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Programa de Doctorado en Turismo, Economía y Gestión

TESIS DOCTORAL

**TRES ENSAYOS SOBRE LA INCIDENCIA DE LAS
OPERACIONES ENTRE PARTES RELACIONADAS EN
EL COMPORTAMIENTO CORPORATIVO/THREE
ESSAYS ON THE EFFECT OF RELATED PARTY
TRANSACTIONS ON CORPORATE PERFORMANCE**

MARINA ELISTRATOVA ELISTRATOVA

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INFORMA,

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UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

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Autora

MARINA ELISTRATOVA ELISTRATOVA

Directores

DRA. D^a. CAROLINA BONA SÁNCHEZ

DR. D. JERÓNIMO PÉREZ ALEMÁN

A mi madre

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RESUMEN

Introducción y justificación de la propuesta

Las operaciones entre partes vinculadas (OPVs) han atraído la atención de inversores, auditores y reguladores a nivel global. Aunque estas transacciones pueden ser eficientes e incluso cruciales para la supervivencia de la empresa en un contexto de limitado desarrollo institucional o durante una crisis financiera (Berglöf y Perotti, 1994; Chang y Hong, 2000), los grandes escándalos corporativos evidencian que las OPVs pueden suponer un importante riesgo para la empresa. En esta misma línea, la evidencia empírica disponible muestra que estas transacciones pueden ser realizadas de manera oportunista por aquellos que detentan el control efectivo de la empresa (Berkman et al., 2009; Bertrand et al., 2002; Johnson et al., 2000).

Consecuentemente, la preocupación del regulador internacional ante estas operaciones se ha plasmado en la aprobación de un conjunto diverso de normas encaminadas a prevenir su uso oportunista. Así, las Normas Internacionales de Información Financiera (NIC 24) regulan la información que las empresas deben facilitar en el contexto de las OPVs, definiendo este tipo de operaciones como transferencias de recursos, servicios u obligaciones entre la entidad que proporciona información y una parte relacionada, que puede ser una persona o entidad. Mas concretamente, la NIC 24 establece que una persona o un familiar cercano a esa persona está relacionado con una entidad que prepara sus estados financieros si esa persona (a) ejerce control o control conjunto sobre la entidad que proporciona información, (b) ejerce influencia significativa sobre la entidad que proporciona información o (c) es miembro clave del equipo directivo de la entidad que proporciona información o de una controladora de la entidad que proporciona información. De la misma forma, una entidad está relacionada con la entidad que proporciona información si, entre otras, es miembro del mismo grupo, es una entidad asociada o negocio conjunto de la otra entidad, o ambas son negocios conjuntos de la misma entidad.

A su vez, la Norma Internacional de Auditoría (NIA 550), que aborda las responsabilidades del auditor, exige a éste especial consideración a las OPVs, dado que el fraude puede cometerse más fácilmente a través de este tipo de transacciones. Por ello, la NIA 550 subraya la importancia del escepticismo profesional en la auditoría de las

OPVs. En el mismo sentido, la reciente Directiva (UE) 2017/828 del Parlamento Europeo y del Consejo de 17 de mayo de 2017, que persigue fomentar la implicación de los accionistas a largo plazo en las sociedades cotizadas, propone el endurecimiento de la normativa de aprobación y transparencia de las OPVs.

En el ámbito académico, la mayor parte de la evidencia empírica disponible muestra que las OPVs reducen el valor de la empresa (Berkman et al., 2009; Bona et al., 2017; Ge et al., 2010; Kohlbeck y Mayhew, 2010). Sin embargo, la incidencia de las OPVs en el comportamiento corporativo no es concluyente. En este sentido, los trabajos previos muestran resultados opuestos y se centran, principalmente, en los EE. UU. y el este asiático (Chang y Hong, 2000; Chen et al., 2020; Fang et al., 2018; Habib et al., 2015; Kohlbeck y Mayhew, 2017; Peng et al., 2011; Rahmat, Ahmed y Lobo, 2020; Rahmat, Muniandy y Ahmed, 2020; Ryngaert y Thomas, 2012).

En este sentido, el entorno institucional español se caracteriza por un escaso riesgo de litigio y una débil protección del inversor externo (Djankov et al., 2008). En este contexto, predominan las estructuras de propiedad concentradas, que desplazan el conflicto de agencia clásico entre directivos y accionistas al derivado del riesgo potencial de expropiación de los accionistas minoritarios por parte de los propietarios controladores (Cuervo, 2002). Dicho conflicto de agencia se intensifica por la existencia de estructuras de propiedad que posibilitan la divergencia entre los derechos de voto y *cash flow* de los accionistas controladores (La Porta et al., 1999; Santana et al., 2009). Así, este escenario, incrementa los incentivos de estos propietarios a la utilización de las OPVs con fines oportunistas, puesto que este tipo de estructuras posibilita a los accionistas controladores recibir todos los beneficios derivados de este tipo de operaciones, soportando sólo una parte de los costes asociados a las mismas. Adicionalmente, las características del entorno institucional español disminuyen la probabilidad de que este tipo de conductas oportunistas sean eficazmente penalizadas y perseguidas (La Porta et al., 1998). En este sentido, Elistratova et al. (2016) muestran que alrededor del 50% de las empresas cotizadas españolas declaran haber realizado algún tipo de OPVs durante el periodo 2005-2014, mientras que Bona et al. (2017) revelan que las operaciones que realizan las

empresas cotizadas españolas con sus accionistas dominantes reducen el valor de la empresa.

Objetivo y resumen de los capítulos

El objetivo del presente trabajo es analizar el impacto de las OPVs en diferentes dimensiones del comportamiento corporativo. Para cumplir con dicha finalidad, esta tesis se organiza en tres capítulos diferenciados. De esta forma, el primer capítulo, “*Related party transactions and audit fees in a dominant owner context*”, se plantea como objetivo último analizar el efecto de las OPVs en los honorarios de auditoría, revelando los principales resultados alcanzados una incidencia negativa y estadísticamente significativa de las OPVs en los honorarios de auditoría. Así, las características del entorno institucional español como la débil protección del inversor externo y el bajo riesgo de litigio proporcionan escasos incentivos al auditor externo a incorporar en sus honorarios los mayores conflictos de agencia asociados a las OPVs (perspectiva de oferta). Por el contrario, los resultados revelan que en el citado contexto los auditores son más proclives a acomodarse a las necesidades de sus clientes (perspectiva de demanda).

El segundo capítulo, “*Related party transactions and earnings quality. The moderating role of female directors*”, analiza el efecto de las OPVs en la calidad de la información contable divulgada por las empresas. Adicionalmente, en este capítulo se analiza el efecto moderador de la presencia de mujeres en el consejo de administración en la incidencia de las OPVs en la calidad de la información contable. Los resultados revelan que las OPVs reducen la calidad de la información contable divulgada por la empresa. Además, los resultados revelan que esta asociación negativa viene fundamentalmente explicada por las transacciones realizadas con directivos y accionistas controladores y por aquellas transacciones que reflejan con mayor probabilidad el comportamiento oportunista de los agentes internos. Estos hallazgos son consistentes con la utilización oportunista de las OPVs por parte de quienes detentan el control efectivo de la empresa, lo que aumenta sus incentivos a alterar la información contable divulgada, al objeto de enmascarar este tipo de operaciones. Asimismo, los resultados muestran que la presencia de mujeres en el consejo de administración mitiga el efecto negativo de las OPVs en la calidad de la información contable divulgada. De este modo, proporcionamos

evidencia de que las consejeras cumplen un papel de supervisión eficaz en relación con las políticas de divulgación de información contable a medida que aumentan las OPVs.

Finalmente, el tercer capítulo, “*Female directors and corporate cash holdings in the presence of internal dealings*”, estudia el papel que juega la diversidad de género en el consejo de administración y en particular en el mantenimiento de efectivo en un entorno caracterizado por la existencia de OPVs. Los resultados muestran que, en el entorno descrito, la presencia de consejeras incide negativamente en el mantenimiento de efectivo por parte de la empresa. Consecuentemente, los resultados indican que la presencia de mujeres en el consejo de administración constituye un mecanismo de gobierno corporativo eficaz en relación con las políticas financieras. Es más, en línea con la teoría de la masa crítica, los hallazgos revelan que el papel de gobierno de las consejeras está condicionado por su número, siendo necesaria la presencia de dos o más mujeres en el consejo de administración para que se produzca el efecto señalado. Análisis adicionales muestran que nuestros resultados vienen determinados por las consejeras independientes y no por las ejecutivas.

Contribuciones

Los resultados de este trabajo contribuyen a la literatura precedente de modos diversos. Así, el primer capítulo proporciona evidencia novedosa en relación con el efecto de las OPVs en los honorarios de auditoría en el contexto europeo continental. Así, los hallazgos alcanzados complementan los obtenidos en otros contextos de propiedad concentrada (Al-Dhamari et al., 2018; Habib et al., 2015) mediante la consideración conjunta de las fuerzas de demanda y de oferta que pueden incidir en la relación analizada. Según Knechel y Willekens (2006), este aspecto es importante, ya que la mayoría de los estudios se centran en la perspectiva de oferta ignorando, por tanto, las potenciales fuerzas de demanda que pueden afectar a los honorarios de auditoría. Los resultados revelan que, en el contexto español, el aumento de las OPVs reduce los honorarios de auditoría y esta reducción es consistente con las menores demandas de este tipo de servicios por parte de los propietarios controladores. Finalmente, extendemos la literatura sobre los determinantes de los honorarios de auditoría en el contexto español (De Fuentes y Pucheta, 2009; De Fuentes y Sierra, 2015; Desender et al., 2013; Monterrey y Sánchez, 2007; Sierra et al.,

2019) mostrando que las OPVs condicionan los honorarios de auditoría en el referido contexto.

El segundo capítulo contribuye al conocimiento precedente en relación con el efecto de las OPVs en la calidad de la información contable en el contexto europeo continental. En este sentido, trabajos previos, centrados en el este asiático, ofrecen resultados no concluyentes (Chen et al., 2020; Rahmat, Ahmed y Lobo, 2020; Rahmat, Muniandy y Ahmed, 2020). Adicionalmente, mientras la mayoría de los trabajos previos adoptan una perspectiva internacional (Rahmat, Ahmed y Lobo, 2020; Rahmat, Muniandy y Ahmed, 2020), dificultando la interpretación de los resultados obtenidos debido al problema que supone separar los hallazgos derivados de los efectos a nivel de empresa de los inducidos por el efecto país, nuestro estudio, centrado en un solo país, nos permite una interpretación más clara de los resultados obtenidos. Asimismo, mientras algunos estudios previos analizan únicamente las transacciones que realiza la empresa con sus filiales (Chen et al., 2020), esta investigación proporciona un marco más completo sobre el efecto de las OPVs en la calidad de la información contable, al considerar no sólo la naturaleza de las transacciones, sino también la parte relacionada con la que se acometen. Además, los resultados del estudio contribuyen a la literatura centrada en el análisis del papel de gobierno desempeñado por las mujeres en el consejo de administración y, en particular, sobre su relevancia en las políticas de *reporting* financiero (Arun et al., 2015; Damak, 2018; García et al., 2017; Gull et al., 2018; Harakeh et al., 2019; Kyaw et al., 2015; Orazalin, 2020; Srinidhi et al., 2011; Sun et al., 2011; Thiruvadi y Huang, 2011; Waweru y Prot, 2018). Así, nuestros hallazgos revelan que las consejeras independientes constituyen un mecanismo de supervisión efectivo en relación con las políticas de divulgación de información contable a medida que aumentan las OPVs.

Finalmente, el tercer capítulo proporciona evidencia empírica novedosa sobre la incidencia de las consejeras en el mantenimiento de efectivo en un contexto caracterizado por la presencia de transacciones entre partes relacionadas. Así, este ensayo contribuye a la literatura previa centrada en explorar el papel de la diversidad de género en el gobierno corporativo (Ferrero et al., 2013; Kang et al., 2007; Orazalin, 2020; Ullah et al., 2020), mostrando que la presencia de mujeres en el consejo de administración cumple un papel

de supervisión eficaz en relación con las políticas financieras corporativas en empresas que se implican en OPVs. Este estudio, contribuye, por tanto, al creciente cuerpo de trabajos centrado en el análisis de la eficacia del papel de supervisión de las mujeres en el consejo de administración (Adams y Ferreira, 2009; Gul et al., 2011) y de la literatura que analiza el comportamiento de las consejeras en diferentes entornos (Ahmed y Atif, 2018; Johnson y Powell, 1994). Asimismo, los resultados amplían el actual debate académico en relación con el impacto de la diversidad de género en el comportamiento corporativo (Arun et al., 2015; Cambrea et al., 2019; Garcia et al., 2017).

Conclusiones

A pesar de que las OPVs han jugado un papel importante en los grandes escándalos financieros acaecidos en las últimas décadas, la evidencia empírica sobre el efecto de las OPVs en el comportamiento corporativo no es concluyente (Chen et al., 2020; Fang et al., 2018; Habib et al., 2015; Jiang et al., 2010; Kohlbeck y Mayhew, 2017; Nekhili et al., 2021; Rahmat, Ahmed y Lobo, 2020; Rahmat, Muniandy y Ahmed, 2020). De esta manera, en esta tesis se analiza el efecto de las OPVs en diferentes dimensiones del comportamiento corporativo. Así, en los dos primeros capítulos se analiza el efecto de las OPVs en las políticas de *reporting* financiero y auditoría, mientras que en el tercero se considera el efecto de la presencia de mujeres en el consejo de administración en las políticas financieras corporativas en aquellas empresas que realizan OPVs.

Los resultados muestran que las OPVs condicionan de modo diverso el gobierno corporativo. Así, las OPVs reducen los honorarios de auditoría y la calidad de la información contable divulgada. Además, el trabajo también revela la importancia de la diversidad de género en el consejo de administración en presencia de OPVs, dado que los resultados indican que las consejeras independientes mitigan la incidencia negativa de las OPVs en la calidad de la información contable divulgada. Finalmente, se constata que, en presencia de OPVs, la participación de las mujeres en el consejo de administración reduce la propensión de la empresa a mantener efectivo, lo que disminuye los costes de agencia asociados a los flujos de caja libre y mejora el gobierno corporativo.

Profundizando en estos hallazgos, se puede concluir que los resultados relativos al efecto de las OPVs en los honorarios de auditoría evidencian una incidencia negativa que sugiere que las características del entorno institucional español proporcionan a los auditores escasos incentivos a intensificar el trabajo de auditoría o a añadir una prima de riesgo al precio final de sus servicios, en presencia de este tipo de operaciones. Por el contrario, en presencia de OPVs, los auditores son más proclives a adaptarse a las necesidades de sus clientes. Así, dado que las características del entorno institucional español predicen unas menores demandas de auditoría por parte de los propietarios dominantes a medida que aumenta la cuantía de las OPVs, los menores honorarios observados son consistentes con la tendencia de los auditores a acomodarse a las demandas de un menor alcance de los servicios de auditoría por parte de los propietarios controladores. Esta explicación se encuentra en línea con los resultados alcanzados en análisis posteriores que revelan que las OPVs disminuyen la probabilidad de que la empresa contrate a alguna de las cuatro grandes firmas de auditoría.

Además, los resultados alcanzados en esta tesis revelan que las OPVs reducen la calidad de la información contable divulgada por la empresa. Estos hallazgos sugieren el uso oportunista de las OPVs por parte de los accionistas controladores, que recurren a la manipulación de los resultados contables para enmascarar este tipo de prácticas. También se muestra que el efecto negativo de las OPVs en la calidad de la información contable viene fundamentalmente inducido por las transacciones con directivos y accionistas significativos, así como por las transacciones relacionadas que poseen mayor probabilidad de uso oportunista por parte de los agentes internos. Adicionalmente, mostramos que la presencia de mujeres en el consejo de administración mitiga el efecto negativo de las OPVs en la calidad de la información contable divulgada.

Finalmente, esta tesis también pone de manifiesto que, ante la presencia de OPVs, las mujeres en el consejo de administración promueven una reducción de los niveles de efectivo que mantiene la empresa. Estos resultados indican que las consejeras constituyen un mecanismo de gobierno corporativo eficaz en relación con las políticas financieras corporativas. Asimismo, se pone de manifiesto que este efecto viene inducido por las consejeras independientes. Finalmente, los resultados también revelan que este papel de

gobierno viene condicionado por la presencia de dos o más consejeras independientes. En este sentido, los hallazgos sugieren que las consejeras independientes pueden disciplinar las políticas financieras de los agentes internos, promoviendo la tendencia a reducir el mantenimiento del nivel de efectivo en aquellas empresas que se comprometen con OPVs.

Teniendo en cuenta todo lo expuesto anteriormente, los resultados del presente estudio son relevantes para reguladores, auditores, inversores y directivos, puesto que muestran el efecto de las OPVs en distintas dimensiones de la actuación corporativa en un contexto caracterizado por la débil protección del inversor externo y por el escaso riesgo de litigio, donde el principal conflicto de agencia deriva del riesgo de expropiación de los accionistas minoritarios por parte de los propietarios controladores.

La tesis sugiere futuras líneas de investigación. En primer lugar, sería interesante explorar la relación entre las OPVs y los honorarios recibidos por el auditor por otros servicios distintos a los de la auditoría. En segundo lugar, podría ser relevante conocer el efecto de la incidencia de otros mecanismos de gobierno corporativo, distintos al considerado en el presente trabajo, en la relación entre las OPVs y la calidad de la información contable divulgada. Por último, también sería de gran interés estudiar el papel que desempeña la naturaleza del accionista controlador en la relación entre las OPVs y los mecanismos de gobierno corporativo considerados, puesto que mientras la concentración de propiedad mide el poder del accionista controlador, su identidad se relaciona con el modo de ejercitar el control (Thomsen y Pedersen, 2000). Esperamos abordar estos tópicos en futuras investigaciones.

INTRODUCTION

Related party transactions (RPTs) have attracted the interest of investors, auditors, policymakers and academics globally. Although these transactions can be beneficial to firms - particularly in institutional settings where external financing is costly and uncertain - anecdotal evidence from major corporate scandals has emphasized the risks that these internal dealings entail. Furthermore, empirical evidence has shown that RPTs might be used by those who effectively control the firm in order to tunnel corporate resources (e.g., Berkman et al., 2009; Bertrand et al., 2002; Johnson et al., 2000).

In line with the above, international regulatory bodies have widely expressed their concern regarding RPTs and have passed different regulations aimed at preventing their opportunistic use. In this sense, IFRS (IAS 24) defines RPTs as a transfer of resources, services or obligations between a reporting entity and a related party. Additionally, IAS 24 states:

“A person or a close member of that person’s family is related to a reporting entity if that person has control, joint control, or significant influence over the entity or is a member of its key management personnel. An entity is related to a reporting entity if, among other circumstances, it is a parent, subsidiary, fellow subsidiary, associate, or joint venture of the reporting entity, or it is controlled, jointly controlled, or significantly influenced or managed by a person who is a related party”.

In this line, IAS 24 requires firms to disclose the nature of the related party relationship, the information about the transaction and outstanding balances, including commitments, that are necessary for users to understand what potential effect the relationship might have on financial statements. Moreover, ISA 550 (IAASB, 2009),

which deals with auditors' responsibilities regarding related party transactions, argues that fraud may be more easily committed through related parties. ISA 550 thus highlights the importance of auditors' scepticism in the presence of RPTs. Recently, Directive (EU) 2017/828, which seeks to encourage long-term shareholder engagement, focuses on RPTs and, particularly, on the damage these transactions may cause to the firm's shareholders.

