<i>B_GEN_IND</i>					-0.151***	-0.007	0.006
<i>OWNER_{it}</i>						0.272***	0.038
<i>DIVERG_{it}</i>							0.042
	<i>SIZE_{it}</i>	<i>LOSS_{it}</i>	<i>MTB_{it}</i>	<i>ROA_{it}</i>	<i>BOARD_{it}</i>	<i>B_IND_{it}</i>	
<i>ADA_{it}</i>	-0.114***	0.109***	0.017	-0.056*	-0.157***	0.008	
<i>CAR_{it}</i>	0.192***	-0.175***	0.099***	0.226***	-0.005	0.057**	
<i>RPT_{it}</i>	-0.004	0.083***	0.100***	0.068**	-0.015	-0.078***	
<i>NET_INC_{it}</i>	0.263***	-0.551***	0.103***	0.445***	0.093***	0.070**	
<i>B_GEN_IND</i>	0.248***	-0.084***	-0.027	0.034	0.191***	0.352***	
<i>OWNER_{it}</i>	-0.029	0.032	0.031	-0.003	-0.068**	-0.192***	

<i>DIVERG_{it}</i>	0.031	-0.012	-0.025	0.031	0.016	-0.126***
<i>LEV_{it}</i>	0.006	0.298***	-0.020	-0.389***	0.112***	-0.035
<i>SIZE_{it}</i>		-0.353***	0.257***	0.325***	0.497***	0.161***
<i>LOSS_{it}</i>			-0.130***	-0.454***	-0.193***	-0.054*
<i>MTB_{it}</i>				0.324***	0.025	-0.025
<i>ROA_{it}</i>					0.064**	0.031
<i>BOARD_{it}</i>						-0.115***

Panel C. Multicollinearity test

	Discretionary accruals (ADA)	Earnings informativeness (CAR)
<i>NET_INC_{it}</i>		1.94
<i>RPT_{it}</i>	1.03	1.04
<i>B_GEN_IND</i>	1.27	1.26
<i>OWNER_{it}</i>	1.15	1.14
<i>DIVERG_{it}</i>	1.11	1.10
<i>LEV_{it}</i>	1.24	1.26
<i>SIZE_{it}</i>	2.39	2.24
<i>LOSS_{it}</i>	1.60	1.69
<i>MTB_{it}</i>	1.26	1.23
<i>ROA_{it}</i>	1.86	2.31
<i>BOARD_{it}</i>	1.97	1.91
<i>B_IND_{it}</i>	1.42	1.41

Panel A (Table II) shows descriptive statistics. Panel B (Table II) shows the Pearson correlation and Panel C (Table II) shows Variance Inflation Factor estimation.

Dependent variables: *ADA_{it}* is the absolute value of discretionary accruals; *CAR_{it}* is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** *NET_INC_{it}* is net income divided by the market value of equity; *RPT_{it}* is the aggregated monetary value of a firm's *RPT_{s, it}* deflated by the firm's total assets. **Moderating variable:** *B_GEN_IND_{it}* is a dummy variable that takes the value of 1 if there is at least one female independent director. **Control variables:** *OWNER_{it}* is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; *DIVERG_{it}* is the degree of divergence between the dominant owner's voting and cash flow rights; *LEV_{it}* is the total debt divided by total assets; *SIZE_{it}* is the natural logarithm of the market value of equity; *LOSS_{it}* is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; *MTB_{it}* is market to book ratio; *ROA_{it}* is the ratio of return of assets; *BOARD_{it}* is the natural logarithm of the total number of directors on the board; *B_IND_{it}* is the ratio of independent directors.

