ULPGC
Universidad de
Las Palmas de
Gran Canaria

Facultad de
Economía, Empresa y Turismo

Programa de Doctorado en Turismo, Economía y Gestión

TESIS DOCTORAL

EL PAPEL DE LOS MEDIOS DE COMUNICACIÓN COMO INSTRUMENTO DE GOBIERNO CORPORATIVO.

Su incidencia en el Consejo de Administración, la Calidad de la Información Contable y la Inversión en I+D

Devora Esther Peña Martel

JUNIO 2022

Las Palmas de Gran Canaria

Dª. BEATRIZ TOVAR DE LA FE COORDINADORA DEL PROGRAMA DE DOCTORADO EN TURISMO ECONOMÍA Y GESTIÓN DE LA UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

INFORMA,

De que la Comisión Académica del Programa de Doctorado, en su sesión de fecha ..... tomó el acuerdo de dar el consentimiento para su tramitación, a la tesis doctoral titulada "El papel de los medios de comunicación como instrumento de gobierno corporativo. Su incidencia en el consejo de administración, la calidad de la información contable y la inversión en I+D" presentada por la doctoranda Dª Devora Esther Peña Martel y dirigida por los Doctores D. Domingo Javier Santana Martín y D. Jerónimo Pérez Alemán.

Y para que así conste, y a efectos de lo previsto en el Artº 11 del Reglamento de Estudios de Doctorado (BOULPGC 04/03/2019) de la Universidad de Las Palmas de Gran Canaria, firmo la presente en Las Palmas de Gran Canaria, a.....de.....de dos mil veintidós.

UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA

ESCUELA DE DOCTORADO

Programa de Doctorado en Turismo, Economía y Gestión

TESIS DOCTORAL

EL PAPEL DE LOS MEDIOS DE COMUNICACIÓN COMO INSTRUMENTO DE GOBIERNO CORPORATIVO.

Su incidencia en el Consejo de Administración, la Calidad de la Información Contable y la Inversión en I+D

Autora

DEVORA ESTHER PEÑA MARTEL

Directores

DR. D. DOMINGO JAVIER SANTANA MARTÍN

DR. D. JERÓNIMO PÉREZ ALEMÁN

JUNIO 2022

Las Palmas de Gran Canaria

“A mis padres”

AGRADECIMIENTOS

Durante este largo camino he recibido el apoyo de muchas personas a las que me gustaría transmitir mi más sincera gratitud, dado que, sin la aportación de cada una de ellas esta tesis no habría sido posible.

Me gustaría agradecer a mis directores por brindarme la oportunidad de crecer a vuestro lado. A Jerónimo, por tu dedicación, entrega y consejos a lo largo de todos estos años. A Javier, por creer en mí y animarme a adentrarme en este maravilloso mundo. Por tu inmensa generosidad e implicación en mi formación que tantas horas te ha robado. Sin tus palabras y consejos no hubiera llegado tan lejos. Gracias a ambos, mis referentes como investigadores, docentes y personas. Estaré eternamente agradecida.

A mis padres, Domingo y Olga, porque sin su esfuerzo nada de esto sería posible. Por apoyarme incondicionalmente y sentirse orgullosos por cada mínimo paso dado. Gracias por ser mi motor y enseñarme cuales son los valores más importantes. A mi hermano, Bibi, por alegrarme la vida y ayudarme a ver el lado positivo de las cosas. Por ser, junto a mis padres, un ejemplo para mí. A mi Sico, por no separarse de mí en cada hora de trabajo dedicado en casa. Me siento muy afortunada. Gracias por tanto amor.

A Joshua, mi compañero de vida, por tu paciencia, comprensión y apoyo en cada decisión tomada. Por animarme a cumplir mis sueños. Gracias por quererme como lo haces.

A mi segunda familia, Salvador y Araceli, por estar ahí.

A Belén, por no haber dudado nunca de mí. Gracias por aparecer y permanecer.

Agradecer a Arminda y Tatiana, dos personas que llegaron a mi vida durante esta aventura para quedarse, por motivarme e inspirarme. Gracias por los consejos y las llamadas de ánimo que tanta falta hacían.

A Inmaculada por su desinteresado apoyo en mis primeros pasos como docente. A Nieves, por sus valiosas contribuciones en uno de los capítulos de la presente tesis. A Marina, por acompañarme y apoyarme en este duro camino. A mis compañeros del Tides, los que siguen estando y los que estarán siempre.

A la Universidad Carlo Cattaneo – LIUC, en especial al Dr. D. Salvatore Sciascia por su cordial acogida durante mi estancia en Italia. A mis compañeros de LIUC, por tantos momentos compartidos.

A los revisores anónimos de las revistas Business Research Quarterly y Business Ethics, the Environment & Responsibility, por todos los comentarios que contribuyeron a la mejora de dos capítulos de la presente tesis.

Con mucho cariño a todos ustedes

FUENTE DE FINANCIACIÓN

La presente tesis ha sido cofinanciada por la Agencia Canaria de Investigación, Innovación y Sociedad de la Información de la Consejería de Economía, Conocimiento y Empleo y por el Fondo Social Europeo (FSE) Programa Operativo Integrado de Canarias 2014-2020, Eje 3 Tema Prioritario 74 (85%).

CONTENTS

LIST OF TABLES

Tables Chapter 1

Tables Chapter 2

Tables Chapter 3

LIST OF FIGURES

RESUMEN

Introducción y justificación del tema analizado

En la actualidad, inversores, directivos y políticos toman sus decisiones en un contexto en el que la opinión pública y la reputación han ido cobrando cada vez más importancia debido a fenómenos como la globalización o las redes sociales. En este contexto, los medios de comunicación pueden desempeñar un papel relevante en el proceso de toma de decisiones de los distintos agentes con intereses en las empresas, ya que seleccionan, complementan, evalúan y añaden credibilidad a la información que éstas proporcionan. Acciones que pueden afectar a la imagen pública y reputación de quienes toman decisiones en el ámbito corporativo (Dyck y Zingales, 2002, 2004; Dyck et al., 2008; Core et al., 2008; Joe et al., 2009; Kuhnen y Niessen, 2012; Jansson, 2013; Liu y McConnell, 2013; Lauterbach y Pajuste, 2017; Hooghiemstra et al., 2015; Cahan et al., 2017; Chahine et al., 2015).

Sin embargo, ha sido de forma reciente cuando el papel desempeñado por los medios de comunicación ha recibido un mayor protagonismo por parte del mundo académico, ya que gran parte de la literatura previa ha asumido que los agentes, o bien están informados, o bien adquieren la información a un coste establecido (Dyck y Zingales, 2002). La labor de los medios de comunicación en la elección y transmisión de la información es especialmente significativa, ya que permite a los diferentes grupos de interés hacer frente a la denominada "ignorancia racional" (Downs, 1957), según la cual el coste de convertirse en un individuo informado puede superar los beneficios que le reporta dicha información. Los medios de comunicación tienen, por tanto, el poder de superar esta "ignorancia racional", aumentando el conocimiento sobre las acciones emprendidas por los agentes internos, y erigiéndose, por tanto, como un mecanismo externo de gobierno corporativo que permite a inversores y otras partes interesadas reducir los costes derivados de la obtención de información útil para evaluar los acontecimientos relevantes de la empresa. Así pues, los medios de comunicación sirven como un canal esencial a través del cual se difunde la información (Fang y Peress, 2009; Armstrong et al., 2012; Jansson, 2013; Ahern y Sosyura, 2014), actuando como intermediarios entre las empresas y los *stakeholders* (Miller, 2006; Tetlock, 2007; Bushee et al.,2010), proporcionando un mayor nivel de transparencia y mejorando el grado de protección de los agentes externos (La Porta et al., 2000; Djankov et al., 2008; Anderson et al., 2009).

Además, los medios de comunicación no son meros difusores de información, ya que pueden actuar como evaluadores sociales juzgando las acciones de los directivos y propietarios dominantes, influyendo en la percepción de una amplia audiencia y contribuyendo a forjar una opinión pública sobre su conducta (Dyck y Zingales, 2002; Farrell y Whidbee, 2002; Pollock y Rindova, 2003; Miller, 2006; Wiesenfeld et al., 2008; Bednar, 2012). Así mismo, los medios de comunicación pueden actuar como instigadores, identificando problemas, proponiendo cambios, llamando la atención del público y, por tanto, creando un estado de opinión (Lauterbach y Pajuste, 2017). En esta línea, Dyck y Zingales (2002) destacan que los medios de comunicación pueden incidir en la reputación corporativa al menos de tres formas diferentes. En primer lugar, los medios de comunicación pueden moldear las acciones de los políticos en el ámbito legislativo, influyendo en su carrera política o profesional. En segundo lugar, la atención mediática puede crear un estado de opinión sobre la reputación de los directivos y propietarios dominantes como controladores del proceso de toma de decisiones. Finalmente, los medios de comunicación no sólo pueden influir en la reputación de dichos agentes internos ante sus accionistas, sino también ante la sociedad en su conjunto, presionando a las empresas para que realicen acciones socialmente responsables.

De este modo, los medios de comunicación pueden convertirse en impulsores de reputación a través de la visibilidad y el escrutinio, incentivando a las empresas a evidenciar el compromiso social más allá de lo meramente obligatorio en términos legales y a ajustarse a la lógica institucional imperante en cada momento (Jansson, 2013; Lauterbach y Pajuste, 2017; Liu et al., 2017). Una mayor visibilidad de las empresas en los medios de comunicación significa, por tanto, que los agentes internos son más vulnerables a las demandas de las partes interesadas, ya que sus acciones están sujetas a un escrutinio más estrecho (Fiss y Zajac, 2006; Zyglidopoulos et al., 2012). En este contexto, los medios de comunicación animan a directivos y propietarios dominantes a acentuar los intereses de los *stakeholders* e impulsan a las empresas a satisfacer sus demandas para lograr la supervivencia y el éxito a largo plazo (Fiss y Zajac, 2006; Zyglidopoulos et al., 2012). Además, la atención mediática anima a los políticos a promover cambios legislativos o a aplicar disposiciones legales en favor de los inversores externos (Dyck et al., 2008).

Objetivos y resumen de cada capítulo

La presente tesis tiene como objetivo ampliar el conocimiento actual sobre el impacto que tiene la atención de los medios de comunicación en el comportamiento de las empresas. Particularmente, en esta tesis se analiza la cobertura mediática a través de las noticias divulgadas por los principales periódicos financieros especializados, tanto a nivel nacional como internacional. Además, se centra en el marco de Europa continental, un contexto institucional caracterizado por la alta concentración de propiedad, la baja eficacia de los mecanismos internos de gobierno corporativo y la débil protección legal de los inversores externos (La Porta et al., 1998; Djankov et al., 2008). Para llevar a cabo el objetivo planteado, la tesis se divide en tres capítulos que exploran el efecto de los medios de comunicación como instrumento externo de gobierno corporativo en tres aspectos relacionados con el comportamiento de las empresas: la calidad de la información contable, la diversidad de género en los consejos de administración y el nivel de inversión en I+D.

El primer capítulo, "*The role of the media in creating earnings informativeness: Evidence from Spain*", se centra en analizar la incidencia de los medios de comunicación en la capacidad informativa de los resultados contables. Este primer capítulo analiza, además de la cobertura mediática, si el tono negativo de las noticias publicadas tiene algún efecto en la credibilidad de información contable divulgada. Los resultados muestran que tanto el nivel de visibilidad mediática como la publicación de noticias con un tono negativo afecta de forma positiva y significativa a la capacidad informativa de los resultados contables. Concretamente, los medios de comunicación inciden en la calidad de los informes financieros divulgados por las empresas a través de la cobertura y la creación de reputación sobre las mismas.

El segundo capítulo, "*Media visibility and board gender diversity*", subraya la importancia de los medios de comunicación como *drivers* de las acciones de los directivos y accionistas dominantes. Así, el segundo capítulo examina el impacto de los medios de comunicación en la diversidad de género de en los consejos de administración. Los resultados obtenidos revelan que la atención de los medios de comunicación incentiva la presencia de consejeras. Estos resultados indican que una mayor visibilidad de las empresas en los

medios de comunicación fomenta la diversidad de género de los consejos de administración con el fin de favorecer la imagen pública de la empresa, así como la de sus directivos y propietarios controladores.

El tercer capítulo, "*Media attention and innovation*", analiza el efecto de los medios de comunicación en las decisiones de inversión en I+D, un aspecto clave para mantener las ventajas competitivas en un entorno global cada vez más competitivo. Los resultados alcanzados en este capítulo apuntan una relación positiva entre la atención mediática y el nivel de innovación corporativa. Estos resultados se sustentan en la idea de que una mayor visibilidad de las empresas en los medios de comunicación facilita el uso de la financiación externa destinada a la inversión en conocimiento, al reducir las asimetrías de información y frenar posibles comportamientos oportunistas por parte de los directivos y propietarios dominantes, aumentando así los recursos disponibles para invertir en innovación. Así mismo, los resultados señalan que una mayor atención de los medios de comunicación ejerce una mayor presión sobre las empresas para que satisfacer las demandas de innovación de los distintos grupos de interés.

Contribuciones

Los resultados que se desprenden de los tres capítulos suponen una importante contribución a la literatura de gobierno corporativo, y más concretamente, a la literatura relacionada con los mecanismos externos de gobierno corporativo. Así, el capítulo 1 contribuye a la investigación que explora el efecto de la cobertura de los medios de comunicación sobre la capacidad informativa de los resultados contables, aportando pruebas sólidas sobre el vínculo entre los medios de comunicación y la calidad de la información contable en un contexto europeo continental. Este capítulo permite explorar el papel de los medios de comunicación en un entorno en el que los canales privados desempeñan un papel clave como fuentes de información. Por ello, estos resultados pueden diferir de lo que se espera en un contexto de propiedad dispersa (Bednar, 2012).

El capítulo 2 contribuye a la literatura arrojando luz sobre el impacto de los medios de comunicación en la diversidad de género de los consejos de administración, abordando dicha diversidad como un componente aislado del concepto global de responsabilidad social corporativa (RSC). Así, aunque estudios anteriores han puesto de manifiesto una

relación positiva entre la visibilidad de los medios de comunicación y la RSC (Borghesi et al., 2014; Zyglidopoulos et al., 2012), la diversidad en esos trabajos se explora como un elemento agregado a otras dimensiones de la RSC, como el impacto medioambiental o la pertenencia de consejeros y directivos a grupos étnicos minoritarios. Por otro lado, este capítulo se centra en un entorno institucional que ofrece una ventaja a la hora de explorar el papel de los medios de comunicación en el comportamiento de las empresas, ya que, como argumentan Dyck et al. (2008), si el sistema legal y el gobierno corporativo fueran eficaces, podría resultar difícil identificar el impacto que los medios de comunicación pudieran tener en las decisiones corporativas. Así mismo, las empresas que se enmarcan en este entorno se caracterizan por una alta presencia de propietarios dominantes, los cuales pueden mostrar escasos incentivos para incluir a mujeres como miembros de los consejos de administración, ya que las consejeras ofrecen más protección a los intereses de los accionistas minoritarios en comparación con sus homólogos masculinos (Adams y Ferreira, 2009), debido a que ejercen un mejor control sobre la actuación de los agentes internos (el llamado papel *watchdog*). De este modo, este capítulo contribuye a ampliar la escasa literatura que examina el papel que desempeñan los medios de comunicación como mecanismo de gobierno corporativo en Europa y aporta evidencias sobre uno de los factores que podrían influir en la diversidad de género en los consejos de administración, un aspecto de la investigación sobre gobierno corporativo que puede calificarse como escasamente explorado y con resultados contradictorios (Baker et al., 2020). Además, este capítulo contribuye a los estudios previos que se centran en el análisis del impacto de la atención mediática en el comportamiento de la RSC, añadiendo a dicho análisis el efecto del contenido de las noticias sobre la diversidad de género de los consejos de administración.