From the academic field, most empirical evidence reveals that RPTs lead to lower firm value (e.g., Berkman et al., 2009; Bona et al., 2017; Ge et al., 2010; Kohlbeck & Mayhew, 2010). However, the relation between RPTs and corporate performance is not so clear. The existing literature provides mixed results and focuses mainly on the US and East Asia, such that findings are therefore far from conclusive (e.g., Chang & Hong, 2000; Chen et al., 2020; Fang et al., 2018; Habib et al., 2015; Kohlbeck & Mayhew, 2017; Peng et al., 2011; Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020; Ryngaert & Thomas, 2012). The different results to emerge may consequently shed light on the important role that institutional features might play when investigating the effect of RPTs on corporate performance.

In this sense, the Spanish institutional setting is characterized by a low litigation risk and a low investor protection environment (Djankov et al., 2008). In such a setting, ownership concentration is prevalent, and the main agency problem derives from the potential expropriation of minority shareholders by controlling owners (Cuervo, 2002). Moreover, controlling owners usually show a voting-cash flow wedge (La Porta et al., 1999; Santana et al., 2009), which increases their incentives to tunnel corporate resources through RPTs. Previous wedge thus enables these dominant shareholders to receive the full benefits whilst bearing only a fraction of the cost associated with the opportunistic

use of RPTs. Additionally, Spanish institutional features reduce the likelihood that controlling shareholders will be sued when engaging in opportunistic RPTs. According to Elistratova et al. (2016) about 50% of Spanish listed firms engaged in RPTs over the period 2005-2014, while Bona et al. (2017) show that RPTs between firms and their blockholders reduce company value.

In this context, this research seeks to analyse what impact RPTs might have on different dimensions of corporate behaviour in a sample of non-financial Spanish listed firms. The thesis includes three chapters, and each chapter is an independent essay aimed at exploring what role RPTs play in different dimensions of corporate performance.

The first chapter, which was accepted for publication in the *Spanish Journal of Finance and Accounting* in 2022, investigates the effect of RPTs on audit fees. The results reveal that RPTs reduce audit fees. This finding is consistent with features of the Spanish institutional setting, such as low investor protection and low litigation risk, making auditors less prone to incorporate agency conflicts associated to RPTs in the final fee (supply perspective). In contrast, auditors are more likely to be influenced by their clients' needs (demand perspective).

The second chapter investigates the effect of RPTs on corporate earnings quality. The results show a negative effect of RPTs on earnings quality. Moreover, our 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 managers' self-interest. These results are consistent with the self-dealing explanation, which states that controlling shareholders engage in earnings management to conceal the

opportunistic use of RPTs and so escape unnecessary scrutiny from market participants and regulators. Further analysis shows that the presence of independent female directors reduces the negative impact of RPTs on earnings quality. This result is consistent with female directors being an effective corporate governance mechanism in terms of financial reporting policies as RPTs increase.

Finally, the third chapter focuses on what role board gender diversity plays in corporate cash holdings in the presence of internal dealings. The results show that, in the presence of such dealings, female directors reduce corporate cash holdings and that this reduction constitutes an effective corporate governance mechanism regarding financial corporate policies. Additionally, in line with the critical mass theory, the findings indicate that this governance role of female directors is critically dependent on their number. The presence of two or more female directors is thus required for this positive influence to emerge. Further analysis reveals that our results are driven by independent female and not by executive female directors.

This study contributes to the previous literature in several ways. In the first chapter, we expand the scarce literature examining the relation between RPTs and audit fees in a dominant owner context (e.g., Al-Dhamari et al., 2018; Habib et al., 2015). Moreover, in contrast to these previous studies, we consider both supply and demand perspectives, and we reveal that major shareholders' lower demands for audit coverage in the Spanish setting are the main drivers of audit fees.

In our second chapter, we provide evidence concerning what consequences RPTs have on earnings quality in the Spanish context. While existing studies adopt a cross-

country perspective (Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020) and focus on East Asia (Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020; Chen et al., 2020) where transactions with affiliates prevail, we centre our research on a single continental European country where the majority of RPTs occur between the firm and its directors and major shareholders. Our results reveal that the effect of RPTs on earnings quality depends not only on the nature of the related transaction, but also on the related party involved. Additionally, we provide novel evidence concerning the role of female directors in the relation between RPTs and earnings quality.

Finally, the results from the last chapter add to the literature on the monitoring effectiveness of female directors (Arun et al., 2015; Gull et al., 2018; Harakeh et al., 2019; Orazalin, 2020; Srinidhi et al., 2011). Moreover, this study provides novel evidence on the governance role of female directors in the presence of internal dealings.

CHAPTER I.

Related party transactions and audit fees in a dominant owner context

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1. Introduction

In this study, we investigate the effect of RPTs on audit fees. Accounting scandals involving firms such as Enron, WorldCom, Hollinger and Refco in the US, and Parmalat, Pescanova or Bankia in Europe, have eroded public confidence in the financial reporting process and audit function. In fact, related party transactions (RPTs) seem to have been a major problem in these financial scandals. Although these transactions were supposedly conducted at arm's length, in practice they benefited the principals involved (i.e., managers, large shareholders or their relatives).

Accounting organizations have long expressed concerns regarding the potential consequences of RPTs in capital markets (e.g., FASB, 1982; IFRS, 2009). However, available empirical evidence has failed to reach any clear consensus concerning how harmful RPTs might prove to be (Bell & Carcello, 2000; Beasley et al., 2001; Apostolou et al., 2001; Wilks & Zimbelman, 2004; Moyes et al., 2005; Gordon et al., 2007; Louwers et al., 2008). Despite this lack of consensus, there is no doubt that the audit function has an important part to play in the presence of RPTs. In this sense, external auditors play a critical role in validating the firm's accounting information and the audit function is thus expected to facilitate the operation of capital markets and to promote the efficient flow of scarce human and financial capital towards promising investment opportunities (Bushman & Smith, 2003). However, very few studies have considered auditors' response in the presence of RPTs (e.g., Bennouri et al., 2015; Fang et al., 2018; Jiang et al., 2010). Furthermore, empirical evidence concerning the effect of RPTs on audit fees is recent and scarce, such that any results remain far from conclusive (e.g., Al-Dhamari et al., 2018; Habib et al., 2015; Kohlbeck & Mayhew 2017).

In the current paper, we extend this body of research by investigating the effect of RPTs on audit fees in a continental European setting. To fulfil this aim, we use a sample of Spanish listed firms over the period 2005-2017. We conduct our main empirical analysis by regressing total audit fees on RPT values and by controlling for a diversity of audit fee determinants. Our results show a negative effect of RPTs on audit fees. Thus, the low investor protection and low litigation risk that characterize the Spanish setting make auditors less prone to incorporate agency conflicts related to RPTs in the final fee and, in contrast, auditors are more likely to respond to their auditee's needs.

Our study makes several contributions. By integrating both supply and demand side arguments, we contribute to the scant research on auditor response to RPTs in a dominant owner context (e.g., Fang et al., 2018; Jiang et al., 2010) and, in particular, to the recent and very limited empirical evidence regarding the effect of RPTs on audit fees in that context (e.g., Al-Dhamari et al., 2018; Habib et al., 2015). Furthermore, our work complements the findings in Kohlbeck and Mayhew (2017) who conducted their study in the US context where, unlike continental Europe, litigation risk for managers, auditors and board members is higher and financial and audit reporting are the main means of solving agency conflicts derived from the separation between ownership and control. Finally, our work contributes to studies exploring the drivers of audit fees in the Spanish context (De Fuentes & Pucheta, 2009; De Fuentes & Sierra, 2015; Desender et al., 2013; Monterrey & Sánchez, 2007; Sierra et al., 2019) by showing a new driver of audit fees in the Spanish context, namely, the amount of RPTs.

The rest of the paper is organized as follows. The second section reviews the theoretical background and develops the hypotheses. The third section presents the

research design and in the fourth section we show our results. Finally, the conclusions of the study are presented in section 5.

2. Literature review and hypotheses development

Previous literature has revealed that auditors play an active monitoring role in the presence of RPTs. Jiang et al. (2010) report that a qualified audit opinion is much more likely to be received by Chinese listed firms with high levels of intercorporate loans. In a similar vein, Fang et al. (2018) find a positive effect of certain RPTs on auditors' propensity to issue a modified audit opinion. Other studies consider that RPTs increase audit risk and affect auditor performance. Bennouri et al. (2015) investigate the relation between the presence of auditors with a brand-name reputation for providing high quality audit reports and the number of RPTs reported by the firm. The authors find that French firms audited by Big 4 auditors report fewer RPTs due to the accounting uncertainty surrounding RPT reporting. Furthermore, some recent studies have investigated the auditor's willingness to price audit risk associated to RPTs. Thus, Habib et al. (2015) find that RPTs trigger an increase in audit fees in Chinese listed firms. Further analysis shows relatively high audit fees for RPT loans and capital transfers when listed parents transact with their subsidiaries. In contrast, Al-Dhamari et al. (2018) found no effect of RPTs on audit fees for Malaysian firms. Further analysis carried out by the authors shows a positive effect of related party sales and purchases on audit fees. Finally, some studies have evidenced that audit fees might reflect insiders' demands for audit quality. In the US context, Kohlbeck and Mayhew (2017) show a negative effect of RPTs on audit fees. The authors attribute their findings to firms that commit to RPTs demanding lower quality audits, in line with the literature on private control benefits. However, further analysis

shows that those firms who commit to RPTs which are less likely to have legitimate business purposes that subsequently restate, pay higher fees. As the authors point out, this latter type of RPT thus increases audit risk and auditor willingness to incorporate this agency conflict into the audit pricing.

As shown, empirical evidence concerning the effect of RPTs on audit fees is very recent and scarce, with the results proving to be mixed and far from conclusive. Moreover, findings from previous studies cannot be extrapolated to a continental European setting due to institutional differences. With the exception of Kohlbeck and Mayhew (2017) who carry out their study in the US market, the remaining empirical evidence on the effect of RPTs on audit fees has focused on East Asian economies (Al-Dhamari et al., 2018; Habib et al., 2015) and particularly in the Chinese context where state ownership is prevalent and listed firms are consequently subject to substantial government influence. Compared to privately owned Spanish listed firms, Chinese state-owned firms face an extra agency relation, since controlling owners are themselves agents of the true owners - the state (Chen et al., 2011). As pointed out by previous authors, Chinese controlling shareholders who usually gain effective control of the firm, are largely isolated against pressures from non-state minority shareholders but enjoy the benefit of a large stream of direct capital. The nature of this government interference in the economy might shape in a different way auditor's and controlling shareholder's incentives to affect audit fees. In the Chinese context, auditors therefore find themselves struggling to strike a balance between complying with the Guanxi code, common in Confucian cultures and based on the principles of trust, bonding, reciprocity and empathy (Yau et al., 2000) to preserve auditor reputation and an impartial assessment of the company's true and fair situation (Liu,

2013; Du et al., 2015). Results from previous studies are thus difficult to extrapolate to a continental European setting.

Thus, in contrast to the US, where no shareholder has powerful incentives to monitor managers because it would prove complicated and costly (Jensen & Meckling, 1976), ownership in continental Europe is often concentrated in the hands of controlling owners who are ideally placed to supervise managers (La Porta et al., 1999; Cuervo, 2002).

However, as RPTs increase, the agency conflict between dominant and minority shareholders also increases because dominant shareholders might commit to RPTs for their own benefit at the expense of minority shareholder wealth. In this sense, the low investor protection and litigation risk that characterize the Spanish setting (Djankov et al., 2008; La Porta et al., 1998) decrease the likelihood that dominant shareholders will be sued when they opportunistically commit to RPTs. Under the absence of a strong legal risk, the audit function thus becomes an unwanted cost (beyond the legal requirement) that is increasingly borne by the controlling shareholder (Barroso et al., 2018) and which would hinder the latter's capacity to use RPTs to extract rents. According to this demand perspective, features of the Spanish institutional setting would help to decrease controlling shareholder's demand for audit coverage.

From a supply-side perspective, Simunic (1980) conjectures that audit fees incorporate both audit effort and audit risk premium and the scale of agency conflicts could have an impact on both (e.g., Barroso et al., 2018; Fan & Wong, 2005; LaFond & Roychowdhury, 2008). Accordingly, some studies have pointed out the need for auditors to expand the scope of their audit for firms with greater agency conflicts because of

increased audit risk and auditor business risk (e.g., Houston et al., 1999; Khalil et al., 2008; LaFond & Roychowdhury, 2008). However, in competitive audit markets, the low investor protection and litigation risk that characterize the Spanish setting (e.g., Djankov et al., 2008; La Porta et al., 1998) provide no incentives for auditors to incorporate agency conflicts associated with RPTs into audit pricing who, in contrast, seem more sensitive towards auditee needs.

Considering all the above, the lower incentives that dominant shareholders have for audit coverage mainly drive audit fees in the Spanish setting and therefore, we predict a negative effect of RPTs on audit fees. Consequently, we state our hypothesis as follows:

H1: As the amount of RPTs increases, external audit fees decrease

3. Research design

3.1 Data

The sample consists of Spanish listed companies during the period 2005-2017. Our sample period starts in 2005 because International Financial Reporting Standards (IFRS) were adopted that year. We obtained financial data from the Osiris database by Bureau van Dijk Electronic Publishing (BvDEP). The rest of the data was collected from the Annual Corporate Governance Report published by the Spanish Stock Exchange Commission (CNMV, Comisión Nacional del Mercado de Valores). To avoid any influence of outliers, variables were winsorized at the 1% and 99% level. The final sample consists of 1,011 firm-year observations, corresponding to 97 non-financial Spanish firms listed on the electronic market at the end of 2017.

3.2 Related party transactions

According to Order EHA/3050/2004, in the annual corporate governance report (ACGR) Spanish listed firms must disclose different information regarding RPTs, such as the type of transaction and the related party involved (significant shareholders, directors and officers, affiliates not included in the consolidation process and other related parties). We hand-collected this information from the ACGR. In line with previous literature (e.g., Al-Dhamari et al., 2018; Habib et al., 2017), we define the variable RPT as the aggregated monetary value of a firm's RPTs deflated by the firm's total assets.

3.3 Variables and model

In line with previous literature (e.g., DeFond et al., 2000; Eshleman & Guo, 2014; Habib et al., 2015; Kohlbeck & Mayhew, 2017; Seetharaman et al., 2002), our dependent variable is the natural logarithm of external audit fees (FEE) obtained from the annual corporate governance reports published by the Spanish Security Exchange Commission. To test our hypothesis, we estimate the following equation:

$$\begin{aligned}
 FEE_{it} = & \alpha_0 + \alpha_1 RPT_{it} + \alpha_2 OWNER_{it} + \alpha_3 DIVERG_{it} + \alpha_4 LOSS_{it} + \alpha_5 VAR_ROA_{it} \\
 & + \alpha_6 INVRECEIV_{it} + \alpha_7 LEV_{it} + \alpha_8 QUICK_{it} + \alpha_9 EBIT_{it} + \alpha_{10} SIZE_{it} \\
 & + \alpha_{11} FOREIGN_{it} + \alpha_{12} CI_{it} + \alpha_{13} SHARE_{it} + \alpha_{14} BIG4_{it} \\
 & + \alpha_{15} CHANGE_{it} + \eta_k + \lambda_j + \varepsilon_i \quad \text{Eq. (1)}
 \end{aligned}$$

In Eq. 1, the effect of a firm's RPTs on audit fees is captured by the coefficient α_1 . We also include a set of control variables that previous literature considers to be potential determinants of audit fees. To control for ownership concentration, we include the major shareholder's voting rights level (OWNER). According to the demand

perspective, large shareholders focus more on direct monitoring due to the availability of private communication channels, which reduces their demands for audit assurance (Chan et al., 1993; Firth, 1997). However, from a supply perspective, once a controlling owner obtains effective control of the firm, any increase in voting rights does not further entrench the controlling owner, although their higher cash flow rights in the firm mean that it will cost more to divert the firm's cash flows for private gain (Fan & Wong, 2002). In this setting, there is less need for auditors to expand the scope of their audit or increase a risk premium in the final fee. Consequently, due to the existence of opposing forces, we do not predict a particular sign regarding this relation.

We also include the controlling shareholder's voting-cash flow wedge (DIVERG) to proxy for controlling shareholder entrenchment. From the demand perspective, the higher the wedge, the lower the controlling shareholder's demands for audit quality to avoid outside interference as a way to protect said shareholder's private benefits (Hu et al., 2012). However, from a supply perspective, the increase in agency conflicts might be reflected in the final fee. As a consequence, we do not predict a particular sign for the coefficient of this variable either.

We also control for client risk and client complexity (De Fuentes & Sierra, 2015; Desender et al., 2013; Fan & Wong, 2005; Hay et al., 2006; Kohlbeck & Mayhew, 2017; Sierra et al., 2019; Simunic, 1980; US GAO, 2008). We include a set of variables related to the auditee's financial status to control for client risk. We expect clients with losses (LOSS), greater changes in return on assets (VAR_ROA), a higher amount of account receivables and inventory (INVRECEIV), and higher leverage (LEV) to be riskier and, consequently, to show greater audit fees. Moreover, we expect a higher level of firm

liquidity (QUICK) and auditee profitability (EBIT) to reduce audit risk and, consequently, audit fees. As regards complexity, we predict higher audit fees for larger firms (SIZE) and for firms with foreign sales (FOREIGN).

The model also includes a set of specific audit firm control variables (e.g., De Fuentes & Sierra, 2015; Desender et al., 2013; Eshleman & Guo, 2014; Hay et al., 2006; Kohlbeck & Mayhew, 2017; Sierra et al., 2019; US GAO, 200). We expect a positive effect of client significance for the auditor (CI), industry specialization (SHARE), and audit firm size (BIG4) on audit fees. Finally, we expect a negative effect of auditor change (CHANGE) on audit fees. We define all the variables in the Appendix (Table A1).

4. Empirical results

4.1 Descriptive statistics

Table 1 shows the descriptive statistics for all the variables included in the regressions. The average audit fee (FEE) is 6.187 and the average RPT is 0.048. Interestingly, the average major shareholder's voting rights level (OWNER) in our sample is nearly 30%. We are therefore exploring the relation between RPTs and audit fees in a context where, on average, firms have a controlling owner who retains effective control of the firm. Table 2 includes the correlation matrix. Since some correlation values are above 0.5, in Table 3 we calculate the Variance Inflation Factor (VIF) to test whether multicollinearity is a problem in our analysis. The highest VIF value is 2.36, which is well below 5, indicating that multicollinearity is not a concern in our study (Studenmund, 1997).