Source: Authors' own creation

Table III. RPTs and earnings quality

	Model 1 (Eq. 1)	Model 2 (Eq. 2)
	<i>ADA_{it}</i>	<i>CAR_{it}</i>
Independent variables		
<i>NET_INC_{it}</i>		0.631*** (2.80)
<i>RPT_{it}</i>	0.107*** (3.35)	
<i>RPT_{it}*NET_INC_{it}</i>		-0.550*** (-2.71)
Control variables		
<i>OWNER_{it}</i>	0.006 (0.54)	
<i>OWNER_{it}*NET_INC_{it}</i>		0.085 (1.14)
<i>DIVERG_{it}</i>	0.001* (1.80)	
<i>DIVERG_{it}*NET_INC_{it}</i>		-0.016*** (-2.69)
<i>LEV_{it}</i>	0.086*** (3.20)	
<i>LEV_{it}*NET_INC_{it}</i>		0.070 (1.52)
<i>SIZE_{it}</i>	0.014 (1.38)	
<i>SIZE_{it}*NET_INC_{it}</i>		0.071 (1.12)
<i>LOSS_{it}</i>	0.017* (1.71)	
<i>LOSS_{it}*NET_INC_{it}</i>		-0.449*** (-5.35)
<i>MTB_{it}</i>	-0.001 (-0.90)	
<i>MTB_{it}*NET_INC_{it}</i>		0.018** (2.38)
<i>ROA_{it}</i>	0.099** (2.13)	
<i>ROA_{it}*NET_INC_{it}</i>		-0.397 (-1.50)
<i>BOARD_{it}</i>	-0.061*** (-2.75)	
<i>BOARD_{it}*NET_INC_{it}</i>		-0.118 (-1.03)
<i>B_IND_{it}</i>	0.029 (0.97)	
<i>B_IND_{it}*NET_INC_{it}</i>		0.007*** (2.96)
<i>Constant</i>	-0.005	0.061

	(-0.05)	(1.29)
Year	<i>Yes</i>	<i>Yes</i>
Industry	<i>No</i>	<i>No</i>
R²	0.08	0.18
N	1,199	1,199

Table III shows the results of regression analyses using the fixed effect method. **Dependent variables:** ADA_{it} is the absolute value of discretionary accruals; CAR_{it} is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period; **Independent variables:** NET_INC_{it} is net income divided by the market value of equity; RPT_{it} is the aggregated monetary value of a firm's RPTs deflated by the firm's total assets. **Control variables:** $OWNER_{it}$ is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; $DIVERG_{it}$ is the degree of divergence between the dominant owner's voting and cash flow rights; LEV_{it} is the total debt divided by total assets; $SIZE_{it}$ is the natural logarithm of the market value of equity; $LOSS_{it}$ is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; MTB_{it} is market to book ratio; ROA_{it} is the ratio of return of assets; $BOARD_{it}$ is the natural logarithm of the total number of directors on the board; B_IND_{it} is the ratio of independent directors.

***, **, *: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Table IV. The effect of female independent directors on the relation between RPTs and earnings quality

	Model 3 (Eq. 3)	Model 4 (Eq. 4)
	<i>ADA_{it}</i>	<i>CAR_{it}</i>
Independent variables		
<i>NET_INC_{it}</i>		1.005*** (3.24)
<i>RPT_{it}</i>	0.175*** (4.03)	
<i>RPT_{it}*NET_INC_{it}</i>		-1.372*** (-4.01)
Moderator variable		
<i>B_GEN_IND_{it}</i>	0.015 (1.35)	
<i>B_GEN_IND_{it}*NET_INC_{it}</i>		0.106 (1.23)
<i>RPT_{it}*B_GEN_IND_{it}</i>	-0.127* (-1.78)	
<i>RPT_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>		1.363*** (2.96)
Control variables		
<i>OWNER_{it}</i>	0.014 (1.17)	
<i>OWNER_{it}*NET_INC_{it}</i>		0.097 (1.13)
<i>DIVERG_{it}</i>	0.001* (1.72)	
<i>DIVERG_{it}*NET_INC_{it}</i>		-0.017*** (-2.78)
<i>LEV_{it}</i>	0.092*** (3.12)	
<i>LEV_{it}*NET_INC_{it}</i>		0.048 (1.04)
<i>SIZE_{it}</i>	0.013 (0.85)	
<i>SIZE_{it}*NET_INC_{it}</i>		0.009* (1.74)
<i>LOSS_{it}</i>	0.011* (1.73)	
<i>LOSS_{it}*NET_INC_{it}</i>		-0.430*** (-4.99)
<i>MTB_{it}</i>	-0.003* (-1.90)	
<i>MTB_{it}*NET_INC_{it}</i>		0.015 (1.11)
<i>ROA_{it}</i>	-0.003 (-0.78)	
<i>ROA_{it}*NET_INC_{it}</i>		0.038