Finalmente, el capítulo 3 contribuye de diversas maneras a la literatura que aborda los factores externos que incentivan la inversión en innovación empresarial. En primer lugar, mientras que gran parte de la literatura anterior que explora el vínculo entre los mecanismos externos de gobierno corporativo e inversión en I+D se ha centrado en el marco legal, este capítulo contribuye al debate actual sobre el impacto que tienen los mecanismos extralegales de gobierno corporativo en la I+D, enriqueciéndolo al examinar el papel que desempeñan los medios de comunicación como impulsores de las decisiones

de innovación corporativa. En segundo lugar, el capítulo aporta evidencias sobre la relación entre la atención de los medios de comunicación y la inversión en I+D en el marco europeo continental, donde los medios de comunicación desempeñan un papel clave como mecanismo disciplinador. En tercer lugar, este capítulo arroja luz sobre la importancia de los medios de comunicación en el grado de transparencia de la acción empresarial, lo que permite promover la inversión en innovación en un contexto en el que la información contable desempeña un papel más limitado cuando se trata de reducir las asimetrías de información favoreciendo el uso de canales privados entre directivos, propietarios dominantes e inversores (Ball y Shivakumar, 2005; Peek et al., 2010; Bona-Sánchez et al., 2011). Por último, en el capítulo se profundiza en la comprensión actual de cómo la atención mediática actúa como un mecanismo de legitimación de las empresas, examinando el efecto del escrutinio de los medios de comunicación en la innovación, con el fin de satisfacer las demandas de las partes interesadas.

De este modo, en un contexto en el que los retos sociales y económicos relacionados con la información (como la posverdad o la propagación de noticias falsas) se convierten en elementos que afectan a instituciones y empresas, el papel de los medios de comunicación especializados como instrumentos de gobierno corporativo puede ser fundamental para que los diferentes grupos de interés tomen sus decisiones basadas en información veraz, relevante y oportuna.

Conclusiones

El mundo académico, los inversores y los reguladores muestran un interés cada vez mayor por comprender el papel que desempeñan los medios de comunicación en el comportamiento de las empresas. A pesar de ello, se puede considerar que la literatura que centra su atención en este vínculo es todavía incipiente en Europa continental. En un esfuerzo por comprender el papel que desempeña este mecanismo externo de gobierno corporativo, esta tesis pretende explorar el impacto de la atención de los medios de comunicación en la toma de decisiones corporativas.

De esta manera, se ha puesto de manifiesto el papel clave que juegan los medios de comunicación como mecanismo de gobierno corporativo, ya que se ha demostrado que la cobertura mediática tiene un impacto relevante en acciones como la transparencia de la

información contable, la diversidad de género en los consejos de administración o las decisiones de inversión en innovación. Así, esta investigación muestra que el escrutinio realizado por los medios de comunicación afecta a la transparencia, a la composición de los consejos de administración y a las decisiones de inversión a largo plazo. Los resultados que se desprenden de cada capítulo tienen implicaciones teóricas y prácticas que nos instan a profundizar aún más en el papel que desempeñan los medios de comunicación como mecanismo externo de gobierno corporativo.

En cuanto a la incidencia de la atención de los medios de comunicación en la calidad de la información contable, los resultados muestran que los medios de comunicación desempeñan un papel complementario, incentivando la credibilidad de la información financiera divulgada reduciendo, así, las asimetrías entre los agentes internos y externos. Los medios de comunicación se convierten, por tanto, en un mecanismo extralegal que potencia la transparencia de la actuación empresarial. Este hallazgo puede resultar especialmente relevante en un entorno como el de Europa continental, en el que el sistema legal ofrece una débil protección de los intereses de los inversores externos y en el que los canales de información privados son clave para la toma de decisiones en el ámbito corporativo.

Los resultados alcanzados en esta tesis también subrayan la importancia de considerar a los medios de comunicación como impulsores de la composición de los consejos de administración y, en concreto, de la presencia de mujeres como consejeras. En este sentido, los medios de comunicación inducen a las empresas a aumentar el número de mujeres que toman asiento en el consejo de administración para mejorar su imagen pública y reputación. Esto apunta a un vínculo entre el escrutinio y la diversidad de género en los consejos de administración que puede resultar especialmente relevante. dada la escasa eficacia que muestran otros mecanismos de gobierno corporativo (la legislación o los códigos de buen gobierno) como instrumentos para fomentar una mayor representación femenina en el seno de los principales órganos de decisión de las empresas.

En referencia al impacto de la visibilidad de los medios de comunicación en la generación de conocimiento y, en particular, en la inversión en investigación, los resultados indican que la atención de los medios de comunicación impulsa las estrategias vinculadas a la

creación de innovación en las empresas, ya que una mayor transparencia reduce el conflicto con las instituciones financieras y aumenta la presión para hacer frente a las demandas cambiantes de las distintas partes interesadas.

Desde una perspectiva teórica, en un contexto caracterizado por la débil protección del sistema legal y la presencia generalizada de propietarios dominantes con la capacidad y los incentivos para controlar las decisiones corporativas, los resultados que se desprenden de la tesis señalan a los medios de comunicación como un mecanismo extralegal clave que incide en la actuación de directivos y accionistas controladores a través del escrutinio y la reputación y que, por tanto, puede afectar a las relaciones entre dichos agentes internos y los *stakeholders*.

En relación con las implicaciones prácticas, los resultados que se alcanzan sobre el papel que juegan los medios de comunicación como inductores de la credibilidad de la información contable implican que analistas, inversores y reguladores deberían promover una labor independiente de los medios de comunicación como instrumentos para reducir las asimetrías de información entre las empresas y el mercado. Además, tanto los agentes como los auditores deberían considerar el papel complementario que desempeña la cobertura mediática en su labor como garantes de la información contable divulgada. Los resultados también ponen de manifiesto que los medios de comunicación actúan como un mecanismo que genera una mayor presencia femenina en los consejos de administración en conjunción con otros instrumentos institucionales, como el sistema de cuotas para incrementar el número de consejeras establecido a través de la legislación o las recomendaciones relativas a la diversidad recogidas en los códigos de buen gobierno. Por último, la tesis ha demostrado que el escrutinio y la reputación son motores de la innovación. Por tanto, las instituciones deberían tratar de dotar a los medios de comunicación de un mayor papel como difusores y jueces de las acciones de los directivos y propietarios dominantes, ya que ello fomentaría la presencia de un número significativo de empresas capaces de acometer inversiones en innovación que aporten mejoras sociales y económicas en un entorno cada vez más competitivo. Además, el papel de los medios de comunicación como impulsores de la innovación es un aspecto clave tanto para los accionistas, dado que una mayor inversión en conocimiento favorece la existencia de la

empresa a largo plazo, como para otras partes interesadas, ya que una mayor inversión en innovación favorece que las empresas encuentren soluciones a sus demandas cambiantes.

Como se señala en cada capítulo, los resultados alcanzados no están en absoluto exentos de limitaciones. Éstas se refieren básicamente a la dificultad de contar con bases de datos amplias que puedan proporcionar información relevante. A pesar de ello, la tesis ha puesto de manifiesto que, además del sistema legal, otros mecanismos externos de gobierno pueden incidir de forma relevante en el comportamiento de las empresas. Por ello, es necesario seguir explorando el papel de la cobertura mediática en otros aspectos de este comportamiento, examinando los vínculos con otros instrumentos extralegales. Este análisis conllevará la necesidad de realizar futuras investigaciones basadas en el uso de muestras internacionales.

Referencias

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94, 291-309.

Ahern, K., & Sosyura, D., (2014). Who writes the news? Corporate press releases during merger negotiations. *The Journal of Finance*, 69, 241-290.

Anderson, R.C., Duru, A., & Reeb, D.M., (2009). Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics*, 92, 205-222.

Armstrong, C.S., Balakrishnan, K., & Cohen, D., (2012). Corporate governance and the information environment: evidence from state antitakeover laws. *Journal of Accounting and Economics*, 53, 185-204.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, 108, 232-246.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39(1), 83-128.

Bednar, M.K., (2012). Watchdog or lapdog? A behavioural view of the media as corporate governance mechanism. *Academy of Management Journal*, 1, 131-150.

Bona-Sánchez, C., Pérez-Alemán, J., & Santana-Martín, D. J. (2011). Ultimate ownership and earnings conservatism. *European Accounting Review*, 20(1), 57-80.

Borghesi, R., Houston, J. F., & Naranjo, A. (2014). Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests. *Journal of Corporate Finance*, 26, 164-181.

Bushee, B., Core, J., Guay, W., & Hamm, S., (2010). The role of business press as an information intermediary. *Journal of Accounting Research*, 48, 1-19.

Cahan, R.H., Cahan, S.F., Lee, T., & Nguyen, N.H., (2017). Media content, accounting quality, and liquidity volatility. *European Accounting Review*, 26, 1-25.

Chahine, S., Mansi, S., & Mazboudi, M., (2015). Media news and earning management prior to equity offerings. *Journal of Corporate Finance*, 35, 177-195.

Core, J.E., Guay, W., & Larcker, D.F., (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88, 1-25.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Downs, A., 1957. An Economic Theory of Democracy. Harper & Brothers, New York.

Dyck, A., Volchkova, N., & Zingales, L., (2008). The corporate governance role of the media: evidence from Russia. *The Journal of Finance*, 63, 1093-1135.

Dyck, A., & Zingales, L., (2002). The Corporate Governance Role of the Media. Working Paper. NBER.

Dyck, A., & Zingales, L., (2004). Private benefits of control: an international comparison. *The Journal of Finance*, LXI, 537-600.

Fang, L., & Peress, J., (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64, 2023-2052.

Farrell, K., & Whidbee, D., (2002). Monitoring by the financial press and forced CEO turnover. *Journal of Banking and Finance*, 26, 2249-2276.

Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sensegiving via framing and decoupling. *Academy of Management Journal*, 49, 1173-1193.

Hooghiemstra, R., Flora, Y., & Qin, B., (2015). Say-on-pay votes: the role of the media. *European Accounting Review*, 24, 753-778.

Jansson, A., (2013). ‘‘Real owners’’ and ‘‘common investors’’: institutional logics and the media as a governance mechanism. *Corporate Governance: An International Review*, 21, 7-25.

Joe, J., Louis, H., & Robinson, D., (2009). Manager’s and investors’ responses to media exposure of board ineffectiveness. *Journal of Financial and Quantitative Analysis*, 44, 579-605.

Khunen, C., & Niessen, A., (2012). Public opinion and executive compensation. *Management Science*, 58, 1249-1272.

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). *Law and finance. Journal of Political Economy*, 106, 1113-1155.

La Porta, R., López-de-Silanes, F., Shleifer, A., & Vishny, R., (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.

Lauterbach, B., & Pajuste, A. (2017). The media and firm reputation roles in corporate governance improvements: Lessons from European dual class share unifications. *Corporate Governance: An International Review*, 25, 4-19.

Liu, B., McConnell, J. J., & Xu, W. (2017). The power of the pen reconsidered: The media, CEO human capital, and corporate governance. *Journal of Banking & Finance*, 76, 175-188.

Liu, B., & McConnell, J., (2013). The role of the media in corporate governance: do the media influence managers’ capital allocation decisions? *Journal of Financial Economics*, 110, 1-17.

Miller, G., (2006). The press as a watch dog for accounting fraud. *Journal of Accounting Research*, 44, 1001-1033.

Peek, E., Cuijpers, R., & Buijink, W. (2010). Creditors’ and shareholders’ reporting demands in public versus private firms: Evidence from Europe. *Contemporary Accounting Research*, 27(1), 49-91.

Pollock, T.G., & Rindova, V.P., (2003). Media legitimation effects in the market for initial public offering. *Academy of Management Journal*, 46, 631-642.

Tetlock, P., (2007). Giving content to investor sentiment: the role of media in the stock market. *The Journal of Finance*, 62, 1139-1168.

Wiesenfeld, B., Ghose, A., & Forman, C., (2008). Examining the relationship between reviews and sales: the role of reviewer identity disclosure in electronic markets. *Information System Research*, 19, 291-313.

Zyglidopoulos, S. C., Georgiadis, A. P., Carroll, C. E., & Siegel, D. S. (2012). Does media attention drive corporate social responsibility? *Journal of Business Research*, 65, 1622-1627.

INTRODUCTION

Importance of the subject analysed

Investors, directors and public managers now take their decisions in a context in which public opinion and reputation are becoming increasingly important due to phenomena such as globalisation or social networks. Given such a context, the media can play a major role in the decision-making process of the various agents who have a vested interest in firms, by selecting, complementing, evaluating, and adding credibility to the information firms provide. As a result, the media can emerge as an external corporate governance mechanism that allows investors and other stakeholders to reduce the costs derived from obtaining information that is useful when evaluating relevant company events. The media can thereby have a decisive effect on the public image of those who take decisions in the corporate sphere (Dyck & Zingales, 2002, 2004; Dyck et al., 2008; Core et al., 2008; Joe et al., 2009; Kuhnen & Niessen, 2012; Jansson, 2013; Liu & McConnell, 2013; Lauterbach & Pajuste, 2017; Hooghiemstra et al., 2015; Cahan et al., 2017; Chahine et al., 2015). Despite this, only recently has this role played by the media received major attention from the academic world, since prior literature has assumed that agents are either well informed or acquire information at a set cost (Dyck & Zingales, 2002). Yet the role played by the media in choosing and conveying information is particularly significant, since stakeholders are faced with "rational ignorance" (Downs, 1957), given that the cost of becoming an informed individual may outweigh the benefits to be gained from the information. The media thus has the power to overcome this "rational ignorance" by enhancing individuals' knowledge of the actions undertaken by internal agents. In this context, the media serves as an essential channel through which information is disseminated (Fang & Peress, 2009; Armstrong et al., 2012; Jansson, 2013; Ahern & Sosyura, 2014). The media may therefore act as an information intermediary between firms and stakeholders (Miller, 2006; Tetlock, 2007; Bushee et al.,2010), increasing the level of transparency and enhancing the degree of protection afforded to external agents (La Porta et al., 2000; Djankov et al., 2008; Anderson et al., 2009).

Moreover, the media is not merely a broadcaster of information but can also act as a social evaluator by judging the actions of directors and dominant owners, influencing the beliefs of a wide audience and helping to forge public opinion with regard to the former's conduct (Dyck & Zingales, 2002; Farrell & Whidbee, 2002; Pollock & Rindova, 2003; Miller, 2006;

Wiesenfeld et al., 2008; Bednar, 2012). The media can also act as drivers, identifying problems, proposing changes, drawing public attention and, as a result, creating opinion (Lauterbach & Pajuste, 2017). In this line, Dyck & Zingales (2002) highlight that the media can impact corporate reputation in at least three different ways. First, the media can shape politicians' actions in the field of legislation, influencing their political or professional career. Secondly, the media can shape opinion on the reputation of directors and dominant owners as controllers of the decision-making process. Finally, the media is not only able to impact the reputation of said internal agents vis-à-vis their shareholders but also in the eyes of society as a whole, pressuring the firm to engage in socially responsible actions. The media can therefore become a driver of reputation through visibility and scrutiny, encouraging firms to evidence social commitment beyond what is merely mandatory in legal terms and to adjust to institutional logic (Jansson, 2013; Lauterbach & Pajuste, 2017; Liu et al., 2017). Greater company visibility in the media therefore means that internal agents are more vulnerable to stakeholders' demands, since company action is subject to closer scrutiny (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). The media thereby encourages directors and dominant owners to accentuate stakeholders' interests and will drive firms to meet such demands in order to achieve survival and long-term success (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). Media attention thus encourages politicians to instigate legislative changes or enforce legal provisions in favour of external investors (Dyck et al., 2008).

Objectives and summary of each chapter

This thesis seeks to expand current knowledge concerning what impact media attention has on company behaviour. The study focuses on continental Europe, an institutional context characterized by high ownership concentration, low effectiveness in internal governance mechanisms and weak legal protection for outside investors (La Porta et al., 1998; Djankov et al., 2008). To achieve the stated goal, the thesis is divided into three chapters which explore the media's impact as an external corporate governance instrument in three aspects related to firm performance: the quality of accounting information, board gender diversity, and the level of investment in R&D.