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Table 1. Descriptive statistics

| Variables | Mean | SD | 25 th percentile | Median | 75 th percentile |
|------------------|--------|--------|-----------------------------|--------|-----------------------------|
| <i>FEE</i> | 6.187 | 1.586 | 4.989 | 6.056 | 7.329 |
| <i>RPT</i> | 0.048 | 0.122 | 0.000 | 0.003 | 0.033 |
| <i>OWNER</i> | 29.802 | 19.493 | 14.320 | 24.390 | 44.768 |
| <i>DIVERG</i> | 3.674 | 6.408 | 0.000 | 0.000 | 5.440 |
| <i>LOSS</i> | 0.194 | 0.396 | 0.000 | 0.000 | 0.000 |
| <i>VAR_ROA</i> | -0.814 | 6.503 | -0.668 | -0.066 | 0.200 |
| <i>INVRECEIV</i> | 0.243 | 0.170 | 0.104 | 0.219 | 0.359 |
| <i>LEV</i> | 0.311 | 0.190 | 0.152 | 0.295 | 0.447 |
| <i>QUICK</i> | 1.383 | 0.733 | 0.929 | 1.192 | 1.608 |
| <i>EBIT</i> | 0.090 | 0.089 | 0.041 | 0.080 | 0.124 |
| <i>SIZE</i> | 13.342 | 2.013 | 11.807 | 13.195 | 14.771 |
| <i>FOREIGN</i> | 0.915 | 0.278 | 1.000 | 1.000 | 1.000 |
| <i>CI</i> | 31.344 | 27.826 | 13.566 | 21.073 | 35.992 |
| <i>SHARE</i> | 29.940 | 15.578 | 17.352 | 26.737 | 42.215 |
| <i>BIG4</i> | 0.940 | 0.235 | 1.000 | 1.000 | 1.000 |
| <i>CHANGE</i> | 0.081 | 0.273 | 0.000 | 0.000 | 0.000 |

Table 2. Correlation Matrix

| | <i>RPT</i> | <i>OWNER</i> | <i>DIVERG</i> | <i>LOSS</i> | <i>VAR_ROA</i> | <i>INVRECEIV</i> | <i>LEV</i> | <i>QUICK</i> |
|----------------|------------|--------------|---------------|-------------|----------------|------------------|------------|--------------|
| <i>FEE</i> | -0.076** | 0.043 | 0.014 | -0.105*** | 0.031 | -0.267*** | 0.405*** | -0.288*** |
| <i>RPT</i> | | 0.155*** | 0.006 | 0.059** | 0.022 | -0.046 | 0.089*** | -0.082*** |
| <i>OWNER</i> | | | 0.303*** | 0.027 | -0.001 | -0.080*** | 0.069** | 0.067** |
| <i>DIVERG</i> | | | | 0.005 | 0.000 | -0.135*** | 0.005 | -0.046 |
| <i>LOSS</i> | | | | | -0.219*** | -0.091*** | 0.094*** | -0.113*** |
| <i>VAR_ROA</i> | | | | | | 0.036 | -0.004 | 0.032 |

Related party transactions and audit fees in a dominant owner context

| | <i>EBIT</i> | <i>SIZE</i> | <i>FOREIGN</i> | <i>CI</i> | <i>SHARE</i> | <i>BIG4</i> | <i>CHANGE</i> |
|------------------|-------------|-------------|----------------|-----------|--------------|-------------|---------------|
| <i>INVRECEIV</i> | | | | | | -0.496*** | 0.286*** |
| <i>LEV</i> | | | | | | | -0.182*** |
| <i>FEE</i> | 0.113*** | 0.754*** | 0.197*** | 0.019 | 0.200*** | 0.288*** | -0.063** |
| <i>RPT</i> | 0.107*** | 0.014 | -0.111*** | 0.104*** | -0.021 | -0.159*** | 0.052* |
| <i>OWNER</i> | 0.034 | 0.033 | 0.037 | -0.039 | 0.067** | -0.080*** | 0.040 |
| <i>DIVERG</i> | 0.011 | 0.042 | 0.018 | 0.072** | -0.001 | -0.071** | 0.043 |
| <i>LOSS</i> | -0.409*** | -0.393*** | -0.087*** | 0.097*** | -0.010 | -0.170*** | 0.008 |
| <i>VAR_ROA</i> | 0.126*** | 0.103*** | -0.008 | 0.035 | -0.087*** | -0.020 | 0.045 |
| <i>INVRECEIV</i> | 0.081*** | -0.248*** | 0.194*** | -0.209*** | -0.121*** | 0.023 | -0.020 |
| <i>LEV</i> | 0.125*** | 0.264*** | 0.099*** | 0.147*** | 0.115*** | -0.021 | 0.003 |
| <i>QUICK</i> | 0.053* | -0.177*** | -0.013 | -0.055* | -0.103*** | -0.060** | -0.013 |
| <i>EBIT</i> | | 0.373*** | 0.191*** | -0.119** | -0.092*** | 0.177*** | -0.029 |
| <i>SIZE</i> | | | 0.145*** | 0.009 | 0.159*** | 0.284*** | -0.058* |
| <i>FOREIGN</i> | | | | -0.119*** | -0.159*** | -0.005 | -0.004 |
| <i>CI</i> | | | | | -0.561*** | -0.570*** | 0.046 |
| <i>SHARE</i> | | | | | | 0.388*** | -0.052* |
| <i>BIG4</i> | | | | | | | -0.051* |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

Table 3. Multicollinearity test

| | |
|------------------|------|
| <i>RPT</i> | 1.13 |
| <i>OWNER</i> | 1.18 |
| <i>DIVERG</i> | 1.05 |
| <i>LOSS</i> | 1.44 |
| <i>VAR_ROA</i> | 1.07 |
| <i>INVRECEIV</i> | 1.64 |
| <i>LEV</i> | 1.55 |
| <i>QUICK</i> | 1.17 |
| <i>EBIT</i> | 1.50 |
| <i>SIZE</i> | 1.87 |
| <i>FOREIGN</i> | 1.28 |
| <i>CI</i> | 2.36 |
| <i>SHARE</i> | 1.89 |
| <i>BIG4</i> | 1.71 |
| <i>CHANGE</i> | 1.01 |

4.2 Multivariate test

Our model might be affected by endogeneity that could stem from unobserved heterogeneity and simultaneity. Unobserved heterogeneity arises because certain variables related to specific firm characteristics, such as firm culture or firm strategy, might affect the effect of RPTs on audit fees. Simultaneity may occur if our explanatory variable (RPT) is also a function of our dependent variable (FEE). In this sense, previous studies (Bennouri et al., 2015) find that the presence of Big 4 auditors affects RPTs. Although Bennouri et al. (2015) focus on Big 4 auditors and do not directly examine audit fees, the presence of Big 4 auditors has been shown to increase audit quality and, consequently, audit fees (e.g., Chan et al., 1993; Francis, 1984; Palmrose, 1986; Simon & Francis, 1988). Thus, since it is possible that RPT could be a function of audit fees, we use a two-stage least squares (2SLS) approach with firm fixed effects to address this source of endogeneity (simultaneity). In the first stage, we regress RPTs on a set of instrumental variables, while in the second stage we regress audit fees on the fitted value of the RPTs obtained in the first stage. The most critical aspect of using this approach

involves selecting the appropriate instruments. Since previous literature has shown that some ownership characteristics might affect RPTs (e.g., Elistratova et al., 2016; Ryngaert & Thomas, 2012), we use the following variables as instruments: DIOWNER (percentage of director ownership), and FAM (a dummy variable that takes the value 1 if the controlling shareholder of the firm is a family, and 0 otherwise). We also include the control variables from Eq. 1¹. The results of the second stage (Model 1. Table 4) evidence that RPTs reduce audit fees ($\alpha_1 = -7.737$, $t = -2.636$). This result is consistent with features of the Spanish institutional setting decreasing auditor tendency to incorporate agency conflicts related to RPTs in audit pricing and alternatively reflecting lower dominant owner demands for audit quality as RPTs increase.

Specifically, our results differ from those reported by Habib et al. (2015) in the Chinese context, with said authors evidencing a positive effect of RPTs on audit fees. Moreover, the authors find that this positive effect is conditioned by the adoption of CAS 36, which requires firms to recognize the difference between RPT price and arm's length market price as capital reserve on the balance sheet. The authors attribute their findings to RPTs increasing audit risk and to auditors being likely to incorporate agency conflicts related to RPTs in audit pricing. Since Habib et al. (2015) find a non-significant effect of RPTs on audit fees in the pre-CAS period, their findings suggest that institutional features and, in particular the regulatory environment, might affect auditor willingness to incorporate agency conflicts related to RPTs into the final fee.

In contrast, in a continental European setting, we show that auditors are less likely to incorporate RPTs into the audit fee and, on the other hand, are more sensitive to their

¹ The results of the first stage of the 2SLS approach are included in the Appendix (Table A 2)

auditee's needs. Furthermore, our results also differ from those of Al-Dhamari et al. (2018) who find no significant effect of RPTs on audit fees in Malaysia. Finally, our results partially concur with those obtained by Kohlbeck and Mayhew (2017) in the US context. While previous authors evidence that firms with RPTs attain lower audit quality, they find a positive effect of Tone RPTs associated with subsequent restatements on audit fees. However, while previous authors attribute their results of a negative effect of Tone RPTs on audit quality to lower demands for monitoring by management, in line with the literature on private control benefits, Jorgensen and Morley (2017) question previous authors' findings and consider them "surprising". As they point out, in a high litigation environment such as the US, they would expect auditors to increase audit effort when they observe Tone RPTs, since they increase the riskiness of the audit and consequently, in the previous authors' view, it seems unlikely that auditors would be willing to carry out less work where a risk factor such as Tone RPTs is present.

As regards the control variables, the results are generally consistent with our expectations and with prior research. According to the previous literature, client with losses present higher audit fees. Moreover, as the client significance for the auditor (CI), leverage (LEV), size (SIZE) or the industry specialization (SHARE) increases, audit fees also increase. However, contrary to our predictions and in line with Kohlbeck and Mayhew (2017), we find that audit fees drop as VAR_ROA increases. We consider the possibility that firms experiencing VAR_ROA could be reluctant to hire BIG 4 auditors, what leads to lower audit fees. In addition, we fail to reject the over-identifying restrictions test (Sargan p-value = 0.922), which indicates that our instruments are jointly exogenous.

Since the 2SLS estimator yields consistent coefficients by reducing efficiency, especially in the presence of heteroskedasticity, we finally use a more efficient approach; namely, the generalized method of moments (GMM), which is robust to the presence of heteroskedasticity (Baum et al., 2003). Moreover, the GMM estimator uses instrumental variables that are retrieved from the lagged values, thereby eliminating the need to find appropriate external instruments (Roodman, 2009).

More specifically, we apply the two-step GMM estimator by using the `xtabond2` module in Stata provided by Roodman (2009). Model 2 (Table 4) reports the results of the GMM estimator. In line with our previous expectations, we find that RPTs reduce audit fees ($\alpha_1 = -0.831$, $t = -2.818$). Since the results obtained with the two-step GMM estimator can be considered consistent only if the instruments are valid and if there is no second-order autocorrelation, we first test the validity of the instruments by using the Hansen test. The null hypothesis shows the validity of the instruments. We then test for the existence of second-order autocorrelation. Since we cannot reject the null hypothesis, namely, the non-existence of autocorrelation, we may conclude that the results obtained with the two-step GMM estimator are robust. Finally, we use the Chow test to check the existence of a possible structural change over the period. The Chow test allows us to determine whether our regression coefficients are different for split data sets (Chow, 1960). It tests whether one regression line or two separate regression lines best fit a split set of data. We have considered two potential breaking points, which represent the most substantial changes in the Spanish audit regulation within the studied period: years 2010 and 2016. Thus, the first point is the approval of the Law 12/2010, which replaced Auditing Law 19/1988 and transposed into the Spanish legal system the European

Directive 2006/43/EC. The second point corresponds to the entry into force of the Law 22/2015, which transposed into the Spanish legal system the Directive 2014/56/EU of the European Parliament and of the Council, of 16 April 2014. The results show there is no structural change over the periods considered².

Table 4. Related-party transactions and audit fees

| | | 2SLS | GMM |
|------------------|-----------------------|---------------------------------|-----------------------|
| | Predicted Sign | Second-stage Model 1 | Model 2 |
| <i>RPT</i> | - | -7.737*** (-2.636) | -0.831*** (-2.818) |
| <i>OWNER</i> | ? | 0.004 (-0.775) | -0.002 (-0.786) |
| <i>DIVERG</i> | ? | -0.005 (-0.775) | -0.012** (-2.082) |
| <i>LOSS</i> | + | 0.323*** (3.271) | 0.182* (1.803) |
| <i>VAR_ROA</i> | + | -0.007* (-1.583) | 0.001 (0.131) |
| <i>INVRECEIV</i> | + | 0.553 (1.112) | 0.787** (2.616) |
| <i>LEV</i> | + | 0.776*** (2.383) | 0.086 (0.358) |
| <i>QUICK</i> | - | 0.074 (0.963) | -0.569*** (-6.154) |
| <i>EBIT</i> | - | 0.297 (0.545) | -0.357 (0.669) |
| <i>SIZE</i> | + | 0.193*** (3.933) | 0.275*** (6.362) |
| <i>FOREIGN</i> | + | -0.403 (-1.084) | -0.132 (-0.604) |
| <i>CI</i> | + | 0.006** (1.887) | 0.011*** (4.118) |
| <i>SHARE</i> | + | 0.012*** (2.283) | 0.016*** (3.876) |
| <i>BIG4</i> | + | -0.381 (-0.956) | 1.276*** (5.949) |
| <i>CHANGE</i> | - | 0.106 (0.985) | -0.224** (-2.313) |
| <i>Constant</i> | | | 1.816*** |

² The results of the Chow tests are available upon request

| | | |
|--------------------------------|------------|------------|
| | | (2.821) |
| <i>Year effect</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Industry effect</i> | <i>No</i> | <i>Yes</i> |
| <i>Hansen</i> | | 55.510 |
| | | (0.456) |
| <i>m2 test</i> | | -1.500 |
| | | (0.132) |
| <i>Sargan test: p value</i> | 0.922 | |
| <i>Endogeneity test: p-val</i> | 0.000 | |
| <i>z1 test</i> | | 29.030*** |
| <i>z2 test</i> | | 43.090*** |
| <i>z3 test</i> | | 8.430*** |
| <i>N</i> | 1011 | 1011 |

The dummy variables η_t and λ_t control for year and industry effects, respectively.

ε_{it} is the error term for firm i in year t .

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 base

4.3 Sensitivity analysis

In order to test the robustness of our results, we extend our analysis in two different ways.

Firstly, since some previous studies (e.g., Kohlbeck & Mayhew, 2017) show that the mere presence of RPTs may affect audit fees, in Table 5 (Model 3) we test our hypothesis by using a dummy variable (RPT_DUMMY) that takes the value 1 if the firm discloses at least one RPT during the year, and 0 otherwise. Secondly, in order to address possible sample selection bias we use the Heckman (1979) two-stage model. Following this methodology, in the first stage we run a Probit model to approach the likelihood that a firm commits to RPTs and we obtain the inverse Mills ratio (IMR)³. In a second stage, the IMR is included in the regression as a control variable to correct the potential bias

³ The estimation model and the results are included in the Appendix (Table A 3).

caused by self-selection (Model 4 in Table 5). Overall, the results from models 3 and 4 are consistent with those obtained in Table 4

Table 5. Related-party transactions and audit fees. Sensitivity analysis

| | Predicted Sign | Model 3 | Model 4 |
|------------------------|----------------|-----------------------|-----------------------|
| <i>RPT_DUMMY</i> | - | -0.268** (-2.404) | -0.245** (-2.243) |
| <i>OWNER</i> | ? | -0.002 (-0.544) | -0.011*** (-2.999) |
| <i>DIVERG</i> | ? | -0.023** (-2.614) | -0.020*** (-3.688) |
| <i>LOSS</i> | + | 0.284** (2.168) | 0.237*** (2.722) |
| <i>VAR_ROA</i> | + | -0.010* (-1.835) | -0.020*** (-3.658) |
| <i>INVRECEIV</i> | + | 0.840** (2.344) | 0.832** (2.533) |
| <i>LEV</i> | + | 0.266 (0.603) | 0.180 (0.462) |
| <i>QUICK</i> | - | -0.592*** (-4.987) | -0.348*** (-5.581) |
| <i>EBIT</i> | - | 0.390 (0.697) | -0.069 (-0.138) |
| <i>SIZE</i> | + | 0.335*** (5.055) | 0.393*** (8.390) |
| <i>FOREIGN</i> | + | -0.293 (-1.201) | -0.155 (-1.048) |
| <i>CI</i> | + | 0.004* (1.875) | 0.005* (1.933) |
| <i>SHARE</i> | + | 0.005* (1.667) | 0.013*** (2.928) |
| <i>BIG4</i> | + | 0.576** (2.254) | 0.141 (0.797) |
| <i>CHANGE</i> | - | -0.240* (-1.807) | -0.135 (-1.255) |
| <i>IMR</i> | ? | | -0.968*** (-4.093) |
| <i>Constant</i> | | 2.860*** (2.795) | 0.842 (1.088) |
| <i>Year effect</i> | | Yes | Yes |
| <i>Industry effect</i> | | Yes | Yes |
| <i>Hansen</i> | | 37.140 (0.791) | 46.720 (0.484) |

| | | |
|----------------|-------------------|-------------------|
| <i>m2 test</i> | -1.520 (0.127) | -1.330 (0.183) |
| <i>z1 test</i> | 15.020*** | 26.970*** |
| <i>z2 test</i> | 20.130*** | 26.510*** |
| <i>z3 test</i> | 3.320*** | 6.250*** |
| <i>N</i> | 1011 | 1011 |

The dummy variables η_t and λ_t control for year and industry effects, respectively.

ε_{it} is the error term for firm i in year t .

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 base

4.4 Further analysis

Previous studies have classified RPTs according to two different criteria: the related party involved in the transaction and the type of transaction (e.g., Habib et al., 2015; Kohlbeck & Mayhew, 2010, 2017). Consequently, in order to determine whether our results are sensitive to previous classifications, we follow Kohlbeck and Mayhew (2017) and classify RPTs according to the type of transaction and the related party involved (Table 6). In line with previous authors, we then classify RPTs in two categories (Table 7); namely, RPTs that are more likely to capture normal business activities (Business), and RPTs that are more likely to capture opportunistic insider behaviour (Tone)⁴.

Table 6. The monetary value (in thousands of €) of transactions by related party and type

| RPT type | Major shareholders | Affiliates |
|---|--------------------|------------|
| Loans/Borrowings | 131,000,000 | 3,271,000 |
| Guarantees | 17,400,000 | 7,433,000 |
| Consulting | 14,600,000 | 156,100 |
| arrangements/legal investment services | or | |
| Leases | 588,300 | 23,500 |

⁴ See the Appendix (Table A 4) for a more comprehensive understanding of the classification of RPTs proposed by Kohlbeck and Mayhew (2017).

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| | | |
|-------------------------------|-------------|------------|
| Related business activities | 94,900,000 | 11,100,000 |
| Unrelated business activities | 15,900,000 | 1,873,000 |
| Stock transactions | 105,000,000 | 1,065,000 |

Table 7. Tone and Business classification

| RPT type | Thousands of € |
|----------|----------------|
| Business | 118,270,000 |
| Tone | 285,400,000 |

Thus, in Model 5 (Table 8) we re-run Eq. 1, considering the variables RPT_BUSINESS and RPT_TONE. In Model 6 (Table 8), we re-run Eq. 2, considering the variables RPT_BUSINESS_DUMMY and RPT_TONE_DUMMY. Finally, in models 7 and 8 (Table 8), we re-run Eq. 3, considering the variables RPT_BUSINESS_DUMMY and RPT_TONE_DUMMY⁵. In all the regressions, the results are consistent with our main findings and provide further evidence of a negative effect of RPTs on audit fees. Therefore, our results are not sensitive to the type of transaction or to the related party involved⁶.