		(0.13)
<i>BOARD_{it}</i>	-0.020* (-1.77)	
<i>BOARD_{it}*NET_INC_{it}</i>		-0.265 (-1.13)
<i>B_IND_{it}</i>	0.006 (0.19)	
<i>B_IND_{it}*NET_INC_{it}</i>		0.911*** (3.34)
<i>Constant</i>	-0.101 (-0.98)	-0.005 (-0.03)
<i>Year</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry</i>	<i>No</i>	<i>No</i>
<i>R²</i>	0.06	0.20
<i>N</i>	1,199	1,199

Table IV reports the results of regression analyses using the fixed effect method. **Dependent variables:** *ADA_{it}* is the absolute value of discretionary accruals; *CAR_{it}* is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** *NET_INC_{it}* is net income divided by the market value of equity; *RPT_{it}* is the aggregated monetary value of a firm's RPTs deflated by the firm's total assets. **Moderator variable:** *B_GEN_IND_{it}* is a dummy variable that takes the value of 1 if there is at least one female independent director. **Control variable:** *OWNER_{it}* is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; *DIVERG_{it}* is the degree of divergence between the dominant owner's voting and cash flow rights; *LEV_{it}* is the total debt divided by total assets; *SIZE_{it}* is the natural logarithm of the market value of equity; *LOSS_{it}* is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; *MTB_{it}* is market to book ratio; ROA is the ratio of return of assets; *BOARD_{it}* is the natural logarithm of the total number of directors on the board; *B_IND_{it}* is the ratio of independent directors.

***, **, *: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Table V. RPTs and earnings quality. Sensitivity analysis

	Model 5	Model 6	Model 7	Model 8
	<i>ADA_{it}</i>	<i>CAR_{it}</i>	<i>ADA_{it}</i>	<i>CAR_{it}</i>
Independent variables				
<i>NET_INC_{it}</i>		2.043*** (2.80)		2.971*** (5.98)
<i>RPT_{it}</i>	0.148** (2.24)			
<i>RPT_DUM_{it}</i>			0.030** (2.59)	
<i>RPT_{it}*NET_INC_{it}</i>		-2.536*** (-4.43)		
<i>RPT_DUM_{it}*NET_INC_{it}</i>				-0.603** (-2.43)
Control variables				
<i>OWNER_{it}</i>	-0.009 (-0.55)		0.008 (0.79)	
<i>OWNER_{it}*NET_INC_{it}</i>		0.018 (0.07)		0.457*** (2.81)
<i>DIVERG_{it}</i>	0.027** (2.34)		0.002* (1.75)	
<i>DIVERG_{it}*NET_INC_{it}</i>		-0.095*** (-3.11)		-0.053** (-1.99)
<i>LEV_{it}</i>	0.096** (2.19)		0.137*** (4.93)	
<i>LEV_{it}*NET_INC_{it}</i>		-0.034 (-0.92)		-0.035 (-1.14)
<i>SIZE_{it}</i>	0.005 (0.85)		0.015 (1.37)	
<i>SIZE_{it}*NET_INC_{it}</i>		0.021*** (2.76)		0.002* (1.75)
<i>LOSS_{it}</i>	0.017* (1.81)		0.011* (1.82)	
<i>LOSS_{it}*NET_INC_{it}</i>		-1.096*** (-3.85)		-0.607* (-1.82)
<i>MTB_{it}</i>	-0.002 (-1.52)		-0.001 (-0.72)	
<i>MTB_{it}*NET_INC_{it}</i>		0.029* (1.88)		0.019 (1.24)
<i>ROA_{it}</i>	0.197** (2.20)		0.033* (1.78)	
<i>ROA_{it}*NET_INC_{it}</i>		0.144 (1.27)		-0.186 (-1.16)
<i>BOARD_{it}</i>	-0.106*** (-2.67)		-0.113*** (-3.96)	
<i>BOARD_{it}*NET_INC_{it}</i>		-0.191 (-1.56)		-0.137 (-0.81)
<i>B_IND_{it}</i>	-0.001		0.001	