The first chapter –"*The role of the media in creating earnings informativeness: Evidence from Spain*"– focuses on examining what impact the media has on the information capacity of accounting earnings. However, this first chapter is not merely confined to media coverage, since it also analyses whether the negative tone of published news has any impact on the informativeness of accounting earnings. Findings show that both the level of media coverage as well as publishing news with a negative tone has a positive effect on the informativeness of accounting earnings. More specifically, the media affects the financial reporting quality of firms through coverage and by creating reputation.

The second chapter –"*Media visibility and board gender diversity*"– follows the previously established line, underpinning the media's importance as drivers of directors and dominant shareholders' actions. The second chapter thus examines the media's impact on board gender diversity. The results obtained reveal that media attention boosts the presence of women on boards, showing that greater media visibility encourages board gender diversity designed to enhance the firm's public image as well as that of its directors and controlling owners.

The third chapter –"*Media attention and innovation*"– looks at the media's impact on investment decisions in R&D, a key aspect in terms of maintaining competitive advantage in a global context. The results to emerge in this chapter point to a positive relation between media attention and the level of corporate innovation. These results are based on the notion that greater company visibility in the media facilitates the use of external funding assigned to investment in knowledge by reducing information asymmetries and curbing possible opportunistic behaviour on the part of directors and dominant owners, thereby increasing the resources available to invest in knowledge. The results also indicate that greater media attention puts greater pressure on firms to satisfy the innovation demands of stakeholder.

Contributions

The results to emerge from the three chapters of this thesis make a significant contribution to corporate governance literature, and more specifically to the literature related to external governance mechanisms. Chapter 1 contributes to the literature exploring the effect of media coverage on the informativeness of accounting earnings by providing

evidence concerning the link between media and accounting information in a continental European context. This chapter allows the role of the media to be explored in an environment in which private channels play a key role as sources of information and, therefore, where media coverage might affect the quality of accounting information, and which may differ to what is expected in a wide ownership context (Bednar, 2012).

Chapter 2 contributes to the literature by shedding light on the media's impact on gender diversity in boards, addressing gender diversity as a separate isolated component. Although previous studies have indeed evidenced a positive relation between media visibility and corporate social responsibility (CSR) (Borghesi et al., 2014; Zyglidopoulos et al., 2012), diversity in those works is explored as an aggregate dimension to other dimensions in CSR (employees, environment, etc.) or is examined based on gender as well as manager and director membership of ethnic minority groups. In contrast, this study focuses on an institutional setting that offers an advantage in exploring the media's role in company behaviour since, as argued by Dyck et al. (2008), if the legal system and corporate governance are effective, it might prove difficult to identify any impact the media could have on corporate decisions. In addition, the companies found in this context are characterized by a high presence of dominant owners, who may have little incentive to include women on the board, since female directors offer more protection for minority shareholder interests than their male counterparts (Adams & Ferreira, 2009) due to their exercising better control over the action of internal agents (the so-called watchdog role). In so doing, we help to expand the scarce literature examining what role the media plays as a corporate governance mechanism in Europe and we provide evidence on one of the factors that might impact board gender diversity, an aspect of corporate governance research that remains under-explored and unclear (Baker et al., 2020). This chapter also contributes to previous studies which focus on analysing the impact of media attention on CSR behaviour by adding to the analysis of the media's role concerning the effect of news content on board gender diversity.

Finally, chapter 3 contributes to a variety of ways to the literature addressing the external factors that drive investment in business innovation. Firstly, whereas much of the previous literature that explores the link between external corporate governance mechanisms and investment in R&D has focused on the legal framework, our study contributes to the

current debate concerning what impact corporate governance mechanisms have on R&D and enriches the debate by examining the role played by the media as a driver of business innovation decisions. Second, we provide evidence on the link between media attention and investment in R&D in the continental European framework, where the media plays a key role as a disciplinary mechanism, influencing managerial and dominant owner decision-making. Third, the work sheds light on the media's importance in the level of transparency of company action. This encourages investment in innovation in a context where accounting information plays a more restricted role when seeking to address information asymmetries that favour the use of private channels between directors and dominant owners (Ball & Shivakumar, 2005; Peek et al., 2010; Bona-Sánchez et al., 2011). Finally, we further current understanding of how media attention acts as a company legitimising mechanism by looking at whether media scrutiny affects innovation in terms of meeting stakeholders' demands.

In a context in which social and economic challenges linked to information (such as post-truth or fake news) are elements that affect institutions and firms, the media's role as a corporate governance instrument can thus become key to different stakeholder groups taking their decisions based on information that is truthful, relevant and timely.

References

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94, 291-309.

Ahern, K., & Sosyura, D., (2014). Who writes the news? Corporate press releases during merger negotiations. *The Journal of Finance*, 69, 241-290.

Anderson, R.C., Duru, A., & Reeb, D.M., (2009). Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics*, 92, 205-222.

Armstrong, C.S., Balakrishnan, K., & Cohen, D., (2012). Corporate governance and the information environment: evidence from state antitakeover laws. *Journal of Accounting and Economics*, 53, 185-204.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, 108, 232-246.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39(1), 83-128.

Bednar, M.K., (2012). Watchdog or lapdog? A behavioural view of the media as corporate governance mechanism. *Academy of Management Journal*, 1, 131-150.

Bona-Sánchez, C., Pérez-Alemán, J., & Santana-Martín, D. J. (2011). Ultimate ownership and earnings conservatism. *European Accounting Review*, 20(1), 57-80.

Borghesi, R., Houston, J. F., & Naranjo, A. (2014). Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests. *Journal of Corporate Finance*, 26, 164-181.

Bushee, B., Core, J., Guay, W., & Hamm, S., (2010). The role of business press as an information intermediary. *Journal of Accounting Research*, 48, 1-19.

Cahan, R.H., Cahan, S.F., Lee, T., & Nguyen, N.H., (2017). Media content, accounting quality, and liquidity volatility. *European Accounting Review*, 26, 1-25.

Chahine, S., Mansi, S., & Mazboudi, M., (2015). Media news and earning management prior to equity offerings. *Journal of Corporate Finance*, 35, 177-195.

Core, J.E., Guay, W., & Larcker, D.F., (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88, 1-25.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Downs, A., 1957. An Economic Theory of Democracy. Harper & Brothers, New York.

Dyck, A., Volchkova, N., & Zingales, L., (2008). The corporate governance role of the media: evidence from Russia. *The Journal of Finance*, 63, 1093-1135.

Dyck, A., & Zingales, L., (2002). The Corporate Governance Role of the Media. Working Paper. NBER.

Dyck, A., & Zingales, L., (2004). Private benefits of control: an international comparison. *The Journal of Finance*, LXI, 537-600.

Fang, L., & Peress, J., (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64, 2023-2052.

Farrell, K., & Whidbee, D., (2002). Monitoring by the financial press and forced CEO turnover. *Journal of Banking and Finance*, 26, 2249-2276.

Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sensegiving via framing and decoupling. *Academy of Management Journal*, 49, 1173-1193.

Hooghiemstra, R., Flora, Y., & Qin, B., (2015). Say-on-pay votes: the role of the media. *European Accounting Review*, 24, 753-778.

Jansson, A., (2013). ‘‘Real owners’’ and ‘‘common investors’’: institutional logics and the media as a governance mechanism. *Corporate Governance: An International Review*, 21, 7-25.

Joe, J., Louis, H., & Robinson, D., (2009). Manager’s and investors’ responses to media exposure of board ineffectiveness. *Journal of Financial and Quantitative Analysis*, 44, 579-605.

Khunen, C., & Niessen, A., (2012). Public opinion and executive compensation. *Management Science*, 58, 1249-1272.

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). *Law and finance. Journal of Political Economy*, 106, 1113-1155.

La Porta, R., López-de-Silanes, F., Shleifer, A., & Vishny, R., (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.

Lauterbach, B., & Pajuste, A. (2017). The media and firm reputation roles in corporate governance improvements: Lessons from European dual class share unifications. *Corporate Governance: An International Review*, 25, 4-19.

Liu, B., McConnell, J. J., & Xu, W. (2017). The power of the pen reconsidered: The media, CEO human capital, and corporate governance. *Journal of Banking & Finance*, 76, 175-188.

Liu, B., & McConnell, J., (2013). The role of the media in corporate governance: do the media influence managers’ capital allocation decisions? *Journal of Financial Economics*, 110, 1-17.

Miller, G., (2006). The press as a watch dog for accounting fraud. *Journal of Accounting Research*, 44, 1001-1033.

Peek, E., Cuijpers, R., & Buijink, W. (2010). Creditors’ and shareholders’ reporting demands in public versus private firms: Evidence from Europe. *Contemporary Accounting Research*, 27(1), 49-91.

Pollock, T.G., & Rindova, V.P., (2003). Media legitimation effects in the market for initial public offering. *Academy of Management Journal*, 46, 631-642.

Tetlock, P., (2007). Giving content to investor sentiment: the role of media in the stock market. *The Journal of Finance*, 62, 1139-1168.

Wiesenfeld, B., Ghose, A., & Forman, C., (2008). Examining the relationship between reviews and sales: the role of reviewer identity disclosure in electronic markets. *Information System Research*, 19, 291-313.

Zyglidopoulos, S. C., Georgiadis, A. P., Carroll, C. E., & Siegel, D. S. (2012). Does media attention drive corporate social responsibility? *Journal of Business Research*, 65, 1622-1627.

CHAPTER 1

THE ROLE OF THE MEDIA IN CREATING EARNINGS INFORMATIVENESS: EVIDENCE FROM SPAIN

This chapter has been published in Business Research Quarterly 2018; 21, 168-179 https://doi.org/10.1016/j.brq.2018.03.004.

CHAPTER 1

The role of the media in creating earnings informativeness: Evidence from Spain

Abstract

We analyse the effect of the media on the informativeness of accounting earnings. We collected news articles on a sample of non-financial listed firms over the 1996 to 2014 period in Spain, a country characterised by the widespread presence of dominant owners. Our results indicate that disclosing information through financial media coverage in newspaper articles positively affects earnings informativeness. Moreover, results show that publishing media news reports which have a negative tone has a positive effect on the informativeness of accounting earnings. Results suggest that the media serves as an effective external corporate governance mechanism in improving the informativeness of accounting earnings within the context of Spain.

Keywords: Media coverage, Media-expressed tone, Negative tone, Earnings informativeness, Dominant owners.

1.1. Introduction

The media has been posited as a relevant corporate governance mechanism, serving as an essential channel through which information is disseminated to investors (Fang & Peress, 2009; Armstrong et al., 2012; Jansson, 2013; Ahern & Sosyura, 2014). The media may therefore act as an information intermediary between firms and external investors (Miller, 2006; Tetlock, 2007; Bushee et al.,2010) increasing the level of transparency and enhancing the level of protection of interests afforded to external agents (La Porta et al., 2000; Djankov et al., 2008; Anderson et al., 2009). The media select, analyse, communicate, and can influence the informativeness of earnings reported by firms. They can play a key role in controlling the actions of dominant owners and directors by reducing informational asymmetries between internal and external agents and by influencing internal agents' image and reputation (Dyck & Zingales, 2002; Farrell & Whidbee, 2002; Miller, 2006; Dyck et al., 2008; Bushee et al., 2010; Bednar, 2012; Liu & McConnell, 2013). Works addressing the role played by media coverage of the quality of financial reporting remain scarce and tend to focus on contexts that differ significantly from a continental European setting. Chahine et al. (2015) and Qi et al. (2014) report a positive relationship between media coverage and the quality of accounting information in a US and Chinese context, respectively.

The current chapter seeks to explore the media's impact on the informativeness of accounting earnings disclosed by firms in a continental European context. To do this, we use a sample of Spanish non-financial listed firms over the period 1996-2014. Spain provides a particularly interesting setting to study the media's impact on earnings informativeness, since it is a country characterised by the widespread presence of dominant owners (large shareholders who effectively control firms). Spain is also a country where people feel that the level of media independence from undue political and business influence is similar to the UK or US (Reuters Institute, 2016). Our results show that media coverage and publication of news items with a negative tone positively affect the informativeness of accounting earnings. More specifically, the media affects the financial reporting quality of firms through coverage and by creating reputation. Results may be extrapolated to other continental European countries which display similar institutional

features and a similar level of media independence, such as Italy or France (La Porta et al., 1998; Djankov et al., 2008; Reuters Institute, 2016).

We provide fresh evidence concerning the effect of media coverage on earnings informativeness that is difficult to capture in the US or China. In contrast to an Anglo-American context, weak legal protection in continental Europe encourages opacity of the accounting information disclosed by firms (Riahi-Belkaoui, 2004; Cahan et al.,2008). This is because the widespread presence of dominant owners with the ability and the incentive to play an active role in management (Cuervo, 2002; Faccio & Lang,2002; La Porta et al., 1999; Santana & Aguiar, 2006) allows them to either use accounting information to protect themselves from their competitors or to hide the consequences of actions which conflict with external investors' interests(Fan & Wong, 2002; Leuz et al., 2003; Anderson et al., 2009). Consequently, the presence of dominant owners allows relationship-based governance due to dominant owner ability to economise on the costs of monitoring management (LaFond, 2005; Villalonga & Amit, 2006). As a result, ownership concentration increases the likelihood that information asymmetries between manager sand shareholders will be resolved by private communication channels rather than by 'arm's length' public disclosure (Peek et al., 2010; Ball & Shivakumar, 2005; LaFond, 2005; Dargenidou et al., 2007; Bona Sánchez et al., 2011). Although ownership concentration is common in China, the media context differs from a continental European setting since Chinese media are characterised by a high degree of opacity, less freedom to determine the content of media coverage, and less legal protection when sued by individuals or companies, added to which they tend to be government owned (Qi et al., 2014).

Our study contributes to the literature exploring the effect of media coverage on the informativeness of accounting earnings by providing evidence concerning the link between media and accounting information in a continental European context in which the presence of dominant owners is prevalent and media independence is high. To the best of our knowledge, this issue has not been addressed in previous literature. This chapter allows us to explore the role of the media in an environment where private channels play a key role as sources of information and, therefore, where media coverage might affect the quality of accounting information, and which may differ to what is expected in a wide ownership context (Bednar, 2012). Many papers have examined the media's role as a corporate

governance mechanism using US or international samples (Dyck & Zingales, 2002; Agrawal & Chadha, 2005; Miller, 2006; Core et al., 2008; Fang & Peress, 2009; Bushee et al., 2010; Engelberg & Parsons, 2011; Gurun & Butler, 2012; Khunen & Niessen, 2012; Ahern & Sosyura, 2014; Drake et al., 2014; Cahan et al., 2017; Chahine et al., 2015; Ahmad et al., 2016; Lauterbach & Pajuste, 2017). However, the results of these studies are not transferrable to the continental European setting since, as Jansson (2013) points out, the institutional logic sought by the media varies between different contexts because actions considered correct in one country may not be in another. Finally, we analyse media coverage over a long period of time (1996-2014), spanning an interval in which the media's role as a corporate governance mechanism has increased in Europe (Koning et al., 2010).

1.2. Related literature and hypotheses development

1.2.1. Media and information asymmetry

Disclosure, or media coverage, is action taken by the media that mainly affects the market (Drake et al., 2014). The media can play a major role as a governance mechanism since it collects, accumulates, disseminates and amplifies information. The media has an incentive to maintain a good reputation by providing accurate and credible information, particularly in a context of strong competition (Gentzkow & Shapiro, 2006). Dyck et al. (2008) note that the work done by the media reduces the costs of dealing with the rational ignorance paradox (Downs, 1957), which emerges when the costs of being well informed exceed the benefits obtained from the information. Media disclosure of information allows external investors to overcome the consequences associated with rational ignorance (Dyck et al., 2013). As Bushee et al. (2010) note, the financial press may well be the information intermediary with the greatest potential for diffusion, reaching qualified as well as non-qualified investors, in addition to managers, shareholders, regulators and other market participants.