Table 8. Related-party transactions and audit fees. Further analysis

| | Predicted Sign | Model 5 | Model 6 | Model 7 | Model 8 |
|---------------------------|----------------|----------------------|---------------------|----------------------|----------|
| <i>RPT_BUSINESS</i> | ? | -1.289** (-2.301) | | | |
| <i>RPT_TONE</i> | ? | -1.890** (-2.055) | | | |
| <i>RPT_BUSINESS_DUMMY</i> | ? | | -0.203* (-1.868) | -0.518** (-2.293) | |
| <i>RPT_TONE_DUMMY</i> | ? | | -0.230** | | -0.233** |

⁵ Since we need to calculate the inverse Mills ratio (IMR) per variable, two regressions need to be run. The Appendix (Table A 3) also includes the first stages for models 7 and 8.

⁶ Following Kohlbeck and Mayhew (2017), we have also run the main regressions considering two subsamples: (1) major shareholder and directors, and (2) affiliates. We find that RPTs are negatively related to audit fees in both subsamples. Results are available upon request.

Related party transactions and audit fees in a dominant owner context

| | | | | | |
|------------------------|---|-----------|-----------|-----------|------------|
| OWNER | ? | 0.003 | (-2.429) | | (-2.169) |
| | | (0.806) | -0.006** | -0.14** | -0.008** |
| DIVERG | ? | -0.016 | (-2.251) | (-2.063) | (-2.250) |
| | | (-1.456) | -0.034*** | -0.032** | -0.026** |
| LOSS | + | 0.264* | (-2.903) | (-2.187) | (-2.585) |
| | | (1.680) | 0.709*** | 0.090 | 0.062 |
| VAR_ROA | + | -0.022*** | (7.739) | (0.467) | (0.622) |
| | | (-3.961) | -0.017*** | -0.001 | -0.015**** |
| INVRECEIV | + | 1.916*** | (-4.195) | (-0.002) | (-3.039) |
| | | (3.134) | -0.533 | 0.445 | 0.349 |
| LEV | + | 1.495 | (-1.382) | (0.910) | (0.760) |
| | | (0.896) | 0.107 | 0.246 | 0.216 |
| QUICK | - | -0.352** | (0.420) | (0.466) | (0.632) |
| | | (-2.624) | -0.064 | -0.355** | -0.153 |
| EBIT | - | 0.424 | (-1.160) | (-2.375) | (-1395) |
| | | (0.444) | 1.769*** | 0.512 | 1.283** |
| SIZE | + | 0.516*** | (3.545) | (0.553) | (2.132) |
| | | (11.106) | 0.490*** | 0.152** | 0.390*** |
| FOREIGN | + | -0.297 | (11.940) | (2.151) | (7.106) |
| | | (-1.591) | -0.130 | -0.445 | -0.058 |
| CI | + | 0.016*** | (-0.859) | (-1.184) | (-0.244) |
| | | (3.063) | 0.009*** | 0.018*** | 0.010*** |
| SHARE | + | 0.021*** | (2.648) | (3.280) | (2.913) |
| | | (2.901) | 0.012*** | 0.028*** | 0.020*** |
| BIG4 | + | 1.278*** | (2.949) | (4.588) | (3.984) |
| | | (3.281) | 0.728*** | 1.041** | 0.696*** |
| CHANGE | - | -2.505** | (2.711) | (2.559) | (2.924) |
| | | (-2.185) | -0.567** | -0.445* | -0.209* |
| IMR | ? | | (-4.674) | (-1.666) | (-1.783) |
| | | | | -0.222 | -0.916*** |
| Constant | | 2.126*** | | (-1.729) | (-3.480) |
| | | (2.178) | -0.882 | 3.957*** | 0.838 |
| Year effect | | Yes | Yes | Yes | Yes |
| Industry effect | | Yes | Yes | Yes | Yes |
| Hansen | | 34.990 | 47.080 | 27.250 | 35.570 |
| | | (0.564) | (0.767) | (0.787) | (0.842) |
| m2 test | | -1.160 | -1.610 | -1.420 | -1.490 |
| | | (0.247) | (0.108) | (0.154) | (0.137) |
| z1 test | | 39.030*** | 30.760*** | 12.280*** | 19.760*** |
| z2 test | | 65.000*** | 62.830*** | 12.400*** | 20.210*** |
| z3 test | | 10.960*** | 11.460*** | 3.880*** | 3.060*** |
| N | | 1011 | 1011 | 1011 | 1011 |

The dummy variables η_t and λ_i control for year and industry effects, respectively.
 ε_i is the error term for firm i in year t .

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 0.01, p 0.050 and p 0.100, respectively. In parentheses, t-statistics

Finally, since our results on a negative effect of RPTs on audit fees might be mainly driven by the auditee's lower demands for audit assurance, in an effort to endow our findings with greater robustness, we test whether RPTs reduce the likelihood of appointing a BIG4 audit in the Spanish context. In this sense, previous studies have considered BIG4 to proxy for audit quality (e.g., Collier & Gregory, 1996; Choi & Wong, 2007; Desender et al., 2013). In Model 9 (Table 9), we therefore run a Probit model with instrumental variables (DIROWNER, FAM)⁷. Our results evidence that the higher the RPTs the less likely a BIG4 audit is to be appointed ($\alpha_1 = -6.953$, $t = -5.489$). This result is in line with our main finding and reinforces our interpretation concerning the fact that the negative effect of RPTs on audit fees might be explained by lower demands for audit quality as RPTs increase.

⁷ We include a set of control variables considered by previous literature (Bona et al., 2019; Fan & Wong, 2005).

Table 9. Related-party transactions and BIG4. Further analysis.

| Eq. 4: | |
|---------------------------------|-----------------------|
| | Model 9 |
| <i>RPT</i> | -6.953*** (-5.489) |
| <i>OWNER</i> | 0.005 (1.136) |
| <i>DIVERG</i> | -0.020** (-2.024) |
| <i>BOARDSIZE</i> | 0.119*** (3.445) |
| <i>SIZE</i> | 0.182** (2.140) |
| <i>LEV</i> | 0.055 (0.194) |
| <i>ROA</i> | 1.999*** (3.205) |
| <i>Constant</i> | -1.682 (-0.613) |
| <i>Year effect</i> | Yes |
| <i>Industry effect</i> | Yes |
| <i>Log pseudo-likelihood</i> | 572.001 |
| <i>Wald χ^2</i> | 260.420*** |
| <i>Test Wald of exogeneity</i> | 6.190** |
| <i>N</i> | 1011 |

The dummy variables η_t and λ_t control for year and industry effects, respectively.

ε_i is the error term for firm i in year t .

***, **, *: statistically significant at $p .01$, $p .05$ and $p .10$, respectively. In parentheses, t-statistics

5. Concluding remarks

RPTs have played a major role in the collapse of several large companies, and have sparked interest in corporate governance issues and, particularly, in financial reporting and audit policies. Previous studies have revealed that auditors take RPTs into consideration in their risk assessment process (e.g., Al-Dhamari et al., 2018; Bennouri et al., 2015; Fang et al., 2018; Habib et al., 2015). Additionally, the audit function might also be affected by demand forces (e.g., Abbott et al., 2003; Carcello et al., 2002; Knechel & Willekens, 2006; Kohlbeck & Mayhew, 2017).

The current work examines the effect of RPTs on audit fees in a continental European setting. Our results show a negative effect of the amount involved in RPTs on external audit fees. We attribute these findings to features of the institutional setting providing no incentives for auditors to incorporate agency conflicts associated to RPTs in the audit pricing, choosing rather to adapt to their clients' demands. Therefore, since features of the Spanish institutional setting help to reduce dominant owner demand for audit coverage, our results show that major shareholders' lower demands for audit coverage are the main driver of audit fees in the Spanish context.

We contribute to the existing literature in several ways. First, we add to the scant number of studies exploring the role of auditors in the presence of RPTs (e.g., Bennouri et al., 2015; Fang et al., 2018; Jiang et al., 2010) and particularly to the very limited empirical evidence concerning the influence of RPTs on audit fees (Al-Dhamari et al., 2018; Habib et al., 2015; Kohlbeck & Mayhew, 2017). In this sense, Jorgensen and Morley (2017) advocate more research in the field to clarify the underlying mechanisms involved, highlighting the importance of exploring further the effect of RPTs on audit quality in different institutional settings to help explain the real motivations of agents whose actions drive statistical outcomes. In this context, some of the proven incentives that help maintain high audit quality in countries with a long auditing tradition, such as reputation loss and litigation risk, seem to be weak in the Spanish case (Ruiz et al., 2004). As the litigation environment weakens, auditors are more likely to adjust to clients' needs (Hwang & Chang, 2010). The low litigation risk and poor investor protection that characterize the Spanish setting provide no incentives for auditors to increase audit effort and/or to incorporate any risk premium associated to agency conflicts in the final fee as

RPTs increase. In this context, auditors might well be expected to be more captive to the customer and competitive market when pricing their services. Our results in this regard are in line with previous expectations. In addition, we offer novel evidence on the interactions between RPTs and audit fees in a setting where state ownership is practically non-existent, and where low investor protection and low litigation risk might shift auditor focus away from clients' business risk and towards their needs (Hwang & Chang, 2010). Finally, we contribute to the scarce literature on the determinants of audit fees in the Spanish context (De Fuentes & Pucheta, 2009; De Fuentes & Sierra, 2015; Desender et al., 2013; Monterrey & Sánchez, 2007; Sierra et al., 2019) by showing a new driver of audit fees in the considered context.

Our results may also have implications for policy makers and regulators attempting to enhance investor confidence, particularly in a context where the main agency conflict derives from the expropriation of minority shareholders by controlling owners, since they must be aware that audit assurance conveys lower profits and higher costs as RPTs increase. Furthermore, an interesting result derived from the current work lies in the fact that the recent European audit reform brought no significant difference since we find a negative effect of RPTs on audit fees both, before and after the implementation of the reform. These results are particularly important in light of the recent European Commission announcement of an upcoming reform on auditing regulation. Furthermore, our results are also important to investors by showing that, in the considered setting, as RPTs increase, auditors seem more likely to accommodate to their clients' need when pricing their services.

Our paper is not without limitations. For example, with regard to the effect of RPTs on audit fees, we have not considered interactions between audit and non-audit fees. Finally, corporate governance studies could add to this line of research by showing how certain corporate governance mechanisms might affect the effect of RPTs on audit fees. We leave these inquiries for future research.

Appendix

Table A 1. Variable definitions

| | |
|---------------------------|---|
| <i>FEE</i> | The natural log of total audit fees |
| <i>RPT</i> | The aggregated monetary value of a firm's RPTs deflated by total assets |
| <i>RPT_DUMMY</i> | Dummy variable that takes a value of 1 if the firm discloses at least one RPT during the year, and 0 otherwise |
| <i>RPT_BUSINESS</i> | The aggregated monetary value of a firm's business RPTs deflated by total assets |
| <i>RPT_TONE</i> | The aggregated monetary value of a firm's tone RPTs deflated by total assets |
| <i>RPT_BUSINESS_DUMMY</i> | Dummy variable that takes a value of 1 if the firm discloses at least one business RPT during the year, and 0 otherwise |
| <i>RPT_TONE_DUMMY</i> | Dummy variable that takes a value of 1 if the firm discloses at least one tone RPT during the year, and 0 otherwise |
| <i>OWNER</i> | Percentage of the major shareholder's voting rights |
| <i>DIVERG</i> | Degree of divergence between the dominant owner's voting and cash flow rights |
| <i>LOSS</i> | Dummy variable that takes the value of 1 if net income is negative, and 0 otherwise |
| <i>VAR_ROA</i> | Variance of annual return on assets over the previous year |
| <i>INVRECEIV</i> | Ratio of inventory and receivables to total assets |
| <i>LEV</i> | Ratio of total debt to total assets |
| <i>QUICK</i> | Ratio of current assets minus inventory to current liabilities |
| <i>EBIT</i> | Ratio of earnings before interest and taxes to total assets at year-end |
| <i>SIZE</i> | The natural logarithm of the market value of equity |
| <i>FOREIGN</i> | Dummy variable that takes a value of 1 if the firm reports foreign earnings, and 0 otherwise |
| <i>CI</i> | Percentage of the company's audit fees and its auditor's total audit fees in the industry market |
| <i>SHARE</i> | Percentage of the total amount of audit fees corresponding to an auditor in a particular industry and all audit fees in the same industry |

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| | |
|-------------------------|--|
| <i>BIG4</i> | Dummy variable that takes the value of 1 if the firm is audited by Deloitte, Price Waterhouse Cooper, Ernst &Young or KPMG, and 0 otherwise. |
| <i>CHANGE</i> | Dummy variable that takes a value of 1 if the firm changes auditor during the year, and 0 otherwise |
| <i>FAM</i> | Dummy variable that takes the value of 1 if the controlling shareholder of the firm is a family, and 0 otherwise |
| <i>DIRINDEP</i> | Percentage of independent directors |
| <i>DIOWNER</i> | Percentage of director ownership |
| <i>BOARDSIZE</i> | Number of members on the board |
| <i>RANDD</i> | Research and development expenditures to total assets |
| <i>IND_ROA</i> | Return on assets minus industry median |
| <i>ROA</i> | Return on assets |

Table A 2. First-stage of Model 1

| | First-stage of Model 1 |
|-------------------------|-------------------------------|
| <i>DIOWNER</i> | 0.001*** (2.788) |
| <i>FAM</i> | -0.001 (-0.702) |
| <i>OWNER</i> | 0.001** (2.264) |
| <i>DIVERG</i> | -0.001 (-0.026) |
| <i>LOSS</i> | 0.021** (2.208) |
| <i>VAR_ROA</i> | -0.001 (-1.083) |
| <i>INVRECEIV</i> | 0.115*** (2.665) |
| <i>LEV</i> | 0.076** (2.529) |
| <i>QUICK</i> | 0.018*** (2.613) |
| <i>EBIT</i> | -0.050 (-0.802) |
| <i>SIZE</i> | -0.004 (-0.744) |
| <i>FOREIGN</i> | -0.111*** (-4.943) |
| <i>CI</i> | 0.001** (2.007) |

Related party transactions and audit fees in a dominant owner context

| | |
|------------------------|-----------------------|
| <i>SHARE</i> | 0.001** (2.377) |
| <i>BIG4</i> | -0.115*** (-4.367) |
| <i>CHANGE</i> | 0.019* (1.723) |
| <i>Constant</i> | 0.137 (1.550) |
| <i>Year effect</i> | Yes |
| <i>Industry effect</i> | No |
| <i>F-statistic</i> | 3.960** |
| <i>N</i> | 1011 |

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

Table A 3. First stage of models 4, 7, and 8

Eq. A 1.:

$$RPT_DUMMY_{it} = \alpha_0 + \alpha_1 FAM_{it} + \alpha_2 DIRIND_{it} + \alpha_3 DIROWNER_{it} + \alpha_4 BOARDSIZE_{it} + \alpha_5 OWNER_{it} + \alpha_6 DIVERG_{it} + \alpha_7 SIZE_{it} + \alpha_8 LEV_{it} + \alpha_9 RANDD_{it} + \alpha_{10} IND_ROA_{it} + \eta_k + \lambda_j + \varepsilon_i$$

| | First stage of Model 4 | First stage of Model 7 | First stage of Model 8 |
|------------------|-------------------------------|-------------------------------|-------------------------------|
| <i>FAM</i> | 0.027 (0.220) | 0.046 (0.400) | -0.091 (-0.780) |
| <i>DIRINDEP</i> | -0.009*** (-2.610) | -0.009*** (-2.780) | -0.004 (-1.060) |
| <i>DIROWNER</i> | 0.007** (2.130) | 0.005 (1.400) | 0.013*** (3.910) |
| <i>BOARDSIZE</i> | 0.065*** (3.260) | 0.040** (2.140) | 0.036** (1.970) |
| <i>OWNER</i> | 0.012*** (2.980) | 0.012*** (3.340) | -0.004 (-1.080) |
| <i>DIVERG</i> | 0.025*** (2.880) | 0.016* (1.940) | 0.011 (1.510) |
| <i>SIZE</i> | 0.045 (1.310) | 0.087*** (2.610) | 0.147*** (4.320) |
| <i>LEV</i> | 0.550** (2.000) | 0.170 (0.660) | 0.808*** (3.140) |
| <i>RANDD</i> | -3.959 (-0.880) | 2.684 (0.610) | -8.606* (-1.840) |
| <i>IND_ROA</i> | -0.812 (-1.460) | -0.662 (-1.210) | -1.658*** (-2.900) |

Related party transactions and audit fees in a dominant owner context

| | | | |
|------------------------|--------------------|---------------------|-----------------------|
| Constant | -0.174 (-0.340) | -0.909* (-1.890) | -2.414*** (-4.780) |
| Year effect | Yes | Yes | Yes |
| Industry effect | Yes | Yes | Yes |
| LR statistic | 268.430*** | 249.810*** | 218.890*** |
| N | 1011 | 1011 | 1011 |

The dummy variables η_h and λ_j control for year and industry effects, respectively.

ε_i is the error term for firm i in year t .

***, **, *: statistically significant at $p .01$, $p .05$ and $p .10$, respectively. In parentheses, t-statistics base

Table A 4. Classification of related party transactions

| Type of transaction | Major shareholders | 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 |

CHAPTER II.

*Related party transactions and earnings
quality. The moderating role of female
directors*

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 & Giudici, 2005; Gordon et al., 2004; Gordon et al., 2007; Kahle & Shastri, 2004). These diverse and often complex transactions have attracted academics' and policy-makers' attention and their regulation 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 & Hong, 2000; Khanna & 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; Johnson et al., 2000), and international standards on auditing state that fraud may be more easily committed through RPTs (ISA 550).

Previous literature investigating the effect of RPTs on accounting earnings is generally consistent with the notion that RPTs reduce earnings quality (Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020). However, Chen et al. (2020) find that while non-operating RPTs in affiliated firms reduce earnings quality, related party sales in affiliated companies improve earnings quality. Moreover, in their subsequent analysis, Rahmat, Muniandy, and Ahmed (2020) show a positive impact of RPTs on earnings quality in countries like Singapore and Hong Kong due to better investor protection.

Results from previous empirical evidence are therefore mixed. Moreover, most previous studies (Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & 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 & Santor, 2008; Miller, 2004). Additionally, Chen et al. (2020) centre their study exclusively on related transactions in affiliated firms, whereas in the Spanish case related transactions with directors and major shareholders prevail (Bona et al., 2017). In this sense, not all RPTs seek the same goal and while some might induce expropriation, others might pursue legitimate business purposes. Kohlbeck and Mayhew (2017) document that transactions with directors and major shareholders increase restatement probability in US listed firms, while this is not the case for transactions with subsidiaries, joint venture or unconsolidated investments in the US.

All of the above shows how exploring the effect of RPTs on earnings quality in Spanish listed firms is an interesting and unresolved research question. In the current setting, we investigate the effect of RPTs on earnings quality in 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)⁸ rather than normal business transactions. Our results are consistent with the self-dealing explanation, which states that controlling shareholders alter accounting earnings to

⁸ Kohlbeck and Mayhew (2017) suggest that these transactions reflect weak “tone at the top”.

conceal the opportunistic use of RPTs in order to escape needless scrutiny from market participants and regulators. Moreover, we also show that the presence of women on the board of directors mitigates the negative relation between RPTs and earnings quality. The results are consistent with female directors being an effective corporate governance mechanism regarding financial reporting policies as RPTs increase.