$B_IND_{it} * NET_INC_{it}$	(-0.22)	0.003*	(1.20)	0.021*
		(1.71)		(1.75)
Constant	0.174	0.007	-0.059	0.249***
	(1.55)	(0.21)	(-0.80)	(4.76)
Year	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Industry	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Hansen	38.92	21.75	26.22	76.80
	(0.563)	(0.750)	(0.711)	(0.985)
m2 test	-1.28	0.17	0.07	-0.83
	(0.202)	(0.865)	(0.941)	(0.404)
z1 test	7.75***	13.00***	10.43***	137.36***
z2 test	4.56***	11.09***	7.16***	404.56***
z3 test	2.08**	3.47***	6.43***	108.76***
N	1,199	1,199	1,199	1,199

Table V reports the results of the sensitive analysis applying GMM estimator. **Dependent variables:** ADA_{it} is the absolute value of discretionary accruals; CAR_{it} is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** NET_INC_{it} is net income divided by the market value of equity; RPT_{it} is the aggregated monetary value of a firm's RPTs deflated by the firm's total assets; RPT_DUM_{it} is a dummy variable that takes the value of 1 if the firm discloses at least one RPT during the year, and 0 otherwise. **Control variables:** $OWNER_{it}$ is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; $DIVERG_{it}$ is the degree of divergence between the dominant owner's voting and cash flow rights; LEV_{it} is the total debt divided by total assets; $SIZE_{it}$ is the natural logarithm of the market value of equity; $LOSS_{it}$ is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; MTB_{it} is market to book ratio; ROA is the ratio of return of assets; $BOARD_{it}$ is the natural logarithm of the total number of directors on the board; B_IND_{it} is the ratio of independent directors.

Hansen, test of over-identifying restrictions.

m2, statistic test for lack of second-order serial correlation in the first-difference residual.

z1, Wald test of the joint significance of the reported coefficients.

z2, Wald test of the joint significance of time dummies

z3, Wald test of the joint significance of industry dummies.

***,**,*: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Table VI. The effect of female independent directors on the relation between RPTs and earnings quality. Sensitivity analysis

	Model 9	Model 10	Model 11	Model 12
	<i>ADA_{it}</i>	<i>CAR_{it}</i>	<i>ADA_{it}</i>	<i>CAR_{it}</i>
Independent variables				
<i>NET_INC_{it}</i>		1.867*** (4.60)		0.790*** (5.33)
<i>RPT_{it}</i>	0.314*** (3.96)			
<i>RPT_DUM_{it}</i>			0.031* (1.83)	
<i>RPT_{it}*NET_INC_{it}</i>		-2.271*** (-6.39)		
<i>RPT_DUM_{it}*NET_INC_{it}</i>				-0.690*** (-8.45)
Moderator variable				
<i>B_GEN_IND_{it}</i>	-0.002 (-0.17)		-0.010 (-0.60)	
<i>B_GEN_IND_{it}*NET_INC_{it}</i>		0.220 (1.18)		-0.058 (-1.29)
<i>RPT_{it}*B_GEN_IND_{it}</i>	-0.241** (-2.36)			
<i>RPT_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>		1.715*** (3.89)		
<i>RPT_DUM_{it}*B_GEN_IND_{it}</i>			-0.030* (1.69)	
<i>RPT_DUM_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>				0.284*** (3.37)
Control variables				
<i>OWNER_{it}</i>	-0.030** (-2.00)		-0.040 (-0.24)	
<i>OWNER_{it}*NET_INC_{it}</i>		-0.130 (-1.13)		0.240*** (6.23)
<i>DIVERG_{it}</i>	0.001** (2.10)		0.001** (2.28)	