In the continental European setting, ownership concentration can serve as a credible commitment which the dominant owner uses not to expropriate minority shareholders (La Porta et al., 2000; Fan & Wong, 2002). According to these authors, commitment is credible because minority shareholders know that if dominant owners engage in expropriation while holding a substantial amount of shares, they will discount the stock price accordingly,

reducing the controlling owner's share value. From a supply perspective, disseminating information through the media reduces informational asymmetries between external investors and dominant owners and managers. As a result, the media can play a complementary role in disclosing the accounting information offered by the firm by improving the alignment effect of large ownership stakes of dominant owners and by limiting dominant owner ability to obtain private benefits at the expense of minority shareholder wealth (Dyck & Zingales, 2004; Bushee et al., 2010; Soltes, 2010). Media coverage would increase the incentives to align interests between dominant owners and minority shareholders and, consequently, improve earnings informativeness (Fan & Wong, 2002), since the market would attach less information capacity to the accounting information disclosed by internal agents who have a greater incentive to expropriate.

However, media can also play a substitutive role in the disclosing the accounting information offered by the firm. Prior literature has shown that the concentration of ownership environments encourages the presence of an information effect to protect the company's competitive advantage from competitors (Fan & Wong, 2002; Bona et al., 2014). The information effect implies adopting opaque financial reporting practices that limit the flow of information which can be accessed by external investors. In this context, media coverage can increase the incentives to protect competitive advantage from public scrutiny, reducing the informativeness of accounting earnings. In this way, managers and dominant owners might counteract the increased knowledge of the firm afforded by the media.

Considering that the previous theoretical arguments have opposite effects (alignment effect vs. information effect), we state our first hypothesis as follows:

H1. Media coverage affects the informativeness of accounting earnings.
H1a. Media coverage positively affects the informativeness of accounting earnings.
H1b. Media coverage negatively affects the informativeness of accounting earnings.

1.2.2. Media and reputation

In addition, the media can also affect a firm's reputation (Dyck & Zingales, 2002; Farrell & Whidbee, 2002; Miller, 2006; Dyck et al., 2008; Joe et al., 2009; Bushee et al., 2010; Bednar, 2012; Liu & McConnell, 2013). According to Wiesenfeld et al. (2008), negative information disclosed by the media can act as a legitimacy mechanism, affecting the reputation of dominant owners and managers, since the news leads investors to form opinions about the performance of the company and those who control the decision-making process (Pollock & Rindova, 2003; Dyck & Zingales, 2002; Bednar, 2012; Chahine et al., 2015). This is particularly relevant in the continental European context, where reputation stands as a substitute for the legal system (La Porta et al., 1998; Cuervo, 2002). In this way, pursuit of positive media treatment might encourage value-maximizing behaviour in the decision-making process (Malmendier & Tate, 2008; Liu & McConnell, 2013), aligning the interests of dominant owners and minority shareholders and, consequently, increasing the informativeness of accounting earnings. Negative news might increase dominant owners' incentives to offer quality accounting information in order to enhance their reputation and improve earnings informativeness. Based on the above arguments, we formulate our second hypothesis:

H2. Negative media coverage positively affects the informativeness of accounting earnings.

1.3. Research design

1.3.1. Sample

The sample is composed of 97 Spanish non-financial listed firms with financial information in the Osiris database over the 1996-2014 period. Moreover, in our regression analysis we apply the method developed by Hadi (1994) to eliminate outliers, which represent 11.1% of the total sample. We finally obtain an unbalanced panel of 95 firms (1162 firm-year observations), with 96% of firms having eight or more observations over the period. The final sample covers 98% of the capitalisation of Spanish listed non-financial firms in 2014.

1.3.2. Variables and models

Consistent with previous literature, media coverage is measured by the number of news reports on companies (Dyck & Zingales, 2002; Tetlock, 2007; Dyck et al., 2008; Core et al., 2008; Joe et al., 2009; Engelberg & Parsons, 2011; Gurun & Butler, 2012; Khunen & Niessen, 2012; Jansson, 2013; Liu & McConnell, 2013; Ahern & Sosyura, 2014; Borochin & Weihua, 2014; Dai et al., 2014; Lauterbach & Pajuste, 2017; Liu et al., 2014). We compiled a database by collecting articles from specialised financial press, both nationally and internationally. To obtain this information, we used the Factiva database, which provides news for each company and year published in different financial media. We analysed eight financial publications. From Spanish financial press, we included Expansión, Cinco Días and El Economista.[1] From international financial media, we analysed the Financial Times, Wall Street Journal, Reuters, Dow Jones and Business Wire.

The choice of financial media is based on two aspects. First, we selected Expansión, Cinco Días and El Economista as national media since they are the three main financial publications in Spain (Information and Control of Publications, S.A., Office of Justification of Disclosure). Following previous literature, we included those international publications considered leaders in financial news (Miller, 2006; Core et al., 2008; Dyck et al., 2008; Engelberg & Parsons, 2011; Drake et al., 2014; Cahan et al., 2017; Hooghiemstra et al., 2015).

Moreover, in order to measure media coverage, and in consonance with the works of Ahern & Sosyura (2014) and Chahine et al. (2015), we considered only articles that offer information about Spanish listed companies, excluding news items that do not contain any informative content such as dividend payment announcements or quotations listings. In addition, and in line with previous literature (Ahern & Sosyura, 2014; Core et al., 2008; Hooghiemstra et al., 2015), we provide greater robustness to the results. Specifically, as representative measures of media coverage, we used (a) the number of news reports about a particular company, (b) the number of news reports about a particular company

[1] All of them are available in Factiva for the 19 years under study, with the exception of El Economista, whose information is available from 2007.

considering only news articles of over fifty words, and (c) the number of news reports about a particular company considering only articles that mention the name of the company in the first 25 words. Finally, consistent with previous literature, we collected negative news articles from the Factiva database regarding firms' activities[2] (Tetlock, 2007; Core et al., 2008; Loughran & McDonald, 2011; Gurun & Butler, 2012; Qi et al., 2014; Hooghiemstra et al., 2015). The variables measuring media coverage are thus defined as follows:

Media_Attention: Number of news reports published on each company.

Media50: Number of news reports published on each company when the news contains at least 50 words.

Media25: Number of news reports published on each company when the name of the company appears in the first 25 words.

Media_Tone: Number of negative news articles published on each company.

Following previous literature (Teo & Wong, 1993; Imhoff & Lobo, 1992; Warfield et al., 1995; Subramanyam & Wild, 1996; Fan & Wong, 2002; Yeo et al., 2002; Francis et al., 2005; Ahmed et al., 2006; Santana et al., 2007; Bona Sánchez et al., 2013; Bona Sánchez et al., 2014, 2017), we measure informativeness of accounting earnings by examining the earnings response coefficient (*ERC*) from a regression of cumulative abnormal stock returns (*CAR*) on net income:

$$CAR_{it} = \alpha_0 + \alpha_1 NI_{it} + \mu_k + \rho_j + \varepsilon_{it} \quad (1)$$

where CAR_{it} is the firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period concluding three months after the end of the fiscal year.[3]

NI_{it} is net earnings in year *t* divided by the market value of equity at the beginning of year *t*.

[2] The Factiva database has a tool that identifies news articles containing negative words such as fraud, breach, lawsuit, insider training, charges, bankruptcy, etc. Once identified, we analysed them to make sure the news had a negative tone. As examples, we include an Appendix 1.2 with news articles that adopt a negative tone.

[3] In line with earlier literature focusing on the Spanish market (Santana et al., 2007; Bona Sánchez et al., 2013; Bona et al.,2014, 2017), we use the Ibex35 as a benchmark of the Spanish market to estimate market-adjusted abnormal returns.

We also include dummy variables μ_t and p_j to control for year and industry effects, respectively. ε_{it} is the error term for firm *i* in year *t*.

We expect a positive and significant coefficient on α_1, suggesting that earnings play an information role. This means that the stock market incorporates earnings informativeness into the price formation process. To analyse the effect of our variables on earnings informativeness, we expand the *ERC* model in Equation (1) by including interactions between NI_{it} and our media coverage variables and between NI_{it} and the control variables (Equation (2)):

$$\begin{aligned} \mathrm{CAR_{it}} = {} & \alpha_0 + \alpha_1 \mathrm{NI_{it}} + \alpha_2 \mathrm{Media\_Attention_{it}xNI_{it}} + \alpha_3 \mathrm{Size_{it}xNI_{it}} + \alpha_4 \mathrm{MkBook_{it}xNI_{it}} \\ & + \alpha_5 \mathrm{Leverage_{it}xNI_{it}} + \alpha_6 \mathrm{Age_{it}xNI_{it}} + \alpha_7 \mathrm{Voting_{it}xNI_{it}} + \alpha_8 \mathrm{Ibex35_{it}xNI_{it}} \\ & + \alpha_9 \mathrm{Presi\_Ejec_{it}xNI_{it}} + \mu_k + \rho_j + \varepsilon_{it} \end{aligned} \quad (2)$$

where *Media_Coverage* includes, separately in regressions, *Media_Attention, Media50, Media25* and *Media_Tone*. To control the effect of firm dimension, we include *Size*, measured as the natural logarithm of total assets. We expect firm size to positively affect the informativeness of accounting earnings (Fan & Wong, 2002). The effect of growth opportunities is included in the variable *MkBook*, defined as the market value of equity divided by the book value of equity. We expect it to positively affect earnings informativeness (Collins & Kothari, 1989; Fan & Wong, 2002). Additionally, to control the effect of leverage, we include the variable *Leverage*, measured as total debt divided by total assets (Dhaliwal et al., 1991). As Fan & Wong (2002) argue, the sign of debt's impact on informativeness must be determined empirically. This same reasoning is applied when we consider the company's life cycle, measured through the variable *Age*, which indicates the number of years to have elapsed since the firm was set up (Dechow et al., 2001; Myers et al., 2003). In addition, we include the company's presence in the selective index of the Spanish stock market through the variable *Ibex35*. This is a dichotomous variable that takes the value 1 if the company is listed in the index, which is representative of the Spanish stock market (IBEX-35), and 0 otherwise. We expect the higher level of scrutiny to which companies in the index are subject to positively affect the informativeness of accounting earnings. We also include the variable *Voting*, which measures the level of ownership concentration for the company (Warfield et al., 1995; Yeo et al., 2002; Fan & Wong, 2002;

LaFond & Roychowdhury, 2006; Santana et al., 2007) as the percentage of voting rights in the hands of the main shareholder. Considering the mixed results to emerge from previous literature, the sign of the *Voting* effect on earnings informativeness of debt will be determined empirically. In order to identify ownership structure, we use data from Santana & Aguiar (2006), Bona et al. (2014) and Guerra et al. (2015) who use the control chain method to identify the ultimate or dominant owner of Spanish listed firms during the period 1996-2012. Since our study also covers the years 2013 and 2014, we complete the previous database with additional information from those years.[4] Finally, in line with Ahmed et al. (2006), we include *Duality* as a dichotomous variable that takes the value 1 if the president of the board of directors has an executive role and 0 otherwise. Results from early literature addressing the relation between the duality role of the president of the board of directors and accounting quality are mixed (Klein, 2002; Gul & Lai, 2002). All the variables are defined in the Appendix 1.1.

1.4. Results

1.4.1. Descriptive statistics

Table 1.1 shows the average number of news items where the sample companies are the main actors. We see that the average news coverage (*Media_Attention*) is approximately 384 articles per company for the whole of the period analysed. This number does not drop significantly when we consider only news reports with over 50 words (*Media50*), indicating that the news items considered in the study are not mere announcements. However, when using news articles in which the name of the company analysed appears in the first 25 words (*Media25*), the average number of news articles falls to 216. When focusing on negative news (*Media_Tone*), the average number of articles drops significantly, showing that news items which might call into question the reputation of managers and dominant owners carries less weight than the rest of the non-negative news.

[4] The control chain method developed by La Porta et al. (1999) allows us to analyse ownership concentration, divergence between the dominant owner's voting and cash flow rights, and the type of dominant owner (La Porta et al., 1999; Claessens et al., 2000; Faccio & Lang, 2002). Specifically, this method allows for correct specification of ownership structure in environments where the use of pyramids is prevalent (La Porta et al., 1999; Francis et al.,2005; Bona Sánchez et al., 2011).

Table 1.1. Media coverage of Spanish non-financial listed firms. 1996-2014

Year	*Media_Attention*	*Media50*	*Media25*	*Media_Tone*
1996	161.76	150.92	115.34	0.76
1997	209.21	194.31	151.78	0.74
1998	296.08	266.30	167.66	0.89
1999	401.38	346.05	223.36	0.86
2000	419.34	336.07	219.75	1.96
2001	284.26	250.74	169.22	1.58
2002	299.51	242.10	159.70	1.64
2003	319.43	315.57	176.61	1.34
2004	445.17	436.27	233.51	1.22
2005	432.31	426.76	228	1.61
2006	425.81	419.19	240.13	3.98
2007	527.08	501.64	310.02	3.05
2008	418.08	396.84	252.36	2.15
2009	381.18	373.72	204.65	2.11
2010	386.67	371.90	204.95	3.04
2011	345.71	330.21	185.28	2.67
2012	370.97	351.28	205.47	3.13
2013	444.64	419.16	253.32	2.23
2014	437.85	409.92	267.40	3
Mean	**384.20**	**360.35**	**216.47**	**2.21**

Table 1.2 reports the descriptive statistics of the variables. The variable *CAR* has a negative mean value of 0.026, and net income (*NI*) shows a negative average value of 0.04. As regards the control variables, we see that the average age of the companies (*Age*) is 48 years, that the level of debt (*Leverage*) has an average value of 0.66 and that voting rights in the hands of the dominant owner reach an average of 30.01% (*Voting*). Furthermore, with regard to the presence of companies in the IBEX35, data indicate that 27.33% of the companies analysed form part of the index. Finally, the percentage of companies in which the president of the board of directors holds an executive role is 74.69%.

Table 1.2. Descriptive statistics

	MEAN	MEDIAN	S.D.	1st Q	3rd Q	4th Q
Continuous variables						
CAR	-0.02	0.01	0.41	-0.22	0.21	0.93
NI	-0.04	0.05	0.83	0.01	0.09	0.34
Media_Attention	384.20	104	763.95	44	356	4047
Media50	360.35	98	700.28	40	322	3653
Media25	216.47	63	437.68	26	198	1078
Media_Tone	2.21	0	8.23	0	1	44
MkBook	2.70	1.64	1.91	0.96	2.78	9.12
Size	13.14	12.97	1.92	11.67	14.50	17.93
Leverage	0.66	0.64	0.61	0.5	0.77	0.86
Age	48.21	42	28.4	26	68	112
Voting	30.01	24.99	19.46	13.74	47.18	79.06
Dummy variable (%)						
Ibex35	27.33					
Duality	74.69					

Table 1.3 shows the correlations among variables and suggests that multicollinearity does not affect subsequent regressions. Nevertheless, we conduct a formal test to ensure that multicollinearity is not present in our regressions. Specifically, we calculate the Variance Inflation Factor (VIF) for each independent variable included in the estimated model. The highest VIF for our models is well below 5, the threshold value for multicollinearity concerns (Studenmund, 1997). We thus conclude that multicollinearity is not a problem in our sample.

1.4.2. Media coverage and informativeness of accounting earnings

We estimate all the regressions using a panel data procedure, namely, fixed-effects and Generalised Method of Moments (GMM). Unlike crosssectional analysis, panel data allows us to control for individual heterogeneity. This is crucial in our study because earnings

informativeness is closely related to firm specificity. To address this source of endogeneity,[5] we control for this heterogeneity by modelling it as an individual effect, which is then eliminated by taking first differences of the variables (GMM). Additionally, the GMM estimator allows us to address another source of endogeneity; namely, the simultaneity that arises when at least one of the explanatory variables is determined simultaneously together with the dependent variable (Wooldridge, 2002). Therefore, all GMM models have been estimated using these instruments. Specifically, we used all the right-hand-side variables in the models lagged twice and six times as instruments. The only exceptions are the year-effects variables, which are considered exogenous. The original Arellano & Bond (1991) approach may, however, perform poorly if the autoregressive parameters are too large or if the ratio of the variance of the panel-level effect to the variance of the idiosyncratic error is too large. Drawing on Arellano & Bover (1995), Blundell and Bond (1998) develop a system GMM estimator that addresses these problems by expanding the instrument list to include instruments for the levels equation. We use the system GMM approach to estimate our models.[6]

[5] Following Greene (2000) and Wooldridge (2002), broadly speaking we define endogeneity bias as any situation where the disturbance term of the structural equation is correlated with one or more independent variable.