We contribute to the previous literature in several ways. Firstly, this is the first study to directly examine the effect of RPTs on earnings quality in a continental European setting, namely Spain. Compared to cross-country studies, our research design thus allows us to better separate firm-level from country-level effects. Moreover, and in contrast to studies carried out in East Asia, we contribute to the study of previous interactions in a different context where transactions between the firm and its managers and controlling shareholders prevail. Secondly, to the best of our knowledge the current study is the first to investigate the role of the related party involved in the transaction for the relation between RPTs and earnings quality. Our results thus contribute to previous 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 emphasize the need to pay particular attention to Tone transactions and transactions undertaken between the firm and its directors and major shareholders. In this sense, due to the importance of transparency in promoting the efficient allocation of scarce human and financial resources to favourable investment opportunities (Bushman & Smith, 2003), our results evidence that firms who commit to RPTs should be carefully considered by regulators and policymakers, since this type of transaction might harm earnings quality and consequently give rise to undesirable

economic effects. Finally, we also contribute to the previous literature on the role of corporate governance mechanisms by extending the debate concerning the governance role of female directors in particular settings. In this sense, as far as we know this is the first study to explore the effect of board gender diversity on the relation between RPTs and earnings quality in a continental European context. Our results show that female directors fulfil an effective governance role regarding financial reporting corporate policies as RPTs increase.

The rest of the study is organized as follows. The following section provides the theoretical foundations and hypothesis development. Section 3 sets out the methodological issues, and in section 4 we present our findings. In section 5, we run the sensitivity test, in section 6 we develop a further analysis and in section 7 we analyse the moderating effect of female directors on the relation between RPTs and earnings quality. Finally, section 8 presents the conclusions.

2. Theoretical foundations and hypotheses development

Previous literature has evidenced that RPTs provide insiders with a channel to pursue certain short-term objectives (Aharony et al., 2010; Chen et al., 2011; Jian & Wong, 2010). A more recent stream of research has considered the implications of RPTs for corporate reporting and particularly for earnings quality (Rahmat, Muniandy, & Ahmed, 2020; Rahmat, Ahmed, & Lobo, 2020; Chen et al., 2020). 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. However, the authors find that RPTs increase earnings quality in countries like Singapore and Hong Kong due to the presence of better investor protection. 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 a previous negative relation. However, for 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, their results are consistent with investors perceiving related party sales in affiliated firms as efficient transactions, while non-operating income dealings between the firm and its affiliated companies are seen as promoting tunnelling.

As shown, the literature on the relation between RPTs and earnings quality is scarce and is based on East Asian countries such that the results are far from conclusive. The study of Rahmat, Muniandy, and Ahmed (2020) posits that features of the institutional setting clearly shape the effect of RPTs on earnings quality. Moreover, while Chen et al. (2020) focus their study on related transactions in affiliated firms, we classify internal dealings from a dual perspective; in other words, according to the nature of the internal dealing as well as to the related party involved. This differentiation is relevant because in our sample, transactions with directors and major shareholders represent around 92% of total related party transactions. Moreover, anecdotal and empirical

evidence shows that this latter type of transaction - particularly loans – involve a higher risk of insider opportunism (Kohlbeck & Mayhew, 2010; 2017; OECD, 2012).

All of the above reveals the difficulty in extrapolating the results from previous studies to the Spanish context, because previous differences might translate to key variations in internal agents' incentives to alter accounting figures. In this sense, the Spanish legal system provides relatively weak protection for minority shareholder rights and, consequently, ownership concentration becomes prevalent (Cuervo, 2002; Djankov et al., 2008; Faccio & 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 the opportunistic use of RPTs by managers.

However, the described setting might increase agency conflicts between controlling and minority shareholders because the former may engage in opportunistic RPTs to expropriate minority shareholder wealth (Berkman et al., 2009; Djankov et al., 2008). In this sense, 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 & 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. Moreover, in the Spanish context, Bona et al. (2017) find that transactions with blockholders and directors negatively affect firm value.

In this sense, 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 higher, and in such a setting controlling shareholders might 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 protect their reputation. Such action is still compatible with dominant shareholders trying to engage in long-term projects that improve firm value. In this sense, 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 agency perspective, a negative relation between RPTs and earnings quality is anticipated, since RPTs are expected to reduce earnings quality in the Spanish context.

From a different perspective, in a context where investor protection is weak and where capital markets show limited development (Djankov et al., 2008; Faccio & Lang, 2002), RPTs might reduce transactions costs (Jian & Wong, 2010, Khanna & Palepu, 2000) by creating internal capital markets. In this sense, 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.

Thus, as RPTs increase, the firm is less sensitive to capital market pressures, since internal dealings provide the company with financial resources to face new investment opportunities at lower costs. Such a setting will decrease insiders' incentives to alter accounting figures to deliver short-term results. According to this external contracting explanation, we predict a positive effect of RPTs on earnings quality.

In sum, RPTs are expected to affect earnings quality. However, since the effect might be either positive or negative, we state the following hypothesis:

H1: RPTs affect earnings quality.

3. Research design

The initial sample includes 1,199 firm-year observations, corresponding to 99 non-financial Spanish listed firms from 2005 to 2019. We select 2005 as the starting point of our analysis period because it was the year when the International Financial Reporting Standards became mandatory for all listed firms in Spain.

Data on RPTs were hand-collected from the annual corporate governance report (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).

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 & Wong, 2002; Wang, 2006; Zhao & 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. According to this method, a low ADA value indicates a high quality of reported earnings. To obtain our second measure for earnings quality, we measure the informativeness of accounting earnings by examining the earnings response coefficient from a regression of cumulative abnormal stock returns on net income. The coefficient on net income would reveal that the market incorporates earnings credibility in the price formation process. In Appendix A, we include the basic equations of our measures for earnings quality.

Moreover, we control for a set of characteristics commonly considered in previous literature for every proxy of earnings quality (e.g., Ali et al., 2007; Bona et al., 2007, 2011; Klein, 2002; Zhao & Chen, 2008). We thus 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.

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 heterogeneity⁹. This problem may arise when certain variables related to specific firm characteristics affect the impact of RPTs on earnings quality.

⁹All the regressions include dummy variables to control for year effects (λ_j) and the error term (ϵ_i).

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

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

4. Results

4.1. Descriptive analysis

The descriptive statistics are presented in Table 1. Panel A (Table 1) 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. Panel B (Table 1) displays the correlation matrix of our variables. This panel shows some correlation values near 0.5. For this reason, in Panel C (Table 1) we obtain the Variance Inflation Factor (VIF). Since the highest VIF value is 2.37, we conclude that multicollinearity is not a problem in our study (Studenmund, 1997).

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Table 1. Statistics and Correlation Matrix

| Panel A. Statistics | | | | | | |
|-----------------------------|--------------------------|--------------------------|-----------------------------|---------------------------|-----------------------------|---------------------------|
| Variables | Mean | SD | 25 th percentile | Median | 75 th percentile | |
| <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 | |
| <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 | |
| <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 | 0.1662 | 0.250 | 0.333 | 0.500 | |
| Dummy variables | | | Percentage | | | |
| <i>OWNER_{it}</i> | | | 62.46 | | | |
| <i>LOSS_{it}</i> | | | 89.65 | | | |
| Panel B. Correlation matrix | | | | | | |
| | <i>CAR_{it}</i> | <i>RPT_{it}</i> | <i>NET_INC_{it}</i> | <i>OWNER_{it}</i> | <i>DIVERG_{it}</i> | <i>LEV_{it}</i> |
| <i>ADA_{it}</i> | 0.006 | 0.118*** | -0.046 | 0.001 | 0.001 | 0.161*** |
| <i>CAR_{it}</i> | | -0.027 | 0.224*** | 0.016 | -0.005 | -0.145 |
| <i>RPT_{it}</i> | | | 0.053* | 0.085*** | 0.004 | 0.021 |
| <i>NET_INC_{it}</i> | | | | -0.002 | 0.007 | -0.346*** |
| <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*** | 0.645*** | 0.093*** | 0.070** |

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| | | | | | | |
|----------------------------|--------|-----------|-----------|-----------|-----------|-----------|
| <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*** | 0.597*** | 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 | Earnings informativeness |
|-----------------------------|-------------------------------|---------------------------------|
| <i>RPT_{it}</i> | 1.03 | 1.04 |
| <i>NET_INC_{it}</i> | | 1.99 |
| <i>OWNER_{it}</i> | 1.16 | 1.16 |
| <i>DIVERG_{it}</i> | 1.11 | 1.11 |
| <i>LEV_{it}</i> | 1.24 | 1.25 |
| <i>SIZE_{it}</i> | 2.37 | 2.30 |
| <i>LOSS_{it}</i> | 1.59 | 1.69 |
| <i>MTB_{it}</i> | 1.26 | 1.25 |
| <i>ROA_{it}</i> | 1.84 | 2.29 |
| <i>BOARD_{it}</i> | 1.96 | 1.96 |
| <i>B_IND_{it}</i> | 1.39 | 1.39 |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

4.2. Multivariate test

Model 1 (Table 2) reports the effect of RPTs on discretionary accruals. This model shows 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 2) 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 indicate that earnings quality deteriorates as RPTs increase.

All together, these results are consistent with controlling shareholders obscuring earnings to conceal the opportunistic use of 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). Our Model 1 (Table 2) reveals 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 firms with two consecutive years of negative income (LOSS), while firms with a larger board (BOARD) have a smaller amount of discretionary accruals. Model 2 (Table 2) shows that earnings credibility is higher for firms with a larger market to book ratio (MTB) and firms with a higher proportion of independent directors (B_IND). However, a larger dominant owner's voting- cash flow wedge (DIVERG), and two consecutive years of negative incomes (LOSS) reduces the informativeness of accountings earnings.

Table 2. RPTs and earnings quality

| | Model 1 (Eq. 1) | Model 2 (Eq. 2) |
|-------------------------|------------------------|------------------------|
| <i>RPT_{it}</i> | 0.107*** (3.35) | |

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| | | |
|---|----------------------|----------------------|
| <i>NET_INC_{it}</i> | | 0.631*** (2.80) |
| <i>RPT_{it} * NET_INC_{it}</i> | | -0.550*** (-2.71) |
| <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 (-0.05) | 0.061 (1.29) |
| <i>Year</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Industry</i> | <i>No</i> | <i>No</i> |
| <i>R²</i> | 0.08 | 0.18 |
| <i>N</i> | 1199 | 1199 |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

5. Sensitivity analyses

In this section, we perform a set 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 3 and 4 (Table 3) we estimate our equations 1 and 2, respectively, applying the GMM estimator. Thus, we use all the right-hand-side variables in the model lagged two to six times as instruments¹⁰. The year and industry effects variables are considered exogenous¹¹. Secondly, in order to determine whether our results are sensitive to our measure of RPT, we follow Kohlbeck and Mayhew (2017) and substitute 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. The results are shown in models 5 and 6 (Table 3) and are consistent with those in Table 2.

Table 3. RPTs and earnings quality. Sensitivity analysis

| | Model 3 | Model 4 | Model 5 | Model 6 |
|--|-------------------|----------------------|-------------------|---------------------|
| RPT_{it} | 0.148** (2.24) | | | |
| RPT_DUM_{it} | | | 0.030** (2.59) | |
| NET_INC_{it} | | 2.043*** (2.80) | | 2.971*** (5.98) |
| RPT_{it}*NET_INC_{it} | | -2.536*** (-4.43) | | |
| RPT_DUM_{it}*NET_INC_{it} | | | | -0.603** (-2.43) |
| OWNER_{it} | -0.009 (-0.55) | | 0.008 (0.79) | |

¹⁰ 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. In this sense, since we cannot reject the null hypothesis - namely, the non-existence of autocorrelation - we may conclude that the results obtained with the two-step GMM estimator are robust.

¹¹ Specifically, we use the `xtabond2` module in Stata provided by Roodman (2009).

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| | | | | |
|---|----------------------|----------------------|----------------------|---------------------|
| <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 (-0.22) | | 0.001 (1.20) | |
| <i>B_IND_{it}*NET_INC_{it}</i> | | 0.003* (1.71) | | 0.021* (1.75) |
| <i>Constant</i> | 0.174 (1.55) | 0.007 (0.21) | -0.059 (-0.80) | 0.249*** (4.76) |
| <i>Year</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Industry</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Hansen</i> | 38.92 (0.563) | 21.75 (0.750) | 26.22 (0.711) | 76.80 (0.985) |
| <i>m2 test</i> | -1.28 (0.202) | 0.17 (0.865) | 0.07 (0.941) | -0.83 (0.404) |
| <i>z1 test</i> | 7.75*** | 13.00*** | 10.43*** | 137.36*** |
| <i>z2 test</i> | 4.56*** | 11.09*** | 7.16*** | 404.56*** |
| <i>z3 test</i> | 2.08** | 3.47*** | 6.43*** | 108.76*** |
| <i>N</i> | 1199 | 1199 | 1199 | 1199 |

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.

6. 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 and the nature of the RPTs (Kohlbeck & Mayhew, 2010, 2017; Habib et al., 2015; Ryngaert & 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)¹².

We re-run equations 1 and 2 considering these different categories. Model 7 (Table 4) shows that transactions with directors and major shareholders increase discretionary accruals (the coefficient on RPT_DOS is positive and statistically significant). Model 8 (Table 4) reports a negative and statistically significant coefficient on RPT_DOS*NET_INC, showing that related party transactions with directors and major shareholders reduce earnings informativeness. As regards 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

¹² See appendix C (Table C 1) for a more comprehensive understanding of the value relevance of the different types of RPTs.

are consistent with those obtained in Kohlbeck and Mayhew (2017) who find that, in the US setting, RPTs with managers and major shareholders increase financial reporting misstatement risk 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 in two different categories: namely, Tone (RPT_TONE), and Business (RPT_BUSINESS)¹³ 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 9 (Table 4) shows that Tone RPTs increase discretionary accruals (the coefficient on RPT_TONE is positive and statistically significant), and Model 10 (Table 4) 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. As regards Business RPTs, Model 10 (Table 4) shows that these 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.

¹³ See appendix C (Table C 2) for a more comprehensive understanding of the classification of RPTs proposed by Kohlbeck and Mayhew (2017).

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Table 4. RPTs and earnings quality by RPTs type

| | Model 7 | Model 8 | Model 9 | Model 10 |
|---|--------------------|----------------------|--------------------|----------------------|
| <i>RPT_DOS_{it}</i> | 0.164*** (3.97) | | | |
| <i>RPT_AFFILIATES_{it}</i> | -0.008 (-0.08) | | | |
| <i>NET_INC_{it}</i> | | 0.672** (2.42) | | 0.267*** (7.32) |
| <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) |
| <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) |

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| | | | | |
|---|----------------------|--------------------|---------------------|-------------------|
| <i>ROA_{it}</i> | 0.103** (2.22) | | 0.098** (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> | 1199 | 1199 | 1199 | 1199 |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

7. The moderating role of female directors

Our main result shows that RPTs decrease earnings quality in Spanish listed firms. In such a context, board composition can play an important governance role in constraining agency problems (Beasley, 1996; Peasnell et al., 2005; Davidson et al., 2005; Klein, 2002). In this sense, board gender diversity is a critical issue and dominates the current international academic and political debate regarding corporate governance. In fact, previous research is consistent with the superior monitoring ability of female directors. Thus, in the US, Adams and Ferreira (2009) find that board gender diversity reduces board attendance problems and enhances CEO accountability. In the same institutional context, Ongsakul et al. (2021) document that female directors improve board monitoring and reduce agency costs by mitigating the opportunistic timing of CEOs' option grants.

There is also empirical evidence of the positive effect of board gender diversity in Europe. In this sense, Nielsen and Huse (2010) show that board gender diversity improves board strategic control by enhancing the effectiveness of board tasks and reducing board conflicts in Norwegian firms. Similarly, Lucas et al. (2015) reveal that board gender diversity increases the effectiveness of manager compensation monitoring in the Spanish setting. In the French context, Nekhili et al. (2021) find a negative relation between both female independent directors and female audit committee members and the number of RPTs. The authors argue that independence and involvement in board activities of these female directors provides them with the ability to monitor managers. Additionally, female directors' higher reputation risk due to their exposure to stereotyping, increases their motivation to avoid questionable transactions.

Similar findings are documented by Guizani and Abdalkrim (2021) in the Malaysian context. Thus, authors find that board gender diversity decreases the level of free cash flow and the associated agency problems.

More closely related to our study are those analysing the effect of female directors on earnings quality. Thus, Thiruvadi and Huang (2011) in US and Arun et al. (2015) in UK reveal that female directors increase earnings quality by increasing income-decreasing discretionary accruals. Moreover, Thiruvadi and Huang (2011) also observe a positive relation between audit committee gender diversity and audit committee meeting frequency. These findings evidence that female directors increase the quality of financial reporting and enhance corporate governance efficacy. Previous results are supported by Srinidhi et al. (2011) who evidence that board gender diversity improves the oversight

function of the board, which increases earnings quality in US listed firms. In the same institutional setting, Wahib (2019) reveals that female directors reduce the likelihood of financial restatement and fraud.

In the same way, Damak (2018) and Gull et al. (2018) in France, Harakeh et al. (2019) in the US and Orazalin (2020) in Kazakhstan obtain a negative relation between female directors and earnings management. Additionally, Harakeh et al (2019) also document that female directors play a moderating role in the association between earnings management and CEO incentive compensation. Critically, Gull et al. (2018) show that the governance role of female directors is highly dependent on their business expertise and their belonging to the audit committee. Finally, adopting a cross-country perspective Kyaw et al. (2015) find that gender diversity reduces earning management in European countries, albeit only in that with high gender equality.

However, other studies disagree with these previous results. Thus, in the US setting, Sun et al. (2011) find no significant link between the proportion of female directors in the audit committee and earnings management. This result is supported by García et al. (2017) who evidence that in the absence of discrimination women directors perform their monitoring role the same as their male counterparts in UK firms. Additionally, Waweru and Prot (2018) document a positive relation between gender diversity and earnings management in firms listed in Kenya and Tanzania.

However, no previous study has examined the impact of female directors on the relation between RPTs and earnings quality in continental Europe. To fulfil this objective, we collect data on board gender diversity from the firms' ACGR. We focus on

independent female directors because, in contrast to executive female directors, independent female directors have the ability and the incentives to monitor managers (Armstrong et al., 2010; Klain, 2002; Sánchez et al., 2010). We therefore expand equations 1 and 2 by adding the gender diversity variable (B_GEN_IND), which takes the value 1 if there is at least one female independent director on the board, and zero otherwise (equations 3 and 4)

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

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

In Table 5, we present our results. Model 11 shows that female independent directors moderate the positive effect of RPTs on earnings management ($\alpha_1 = 0.175$, $t = 4.03$ and $\alpha_3 = -0.127$, $t = -1.78$). Consistently, Model 12 shows that female independent directors moderate the negative effect of RPTs on earnings informativeness ($\alpha_2 = -1.372$,

$t = -4.01$ and $\alpha_4 = 1.363$, $t = 2.96$). All things considered, our results thus indicate that female independent directors fulfil a governance role regarding financial reporting as RPTs increase. Finally, to test the robustness of these latter results, Table 6 shows the effect of female independent directors on the relation between RPTs and earnings quality by type of RPT. In Models 13 and 14, we evidence the moderating effect of female independent directors on the relation between transactions with directors and major shareholders and earnings quality. Furthermore, Models 15 and 16 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 5) and provide further evidence of the moderating effect of female independent directors on the relation between opportunistic RPTs and earning quality. The results of the control variables are in line with those of Table 2 and are available upon request.