<i>DIVERG_{it}*NET_INC_{it}</i>		-0.014*** (-2.45)		-0.009*** (-3.29)
<i>LEV_{it}</i>	0.081** (2.40)		0.126*** (2.89)	
<i>LEV_{it}*NET_INC_{it}</i>		0.003 (0.07)		-0.140 (-0.20)
<i>SIZE_{it}</i>	-0.003 (-0.95)		0.023 (1.26)	
<i>SIZE_{it}*NET_INC_{it}</i>		0.004 (1.22)		0.008*** (4.37)
<i>LOSS_{it}</i>	0.034* (1.74)		0.019 (1.29)	
<i>LOSS_{it}*NET_INC_{it}</i>		-0.186** (-2.00)		-0.352* (-1.85)
<i>MTB_{it}</i>	0.001 (0.02)		-0.001 (-0.00)	
<i>MTB_{it}*NET_INC_{it}</i>		0.229*** (2.69)		0.006 (1.37)
<i>ROA_{it}</i>	0.255** (2.47)		0.084 (1.33)	
<i>ROA_{it}*NET_INC_{it}</i>		-0.196 (-1.55)		-0.077 (-1.59)
<i>BOARD_{it}</i>	-0.099** (-2.01)		-0.053*** (-2.15)	
<i>BOARD_{it}*NET_INC_{it}</i>		-0.596 (-1.20)		-0.023 (-0.51)
<i>B_IND_{it}</i>	0.001 (0.07)		0.002 (0.13)	
<i>B_IND_{it}*NET_INC_{it}</i>		-0.003 (-0.53)		0.017*** (8.99)
<i>Constant</i>	0.230 (1.44)	0.277*** (7.47)	-0.325*** (-3.15)	0.269*** (5.40)
<i>Year</i>	Yes	Yes	Yes	Yes
<i>Industry</i>	Yes	Yes	Yes	Yes

<i>Hansen</i>	47.09 (0.510)	32.68 (0.532)	25.00 (0.406)	76.80 (0.985)
<i>m2 test</i>	-1.28 (0.200)	-1.60 (0.110)	-1.29 (0.198)	-0.83 (0.404)
<i>z1 test</i>	6.61***	110.94***	7.72***	196.36*****
<i>z2 test</i>	3.39***	21.95***	3.25***	69.25***
<i>z3 test</i>	3.23***	3.69***	5.64***	49.22***
<i>N</i>	1,199	1,199	1,199	1,199

Table VI reports the results of the sensitive analysis applying GMM estimator. **Dependent variables:** ADA_{it} is the absolute value of discretionary accruals; CAR_{it} is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** NET_INC_{it} is net income divided by the market value of equity; RPT_{it} is the aggregated monetary value of a firm's RPTs deflated by the firm's total assets; RPT_DUM_{it} is a dummy variable that takes the value of 1 if the firm discloses at least one RPT during the year, and 0 otherwise. **Moderator variable:** $B_GEN_IND_{it}$ is a dummy variable that takes the value of 1 if there is at least one female independent director. **Control variables:** $OWNER_{it}$ is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; $DIVERG_{it}$ is the degree of divergence between the dominant owner's voting and cash flow rights; LEV_{it} is the total debt divided by total assets; $SIZE_{it}$ is the natural logarithm of the market value of equity; $LOSS_{it}$ is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; MTB_{it} is market to book ratio; ROA is the ratio of return of assets; $BOARD_{it}$ is the natural logarithm of the total number of directors on the board; B_IND_{it} is the ratio of independent directors.

Hansen, test of over-identifying restrictions.

m2, statistic test for lack of second-order serial correlation in the first-difference residual.

z1, Wald test of the joint significance of the reported coefficients.

z2, Wald test of the joint significance of time dummies

z3, Wald test of the joint significance of industry dummies.