[6] More specifically, we use the two-step system GMM estimation included in the *xtabond2* stata routine written by Roodman (2008).

Table 1.3. Correlation matrix and VIF ratios

	CAR	*NI*	*Media_ Attention*	*Media50*	*Media25*	*Media_Tone*	*MkBook*	*Size*	*Leverage*	*Age*	*Voting*	*Ibex35*	*VIF*
NI	0.38***												
Media_Attention	0.03	0.08**											
Media50	0.03	0.09***	0.98***										
Media25	0.03	0.08**	0.94***	0.93***									
Media_Tone	0.003	0.03	0.74***	0.74***	0.77***								
MkBook	0.11***	0.09***	0.15***	0.15***	0.12***	0.02							1.02
Size	0.15***	0.23***	0.66***	0.66***	0.66***	0.44***	0.38***						2.32
Leverage	-0.04	-0.02	0.16***	0.17***	0.18***	0.11***	-0.006	0.19***					1.21
Age	0.03	0.05*	0.14***	0.14***	0.17***	0.15***	-0.05*	0.12***	0.20***				1.04
Voting	0.02	0.01	-0.12***	-0.12***	-0.13***	-0.11***	0.09***	0.03	0.11***	-0.05*			1.02
Ibex35	0.06**	0.15***	0.55***	0.56***	0.56***	0.34***	0.25***	0.75***	0.17***	-0.06**	-0.02		2.23
Duality	0.03	0.03	0.03	0.03	0.04	0.06*	0.001	0.03	-0.01	0.01	-0.05*	0.003	1.01
Media													1.38

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

The consistency of GMM estimates depends on both an absence of second order serial autocorrelation in the residuals and the validity of the instruments. To check for potential model misspecification, we use the Hansen statistic of overidentifying restrictions. We next examine the m^2 statistic developed by Arellano and Bond (1991) to test for the absence of second-order serial correlation in the first-difference residual. Finally, we conduct three Wald tests that include a Wald test of the joint significance of the reported coefficients (Z_1), a Wald test of the joint significance of time dummies (Z_2) and a Wald test of the joint significance of industry dummies (Z_3).

Model 1 (Table 1.4) reports the results on the relationship between earnings and stock returns. As expected, the variable NI positively affects market return. This result suggests that the stock market incorporates firms' earnings into the price formation process. Moreover, Models 2, 3 and 4 (Table 1.4) show that media coverage (*Media_Attention, Media50* and *Media25*, respectively) has a positive and statistically significant effect on earnings informativeness. These results support H1a, which is consistent with media coverage increasing the alignment of interests between dominant owners and minority shareholders. Therefore, the market affords greater credibility to the accounting information disclosed by internal agents who have less incentive for expropriation.

Model 5 (Table 1.4) shows that publishing negative news items (*Media_Tone*) positively affects earnings informativeness. These results support H2. This evidence is consistent with the fact that disclosing negative news encourages value-maximizing behaviour in the decision-making process, with the aim of improving the reputation of the firm and, consequently, the reputation of internal agents. The media therefore act as a mechanism that allows the behaviour of dominant owners and managers to be disciplined, thereby increasing the informativeness of accounting earnings.

Table 1.4. Media coverage and informativeness of accounting earnings

	Estimated sign	Model 1	Model 2	Model 3	Model 4	Model 5
NI	+	0.14***	0.63*	1.13**	1.24**	0.26
		(7.06)	(1.76)	(2.07)	(2.30)	(0.94)
Media_Attention x NI	+/-		0.003***			
			(7.29)			
Media50 x NI	+/-			0.002**		
				(2.41)		
Media25 x NI	+/-				0.007***	
					(6.09)	
Media_Tone x NI	+					0.006**
						(2.34)
MkBook x NI	+		0.07***	0.06*	0.06***	0.09***
			(12.39)	(1.75)	(5.57)	(9.27)
Size x NI	+		0.01	0.06	0.03	0.004
			(0.82)	(0.68)	(1.43)	(0.29)
Age x NI	+/-		0.007***	0.01***	0.008***	0.006***
			(6.00)	(6.05)	(6.18)	(3.71)
Leverage x NI	+/-		-0.12	0.50*	0.45**	-0.004
			(-0.78)	(1.96)	(2.13)	(-0.29)
Ibex35 x NI	+		0.31*	0.30	0.34*	0.27**
			(1.69)	(1.44)	(1.91)	(2.52)
Voting x NI	+/-		0.04*	0.002	0.003	0.002
			(1.86)	(1.02)	(0.31)	(1.15)
Duality x NI	+/-		-0.07	-0.13*	-0.05	0.01
			(-0.86)	(1.66)	(-0.64)	(0.21)
Constant		-0.24***	0.003	0.006	-0.04	0.41*
		(-0.82)	(0.35)	(0.54)	(-0.58)	(1.84)
Industry effect		Yes	Yes	Yes	Yes	Yes
Year effect		Yes	Yes	Yes	Yes	Yes
Test m^2		-1.05	-1.20	-1.28	-1.25	-1.23
Hansen		73.87 (142)	60.89 (225)	65.21 (319)	64.94 (239)	69.52 (84)
Z_1			68.30***	26.49***	70.71***	76.16***
Z_2			12.28***	9.53***	14.89***	79.47***
Z_3			56.75***	184.18***	44.49***	75.70***

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

As regards the control variables, the results in Table 1.4 show that the presence of greater investment opportunities (*MkBook*) and level of debt (*Leverage*) positively affect informativeness of accounting earnings. These results are consistent with previous works focusing on other institutional settings (Fan & Wong, 2002; Francis et al., 2005). Firm age (*Age*) and company presence in the selective index of the Spanish stock market (*Ibex35*) have a positive impact on earnings informativeness. These results may reflect the notion that the market gives superior earnings informativeness to companies with a greater projection and a higher level of scrutiny. Finally, the models show a non-significant effect of company size (*Size*), the level of dominant owner voting rights (*Voting*) and the executive

role of the president of the board of directors (*Duality*) on the informativeness of accounting earnings.

1.4.3. Additional analysis

In this section, we extend our analysis in order to increase the robustness of the results. In an effort to determine whether our results are sensitive to the use of the method developed by Hadi (1994) for eliminating outliers, in Models 6 and 7 (Table 1.5) the variables are now winsorised at the two extreme percentiles (i.e., values less (greater) than the 1st (99th) percentile are set equal to the value of the 2nd (98th) percentile. Results do not differ from those obtained in Table 1.4. We also examine the total effect of a marginal increase in media coverage. To address this issue, we define $\triangle$*Media_Attention* as the number of news items published for each company and year adjusted by the annual average in the eight financial publications analysed (Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones and Business Wire), and $\triangle$*Media_Tone* as the number of news articles with a negative tone published for each company and year adjusted by the annual average in the eight publications analysed. Results are reported in Table 1.5 (Models 8 and 9) and are consistent with previous findings.

Table 1.5. Media coverage and informativeness of accounting earnings. Additional analysis

	Model 6 CAR Winsorised 1st-99th	Model 7 CAR Winsorised 1st-99th	Model 8 CAR	Model 9 CAR	Model 10 RET	Model 11 RET	Model 12 RET	Model 13 RET	Model 14 RET	Model 15 RET
NI	0.34 (0.78)	1.32*** (3.20)	0.65** (2.12)	0.24 (0.53)	0.43 (1.27)	0.72*** (3.02)				
EPS							0.06*** (16.52)	0.08*** (8.93)	0.001 (1.02)	0.003 (0.13)
Media_Attention									0.003*** (4.53)	
Media_Attention x NI	0.006*** (3.34)				0.001*** (3.48)					
⊿Media_Attention x NI			0.004** (2.45)							
Media_Attention x EPS							0.001*** (7.70)		0.007*** (4.12)	
Media_Tone										-0.003*** (-5.00)
Media_Tone x NI		0.10** (2.53)				0.009** (2.51)				
⊿Media_Tone x NI				0.044*** (3.60)						
Media_Tone x EPS								0.008*** (5.16)		0.001*** (7.57)
MkBook x NI	0.19*** (4.10)	0.18*** (4.06)	0.08*** (8.63)	0.09*** (3.15)	0.08*** (10.85)	0.08*** (9.28)				
MkBook x EPS							0.009 (1.02)	0.001 (0.88)		
MkBook									0.01*** (4.42)	0.01*** (2.98)
Size x NI	0.008*** (2.77)	-0.004 (-1.33)	-0.001 (-0.90)	0.011 (0.34)	-0.001 (-0.10)	-0.01 (-1.05)				

Table 1.5

Size x EPS							-0.001	0.008		
							(-0.99)	(0.33)		
Size									-0.004	0.001
									(-0.38)	(0.33)
Age x NI	0.004	-0.006	0.009***	0.009***	0.007***	0.009***				
	(1.26)	(-1.06)	(6.17)	(5.70)	(6.43)	(8.94)				
Age x EPS							0.002***	0.002***		
							(6.51)	(3.83)		
Age									0.008*	0.001*
									(1.93)	(1.85)
Leverage x NI	0.75	1.08**	-0.02	-0.003	-0.02	0.21*				
	(1.61)	(2.17)	(-0.22)	(-0.51)	(-0.17)	(1.92)				
Leverage x EPS							0.01***	-0.011		
							(3.05)	(-1.16)		
Leverage									0.009	0.164***
									(0.26)	(2.76)
Ibex35 x NI	0.46***	0.07	0.18	0.42	0.85*	0.27**				
	(3.49)	(0.39)	(0.86)	(1.21)	(1.84)	(2.58)				
Ibex35 x EPS							0.02***	0.005		
							(4.98)	(1.03)		
Ibex35									0.06	0.05
									(0.96)	(0.75)
Voting x NI	0.01**	0.003	0.002*	0.003	0.003	0.004***				
	(2.59)	(1.49)	(1.97)	(1.22)	(1.62)	(3.40)				
Voting x EPS							0.004***	0.007***		
							(7.24)	(8.30)		
Voting									0.006	0.005
									(0.91)	(0.51)
Duality x NI	-0.06***	-0.10***	0.03	0.19	-0.02	-0.02				
	(-3.11)	(-3.38)	(0.48)	(1.42)	(-0.31)	(-0.46)				
Duality x EPS							-0.01***	-0.01***		
							(-8.36)	(-9.18)		
Duality									-0.05*	-0.14***
									(1.96)	(-5.78)

Table 1.5

Constant	-0.22***	0.38	0.001	0.06	-0.09	0.67***	0.53***	0.54***	0.06	-0.29***
	(-2.70)	(1.05)	(0.99)	(0.73)	(-0.90)	(20.21)	(7.06)	(6.18)	(0.55)	(-2.85)
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test m^2	-1.28	-1.44	-1.04	-0.60	-1.23	-1.30	-1.28	-1.36	-1.18	-0.86
Hansen	69.79 (279)	63.95 (192)	58.81 (238)	60.03 (204)	61.06 (297)	70.26 (94)	59.18 (295)	54.49 (266)	68.20 (308)	69.42 (203)
Z_1	147.43***	23.84***	64.38***	66.33***	63.34***	83.79***	148.7***	156.15***	33.38***	33.57***
Z_2	2.08**	3.30***	6.01***	9.46***	1.68*	5.37***	14.24***	3.81***	2.11**	1.958**
Z_3	41.47***	444.67***	13.80***	122.97***	560.92***	121.7***	65.83***	112.74***	571.25***	349.77***

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

In Table 1.5, we report additional results using different specification models, following Ahmed et al. (2006). In Models 10 and 11, we use *RET* as the dependent variable, measured as the firm's cumulative monthly stock return for the 12-month period concluding three months after the end of the fiscal year. In Models 12 and 13, we use earnings before extraordinary items per share (*EPS*) as a measure of accounting earnings. Finally, in Models 14 and 15, we include our principal variables as separate variables and as an interaction with earnings per share. Results are basically unaffected and bear out the impact of media on earnings informativeness.

After Enron, US listed companies were affected by substantial new regulations aimed at increasing the transparency of financial reporting. Driven by such European scandals as Parmalat or Royal Ahold, Europe then followed suit. As did other European countries like Germany or France, Spain passed a law in 2003 ''with the aim of strengthening the transparency of listed companies''. As this legislative change might have affected the media-earnings informativeness relationship, we decided to split our timeframe into two periods: before (1996-2002) and after (2003-2014) fresh legislation was introduced. The results for each scenario are reported in Table 1.6 (Models 16-19) and are fully consistent with previous results in models 2 and 5, providing further support for the notion that the media positively affects earnings informativeness.

Table 1.6. Media coverage, informativeness of accounting earnings and Law 26/2003 "with the aim of strengthening the transparency of listed companies"

	Before Law: 1996-2002		After Law: 2003-2014	
	Model 16	Model 17	Model 18	Model 19
NI	5.55***	0.35	1.95**	0.66
	(3.11)	(0.79)	(2.35)	(0.75)
Media_Attention x NI	0.007**		0.002**	
	(2.47)		(2.37)	
Media_Tone x NI		0.06***		0.04***
		(2.87)		(7.51)
MkBook x NI	1.52***	0.33***	0.09***	0.10***
	(13.82)	(3.70)	(10.82)	(11.50)
Size x NI	-0.12	0.08	0.007	0.03
	(-1.03)	(0.53)	(0.19)	(0.80)
Age x NI	0.02***	0.02***	0.02***	0.01***
	(3.43)	(3.95)	(5.51)	(2.85)
Leverage x NI	3.59***	0.02	2.08***	1.16**
	(4.44)	(1.60)	(4.88)	(2.45)
Ibex35 x NI	2.46*	1.37**	0.12	-0.28
	(1.77)	(2.27)	(0.48)	(-1.38)
Voting x NI	0.05***	0.03**	0.01***	0.01***
	(5.53)	(2.40)	(4.30)	(3.96)
Duality x NI	-0.54	0.06	-0.26**	0.04
	(-1.58)	(1.45)	(-2.02)	(0.32)
Constant	-0.007	-1.29	0.15*	0.29***
	(-0.20)	(-0.36)	(1.82)	(3.81)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Test m^2	1.10	0.43	-1.26	-1.39
Hansen	31.43 (37)	30.84 (34)	65.16 (90)	62.78 (90)
Z_1	349.21***	17.63***	114.76***	179.53***
Z_2	43.25***	2.85***	47.98***	69.19***
Z_3	606.33***	89.0***	82.79***	37.95***

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

1.5. Conclusions

In this chapter, we analyse how the media affects internal agents' incentives vis-à-vis the publication and disclosure of accounting information policy. More specifically, we explore the media's impact, as an external governance mechanism, on the informativeness of accounting earnings.

Our results indicate that reporting information through the financial media positively affects earnings informativeness. These results are consistent with the alignment of interests between internal and external agents, sparked by the reduction in informational

asymmetries caused by the publication of news. In a continental European context, the media play a complementary role in the disclosure of accounting information, improving the alignment effect of dominant owners' voting rights stakes and limiting dominant owner ability to obtain private benefits. Media coverage increases the incentives for aligning interests between dominant owner and minority shareholder and, consequently, earnings informativeness (Fan & Wong, 2002).