Table 5. The effect of female independent directors on the relation between RPTs and earnings quality

| | Model 11 | Model 12 |
|---|--------------------|----------------------|
| <i>RPT_{it}</i> | 0.175*** (4.03) | |
| <i>NET_INC_{it}</i> | | 1.005*** (3.24) |
| <i>RPT_{it}*NET_INC_{it}</i> | | -1.372*** (-4.01) |
| <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) |
| <i>OWNER_{it}</i> | 0.014 (1.17) | |

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| | | |
|---|--------------------|----------------------|
| <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) |
| Year | <i>Yes</i> | <i>Yes</i> |
| Industry | <i>No</i> | <i>No</i> |
| R² | 0.06 | 0.20 |
| N | 1199 | 1199 |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

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| | Model 13 | Model 14 | Model 15 | Model 16 |
|---|---------------------|----------------------|--------------------|----------------------|
| <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_TONE_{it}</i> | | | 0.349*** (5.02) | |
| <i>RPT_BUSINESS_{it}</i> | | | 0.027 (0.43) | |
| <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} * NET_INC_{it}</i> | | | | -2.138*** (-6.07) |
| <i>RPT_BUSINESS_{it} * NET_INC_{it}</i> | | | | 5.350*** (2.48) |
| <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_TONE_{it} * B_GEN_IND_{it}</i> | | | -0.338*** | |

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| | | | | |
|--|----------|-----------|----------|-----------|
| | | | | (-2.81) |
| <i>RPT_BUSINESS_{it}*B_GEN_IND_{it}</i> | | | 0.057 | |
| | | | (0.59) | |
| <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}*NET_INC_{it}</i> | | | | 1.136* |
| | | | | (1.87) |
| <i>RPT_BUSINESS_{it}*B_GEN_IND_{it}*NET_INC_{it}</i> | | | | -2.243 |
| | | | | (-0.75) |
| <i>OWNER_{it}</i> | 0.003 | | 0.003 | |
| | (0.31) | | (0.31) | |
| <i>OWNER_{it}*NET_INC_{it}</i> | | 0.114 | | 0.146* |
| | | (1.41) | | (1.87) |
| <i>DIVERG_{it}</i> | 0.003** | | 0.001*** | |
| | (2.41) | | (3.74) | |
| <i>DIVERG_{it}*NET_INC_{it}</i> | | -0.023*** | | -0.024*** |
| | | (-3.78) | | (-2.77) |
| <i>LEV_{it}</i> | 0.085*** | | 0.084*** | |
| | (3.15) | | (3.08) | |
| <i>LEV_{it}*NET_INC_{it}</i> | | 0.038 | | 0.061 |
| | | (0.85) | | (1.38) |
| <i>SIZE_{it}</i> | 0.015 | | -0.005 | |
| | (1.03) | | (-1.16) | |
| <i>SIZE_{it}*NET_INC_{it}</i> | | -0.001 | | -0.024 |
| | | (-0.26) | | (-0.47) |
| <i>LOSS_{it}</i> | 0.027*** | | 0.018* | |
| | (3.08) | | (1.65) | |
| <i>LOSS_{it}*NET_INC_{it}</i> | | -0.401*** | | -0.401* |
| | | (-4.60) | | (-4.70) |

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| | | | | |
|--|----------------------|-------------------|---------------------|-------------------|
| <i>MTB_{it}</i> | -0.001 (-1.11) | | -0.001 (-1.14) | |
| <i>MTB_{it}*NET_INC_{it}</i> | | 0.008 (0.64) | | 0.015 (1.12) |
| <i>ROA_{it}</i> | 0.097** (2.10) | | 0.098** (2.12) | |
| <i>ROA_{it}*NET_INC_{it}</i> | | 0.613 (0.97) | | -0.067 (-0.24) |
| <i>BOARD_{it}</i> | -0.062*** (-2.60) | | -0.056** (-2.48) | |
| <i>BOARD_{it}*NET_INC_{it}</i> | | -0.211 (-1.45) | | -0.228 (-1.31) |
| <i>B_IND_{it}</i> | 0.001 (0.80) | | 0.001 (0.69) | |
| <i>B_IND_{it}*NET_INC_{it}</i> | | 0.006** (2.46) | | 0.006** (2.44) |
| <i>Constant</i> | -0.011 (-0.12) | 0.051 (1.10) | -0.014 (-0.14) | -0.068 (-0.67) |
| <i>Year</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| <i>Industry</i> | <i>No</i> | <i>No</i> | <i>No</i> | <i>No</i> |
| <i>R²</i> | 0.09 | 0.17 | 0.09 | 0.18 |
| <i>N</i> | 1199 | 1199 | 1199 | 1199 |

8. 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 are often used by insider agents to extract corporate resources (Bertrand et al, 2002; Cheung et al., 2009; Johnson et al., 2000). Due to the above, internal agents might have incentives to alter financial reporting in order to conceal their opportunistic behaviour (Leuz et al., 2003).

Previous studies analysing the effect of RPTs on earnings quality are based on East Asian countries and provide mixed results (Rahmat, Muniandy, & Ahmed, 2020; Rahmat, Ahmed, & Lobo, 2020; Chen et al., 2020). Our study shows that RPTs deteriorate earnings quality in Spanish listed firms. The results are consistent with the self-dealing explanation, according to which controlling shareholders engage in opportunistic RPTs and resort to earnings management to conceal this self-dealing behaviour. 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. These results suggest that managers and major shareholders engage in these internal dealings for opportunistic reasons and resort to earnings management to conceal this self-serving behaviour. Our results also show that female directors moderate the negative impact of RPTs on earnings quality.

We contribute to the previous literature in different ways. First, unlike international studies (Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed 2020), we analyse the impact of all RPTs on earnings quality in a single country, thereby

ensuring that our results are not driven by country-level effects. Moreover, while Chen et al. (2020) focus exclusively on transactions within affiliated firms, we provide a clearer and more complete picture regarding the effect of RPTs on earnings quality by classifying RPTs not only according to their nature, as is common in previous studies (Chen et al., 2020; Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed 2020), but also depending on the related party involved in the internal dealing. Our results further reveal the importance of considering the nature of the RPTs and the related party involved when exploring the relation between RPTs and earnings quality. Finally, our work adds to studies exploring the role of female directors in earnings quality (Arun et al., 2015; García et al., 2017; Gull et al., 2018; Harakeh et al., 2019; Kyaw et al., 2015; Srinidhi et al., 2011; Sun et al., 2011; Thiruvadi & Huang, 2011; Orazalin, 2020; Damak, 2018; Waweru & Prot, 2018) by providing evidence that independent female directors play an effective corporate governance role regarding financial reporting in a new setting characterized by the presence of internal dealings.

Our study has important implications for investors and policymakers by showing that in continental Europe, RPTs reduce earnings quality, which may affect the efficient allocation of resources by the economic system. Regulators concerned with promoting market confidence by increasing transparency should therefore pay close attention to firms engaging in RPTs, particularly to transactions involving Tone RPTs and internal dealings with directors and major shareholders. Our results also show the importance of the governance role of female directors regarding financial reporting policies as RPTs increase.

Our work suggests some ideas for future research. 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 explore whether the studied relationship 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 & Pedersen, 2000). We leave these enquires for future research.

Appendix A

Earnings management

First stage

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

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

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

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

Earnings informativeness

$$CAR_{it} = \alpha_0 + \alpha_1 NET_INC_{it} + \varepsilon_i$$

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

Appendix B

Table B 1. Variable definitions

| | |
|-----------------------|---|
| ADA | Absolute value of discretionary accruals. |
| BOARD | 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 |
| BOARD_IND | 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 | 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 | Natural log of the market value of equity. |

Appendix C**Table C 1. 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 arrangements/legal or investment services | 14,722,755 | 165,939 |
| 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 |

Table C 2. 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 |

CHAPTER III.

*Female directors and corporate cash
holdings in the presence of internal
dealings*

1. Introduction

Financial studies on gender diversity have mainly focused on their effect on firm value, firm performance or corporate risk-taking behaviour (Ahern & Dittmar, 2012; Dezsö & Ross, 2012; Matsa & Miller, 2013; Faccio et al., 2016). However, studies into what effect gender diversity has on corporate cash holdings are scarce and their results are far from conclusive (Zeng & Wang, 2015; Adhikari, 2018; Cambrea et al., 2019). Moreover, to the best of our knowledge, no previous study has examined what role female directors play in corporate cash holdings in the presence of internal dealings. These transactions provide the firm with both financial flexibility in investment decision making and lower capital market scrutiny and, consequently, might alter female directors' incentives to affect corporate financial policy. In this sense, the current work aims to examine what effect female directors have on corporate cash holdings, conditional on the existence of these internal dealings.

The financial flexibility promoted by internal dealings might decrease female directors' incentives to hold cash for transaction and precautionary motives, given that firms engaging in internal dealings have an alternative and less costly way to undertake profitable investment opportunities without needing to incur in transaction costs arising from debt and equity issuance. Consequently, in the presence of internal dealings it does not seem that female directors need to hold cash for transactions, and/or precautionary motives might be the main driver of the relation between female directors and corporate cash holdings. In contrast, internal dealings might isolate the firm from capital market scrutiny, including financial analysts, institutional investors and the press, thereby increasing insider incentives to tunnel corporate resources with relatively immunity, thus

accentuating the free cash flow problem (Jensen, 1986). Such a setting might increase female directors' incentives to monitor insiders' behaviour.

Our results reveal a negative relation between female directors and corporate cash holdings. Additionally, and in line with the critical mass theory, our results evidence that this result is conditional upon the presence of two or more women on the board. In the presence of internal dealings, the appointment of two or more women on boards reduces corporate cash holdings. In the presence of internal dealings, our results are consistent with female directors becoming an effective corporate governance mechanism regarding corporate financial policy. The lower cash holdings promoted by female directors are thus used as a monitoring device aimed at reducing agency costs related to free cash flows.

We contribute to the literature in several ways. First, we provide evidence regarding the role female directors play in corporate cash holdings by using a unique dataset which considers the existence of internal dealings. Second, we add to studies which explore whether women behave differently in a variety of settings (Johnson & Powell, 1994; Ahmed & Atif, 2021) by examining the role of women directors in a context where internal capital markets provide the firm with both financial flexibility and lower capital market scrutiny. Third, in an institutional context where private benefits of control are high (Nenova, 2003; Dyck & Zingales, 2004) and where insiders can easily deviate cash holdings for private gains, our results show that independent female directors might constitute an effective corporate governance mechanism vis-à-vis corporate financial policies. In this sense, the lower cash holdings promoted by female directors reduces the agency costs associated with the free cash flow problem.

The rest of the paper is organized as follows. Section 2 includes the theoretical background and the hypothesis. Section 3 shows the research design, while section 4 includes the empirical results. Conclusions are presented in section 5.

2. Theoretical background

Companies need cash for different reasons, such as supporting the firm's operation, funding future investment opportunities, or providing a response to future contingencies. Precautionary reasons, transaction costs or insiders' desire to spend on perks projects are often cited as potential determinants of corporate cash holdings (Opler et al., 1999; Bates et al., 2009). Moreover, cash holdings are by no means exempt from costs. In this sense, holding liquid assets entails an opportunity cost, which is the potential return the company misses out on when deciding to hold cash rather than committing to more profitable investments. In this sense, the trade-off theory (Opler et al., 1999) points to the existence of an optimal level of cash holdings that weighs up the costs and the benefits.

The literature on the drivers of corporate cash holdings is extensive (Opler et al., 1999; Ozkan & Ozkan, 2004; Kusnadi & Wei, 2011; Hu et al., 2019; Clarkson et al., 2020), whereas studies exploring the presence of women in corporate roles and their effect on corporate cash holdings are scarce and quite recent. Zeng and Wang (2015) evidence that female CEOs tend to hold higher amounts of cash in privately held Chinese firms. The authors attribute their results to the existence of precautionary motives; namely, female CEOs being more concerned with the need to hold cash in order to meet unexpected contingencies. In the US, Adhikari (2018) finds that female executives promote corporate cash holdings due to their greater risk-aversion. Using a sample of Italian listed firms, Cambrea et al. (2019) show that females in executive roles increase corporate cash

holdings. Altogether, previous studies are generally consistent with the notion of women in executive roles encouraging corporate cash holdings.

However, to the best of our knowledge, no previous study has considered how the presence of internal dealings might shape female directors' incentives to hold cash. Compared to the market control system of corporate governance, the large shareholder control system (common in continental Europe) is characterized by the prevalence of ownership concentration, with families and banks playing a prominent role as large shareholders. Capital markets are therefore relatively illiquid and have limited control and there is no active market for corporate control (Cuervo, 2002). Given such a setting, internal dealings might provide different benefits to the firm when external funds prove costly and are uncertain (Khanna & Palepu, 1997).

These dealings can thus provide firms with financial flexibility. Previous studies are generally consistent with the idea of a reduction in financing frictions decreasing the benefits of holding cash. Pinkowitz and Williamson (2001) conclude that Japanese firms who had access to non-bank financing held significantly less cash than those that were bank dependent. Deloof (2001) concludes that Belgian business group firms have lower cash holdings than non-business group firms because they need less cash for precautionary purposes due to the existence of internal capital markets within the business group. Subramaniam et al. (2011) evidence that diversified firms hold lower cash than non-diversified firms, and their results are consistent with the idea that firm diversification reduces financial frictions and, consequently, the marginal benefits of holding cash. Finally, Tong (2011) posits that diversified firms hold less cash than single-

segment companies.

In the presence of internal dealings, the precautionary argument will therefore no longer be the main driver explaining the impact of female directors on corporate cash holdings, since in our experimental setting these dealings provide the firm with a less costly alternative for financing investment opportunities. Unlike previous literature, our research design thus provides a natural laboratory to study the impact of female directors on corporate cash holdings, which allows a better consideration of the contrasting forces that previous literature has pointed to as possible explanations for the relation between female directors and corporate cash holdings.

In this sense, the existing literature documents how women's skills can improve the monitoring function of the board and posits that female directors may be better monitors than their male counterparts. Adams and Ferreira (2009) show that gender-diverse boards are better at monitoring due to women's better communication skills and increased board attendance. Female directors are superior monitors of corporate decision making and their presence on the board helps to reduce agency conflicts due to their democratic and people-oriented leadership style. Gul et al., (2008) evidence that boards with female directors are more likely to demand higher monitoring in the form of more audit. Srinidhi et al. (2011) show that firms with female directors, specifically in the audit committee, exhibit better reporting discipline by managers. Ben-Amar et al. (2017) find that the greater the percentage of women on the board the greater the likelihood of voluntary climate change disclosure. More recently, Ongsakul et al. (2021) conclude that board gender diversity plays an effective governance role and is even more effective than

board independence at mitigating the opportunistic timing of option grants. In the context of corporate financial policies, Zeng and Wang (2015) evidence that female CEOs moderate the overinvestment problem of free cash flow because they are more risk averse, which mitigates the managerial discretion problem. Finally, Cambrea et al. (2019) show that females in monitoring roles reduce corporate cash holdings.

According to Myers and Rajan (1998), cash is the most valuable asset firms can expropriate. In the presence of internal dealings, insiders can easily transfer cash from one affiliated firm to another at lower costs, thereby increasing the agency problems associated to free cash flows (Jensen, 1986). In this sense, free cash flow under insiders' control will increase agency conflicts because managers can use these cash flows to maximize their utility function at the expense of shareholders' interest. Moreover, internal dealings isolate insiders from market scrutiny, including institutional investors, the press, and financial analysts. These dealings might therefore accentuate the free cash flow problem because in the considered setting, insiders can divert these corporate cash holdings for private gain with relatively immunity. Linking the emerging evidence concerning the greater focus of female directors on monitoring (e.g., Adams & Ferreira, 2009; Gul et al., 2008; Srinidhi et al., 2011; Ben-Amar et al., 2017) to the role of cash, we hypothesize that, in the presence of internal dealings, female directors might reduce corporate cash holdings and that these lower cash holdings constitute a monitoring device (monitoring argument).

Thus, we state our hypothesis as follows:

H1: In the presence of internal dealings, female directors reduce corporate cash

holdings.

3. Research design

3.1 Data

The sample includes all non-financial Spanish listed companies from 2005 to 2019. Financial data were obtained from the Osiris database, while corporate governance information was taken from the annual corporate governance report. To avoid any influence of outliers, variables were winsorized at the 1% and 99% level. The initial sample consists of 1,195 firm-year observations, corresponding to 90 non-financial Spanish firms listed on the electronic market at the end of 2019. To shape our experimental setting, we only consider observations for firms engaged in internal dealings through related party transactions (RPTs). These transactions take place between the firm and significant shareholders, directors and officers or affiliates, creating internal markets that reduce financial constraints. We obtain the information about these transactions from the annual financial statements, available on the National Securities Market Commission (CNMV). More specifically, we hand-collect these data from the notes to financial statements of listed firms. The final sample thus includes 772 firm-year observations (75 firms).

3.2 Variables and estimation model

In line with the previous literature (Ozkan & Ozkan, 2004; Bates et al., 2009; Denis & Silbikov, 2010; Atif et al., 2019), we consider two alternative measures for our dependent variable; the level of cash holdings. The first measure is the ratio of cash and marketable securities to total assets (CASHHOLD), and the second is the ratio of cash and marketable securities to net assets (CASHHOLDB), where net assets are defined as the book value

of total assets minus cash and marketable securities.

Specifically, we consider different variables in order to analyse the effect of female directors on corporate cash holdings. First, we define the variable %FEMDIR, measured as the percentage of female directors out of the total number of directors. In addition, we consider a set of control variables commonly used in studies analysing the effect of corporate features on corporate cash holdings (Anderson & Hamadi, 2016; Atif et al., 2019). We include board size (BOARDSIZE), largest shareholder (LSHARE), firm age (AGE), firm size (SIZE), total debt (DEBT), financial fixed assets (FFA), capital expenditures (CAP), working capital excluding cash and marketable securities (WC), cash flow (CF), and research and development expenses (R&D). All variables are defined in Appendix.

We test our hypothesis using the following regression (Eq.1):

$$CASHHOLD_{it} = \alpha_0 + \alpha_1 \%FEMDIR_{it} + Z_{it} + Industry_i + Year_t + \varepsilon_{it} \quad Eq. 1$$

where Z is the vector of control variables, while *Industry* and *Year* represent the industry and year fixed effects, respectively. ε_{it} is the residual term.

In Eq.1, the coefficient α_1 captures the effect of female directors on cash holdings. In line with our hypothesis, we expect the coefficient α_1 to be negative.

4. Empirical results

Table 1 shows the descriptive statistics for the variables. Average cash holdings (CASHHOLD and CASHHOLDB) amount to 0.074 and 0.088, respectively. The average percentage of female directors is 12.602%, which corresponds to an average number of

female directors of 1.411. Table 2 includes the correlation matrix. If we focus on the variables that are not included in the same regression, we notice a correlation of over 0.4 (between *SIZE* and *BOARDSIZE*). We use the Variance Inflation Factor (VIF) to test whether the multicollinearity problem is present in our analysis. The highest VIF value is 2.02, which is well below 5, indicating that multicollinearity is not a concern in our study (Studenmund, 1997).