***,**,*: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Table VII. RPTs and earnings quality by type of transaction

	Model 13	Model 14	Model 15	Model 16
	<i>ADA_{it}</i>	<i>CAR_{it}</i>	<i>ADA_{it}</i>	<i>CAR_{it}</i>
Independent variables				
<i>NET_INC_{it}</i>		0.672** (2.42)		0.267*** (7.32)
<i>RPT_DOS_{it}</i>	0.164*** (3.97)			
<i>RPT_AFFILIATES_{it}</i>	-0.008 (-0.08)			
<i>RPT_DOS_{it}*NET_INC_{it}</i>		-0.776*** (-3.24)		
<i>RPT_AFFILIATES_{it}*NET_INC_{it}</i>		3.006 (0.67)		
<i>RPT_TONE_{it}</i>			0.239*** (4.15)	
<i>RPT_BUSINESS_{it}</i>			0.044 (0.86)	
<i>RPT_TONE_{it}*NET_INC_{it}</i>				-1.395*** (-4.66)
<i>RPT_BUSINESS_{it}*NET_INC_{it}</i>				4.326*** (2.98)
Independent variables				
<i>OWNER_{it}</i>	0.006 (0.60)		0.006 (0.61)	
<i>OWNER_{it}*NET_INC_{it}</i>		0.088 (1.18)		0.117 (1.59)
<i>DIVERG_{it}</i>	0.001* (1.73)		0.001* (1.71)	
<i>DIVERG_{it}*NET_INC_{it}</i>		-0.017*** (-2.84)		-0.019*** (-3.19)
<i>LEV_{it}</i>	0.086*** (3.17)		0.077*** (2.83)	
<i>LEV_{it}*NET_INC_{it}</i>		0.065 (1.48)		0.052 (1.19)
<i>SIZE_{it}</i>	0.014 (1.39)		0.013 (1.29)	
<i>SIZE_{it}*NET_INC_{it}</i>		0.011** (2.08)		0.009* (1.77)
<i>LOSS_{it}</i>	0.019* (1.85)		0.017* (1.75)	
<i>LOSS_{it}*NET_INC_{it}</i>		-0.439*** (-5.20)		-0.384*** (-4.52)
<i>MTB_{it}</i>	-0.001 (-0.97)		-0.001 (-0.97)	
<i>MTB_{it}*NET_INC_{it}</i>		0.017 (1.29)		0.012 (0.90)
<i>ROA_{it}</i>	0.103**		0.098**	

	(2.22)		(2.10)	
<i>ROA_{it}*NET_INC_{it}</i>		-0.375 (-1.42)		-0.314 (-1.16)
<i>BOARD_{it}</i>	-0.060*** (-2.74)		-0.058** (-2.62)	
<i>BOARD_{it}*NET_INC_{it}*</i>		-0.126 (-1.11)		-0.190 (-0.69)
<i>B_IND_{it}</i>	0.001 (0.94)		0.001 (0.73)	
<i>B_IND_{it}*NET_INC_{it}</i>		0.007*** (2.76)		0.006** (2.33)
<i>Constant</i>	-0.011 (-0.12)	0.055 (1.17)	-0.002 (-0.02)	0.050 (1.08)
<i>Year effect</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Industry effect</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
<i>R²</i>	0.08	0.18	0.09	0.20
<i>N</i>	1,199	1,199	1,199	1,199

Table VII shows the results of regression analyses using fixed effect method. **Dependent variables:** *ADA_{it}* is the absolute value of discretionary accruals; *CAR_{it}* is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** *NET_INC_{it}* is net income divided by the market value of equity; *RPT_AFFILIATES_{it}* is the aggregated monetary value of a firm's transactions with affiliates deflated by total assets transactions; *RPT_BUSINESS_{it}* is the aggregated monetary value of a firm's business; *RPT_DOS_{it}* is the aggregated monetary value of a firm's transactions with directors and major shareholders deflated by total assets; *RPT_TONE_{it}* is the aggregated monetary value of a firm's Tone RPTs deflated by total assets. **Control variables:** *OWNER_{it}* is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; *DIVERG_{it}* is the degree of divergence between the dominant owner's voting and cash flow rights; *LEV_{it}* is the total debt divided by total assets; *SIZE_{it}* is the natural logarithm of the market value of equity; *LOSS_{it}* is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; *MTB_{it}* is market to book ratio; *ROA_{it}* is the ratio of return of assets; *BOARD_{it}* is the natural logarithm of the total number of directors on the board; *B_IND_{it}* is the ratio of independent directors. ***, **, *: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Table VIII. The effect of female independent directors on the relation between RPTs and earnings quality by type of transaction