In addition, the media can impact on a firm's performance through the latter's reputation. We study the effect on earnings informativeness of news reports which have a negative tone. Results show that publishing negative news articles positively affects the informativeness of accounting earnings. This empirical relationship might be explained by the fact that, in the continental European context, where reputation stands as a substitute for the legal system (La Porta et al., 1998; Cuervo, 2002) negative news items increase dominant owner incentives to offer quality accounting information in order to enhance their reputation, thereby increasing earnings informativeness. These results are robust to different metrics of media coverage, stock returns and earnings accounting. The results also hold when we analyse different legislative transparency scenarios and are consistent with Qi et al. (2014) and Chahine et al. (2015). More specifically, the media serves as an effective external corporate governance mechanism for improving the informativeness of accounting earnings.

Our study expands current knowledge of the role played by external governance mechanisms in the accounting earnings reported by firms, in a context where the main agency conflict stems from the divergence of interests between dominant owners and minority shareholders and where media independence is high. Although we focus on Spain, our results are potentially applicable to similar institutional contexts, such as those prevalent in many continental European countries.

The study offers several practical implications. Gaining an insight into how media coverage affects the informativeness of accounting earnings might prove beneficial to market participants such as investors, analysts or auditors since the study emphasises the importance of the media as a corporate governance mechanism. In particular, results suggest that these agents should encourage disclosure through the media, as this can

positively affect earnings informativeness. Our results are also important for regulators since they suggest that the media's role might affect how successful their work is. Our results also highlight the importance of considering issues such as freedom of the press, competition in the media and disclosure of company information through alternative channels. More specifically, high quality financial press may enhance the transparency of the accounting earnings disclosed by companies.

Our study does, however, suffer from several limitations related to the difficulty in measuring the diffusion of information and the negative tone of news articles. Although we used a range of measures, there are others, such as each the financial media's level of social influence, which might affect the level of disclosure and corporate reputation.

This chapter points to several avenues for future research. It would be interesting to continue exploring the role played by the media and other external governance mechanisms in the quality of accounting reporting in order to know which other factors may affect internal agents' incentives to provide accurate information on accounting earnings. Moreover, it would also prove interesting to analyse the relationship between media and earnings informativeness depending on the nature of the dominant owner, for example, family firms or institutional shareholders.

References

Agrawal, A., & Chadha, S. (2005). Corporate governance and accounting scandals. *The Journal of Law and Economics*, 48, 371-406.

Ahern, K., & Sosyura, D. (2014). Who writes the news? Corporate press releases during merger negotiations. *The Journal of Finance*, 69, 241-290.

Ahmad, K., Han, J., Hutson, E., Kearney, C., & Liu, S. (2016) Media-expressed negative tone and firm-level stock returns. *Journal of Corporate Finance*, 152-172.

Ahmed, K., Hossain, M., & Adams, M. (2006). The effects of board composition and board size on the informativeness of annual accounting earnings. *Corporate Governance. An International Review*, 14, 418-431.

Anderson, R.C., Duru, A., & Reeb, D.M. (2009). Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics*, 92, 205-222.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58, 277-297.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68, 29-51.

Armstrong, C.S., Balakrishnan, K., & Cohen, D. (2012). Corporate governance and the information environment: evidence from state antitakeover laws. *Journal of Accounting and Economics*, 53, 185-204.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39, 83-128.

Bednar, M.K. (2012). Watchdog or lapdog? A behavioural view of the media as corporate governance mechanism. *Academy of Management Journal*, 1, 131-150.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115-143.

Bona Sánchez, C., Pérez Alemán, J., & Santana Martín, D. (2011). Ultimate ownership and earnings conservatism. *European Accounting Review*, 20, 57-80.

Bona Sánchez, C., Pérez Alemán, J., & Santana Martín, D.J. (2013). Control institucional dominante y capacidad informativa de los resultados contables. *Revista Española de Financiación y Contabilidad*, 159, 371-394.

Bona Sánchez, C., Pérez Alemán, J., & Santana Martín, D.J. (2014). Politically connected firms and earnings informativeness in the controlling versus minority shareholders context: European evidence. *Corporate Governance: An International Review*, 22, 330-346.

Bona Sánchez, C., Pérez Alemán, J., & Santana Martín, D.J (2017). Sustainability disclosure, dominant owners and earnings informativeness. *Research in International Business and Finance*, 39, 625-639.

Borochin, P., & Weihua, C. (2014). Media Coverage of Mergers and Acquisitions in China. Working Paper.

Bushee, B., Core, J., Guay, W., & Hamm, S. (2010). The role of business press as an information intermediary. *Journal of Accounting Research*, 48, 1-19.

Cahan, S.F., Godfrey, J.M., Hamilton, J., & Jeler, D.C. (2008). Auditor specialization, auditor dominance, and audit fees: the role of investment opportunities. *The Accounting Review*, 83, 1393-1423.

Cahan, R.H., Cahan, S.F., Lee, T., & Nguyen, N.H. (2017). Media content, accounting quality, and liquidity volatility. *European Accounting Review*, 26, 1-25.

Chahine, S., Mansi, S., & Mazboudi, M. (2015). Media news and earning management prior to equity offerings. *Journal of Corporate Finance*, 35, 177-195.

Claessens, S., Djankov, S., & Lang, H. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, 58, 81-112.

Collins, D., & Kothari, S. (1989). An analysis of intertemporal andcross-sectional determinants of earnings response coefficients. *Journal of Accounting and Economics*, 11, 143-181.

Core, J.E., Guay, W., & Larcker, D.F. (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88, 1-25.

Cuervo, A. (2002). Corporate governance mechanisms: a plea for less code of good governance and more market control. *Corporate Governance: An International Review*, 10, 84-93.

Dai, L., Parwada, J., & Zhang, B. (2014). The Governance Role of Media through New Dissemination: Evidence from Insider Trading. Working Paper. Australian National University.

Dargenidou, C., McLeay, S., & Raonic, I. (2007). Ownership, investor protection and earnings expectations. *Journal of Business Finance & Accounting*, 34, 247-268.

Dechow, P.M., Hutton, A.P., Meulbroek, L., & Sloan, R.G. (2001). Short-sellers, fundamental analysis, and stock returns. *Journal of Financial Economics*, 61, 77--106.

Dhaliwal, D., Kyung, L., & Fargher, N. (1991). The association between unexpected earnings and abnormal security returns in the presence of financial leverage. *Contemporary Accounting Research*, 8, 20-41.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Downs, A. (1957). An Economic Theory of Democracy. Harper & Brothers, New York.

Drake, M., Guest, N., & Twedt, B. (2014). The media and mispricing: the role of the business press in the pricing of accounting information. *The Accounting Review*, 89, 1673-1701.

Dyck, A., & Zingales, L. (2002). The Corporate Governance Role of the Media. Working Paper. NBER.

Dyck, A., & Zingales, L. (2004). Private benefits of control: an international comparison. *The Journal of Finance*, LXI, 537-600.

Dyck, A., Volchkova, N., & Zingales, L. (2008). The corporate governance role of the media: evidence from Russia. *The Journal of Finance*, 63, 1093-1135.

Dyck, A., Moss, D., & Zingales, L. (2013). Media versus special interests. *The Journal of Law & Economics*, 56, 521-553.

Engelberg, J., & Parsons, C.A. (2011). The causal impact of media in financial markets. *The Journal of Finance*, 66, 67-97.

Faccio, L., & Lang, L. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics*, 65, 365-395.

Fan, J., & Wong, T. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics*, 33, 401-425.

Fang, L., & Peress, J. (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance,* 64, 2023-2052.

Farrell, K., & Whidbee, D. (2002). Monitoring by the financial press and forced CEO turnover. *Journal of Banking and Finance*, 26, 2249-2276.

Francis, J., Schipper, K., & Vincent, L. (2005). Earnings and dividend informativeness when cash flow rights are separated from voting rights. *Journal of Accounting and Economics*, 39, 329-360.

Gentzkow, M., & Shapiro, J. (2006). Media bias and reputation. *Journal of Political Economy*, 114, 280-316.

Greene, W.H. (2000). Econometric Analysis. Prentice Hall, Upper Saddle River, NJ.

Guerra Péres, S., Bona Sánchez, C., Santana Martín, D. J. (2015). Politically connected firms in Spain. *Business Research Quarterly*, 18, 230-245.

Gul, F.A., & Lai, K.W. (2002). Insider Entrenchment, Board Leadership Structure and Informativeness of Earnings. Working Paper. City University of Hong Kong.

Gurun, U., & Butler, A. (2012). Don't believe the hype: local media slant, local advertising, and firm value. *The Journal of Finance*, 65, 561-597.

Hadi, A. (1994). A modification of a method for the detection of outliers in multivariate samples. *Journal of the Royal Statistical Society*, 56, 393-396.

Hooghiemstra, R., Flora, Y., & Qin, B. (2015). Say-on-pay votes: the role of the media. *European Accounting Review*, 24, 753-778.

Imhoff, E., & Lobo, G. (1992). The effect of ex ante earnings uncertainty on earnings response coefficients. *The Accounting Review*, 67, 427-439.

Jansson, A. (2013). ‘‘Real owners’’ and ‘‘common investors’’: institutional logics and the media as a governance mechanism. *Corporate Governance: An International Review*, 21, 7-25.

Joe, J., Louis, H., & Robinson, D. (2009). Manager’s and investors’ responses to media exposure of board ineffectiveness. *Journal of Financial and Quantitative Analysis*, 44, 579-605.

Khunen, C., & Niessen, A. (2012). Public opinion and executive compensation. *Management Science*, 58, 1249-1272.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33, 375-400.

Koning, M., Mertens, G., & Roosenboom, P. (2010). The impact of media attention on the use of alternative earnings measures. *A Journal of Accounting, Finance and Business Studies*, 46, 258-288.

La Porta, R., López-de-Sillanes, F., Shleifer, A., & Vishny, R. (1998). *Law and finance Journal of Political Economy*, 106, 1113-1155.

La Porta, R., López-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54, 471-517.

La Porta, R., López-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.

LaFond, R. (2005). The Influence of Ownership Structure on Earnings Conservatism and the Informativeness of Stock Prices: An International Comparison. Working Paper. Massachusetts Institute of Technology.

LaFond, R., & Roychowdhury, S. (2006). The Implications of Agency Problems between Managers and Shareholders for the Relation between Managerial Ownership and Accounting Conservatism. Working Paper, Available in: http://ssrn.com/abstract=929693.

Lauterbach, B., & Pajuste, A. (2017). The media and firm reputation roles in corporate governance improvements: Lessons from European dual class share unifications. *Corporate Governance: An International Review*, 25, 4-19.

Leuz, C., Nanda, D., & Wysocki, P. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 27, 505-527.

Liu, B., & McConnell, J. (2013). The role of the media in corporate governance: do the media influence managers’ capital allocation decisions? *Journal of Financial Economics*, 110, 1-17.

Liu, B., McConnell, J., & Xu, W. (2014). The Impact of the Media Manager's Reputational Capital: Evidence from Retired CEOs' Outside Directorships. Working Paper.

Loughran, T., & McDonald, B. (2011). When is a liability not liability? Textual analysis, dictionaries, and 10-Ks. *The Journal of Finance*, 66, 35-65.

Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO over-confidence and the market's reaction. *Journal of Financial Economics*, 89, 20-43.

Miller, G. (2006). The press as a watch dog for accounting fraud. *Journal of Accounting Research*, 44, 1001-1033.

Myers, J.N., Myers, L.A., & Omer, T.C. (2003). Exploring the term of the auditor-client relationship and the quality of earnings: a case for mandatory auditor rotation? *The Accounting Review*, 78, 779-799.

Peek, E., Cuijpers, R., & Buijink, W. (2010). Creditors' and shareholders' reporting demands in public versus private firms: evidence from Europe. *Contemporary Accounting Research*, 27, 49-91.

Pollock, T.G., & Rindova, V.P. (2003). Media legitimation effects in the market for initial public offering. *Academy of Management Journal*, 46, 631-642.

Qi, B., Yang, R., & Tian, G. (2014). Can media deter management from manipulating earnings? Evidence from China. *Review of Quantitative Finance and Accounting*, 42, 571-597.

Reuters Institute (2016). Reuters Institute Digital News Report 2016. Reuters Institute for the Study of Journalism.

Riahi-Belkaoui, A. (2004). Accounting Theory. Cengage Learning EMEA.

Roodman, D. (2008). XTABOND2: Stata Module to Extend Xtabond Dynamic Panel Data Estimator, http://ideas.repec.org/c/boc/bocode/s435901.html.

Santana Martín, D.J, & Aguiar-Díaz, I. (2006). El último propietario de las empresas cotizadas españolas. *Cuadernos de Economía de Dirección de la Empresa*, 26, 47-72.

Santana Martín, D. J., Bona Sánchez, C., & Pérez Alemán, J. (2007). Estructura de propiedad y capacidad informativa de los resultados contables. *Revista Española de Financiación y Contabilidad*, 133, 55-72.

Soltes, E. (2010). Disseminating Firm Disclosures. Working Paper. Harvard University.

Studenmund, A.H. (1997). Using Econometrics: A Practical Approach. Addison-Wesley, Boston.

Subramanyam, K.R., & Wild, J.J. (1996). Going-concern status, earnings persistence, and informativeness of earnings. *Contemporary Accounting Research*, 13, 251-273.

Teo, S., & Wong, T. (1993). Perceived auditor quality and the earnings response coefficients. *The Accounting Review*, 68, 346-367.

Tetlock, P. (2007). Giving content to investor sentiment: the role of media in the stock market. *The Journal of Finance*, 62, 1139-1168.

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics*, 80, 385-417.

Warfield, T., Wild, J., & Wild, K. (1995). Managerial ownership, accounting choices, and informativeness of earnings. *Journal of Accounting and Economics*, 20, 61-91.

Wiesenfeld, B., Ghose, A., & Forman, C. (2008). Examining the relationship between reviews and sales: the role of reviewer identity disclosure in electronic markets. *Information System Research*, 19, 291-313.

Wooldridge, J.M. (2002). Econometric Analysis of Cross Section and Panel Data. MIT Press, Cambridge, MA.

Yeo, G.H.H., Tan, P.M.S., Ho, K.W., & Chen, S.S. (2002). Corporate ownership structure and the informativeness. *Journal of Business Finance & Accounting*, 29, 1023-1046.

Appendix 1.1. Definitions of variables

Table A1.1. Definitions of variables

Measures to determine the quality of earnings	
CAR	Firm's equal-weighted market-adjusted cumulative monthly stock return for the 12-month period concluding three months after the end of the fiscal year.
NI	Net earnings in year t divided by the market value of equity at the beginning of year t.
RET	The firm's cumulative monthly stock return for the 12-month period concluding three months after the end of the fiscal year.
EPS	The earnings before extraordinary items per share.
Measures of media coverage	
Media_Attention	The number of news articles published on each company and year in the eight publications analysed (Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones and Business Wire).
Media_Tone	The number of articles with a negative tone published on each company and year in the eight publications analysed.
Media50	The number of news articles published on each company when the news contains at least 50 words.
Media25	The number of news articles published on each company and year in the eight publications analysed, where the name of the company appears in the first 25 words of the news report.
⊿Media_Attention	The number of news articles published for each company and year adjusted by the annual average inthe eight publications analysed (Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones and Business Wire.
⊿Media_Tone	The number of news articles with a negative tone published for each company and year adjusted by the annual average in the eight publications analysed.
Control variables	
Size	The natural logarithm of total assets.
Leverage	The total debt divided by total assets. AGE indicates the number of years to have elapsed since the firm was set up.
MkBook	Market value of equity divided by the book value of equity.
Voting	The percentage of voting rights in the hands of the main shareholders.
Age	The number of years to have elapsed since the firm was set up.
Duality	Dichotomous variable that takes the value 1 if the president of the board of directors has an executive role and 0 otherwise.
Ibex5	Dichotomous variable that takes the value 1 if the company is part of the representative index of the Spanish stock market (IBEX-35) and 0 otherwise.

Appendix 1.2. News with negative tone. Examples

Dow Jones International News: Repsol to Pay EUR8 Mln to Settle Reserves Lawsuit

29 August 2007

Spanish-Argentine oil company Repsol YPF SA (REP) said Wednesday it has reached an agreement to pay EUR8million to settle a class-action lawsuit, which alleges the company violated U.S. security laws by misrepresenting its proven reserves. Repsol said the lawsuit dates back to January 2006 when it slashed its hydrocarbon reserves by 25%, mostly due to problems in Bolivia and Argentina.