Table 1 Descriptive statistics

| | Mean | Median | S.D. | 1st Q | 3rd Q |
|------------------|-------------|---------------|-------------|--------------|--------------|
| <i>CASHHOLD</i> | 0.074 | 0.056 | 0.073 | 0.023 | 0.095 |
| <i>CASHHOLDB</i> | 0.088 | 0.059 | 0.104 | 0.023 | 0.106 |
| <i>%FEMDIR</i> | 12.602 | 11.111 | 11.508 | 0.000 | 20.000 |
| <i>BOARDSIZE</i> | 11.148 | 11.000 | 3.370 | 9.000 | 13.000 |
| <i>LSHARE</i> | 33.230 | 26.502 | 19.786 | 18.323 | 50.110 |
| <i>AGE</i> | 3.599 | 3.689 | 0.703 | 3.135 | 4.205 |
| <i>SIZE</i> | 13.731 | 13.808 | 2.057 | 12.142 | 15.124 |
| <i>DEBT</i> | 0.673 | 0.677 | 0.204 | 0.546 | 0.803 |
| <i>FFA</i> | 0.029 | 0.007 | 0.055 | 0.001 | 0.026 |
| <i>CAP</i> | 0.004 | 0.000 | 0.069 | -0.009 | 0.021 |
| <i>WC</i> | -0.005 | -0.023 | 0.188 | -0.103 | 0.079 |
| <i>CF</i> | 0.053 | 0.047 | 0.099 | 0.016 | 0.083 |
| <i>R&D</i> | 0.002 | 0.000 | 0.009 | 0.000 | 0.000 |

Figure 1 shows the evolution of female directors from 2005 (y05) to 2019 (y19). The average percentage of female directors increases from 4.00% in 2005 to 20.89% in 2019.

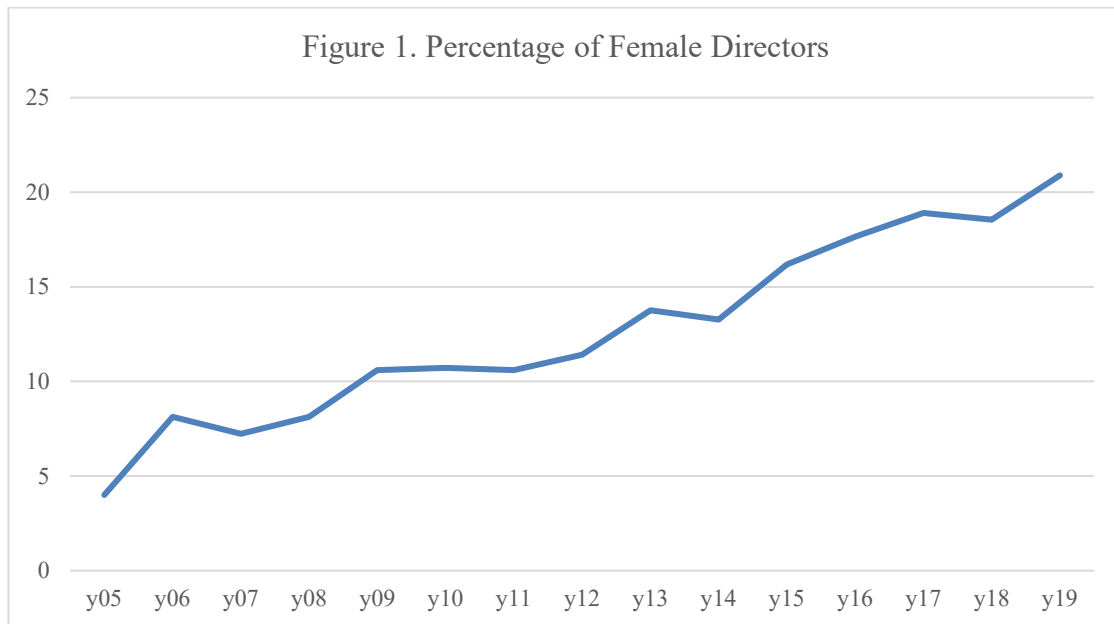


Table 3 reports the simple comparisons of means of variables considering firms with and without female directors. Results show statistically significant differences in cash holdings (CASHHOLD and CASHHOLDB). Moreover, the average cash holdings in firms with female directors is lower than the average cash holdings in firms without female directors. Additionally, Table 3 also shows statistically significant differences in the variables BOARDSIZE, LSHARE, SIZE, FFA, CAP, WC, CF and R&D. This means that firms with female directors have, on average, a larger board size, lower shares in the hands of the largest shareholder, a greater size, greater financial fixed assets and fewer research and development expenses.

*Female directors and corporate cash holdings in the presence of internal dealings***Table 2. Correlation matrix**

| | CASH HOLD | CASH HOLDB | %FEM DIR | BOARD SIZE | LSHARE | AGE | SIZE | DEBT | FFA | CAP | WC | CF |
|------------------|----------------------|-----------------------|---------------------|-----------------------|---------------|------------|-------------|-------------|------------|------------|-----------|-----------|
| CASHHOLDB | 0.988*** | | | | | | | | | | | |
| %FEMDIR | -0.027 | -0.052 | | | | | | | | | | |
| BOARDSIZE | -0.089* | -0.089* | 0.006 | | | | | | | | | |
| LSHARE | 0.121** | 0.110** | 0.059 | -0.174*** | | | | | | | | |
| AGE | 0.108** | 0.116** | 0.012 | 0.255*** | -0.077 | | | | | | | |
| SIZE | -0.026 | -0.046 | 0.103* | 0.462*** | -0.133** | 0.302*** | | | | | | |
| DEBT | 0.112** | 0.094* | -0.111** | 0.143*** | -0.007 | 0.275*** | 0.229*** | | | | | |
| FFA | -0.028 | -0.032 | 0.020 | 0.199*** | 0.009 | -0.001 | 0.103* | -0.104* | | | | |
| CAP | -0.070 | -0.063 | -0.034 | 0.077 | -0.023 | 0.019 | 0.071 | -0.029 | -0.134** | | | |
| WC | -0.196*** | -0.186*** | 0.009 | -0.079 | -0.049 | -0.017 | -0.195*** | -0.206*** | -0.101* | 0.057 | | |
| CF | 0.162*** | 0.190*** | 0.008 | 0.062 | 0.110** | -0.086* | 0.046 | -0.327*** | 0.071 | 0.095* | 0.132** | |
| R&D | 0.011 | -0.002 | -0.052 | 0.003 | -0.074 | 0.033 | 0.067 | 0.012 | -0.041 | 0.000 | 0.077 | 0.035 |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

Table 3. Firms with and without women on the board

| | Firms committing to RPTs | | | Firms committing to RPTs | | | t-student |
|------------------|--------------------------|--------|--------|--------------------------|--------|--------|-----------|
| | Mean | Median | S.D. | Mean | Median | S.D. | |
| <i>CASHHOLD</i> | 0.074 | 0.061 | 0.064 | 0.087 | 0.051 | 0.093 | 2.203*** |
| <i>CASHHOLDB</i> | 0.086 | 0.065 | 0.088 | 0.109 | 0.054 | 0.141 | 2.784*** |
| <i>BOARDSIZE</i> | 11.656 | 12.000 | 3.215 | 9.966 | 10.000 | 3.434 | 1.841** |
| <i>LSHARE</i> | 32.372 | 25.923 | 20.084 | 35.227 | 29.773 | 18.966 | -6.56*** |
| <i>AGE</i> | 3.609 | 3.664 | 0.676 | 3.575 | 3.749 | 0.764 | -0.614 |
| <i>SIZE</i> | 13.941 | 14.286 | 2.085 | 13.243 | 12.888 | 1.906 | -6.026*** |
| <i>DEBT</i> | 0.671 | 0.681 | 0.202 | 0.681 | 0.667 | 0.198 | 0.632 |
| <i>FFA</i> | 0.030 | 0.009 | 0.050 | 0.020 | 0.003 | 0.055 | -1.983** |
| <i>CAP</i> | 0.006 | 0.001 | 0.068 | 0.005 | 0.001 | 0.073 | -0.063 |
| <i>WC</i> | -0.019 | -0.034 | 0.181 | -0.009 | -0.009 | 0.170 | 0.712 |
| <i>CF</i> | 0.057 | 0.050 | 0.090 | 0.058 | 0.052 | 0.121 | 0.097 |
| <i>R&D</i> | 0.002 | 0.000 | 0.008 | 0.003 | 0.000 | 0.012 | 2.211*** |

***, **, *: statistically significant at p .01, p .05 and p .10, respectively.

4.1 Multivariate test

One source of endogeneity arises due to the possibility that some firm specific features, such as corporate strategy or culture, might affect the relation between female directors and corporate cash holdings. The other source of endogeneity occurs when female directors might be a function of our dependent variable (cash holdings). Female directors might therefore prefer to sit on boards where firms maintain lower cash holdings. To address these potential endogeneity concerns, we test our hypothesis by using the two-step system GMM estimator.

Table 4 reports the effect of female directors on corporate cash holdings, considering the two different measures for cash holdings. Both models in Table 4 show a negative and statistically significant effect of the percentage of female directors on corporate cash holding ($\alpha_1 = -0.071$ in model 1 and $\alpha_1 = -0.061$ in model 2). Our results might be explained by the increasing monitoring incentives of female directors in the

presence of internal dealings. The presence of these dealings exacerbates the free cash flow problem, and in such a setting women directors might prove to be an effective corporate governance mechanism that helps reduce the agency problems associated with free cash flows. By decreasing the level of corporate cash holdings, female directors thus promote an effective monitoring of financial policies.

To test the consistency of the coefficients obtained in the GMM estimator, we first test the validity of the instruments by using the Hansen test, with the null hypothesis being the validity of the instruments. Second, we test for the absence of second-order autocorrelation, with the null hypothesis being the non-existence of autocorrelation. Since we cannot reject the null hypothesis in the two tests, we conclude that the coefficients reported by the GMM estimator are robust. The models also include Wald tests for the joint significance of the reported coefficients (z_1), the joint significance of the variables related to years (z_2), and the joint significance of the variables related to industries (z_3).

Table 4. Female Directors and Cash Holdings

| | <i>CASHHOLD</i> | <i>CASHHOLDB</i> |
|------------------|-----------------------|-----------------------|
| | Model 1 | Model 2 |
| <i>%FEMDIR</i> | -0.071*** (-2.947) | -0.061*** (-3.974) |
| <i>BOARDSIZE</i> | -0.029 (-0.206) | -0.096 (-0.041) |
| <i>LSHARE</i> | -0.004*** (-2.312) | -0.004*** (-2.766) |
| <i>AGE</i> | -0.003 (-0.515) | -0.019 (-1.527) |
| <i>SIZE</i> | 0.006* (1.727) | 0.007* (1.891) |
| <i>DEBT</i> | 0.063** (2.198) | 0.086*** (2.831) |
| <i>FFA</i> | -0.174*** | -0.265*** |

Female directors and corporate cash holdings in the presence of internal dealings

| | | |
|-------------------------|-----------|-----------|
| | (-3.677) | (-5.074) |
| CAP | -0.103*** | -0.126*** |
| | (-3.109) | (-3.327) |
| WC | -0.046*** | -0.037*** |
| | (-2.844) | (-2.519) |
| CF | 0.070*** | 0.184** |
| | (2.400) | (2.328) |
| R&D | -0.723 | -1.066 |
| | (-1.727) | (-2.626) |
| Constant | -0.058 | 0.006 |
| | (-1.073) | (0.105) |
| Year effects | Yes | Yes |
| Industry effects | Yes | Yes |
| Hansen test | 39.93 | 39.50 |
| m2 test | 1.04 | 1.27 |
| z1 test | 10.12*** | 17.42*** |
| z2 test | 22.36*** | 13.49*** |
| z3 test | 19.09*** | 16.31*** |
| Observations | 772 | 772 |

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.

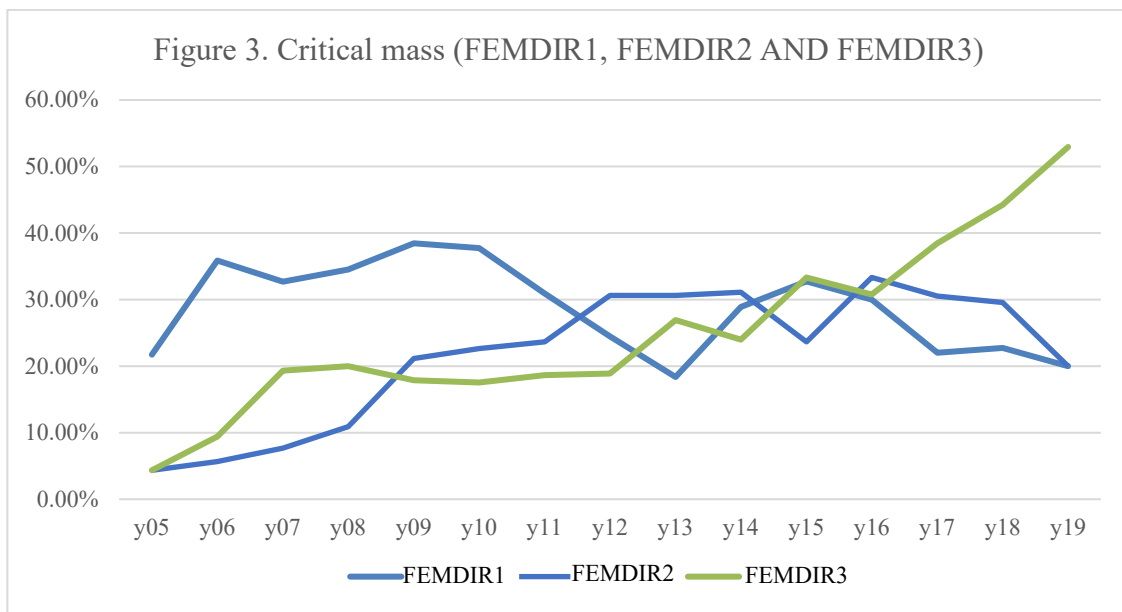
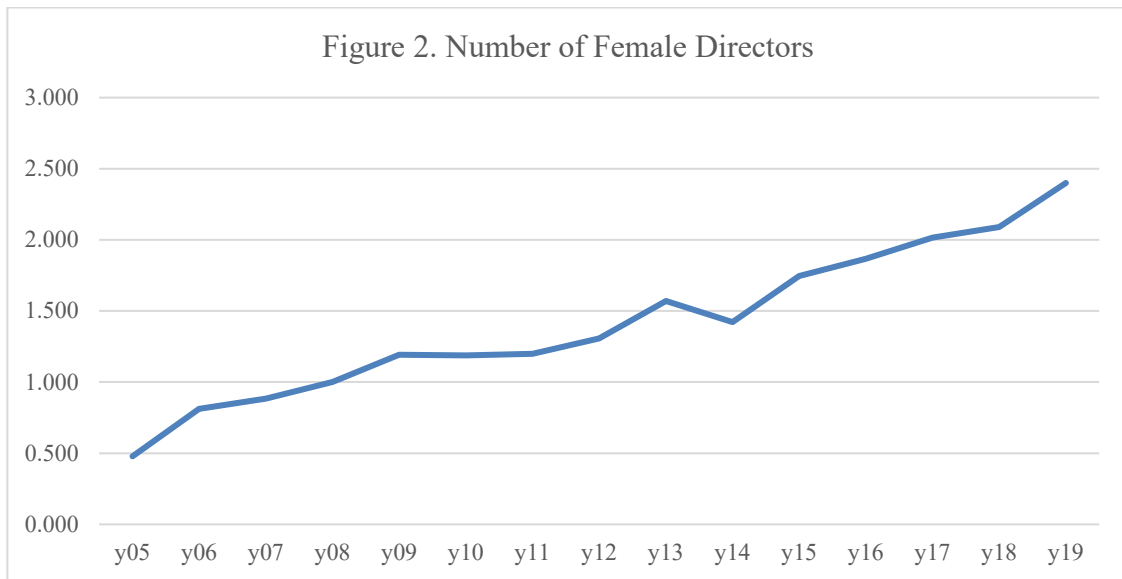
As regards the control variables, we find a positive and statistically significant effect of debt (DEBT), working capital (WC), and cash flow (CF) on corporate cash holdings, and a negative and statistically significant effect of the shares in the hands of the largest shareholder (LSHARE), financial fixed assets (FFA), and capital expenditures (CAP) on corporate cash holdings.

4.2 Critical mass

Kristie (2011) summarizes the critical mass theory by stating that “one is a token, two is a presence, and three is a voice”. The literature suggests that women on boards may have more influence on board decision-making when there is more than one woman on any

given board (Kramer et al., 2006; Amin et al., 2021). In this subsection, we therefore analyse whether the effect of female directors on corporate cash holdings is conditional on the number of women on corporate boards. We follow Buerthey (2021), Atif et al. (2019) and Liu et al. (2014) and consider four variables: NFEMDIR, defined as the number of female directors divided by the total number of directors; FEMDIR1, a dummy variable that takes the value 1 if the firm has one female director, and 0 otherwise; FEMDIR2, a dummy variable that takes the value 1 if the firm has two female directors, and 0 otherwise; and FEMDIR3, a dummy variable that takes the value 1 if the firm has three or more female directors, and 0 otherwise.

In Figures 2 and 3, we report the evolution of the different variables used in this analysis. Figure 2 shows that the average number of women on boards rose from 0.48 in 2005 to 2.40 in 2019. Figure 3 shows that the percentage of observations with one woman on the board (FEMDIR1) decreases from 21.74% to 20.00%. The percentage of observations with two women on the board (FEMDIR2) increases from 4.35% to 20.00%. Finally, the percentage of firms with three or more women on the board (FEMDIR3) increases from 4.35% to 52.94%.

Female directors and corporate cash holdings in the presence of internal dealings

The effect of the critical mass of female directors on corporate cash holdings is shown in Table 5. Models 3 to 6 report the results, considering the number of female directors (NFEMDIR) and the three dummy variables, respectively.

Model 3 shows a negative and statistically significant effect of the number of female directors on corporate cash holdings, with this result being in line with the one previously obtained in models 1 and 2. Model 4 shows a non-significant effect of the presence of one female director on corporate cash holdings. Nevertheless, model 5 shows a negative and significant effect of the presence of two female directors on corporate cash holdings, while model 6 shows a negative and significant effect of the presence of three or more female directors on cash holdings. Models 7 to 10, built by considering our second measure of corporate cash holdings, lead to the same conclusions as those reached in models 3 to 6. In line with the critical mass theory, our results therefore also evidence that the negative effect of female directors on corporate cash holdings is conditional on the presence of two or more women on the board.