	Model 17	Model 18	Model 19	Model 20
<i>NET_INC_{it}</i>		0.716** (2.35)		0.822*** (2.76)
<i>RPT_DOS_{it}</i>	0.239*** (4.32)			
<i>RPT_AFFILIATES_{it}</i>	0.008 (0.07)			
<i>RPT_DOS_{it}*NET_INC_{it}</i>		-1.850*** (-5.60)		
<i>RPT_AFFILIATES_{it}*NET_INC_{it}</i>		2.869 (0.60)		
<i>RPT_TONE_{it}</i>			0.349*** (5.02)	
<i>RPT_BUSINESS_{it}</i>			0.027 (0.43)	
<i>RPT_TONE_{it}*NET_INC_{it}</i>				-2.138*** (-6.07)
<i>RPT_BUSINESS_{it}*NET_INC_{it}</i>				5.350*** (2.48)
Moderator variable				
<i>B_GEN_IND_{it}</i>	0.005 (0.52)		0.005 (0.49)	
<i>B_GEN_IND_{it}*NET_INC_{it}</i>		-0.065 (-0.76)		-0.071 (-0.83)
<i>RPT_DOS_{it}*B_GEN_IND_{it}</i>	-0.169** (-2.14)			
<i>RPT_AFFILIATES_{it}*B_GEN_IND_{it}</i>	-0.221 (-0.49)			
<i>RPT_DOS_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>		1.794*** (3.48)		
<i>RPT_AFFILIATES_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>		-12.740 (-1.55)		

<i>RPT_TONE_{it}*B_GEN_IND_{it}</i>			-0.338***	
			(-2.81)	
<i>RPT_BUSINESS_{it}*B_GEN_IND_{it}</i>			0.057	
			(0.59)	
<i>RPT_TONE_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>				1.136*
				(1.87)
<i>RPT_BUSINESS_{it}*B_GEN_IND_{it}*NET_INC_{it}</i>				-2.243
				(-0.75)
Constant	-0.011	0.051	-0.014	-0.068
	(-0.12)	(1.10)	(-0.14)	(-0.67)
Year	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Industry	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
R²	0.09	0.17	0.09	0.18
N	1,199	1,199	1,199	1,199

Table VIII shows the results of the regression analysis using the fixed effect method. **Dependent variable:** ADA_{it} is the absolute value of discretionary accruals; CAR_{it} is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period. **Independent variables:** NET_INC_{it} is net income divided by the market value of equity; $RPT_AFFILIATES_{it}$ is the aggregated monetary value of a firm's transactions with affiliates deflated by total assets transactions; $RPT_BUSINESS_{it}$ is the aggregated monetary value of a firm's business; RPT_DOS_{it} is the aggregated monetary value of a firm's transactions with directors and major shareholders deflated by total assets; RPT_TONE_{it} is the aggregated monetary value of a firm's Tone RPTs deflated by total assets. **Moderator variable:** $B_GEN_IND_{it}$ is a dummy variable that takes the value of 1 if there is at least one female independent director. **Control variables:** $OWNER_{it}$ is a dummy variable that takes the value of 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise; $DIVERG_{it}$ is the degree of divergence between the dominant owner's voting and cash flow rights; LEV_{it} is the total debt divided by total assets; $SIZE_{it}$ is the natural logarithm of the market value of equity; $LOSS_{it}$ is a dummy variable that takes the value of 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise; MTB_{it} is market to book ratio; ROA_{it} is the ratio of return of assets; $BOARD_{it}$ is the natural logarithm of the total number of directors on the board; B_IND_{it} is the ratio of independent directors

***, **, *: statistically significant at p .01, p .05 and p .10, respectively. In parentheses, t-statistics based on robust standard errors.