Dow Jones International News: Abengoa directors to be tried for irresponsible managing

22 February 2006

Spanish engineering and chemicals company Abengoa SA (ABG.MC) said Wednesday several of its directors will be tried on charges of irresponsible management by Spain's National Court. In a regulatory filing, Abengoa said Felipe Benjumea, Francisco Javier Benjumea, Jose Joaquin Abaurre and Jose Luis Aya will be tried in a case relating toa 2002 transaction between Abengoa unit Telvent and an investment vehicle controlled by Felipe and Francisco Javier Benjumea. Telvent Chairman Manuel Sanchez will be tried in the same case. [. . .]

Reuters News: Spain's Telefonica is fined 500,000 euros by regulator

10 February 2014

Spain's leading telecoms operator Telefonica was fined 500,000 euros on Monday for what the regulator classed as two ''very serious'' breaches of competition rules in its home market. Telefonica failed to make a timely notification to the competition authority, the CNMC, of the prices and conditions of new internet and television packages, as it is required to as a dominant market operator.

CHAPTER 2

MEDIA VISIBILITY AND BOARD GENDER DIVERSITY

This chapter has been published in Business Ethics, the Environment & Responsibility 2022; 31, 192-208 https://doi.org/10.1111/beer.12382.

CHAPTER 2

Media visibility and board gender diversity

Abstract

Despite the efforts of governments and market regulators, the under-representation of women on corporate boards continues to be a global concern. In this context, this study extends prior literature by investigating the relationship between media visibility and gender diversity on boards of directors. We examine a sample of 101 Spanish nonfinancial listed firms over the period 2003-2016. We find that media visibility positively affects board gender diversity. This finding is robust to alternative measures of media visibility and different econometric specifications. This research contributes to the existing literature on the relationship between media and board composition by suggesting the role of the media as a driver of board gender diversity. Results support the notion that the media are able to discipline managers and dominant owners by inflicting reputational costs.

Keywords: Board gender diversity, Media, Reputation, Women directors.

2.1. Introduction

Previous literature has shown that media attention positively affects corporate social responsibility (hereinafter CSR) behavior (Borghesi et al., 2014; Zyglidopoulos et al., 2012). However, the effect of media visibility on board gender diversity remains unexplored. Thus, the analysis of this relation may be especially relevant since, although CSR forms a key part of agendas for academics, politicians, investors, and firms, the under-representation of women on corporate boards is a global concern. Accordingly, several countries have implemented policies to resolve the scarce presence of women on corporate boards, by establishing diversity quotas for listed companies (Norway in 2003, the 27 European Union member states in 2012) or by including board gender recommendations in codes of good governance, such as the United States in 2010, Australia in 2011, or the United Kingdom in 2012. Despite these institutional instruments, the movement toward greater female participation on corporate boards has been "glacially slow" (Labelle et al., 2015). In 2018, the percentage of women on the boards of the largest publicly listed companies in the EU reached 26.7% (European Commission, 2019) while the figure stood at 21.4% in the world's 200 largest firms (Corporate Women Directors International, 2018). It is not therefore clear whether policies have proven to be effective in addressing the issue of female under-representation in corporate leadership (Terjesen et al., 2015).

In this study, we analyze the influence of the media on board gender diversity. Media encourage managers and dominant owners to accentuate stakeholders' interests since greater media visibility increases firms' vulnerability to pressures from different stakeholders and will drive firms to meet such demands in order to achieve survival and long-term success (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). Accordingly, the media become a driver of reputation through visibility and scrutiny, encouraging firms to evidence social commitment beyond the law and to adjust to institutional logic (Jansson, 2013; Lauterbach & Pajuste, 2017; Liu et al., 2017). Previous literature establishes that one reason why women are present on boards of directors is firms' desire for reputation and their wish to convey a good public image (Baselga-Pascual et al., 2018; Bear et al., 2010; Brammer et al., 2009; Mallin & Michelon, 2011). Thus, our hypothesis is that the media encourage companies to increase gender diversity on boards in order to improve the public image and reputation of managers and dominant owners. More specifically, we explore the effect of

media visibility on women's presence on the board of directors in a continental European country, Spain. We find that media visibility positively affects board gender diversity. This finding is robust to alternative measures of media visibility and different econometric specifications as well as procedures that avoid endogeneity problems.

This study makes several contributions to the current literature. First, to the best of our knowledge, we are the first to provide strong evidence of a positive effect of media visibility on board gender diversity. Previous studies have indeed evidenced a positive relation between media visibility and CSR (Borghesi et al., 2014; Zyglidopoulos et al., 2012). However, diversity in those works is explored as an aggregate dimension to other dimensions in CSR (employees, environment, etc.). Moreover, diversity is examined based on gender as well as manager and director membership of ethnic minority groups. These aspects mean that the link between media visibility and gender diversity remains unclear. Furthermore, this lack of clarity is even greater if we consider the obstacles facing women who are seeking to join boards of directors (glass ceiling or old boys' club). Additionally, although board gender diversity does enhance corporate governance, at the same time it may lead to more conflicts among board members, complicate decision making, and damage group cohesion (Baker et al., 2020; Eulerich et al., 2014; Triana et al., 2014). Such factors could give rise to the use of other CSR activities, to the detriment of women being appointed as directors. Thus, our study sheds light on the media's impact on gender diversity in boards, addressing gender diversity as a separate isolated component.

Second, previous research has analyzed media impact on CSR in US firms, where the legal system affords a high level of stakeholder protection, and the corporate governance system proves effective. In this context, the media's role as a driver of diversity may differ from the continental European setting, where the legal system fails to offer strong stakeholder protection and the effectiveness of the governance system is weak (Djankov et al., 2008; La Porta et al., 1998). Such an institutional setting offers an advantage when exploring the media's role in company behavior since, as argued by Dyck et al. (2008), if the legal system and corporate governance are effective, it might prove difficult to identify any impact the media could have on corporate decisions.

Third, the American setting is characterized by a disperse ownership structure in which any decisions concerning investment in CSR are mainly taken by managers. However, in the continental European framework, the presence of dominant owners is prevalent (Faccio & Lang, 2002; La Porta et al., 1999), which might translate into important variations in insiders' incentives to invest in CSR and to appoint women as directors. High levels of participation in the hands of dominant shareholders could reduce the use of investing in CSR as an entrenchment mechanism and weaken the pressure of stakeholders' demands on the company (Barnea & Rubin, 2010; Cespa & Cestone, 2007; Dam & Scholtens, 2013; Ducassy & Montandrau, 2015; López-Iturriaga & López-de-Foronda, 2011). Moreover, dominant shareholders may have little incentive to include women on the board, since female directors offer more protection for minority shareholder interests than their male counterparts (Adams & Ferreira, 2009) due to their exercising better control over the action of internal agents (the so-called watchdog role). Consequently, it is difficult to directly extrapolate research findings in the US context to a continental European setting, given that the institutional differences and presence of a different agency paradigm advocate exploring the media's role as a driver of board gender diversity in the European continental context.

Fourth, while other studies have explored the media-gender diversity relationship through media reaction to the appointment of female directors (Cahan et al., 2015; De Anca & Gabaldon, 2014), our research focuses on the media's role as a driver of gender diversity. In so doing, we help to expand the scarce literature examining what role the media play as a corporate governance mechanism in Europe (Jansson, 2013; Lauterbach & Pajuste, 2017) and we provide evidence on one of the factors that might impact board gender diversity, an aspect of corporate governance research that remains under-researched and unclear (Baker et al., 2020). Finally, we contribute to previous studies which focus on analyzing the impact of media attention on CSR behavior (Borghesi et al., 2014; Zyglidopoulos et al., 2012) by adding to the analysis of the media's role concerning the effect of news content on board gender diversity.

2.2. Theoretical development and hypothesis

Previous literature has pointed to industry type and firm-specific characteristics, such as size, network linkages, and strategic orientation, as drivers of female representation on corporate boards (Arena et al., 2015; Hillman et al., 2007). Similarly, contextual factors, such as legislation, corporate governance guidelines, or economic, legal, or political aspects play a key role concerning board gender diversity (Brammer et al., 2007; Grosvold & Brammer, 2011; Terjesen et al., 2015). However, media impact on board gender diversity has not been directly addressed in the literature.

The media increase the level of transparency of corporate decisions and influence the image and reputation of managers and dominant owners (Ahern & Sosyura, 2014; Dyck et al., 2008; Fang & Peress, 2009; Lauterbach & Pajuste, 2017; Liu & McConnell, 2013). According to this view, the media act as social referees who make judgments about managers and dominant owners, influencing the perceptions of a larger audience and helping to forge public opinion (Bednar, 2012; Dyck & Zingales, 2002; Farrell & Whidbee, 2002; Miller, 2006; Pollock & Rindova, 2003; Wiesenfeld et al., 2008). Moreover, the media encourage politicians to make legislative changes or to enforce legal provisions in favor of external investors and can also affect the level of punishment for corporate governance violations (Dyck et al., 2008).

Media visibility thus induces managers and dominant owners to emphasize the interests of external investors and other stakeholders. The more visible that firms are in the media the more vulnerable they will be to pressure from different stakeholders and the more they will strive to meet such demands in order to achieve survival and long-term success (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). Consequently, the media become a driver of reputation through visibility and scrutiny, urging companies to display social commitment beyond the law and to adapt to institutional logic (Jansson, 2013; Lauterbach & Pajuste, 2017; Liu et al., 2017). Therefore, the media discipline managers and dominant owners by inflicting reputational costs that can negatively affect their professional careers, public image, and access to capital markets (Choi & Jung, 2008; Donker et al., 2008; Dyck et al., 2008; Dyck & Zingales, 2002; Fischer & Khoury, 2007). Specifically, the media play a corporate governance role by focusing the spotlight on firm performance and by pushing

firms to make changes aimed at correcting deviant behavior, particularly vis-à-vis board composition. Farrell & Whidbee (2002) point out how media scrutiny of poor performing firms increases the likelihood of forced CEO turnover. Dyck et al. (2008) report that foreign media coverage of corporate governance violations by Russian firms increases the tendency of these firms to revert their violations. Liu & McConnell (2013) find support for the idea that the media can prompt managers to abandon value reducing acquisition attempts. Joe et al. (2009) show that media coverage of board ineffectiveness forces corrective actions that increase shareholder wealth. Liu et al. (2017) evidence how the media can play a role in corporate governance by influencing the value of CEOs' human capital, and Lauterbach & Pajuste (2017) demonstrate that media criticism increases the likelihood of voluntary dual class share unifications.

From an agency approach, reputation is an instrument that disciplines the actions of managers and dominant owners (Fama, 1980; Fama & Jensen, 1983). This may prove especially important in a continental European setting, where managers face a narrow labor market, dominant owners have incentives to protect their long-term control in the firm, and where the weakness of the legal system means that reputation is a substitute mechanism to discipline internal agents (Cuervo, 2002; La Porta et al., 1998, 1999, 2000). In addition, managers and dominant owners might feel driven to create a "halo effect" that promotes their own reputation and professional career, or which strengthens their entrenchment, thereby reducing the attention focused on agency conflicts with different stakeholders such as disgruntled employees or protests from consumer groups (Barnea & Rubin, 2010; Baron, 2008; Borghesi et al., 2014; Malmendier & Tate, 2009).

Previous studies have established that one of the reasons why women are present on boards is because of a firm's desire to secure a sound reputation and to convey a positive public image (Baselga-Pascual et al., 2018; Bear et al., 2010; Mallin & Michelon, 2011). Brammer et al. (2009) argue that gender diversity improves firms' public image by signalling good corporate governance. Board gen- der diversity brings valuable resources and shows that the firm is sensitive to stakeholders' demands (De Anca & Gabaldon, 2014; Zyglidopoulos et al., 2012). Therefore, women directors may positively affect the perceptions of external agents since gender diversity increases a board's effectiveness by enhancing its knowledge and skills, motivating cognitive conflict, increasing creativity, and

expanding its possible information pool, as well as its capacity to incorporate complementary information. Moreover, women directors may help the firm to manage its relationships with stakeholders (Daily et al., 1999; Jehn & Mannix, 2001; Lau & Murnighan, 1998; Schulze et al., 2001; Tuggle et al., 2010). Thus, there is previous evidence to support the positive relationship between women directors and reputation (Baselga-Pascual et al., 2018; Bear et al., 2010; Brammer et al., 2009; Mallin & Michelon, 2011). In this line, our hypothesis is that the media encourage companies to increase gender diversity on boards in an effort to improve their public image and reputation. Therefore, we suggest the following hypothesis:

H: Media visibility increases board gender diversity.

2.3. Research design

2.3.1. Sample

We examine a sample of 101 Spanish nonfinancial listed firms included in the OSIRIS (Bureau Van Dijk) database over the period 2003-2016. We thus obtained an unbalanced sample of 1,170 firm-year observations, with 87.1% of the firms having six or more observations during the period. This sample accounts for 97.8% of Spanish market capitalization in 2016. The continuous variables have been winsorized at the 1st and 99th percentiles in order to reduce the impact of potential outliers.

2.3.2. Media visibility

To generate our measures of media attention and tone we use data from Peña-Martel et al. (2018), compiling the level of coverage from the FACTIVA database considering the number of news items that offer financial information by firm and year for the period 1996–2014 in the Spanish financial press (Expansión, El Economista and Cinco Días) and international press (Dow Jones, Reuters, Financial Times, Wall Street Journal, and Business Wire). These data exclude news that does not provide informative content such as alerts, announcements of dividend payments, or quotes. Since our study covers the period 2003–2016, we complete the previous database by adding new data covering 2015 and 2016. In line with previous research (Ahmad et al., 2016; Gurun & Butler, 2012; Liu & McConnell,

2013; Liu et al., 2017), we capture the tone of the news using the negative word list in financial texts provided by Loughran & McDonald (2011). We thus count the number of negative words in the news throughout the year for each firm in the period 2003–2016.

2.3.3. Institutional context

The choice of Spanish firms is based on two main aspects. First, Spain offers a paradigmatic setting in which to evaluate media im- pact on gender diversity in boards of directors and so extrapolate the results obtained to most other continental European countries for several reasons. First, there is great freedom of the press in Spain (Freedom of the Press Index, 2020, Freedom House), companies are generally controlled by dominant owners (Fan & Wong, 2002; La Porta et al., 1999), and formal institutions offer weak protection for business transactions (Djankov et al., 2008). This context can therefore increase the relevance of reputation as a mechanism with which to discipline managers and dominant owners (Djankov et al., 2008; La Porta et al., 2000). Furthermore, focusing on a context with weak protection is an advantage when studying what role, the media play in corporate governance, since in environments where legal rights are stronger, it is hard to tell whether changes in corporate governance are determined by the media or by the legal system (Dyck et al., 2008). Second, since 2006, Spain's corporate governance code has included the requirement to report gender diversity recruitment efforts, with Spain being the second country in the world to apply a mandatory law to increase female boardroom member quotas (40% of seats). Both instruments recommend, but do not oblige, women to be appointed as directors. Furthermore, Spain showed a decline in gender-based disadvantage between 2003 and 2016, similar to other European countries such as France, Germany, and Italy (Gender Inequality Index, Human Development Reports 2020, United Nations, 2020). The Spanish context thus facilitates a study of the media's role as evaluators or judges of company management vis-à-vis board gender diversity.

2.3.4. Variables

The dependent variable is *Women_Directors*, measured as the percentage of women directors out of the total number of directors. Our variable of interest is the level of media visibility (Media). Following previous literature (Core et al., 2008; Dyck et al., 2008; Gurun & Butler, 2012; Liu & McConnell, 2013; Ahern & Sosyura, 2014; Liu et al., 2017), we use two different perspectives of media visibility: (1) *Media_Attention*, defined as the of the number of news items on a firm reported by the media in each year between 2003-2016, and (2) *Media_Tone*, measured as the percentage of negative words to total words in the news. Consequently, a lower measure of media tone suggests more positive (or less negative) coverage of the firm.