*Female directors and corporate cash holdings in the presence of internal dealings***Table 5. Female Directors and Corporate Cash Holdings. Critical mass.**

| | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASH</i> <i>HOLDB</i> | <i>CASH</i> <i>HOLB</i> | <i>CASH</i> <i>HOLDB</i> | <i>CASH</i> <i>HOLDB</i> |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
| <i>NFEMDIR</i> | -0.006*** (-4.005) | | | | -0.009*** (-4.526) | | | |
| <i>FEMDIR1</i> | | -0.003 (-0.979) | | | | -0.002 (-0.351) | | |
| <i>FEMDIR2</i> | | | -0.016** (-2.442) | | | | -0.014*** (-2.100) | |
| <i>FEMDIR3</i> | | | | -0.026*** (-3.341) | | | | -0.050*** (-4.075) |
| <i>BOARDSIZE</i> | -0.003* (-1.802) | -0.002 (-0.761) | -0.000 (-0.082) | -0.003* (-1.757) | -0.003 (-1.656) | -0.001 (-0.063) | -0.005** (-2.489) | -0.006** (-2.160) |
| <i>LSHARE</i> | -0.003 (-1.042) | -0.002 (-1.520) | -0.002 (-0.886) | 0.002 (0.612) | -0.003 (-0.858) | -0.002 (-0.583) | -0.002 (-1.097) | 0.002 (1.262) |
| <i>AGE</i> | -0.004 (-0.690) | -0.003 (-0.588) | -0.001 (-0.047) | -0.018 (-1.389) | -0.005 (-0.810) | -0.011 (-0.759) | -0.012** (-2.001) | -0.003 (-0.366) |
| <i>SIZE</i> | 0.005* (1.835) | 0.003 (0.957) | 0.004 (1.429) | 0.017*** (5.413) | 0.008** (2.043) | 0.005 (1.373) | 0.003 (0.742) | 0.029*** (5.531) |
| <i>DEBT</i> | 0.058** (2.301) | 0.048* (1.861) | 0.057** (2.108) | 0.107** (2.627) | 0.082** (2.511) | 0.033 (0.919) | 0.117*** (4.688) | 0.109** (2.419) |
| <i>FFA</i> | -0.150*** (-5.104) | -0.162*** (-4.449) | -0.171*** (-4.875) | -0.324*** (-3.265) | -0.186*** (-4.471) | -0.307*** (-3.638) | -0.028 (-0.327) | -0.422*** (-2.855) |
| <i>CE</i> | -0.098*** (-4.179) | -0.088*** (-2.723) | -0.100*** (-3.235) | 0.038 (0.890) | -0.180*** (-6.337) | -0.167*** (-5.089) | -0.060 (-1.526) | 0.027 (0.454) |
| <i>WC</i> | -0.043** | -0.043** | -0.035 | -0.052* | -0.045** | -0.025 | -0.025 | -0.122*** |

Female directors and corporate cash holdings in the presence of internal dealings

| | | | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|-----------|-----------|----------|
| | (-2.636) | (-2.220) | (-1.504) | (-1.787) | (-2.135) | (-0.918) | (-0.932) | (-2.747) |
| CF | 0.199*** | 0.196*** | 0.245*** | 0.442*** | 0.281*** | 0.291*** | 0.394*** | 0.676*** |
| | (6.920) | (7.431) | (11.824) | (7.854) | (6.698) | (5.446) | (6.725) | (8.070) |
| R&D | -1.130* | -1.078* | -0.561* | -0.390 | -1.224* | -0.920** | -1.522*** | -1.288 |
| | (-1.923) | (-1.788) | (-1.742) | (-1.252) | (-1.736) | (-2.389) | (-2.657) | (-1.467) |
| Constant | 0.114 | -0.002 | 0.000 | -0.003* | -0.096 | -0.178*** | -0.187*** | 0.031 |
| | (1.619) | (-0.761) | (0.082) | (-1.757) | (-1.039) | (-3.080) | (-2.994) | (0.404) |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Hansen test | 38.33 | 40.93 | 44.97 | 42.27 | 44.94 | 43.01 | 49.41 | 43.34 |
| m2 test | 1.18 | 1.00 | 1.09 | 1.01 | 1.18 | 1.30 | 1.22 | 1.25 |
| z1 test | 16.86*** | 9.04*** | 32.22*** | 12.47*** | 19.44*** | 23.49*** | 30.17*** | 13.60*** |
| z2 test | 17.41*** | 19.67*** | 61.13*** | 16.93*** | 11.10*** | 13.45*** | 46.09*** | 17.81*** |
| z3 test | 6.58*** | 11.28*** | 9.35*** | 18.39*** | 12.64*** | 12.68*** | 14.13*** | 19.35*** |
| Observations | 772 | 772 | 772 | 772 | 772 | 772 | 772 | 772 |

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.

4.3 Further analysis

Our results evidence a negative relation between female directors and corporate cash holdings. In the presence of internal dealings, the monitoring explanation might explain this result, and in an effort to provide further robustness, we carry out an additional analysis. In this sense, certain previous studies emphasize the importance of further exploring the associated roles performed by women on corporate boards in order to better understand their impact on various management decisions (Cambrea et al., 2019). In this regard, the role of women on corporate boards might be affected by their functions. In this sense, female directors might be executive or independent directors. Executive female directors invest their human capital in the firm and consequently have a strong incentive to increase firm value. Unlike their executive counterparts, independent female directors do not invest their human capital in the firm but do, on the other hand, have an incentive to monitor managers effectively. According to this view, Cambrea et al. (2019) predict that females in executive positions might be more willing to store cash reserves so as to safeguard the company in the event of unforeseen contingencies, while women who perform a monitoring function might mitigate agency conflicts related to cash reserves by reducing the level of cash holdings.

However, as previously stated, the presence of internal dealings allows us to better disentangle the competing forces that affect the previous relation because in our experimental setting female directors' need to hold cash for transactions, and/or precautionary motives would not be the main driver of the relation between female directors and corporate cash holdings. Since our results are consistent with the monitoring explanation, and following on from the above, we further explore the impact on corporate

cash holdings of female directors, based on their functions.

In Table 6, our results show a negative effect of independent female directors on corporate cash holdings (models 11 and 12) but a non-significant effect of executive female directors on corporate cash holdings (models 13 and 14). In the presence of internal dealings, our results thus provide further support to our hypothesis regarding the monitoring role of female directors vis-à-vis corporate cash holdings.

Unlike Zeng and Wang (2015), Adhikari (2018) and Cambrea et al. (2019) we find no positive relation between females in executive roles and corporate cash holdings. In contrast, we obtain a non-significant relation between executive female directors and corporate cash holdings. However, unlike previous works, we carry out our study in a context in which female directors show incentives to hold cash for transaction and/or precautionary motives due to the presence of internal capital markets. Our findings thus further current knowledge regarding the monitoring role of female directors. Our results also add to the findings of previous studies exploring what role female directors play in improving corporate governance by reducing agency conflicts (García et al., 2017, Usman et al., 2018; Cambrea et al., 2019) by showing that external female directors fulfil an effective monitoring role regarding corporate cash holdings in the presence of internal dealings.

*Female directors and corporate cash holdings in the presence of internal dealings***Table 6. Female Directors and Corporate Cash Holdings. Critical mass.**

| | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASHHOLD</i> | <i>CASH HOLDB</i> | <i>CASH HOLDB</i> | <i>CASH HOLDB</i> | <i>CASH HOLDB</i> |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 |
| <i>NFEMDIR</i> | -0.006*** (-4.005) | | | | -0.009*** (-4.526) | | | |
| <i>FEMDIR1</i> | | -0.003 (-0.979) | | | | -0.002 (-0.351) | | |
| <i>FEMDIR2</i> | | | -0.016** (-2.442) | | | | -0.014*** (-2.100) | |
| <i>FEMDIR3</i> | | | | -0.026*** (-3.341) | | | | -0.050*** (-4.075) |
| <i>BOARDSIZE</i> | -0.003* (-1.802) | -0.002 (-0.761) | -0.000 (-0.082) | -0.003* (-1.757) | -0.003 (-1.656) | -0.001 (-0.063) | -0.005** (-2.489) | -0.006** (-2.160) |
| <i>LSHARE</i> | -0.003 (-1.042) | -0.002 (-1.520) | -0.002 (-0.886) | 0.002 (0.612) | -0.003 (-0.858) | -0.002 (-0.583) | -0.002 (-1.097) | 0.002 (1.262) |
| <i>AGE</i> | -0.004 (-0.690) | -0.003 (-0.588) | -0.001 (-0.047) | -0.018 (-1.389) | -0.005 (-0.810) | -0.011 (-0.759) | -0.012** (-2.001) | -0.003 (-0.366) |
| <i>SIZE</i> | 0.005* (1.835) | 0.003 (0.957) | 0.004 (1.429) | 0.017*** (5.413) | 0.008** (2.043) | 0.005 (1.373) | 0.003 (0.742) | 0.029*** (5.531) |
| <i>DEBT</i> | 0.058** (2.301) | 0.048* (1.861) | 0.057** (2.108) | 0.107** (2.627) | 0.082** (2.511) | 0.033 (0.919) | 0.117*** (4.688) | 0.109** (2.419) |
| <i>FFA</i> | -0.150*** (-5.104) | -0.162*** (-4.449) | -0.171*** (-4.875) | -0.324*** (-3.265) | -0.186*** (-4.471) | -0.307*** (-3.638) | -0.028 (-0.327) | -0.422*** (-2.855) |
| <i>CE</i> | -0.098*** (-4.179) | -0.088*** (-2.723) | -0.100*** (-3.235) | 0.038 (0.890) | -0.180*** (-6.337) | -0.167*** (-5.089) | -0.060 (-1.526) | 0.027 (0.454) |
| <i>WC</i> | -0.043** | -0.043** | -0.035 | -0.052* | -0.045** | -0.025 | -0.025 | -0.122*** |

Female directors and corporate cash holdings in the presence of internal dealings

| | | | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|-----------|-----------|----------|
| | (-2.636) | (-2.220) | (-1.504) | (-1.787) | (-2.135) | (-0.918) | (-0.932) | (-2.747) |
| CF | 0.199*** | 0.196*** | 0.245*** | 0.442*** | 0.281*** | 0.291*** | 0.394*** | 0.676*** |
| | (6.920) | (7.431) | (11.824) | (7.854) | (6.698) | (5.446) | (6.725) | (8.070) |
| R&D | -1.130* | -1.078* | -0.561* | -0.390 | -1.224* | -0.920** | -1.522*** | -1.288 |
| | (-1.923) | (-1.788) | (-1.742) | (-1.252) | (-1.736) | (-2.389) | (-2.657) | (-1.467) |
| Constant | 0.114 | -0.002 | 0.000 | -0.003* | -0.096 | -0.178*** | -0.187*** | 0.031 |
| | (1.619) | (-0.761) | (0.082) | (-1.757) | (-1.039) | (-3.080) | (-2.994) | (0.404) |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Hansen test | 38.33 | 40.93 | 44.97 | 42.27 | 44.94 | 43.01 | 49.41 | 43.34 |
| m2 test | 1.18 | 1.00 | 1.09 | 1.01 | 1.18 | 1.30 | 1.22 | 1.25 |
| z1 test | 16.86*** | 9.04*** | 32.22*** | 12.47*** | 19.44*** | 23.49*** | 30.17*** | 13.60*** |
| z2 test | 17.41*** | 19.67*** | 61.13*** | 16.93*** | 11.10*** | 13.45*** | 46.09*** | 17.81*** |
| z3 test | 6.58*** | 11.28*** | 9.35*** | 18.39*** | 12.64*** | 12.68*** | 14.13*** | 19.35*** |
| Observations | 772 | 772 | 772 | 772 | 772 | 772 | 772 | 772 |

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.

5. Concluding remarks

Previous literature points out the need for more research on gender diversity in order to realize the potential benefits that may result from appointing women to boards (Adams, 2016). To the best of our knowledge, this is the first study to examine the influence of female directors on corporate cash holdings, conditional upon the existence of internal dealings. This setting provides an ideal context in which to better disentangle the contrasting forces that previous literature has considered may be potential drivers of the relation between female directors and corporate cash holdings. In the considered setting, the relation between female directors and corporate cash holdings can hardly be explained by female directors' incentives to hold cash for transaction and/or precautionary motives due to the financial cushion these markets provide the firm with. On the contrary, internal dealings isolate firms from market scrutiny, exacerbating the free cash flow problem (Jensen, 1986). Our research design offers a significant variation with regard to previous studies that explore the impact of women directors on corporate cash holdings. Moreover, the study also allows us to better focus on how the role played by female directors may enhance board monitoring ability.

Our study shows that, in the presence of internal dealings, female directors reduce corporate cash holdings. Furthermore, and in line with the critical mass theory, our results show that the observed impact is critically dependent upon the presence of two or more female directors on the board, and our results are consistent with the monitoring role of female directors. Boards containing female directors are likely to reduce corporate cash holdings, with this lower cash holding possibly being used as an effective monitoring device. Further analysis shows that this negative relation is driven by independent and

female directors. Our results are consistent with the empirical studies of García et al. (2017) and Usman et al. (2018) addressing different management actions (i.e., earnings management and CEO compensation), and lead to the conclusion that the presence of independent female directors appears to improve firm-level governance by reducing agency problems in the presence of internal dealings.

Our study provides different contributions to the current literature. In the presence of internal dealings, and building on the agency theory, our work provides evidence that independent female directors play an effective monitoring role with regard to corporate financial policies. Our paper also makes a relevant contribution to the growing research linking gender diversity to monitoring intensity (Adams & Ferreira, 2009; Gul et al., 2011) and to studies focused on investigating whether women behave differently in a variety of settings (e.g., Zeng & Wang, 2015; Ben-Amar et al., 2017; Ongsakul *et al.*, 2021). In a context in which dominant owners can take private advantage of corporate cash holdings with relative immunity due to the fact that internal dealings isolate the firm from market discipline, and where the legal system provides weak protection to external shareholders' interest, our results should be taken into consideration by regulators and policy-makers concerned with effective corporate governance. Our results provide some practical implications by suggesting that, in the presence of internal dealings, more attention should be given to board gender diversity if the aim is to improve corporate governance by decreasing the agency conflicts associated to free cash flows. We contribute to prior academic debate regarding the importance of considering not only the presence of women on the board but also their particular roles (Cambrea et al., 2019) vis-à-vis understanding their real impact on firm behaviour.

CONCLUSIONS

Despite the key role that RPTs have played in major accounting scandals, empirical evidence concerning what effect RPTs have on corporate performance remains mixed (e.g., Chen et al., 2020; Fang et al., 2018; Habib et al., 2015; Jiang et al., 2010; Kohlbeck & Mayhew, 2017; Nekhili et al., 2021; Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020). In this research, we explore the effect of RPTs on different dimensions of corporate performance. In the first two chapters, we study the effect of RPTs on financial reporting and audit policies, while in the third we look at what effect female directors have on corporate cash holdings in the presence of these internal dealings.

Our results show that RPTs affect corporate governance and, in particular, financial reporting and audit policies. Moreover, we also show that female directors play an important governance role by mitigating the negative effect of RPTs on earnings quality. Additionally, we find that in the presence of these internal dealings, female directors reduce corporate cash holdings and thus contribute to decreasing agency costs associated to free cash flows, thereby improving corporate governance.

Findings from the first essay evidence that RPTs reduce audit fees. These results suggest that features of the Spanish institutional setting provide no incentives for auditors to increase audit effort and/or to incorporate any risk premium associated to RPTs in the audit pricing. However, this scenario makes auditors more prone to adapt to their clients' needs. Our results thus indicate that features of the Spanish institutional setting lead dominant owners to reduce their demands for audit coverage and encourage auditors to accommodate to these lower demands for audit coverage as RPTs increase. Further

analysis supports this explanation, since we find that RPTs reduce the likelihood of firms appointing a Big 4 auditor.

The results from the second essay show that RPTs reduce earnings quality in Spanish listed firms. These findings are consistent with controlling shareholders engaging in opportunistic RPTs and managing earnings in order to mask their self-dealing behaviour. Our study also reveals that the negative effect of RPTs on earnings quality is driven by transactions with directors and major shareholders and by Tone transactions. Additionally, our study provides evidence that female directors play an effective governance role, moderating the negative impact of RPTs on earnings quality.

The third chapter show that, in the presence of internal dealings, female directors decrease corporate cash holdings. Furthermore, we show how our results are driven by independent rather than by executive female directors. Additionally, our findings indicate that this effect is critically dependent on the presence of two or more independent female directors. In this sense, female directors are likely to reduce corporate cash holdings and these lower cash holdings might discipline internal agents by reducing free cash flows. We therefore demonstrate that, in the presence of internal dealings, independent female directors constitute an effective governance mechanism in terms of corporate financial policies.

The results from the current research thus contribute to the existing literature in several ways. The first essay provides novel evidence concerning the effect of RPTs on audit fees in a continental European context. We contribute to studies that focus on a dominant owner context (e.g., Al-Dhamari et al., 2018; Habib et al., 2015) by integrating

both supply and demand-based perspectives. According to Knechel and Willekens (2006) this is relevant since most studies focus on the supply perspective and ignore the demand forces that may affect audit fees. Our findings reveal that controlling shareholders' lower demands for audit coverage constitute the main driver of audit fees in the Spanish setting. Finally, we extend the literature on the determinants of audit fees in the Spanish context (De Fuentes & Pucheta, 2009; DeFuentes & Sierra, 2015; Desender et al., 2013; Monterrey & Sánchez, 2007; Sierra et al., 2019) by revealing another significant driver of audit fees in this context.

The second chapter provides novel evidence concerning what effect RPTs have on earnings quality in a continental European setting. In this regard, results from previous studies focusing on East Asian countries have yielded mixed results (Chen et al., 2020; Rahmat, Ahmed, & Lobo, 2020; Rahmat, Muniandy, & Ahmed, 2020). While most previous literature adopts a cross-country perspective that makes it difficult to separate firm-level from country-level effects, our focus on a single country allows for a clearer interpretation of the results to emerge. Moreover, while some previous analyses centre exclusively on transactions in affiliated groups (Chen et al., 2020), our research provides a more comprehensive picture of what effect RPTs have on earnings quality by classifying RPTs not only according to their nature but also vis-à-vis the related party involved. Additionally, our work contributes to the literature addressing the governance role of female directors in earnings quality (Arun et al., 2015; García et al., 2017; Gull et al., 2018; Harakeh et al., 2019; Kyaw et al., 2015; Srinidhi et al., 2011; Sun et al., 2011; Thiruvadi & Huang, 2011; Orazalin, 2020; Damak, 2018; Waweru & Prot, 2018) by

revealing that independent female directors play an effective monitoring role regarding financial reporting policies when RPTs increase.

Finally, the third chapter provides novel evidence concerning the influence of female directors on corporate cash holdings conditional upon the existence of internal dealings. This essay thus contributes to previous literature that explores the role of female directors in corporate governance (e.g., Ferrero et al., 2013; Kang et al., 2007; Orazalin, 2020; Ullah et al., 2020) by showing that female directors accomplish an effective monitoring role regarding corporate financial policies in the presence of internal dealings. This study therefore contributes to the growing body of research examining the effectiveness of female director monitoring (Adams & Ferreira, 2009; Gul et al., 2011) and the literature focused on the behaviour of women in different settings (e.g., Johnson & Powell, 1994; Ahmed & Atif, 2018). Additionally, our results broaden the current academic debate regarding what impact female directors have on corporate performance (Arun et al., 2015; Cambrea et al., 2019; Garcia et al., 2017).

Taking into consideration all of the above, the results from the current research are important for policymakers, auditors, investors and managers since they show what effect RPTs have on different dimensions of corporate performance in a context where investor protection and litigation risk are low, and where the main agency conflict arises from the potential expropriation of minority shareholders by controlling owners. In particular, our results prove relevant for the above-mentioned groups, as they reveal that RPTs reduce audit fees and that these lower audit fees are explained by auditors' willingness to accommodate to their clients' demands. Our findings concerning a negative effect of RPTs on earnings quality and on the governance role of female directors in

relation to both financial reporting policies and financial policies in the presence of internal dealings, are also important for the above-mentioned groups. Policymakers and supervisors interested in enhancing corporate governance and investor confidence might therefore find these results particularly useful.

This research opens up new avenues for future inquiry. First, it would be interesting to explore the relation between RPTs and non-audit fees. Additionally, studying how the nature of controlling shareholders might affect the relation between RPTs and earnings quality might also prove to be enlightening. In this sense, whereas ownership concentration measures the power of shareholders to influence managers, owner identity has implications for their objectives and how they exercise their power (Thomsen & Pedersen, 2000). Finally, examining the effect of other corporate governance mechanisms on firms' financial policies in the presence of internal dealings may also be welcomed. We leave such inquiries for future research.

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