Source: Authors' own creation

Appendix A

Earnings management

First stage

$$\frac{AC_{it}}{TA_{it-1}} = a_0 \left(\frac{1}{TA_{it-1}} \right) + a_1 \left(\frac{\Delta REV_{it}}{TA_{it-1}} \right) + a_2 \left(\frac{PPE_{it}}{TA_{it-1}} \right) + a_3 ROA_{it} + \varepsilon_{it} \quad (Eq. A 1)$$

AC_{it} is the total amount of accruals. ΔREV_{it} is the change in revenues, PPE_{it} is the level of property, plant and equipment, ROA_{it} is income before interest and taxes divided by total assets. TA_{it-1} is the total assets of firm i at the beginning of year t , and ε_{it} is the error term.

Second stage

$$DA_{it} = \frac{AC_{it}}{TA_{it-1}} - \hat{a}_0 \left(\frac{1}{TA_{it-1}} \right) + \hat{a}_1 \left(\frac{\Delta REV_{it} - \Delta AR_{it}}{TA_{it-1}} \right) + \hat{a}_2 \left(\frac{PPE_{it}}{TA_{it-1}} \right) + a_3 ROA_{it} \quad (Eq. A 2)$$

The absolute value of DA is our first measure of earnings quality

Earnings informativeness

$$CAR_{it} = \alpha_0 + \alpha_1 NET_INC_{it} + \varepsilon_i \quad (Eq. A 3)$$

The coefficient on net income would reveal that the market incorporates earnings credibility in the price formation process.

Appendix B

Table B I. Variable definitions

ADA	The absolute value of discretionary accruals.
BOARD	The natural logarithm of the total number of directors on the board.
B_GEN_IND	Equals 1 if there is at least one female independent director, and 0 otherwise

B_IND	The ratio of independent directors
CAR	The firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period.
DIVERG	Degree of divergence between the dominant owner's voting and cash flow rights.
LEV	Total debt divided by total assets.
LOSS	Equals 1 if the firm had two consecutive years of negative income before extraordinary items, and 0 otherwise.
MTB	Market to book ratio.
NET_INC	Net incomes divided by the market value of equity.
OWNER	Equals 1 if the main owner of the firm directly and/or indirectly retains a percentage of voting rights not below 20%, and 0 otherwise.
ROA	The ratio of return of assets
RPT	The aggregated monetary value of a firm's RPTs deflated by the firm's total assets.
RPT_AFFILIATES	The aggregated monetary value of a firm's transactions with affiliates deflated by total assets transactions.
RPT_BUSINESS	The aggregated monetary value of a firm's business RPTs deflated by total assets.
RPT_DUM	Equals 1 if the firm discloses at least one RPT during the year, and 0 otherwise.
RPT_DOS	The aggregated monetary value of a firm's transactions with directors and major shareholders deflated by total assets.
RPT_TONE	The aggregated monetary value of a firm's Tone RPTs deflated by total assets.
SIZE	The natural log of the market value of equity.

Source: Authors' own creation

Appendix C

Table C I. Monetary value (in thousands of €) of transactions by related party and type of transaction

RPT type	Major shareholders and directors	Affiliates
Loans/Borrowings	144,130,400	3,390,835
Guarantees	18,181,629	8,480,447
Consulting	14,722,755	165,939
arrangements/legal investment services	or	
Leases	677,568	31,737
Related business activities	101,630,471	12,927,252
Unrelated business activities	16,867,358	6,324,616
Stock transactions	106,087,666	1,807,698

Source: Authors' own creation

Table C II. Classification of related party transactions

Panel A. Type of transaction according to its nature and the related party involved		
Type of transaction	Major shareholders and directors	Affiliates
Loans/Borrowings	Tone	Business
Guarantees	Tone	Business
Consulting arrangements/legal or investment services	Tone	Tone
Leases	Business	Business
Related business activities	Business	Business
Unrelated business activities	Tone	Tone
Stock transactions	Tone	Business

Panel B. Tone and Business classification. Monetary value (in thousands of €)	
RPT type	Thousands of €
Business	128,946,008
Tone	306,480,363

Source: Authors' own creat