In addition, we control for several firm characteristics that might affect the presence of women on boards. In particular, we include *ROA* (return on assets), measured as the relationship between earnings before interest, taxes, depreciation and amortization to total assets (Deckop et al., 2006; Maas, 2018). To control the leverage effect, we use *Leverage*, which is defined as the ratio of total debt (short- and long-term debt) divided by total assets (Rodríguez-Ariza et al., 017; Katmon et al., 2019). Growth opportunities are controlled by the *QTobin* (Boubakri et al., 2016), and are computed as the market value of equity plus total debt, divided by total assets. In addition, we consider the size of the firm (*Size*) as the natural logarithm of total assets and age (*Age*), defined as the natural logarithm of one plus the number of years since the firm was created (Choi et al., 2010; Harjoto & Jo, 2011; Rodríguez-Fernández, 2016; Li & Chen, 2018; Katmon et al., 2019). Furthermore, we incorporate the *Voting* variable, which represents the voting rights of the largest shareholders (Oh et al., 2011; Zaid et al., 2020). We also include *Board_size*, measured as the natural logarithm of the total number of directors (Hillman et al., 2007; Arena et al., 2015) and *MD_WD*, defined as the fraction of a firm's male directors who sit on other boards with at least one female director (Adams & Ferreira, 2009; Levi et al., 2014; Chen et al., 2017). Finally, we also consider the presence of the company in the selective index of the Spanish stock market through the *Ibex35* variable (Odriozola & Baraibar-Diez, 2017). The model also includes the fixed effects of the industry and year. All the variables are defined in the Appendix 2.1.

2.3.5. Model specification and estimation

After a preliminary descriptive analysis, we run three different analyses. First, the main regressions are estimated using the Generalized Method of Moments (GMM) developed by Blundell & Bond (1998). The use of this methodology allows us to address endogeneity problems. Baron (2008), Malmendier & Tate (2009), Barnea & Rubin (2010), and Borghesi et al. (2014) argue that internal agents who are particularly sensitive to their public reputation may be more inclined to encourage media coverage. Managers and dominant owners can thus influence media coverage themselves by affording greater accessibility. Internal agents who consider board diversity as a means of enhancing their reputation may attempt to promote these activities by cooperating with the media. This source of endogeneity is due to the simultaneity that exists between media and gender diversity. The GMM method also al- lows individual heterogeneity to be controlled, since the omitted unobservable factors may affect both media coverage and the percentage of women directors on boards. To analyze the effect of media visibility on board gender diversity, we estimate the following empirical model:

$$\text{Women\_Directors}_{i,t} = \alpha + \beta \times \text{Media}_{i,t-1} + \gamma Z_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t}$$

Second, we estimate a system of two simultaneous equations through three-stage least squares (3SLS). In the first equation, women directors depend on media coverage and a number of control variables (Z is the vector of control variables). In the second equation, media coverage is run against women directors and the control variables. By doing so, we control for possible reverse causality since the appointment of female directors could increase firms' media visibility. To reinforce the control for reverse causality, media coverage and women directors are lagged one year. The system of simultaneous equations is as follows:

$$\text{Women\_Directors}_{i,t} = \alpha + \beta \times \text{Media}_{i,t-1} + \gamma Z_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t} \quad (1)$$

$$\text{Media}_{i,t} = \alpha + \beta \times \text{Women\_Directors}_{i,t-1} + \gamma Z_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t} \quad (2)$$

Finally, although the GMM estimator reduces the potential problems associated with endogeneity in the media-gender diversity relationship, several authors who have focused

their studies on media have estimated their regressions using the Two-Stage Least Squares (2SLS) approach (Liu & McConnell, 2013; Liu et al., 2017). This method enables the exogenous component from media coverage to be extracted and then used to explain board gender diversity, employing instrumental variables (IV) that capture media visibility, but which are uncorrelated with gender diversity. The 2SLS estimator therefore proves useful in purging coefficients of endogeneity bias (Baum et al., 2011; Chen et al., 2017). The 2SLS model we use can be expressed as:

$$\text{Media\_Estimated}_{i,t} = \alpha + \beta \times \text{IV}_{i,t-1} + \gamma \text{Z}_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t} \quad (1)$$

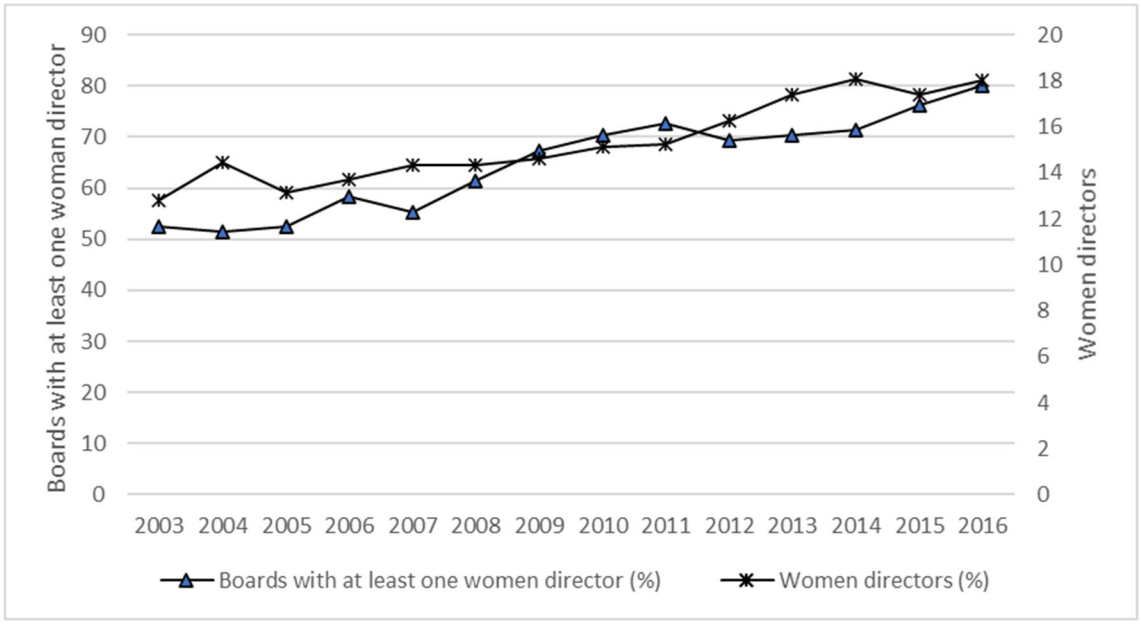
$$\text{Women\_Directors}_{i,t} = \alpha + \beta \times \text{Media\_Estimated}_{i,t-1} + \gamma \text{Z}_{i,t} + \text{Industry}_i + \text{Year}_t + \varepsilon_{i,t} \quad (2)$$

2.4. Results

2.4.1. Sample distribution

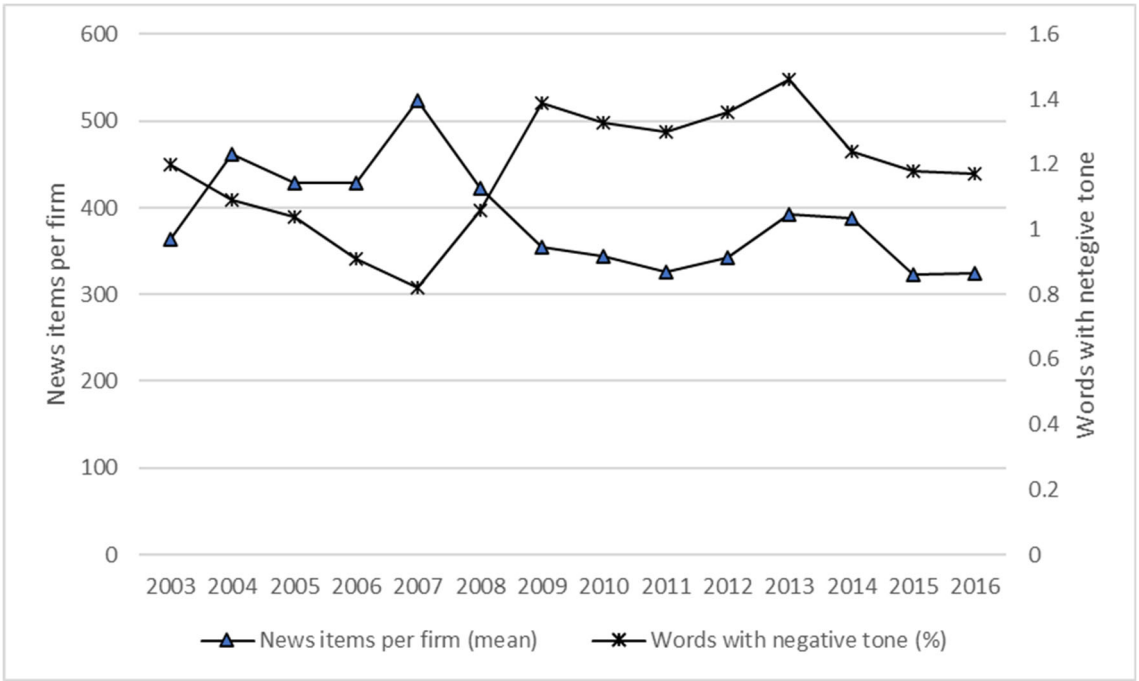
Figure 1 shows the sample distribution of the main variables of interest used in the analysis; on the one hand, the presence of at least one woman on the board (left) and, on the other, the fraction of female directors on the board (right), both expressed in percentages. The results show an increase in the number of boards with at least one female director, from 52.48% in 2003 to 80.20% in 2016. However, the increase is lower when analyzing the percentage of female directors, which rose from 12.80% to 18.03% in the period 2003–2016. These data suggest that, although the presence of women on the boards of Spanish firms has experienced an upward trend, the level of representation remains low.

Figure 1. Annual board gender diversity



In addition, since this chapter focuses on analyzing the influence of the media on board gender diversity, it is interesting to look at the evolution of media information disclosure. Figure 2 shows that news about Spanish firms increased up to 2007, and then decreased after that year. Furthermore, there is also seen to be little variation in the percentage of words with a negative tone during the period 2003-2016.

Figure 2. Annual media visibility



2.4.2. Descriptive statistics

Table 2.1 reports the descriptive statistics for all the variables. In Panel A (Table 2.1), we show that the average value of women directors is 9.19%, with the median being 7.69%. As regards the variables measuring media visibility, the average number of published news items is 383, with a median of 113. The average value of the percentage of negative words included in the published news is 1.19%, while the median is 1.15%. In Panel B (Table 2.1), we report the correlation matrix for all the variables. In addition, since the correlation between the key variables of interest is low, multicollinearity is not likely to be driving our regression results. This is confirmed by the low values of the VIF (Studenmund, 1997).

To shed some initial light on whether media visibility affects board gender diversity, we report simple comparisons of means of variables according to media coverage. More specifically, we consider firms with high and low media attention (Table 2.1. Panel C), and (b) high and low negative media tone (Table 2.1. Panel D). Results indicate there are no statistically significant differences in the percentage of women directors (*Women_Directors*), profitability (*ROA*), and leverage (*Leverage*) between firms with high and low visibility. Moreover, data suggest that firms with higher media visibility are larger and older, have fewer investment opportunities, lower ownership concentration, larger boards of directors, and more male directors linked with women directors, and that they are exposed to greater market control. Therefore, the relation between media visibility and board gender diversity seems to be more complex than initially anticipated and calls for further analysis

Table 2.1. Descriptive statistics

Panel A. Summary statistics

	MEAN	MEDIAN	S.D	1st Q	3rd Q
Women_Directors (%)	9.19	7.69	10.16	0.00	15.38
Media_Attention	383.78	113.00	728.05	49.00	352.00
Media_Tone (%)	1.19	1.15	0.41	0.91	1.41
ROA	0.08	0.05	0.83	0.02	0.09
Size	13.93	13.76	1.97	12.43	15.15
Leverage	67.81	64.00	81.63	50.00	76.92
Age	49.45	43.00	29.63	26.00	70.00
QTobin	1.59	1.20	1.51	0.98	1.60
Voting	29.79	24.38	19.58	14.19	44.46
Board_size	2.32	2.30	0.32	2.19	2.56
MD_WD	4.75	0.00	8.53	0.00	8.33

Panel B. Correlation Matrix

	Media_ Attention	*Media_ Tone*	*Women_ Directors*	*ROA*	*Size*	*Leverage*	*Age*	*QTobin*	*Voting*	*Board_ size*	*MD_WD*	*VIF*
Media_Tone	0.06**											
Women_Directors	0.07***	0.05*										
ROA	0.14***	-0.35***	0.02									1.21
Size	0.81***	-0.01	0.13***	-0.10***								2.19
Leverage	0.24***	0.12***	0.05*	-0.29***	0.35***							1.66
Age	0.11***	0.03	-0.01	-0.01	0.17***	0.19***						1.05
QTobin	-0.01	-0.09**	-0.003	0.34***	-0.13***	-0.03	-0.02					1.72
Voting	0.07**	-0.06**	0.14***	0.002	0.10***	0.09***	-0.01	0.09***				1.02
Board_size	0.49***	-0.09***	0.01	0.10***	0.65***	0.15***	0.16***	-0.15***	-0.07**			1.81
MD_WD	0.18***	0.05*	0.36***	0.04	0.19***	0.04	-0.01	0.01	0.09***	0.036		1.07
Ibex35	0.71***	0.03	0.06**	0.18***	0.72***	0.16***	0.12***	-0.007	-0.03	0.50***	0.16***	2.32

Table 2.1

Panel C. Firms with high and low media attention							
	Firms with high media attention (N=585)			Firms with low media attention (N=585)			
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**	**t-student**
Women_Directors	9.31	8.33	9.51	9.06	6.66	10.88	-0.42
ROA	0.06	0.05	0.11	0.11	0.05	1.22	1.06
Size	14.87	14.80	1.81	12.83	12.56	1.54	-20.65***
Leverage	68.43	67.44	26.61	67.07	58.59	116.88	-0.28
Age	50.92	45.00	28.49	47.73	41.00	30.85	-1.83*
QTobin	1.44	1.19	0.96	1.75	1.22	1.96	3.46***
Voting	28.13	22.99	18.59	31.74	26.73	20.51	3.15***
Board_size	2.47	2.48	0.29	2.17	2.19	0.29	-17.05***
MD_WD	6.59	0.00	9.69	2.93	0.00	6.74	-7.50***
Ibex35	0.54	1.00	0.49	0.006	0.00	0.08	-25.97***
Panel D. Firms with high and low negative media tone							
	Firms with high negative media tone(N=585)			Firms with low negative media tone (N=585)			
	Mean	**Median**	**SD**	**Mean**	**Median**	**SD**	**t-student**
Women_Directors	9.05	7.41	9.62	9.36	8.33	10.78	0.52
ROA	0.06	0.05	0.12	0.10	0.05	1.22	0.95
Size	14.81	14.80	1.84	12.90	12.63	1.580	-18.87***
Leverage	68.56	67.57	27.13	66.92	58.65	116.84	-0.34
Age	51.46	45.00	28.11	47.08	41.00	31.18	-2.52***
QTobin	1.54	1.20	1.29	1.65	1.21	1.74	1.23
Voting	28.52	23.76	18.82	31.29	25.87	20.34	2.41**
Board_size	2.32	2.30	0.32	2.43	2.48	0.48	0.81
MD_WD	4.78	0.00	8.55	0.00	0.00	0.00	-1.36
Ibex35	0.32	0.00	0.46	0.22	0.00	0.41	-3.86***

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

2.4.3. Media and board gender diversity

The results of the effect of media visibility on board gender diversity are given in Table 2.2. Consistent with our hypothesis, Model 1 (*Media_Attention*), Model 2 (*Media_Tone*), and Model 3 —including both the dimensions considered— show a positive and statistically significant effect of media visibility on board gender diversity (*Women_Directors*). In terms of the public image and reputation effect, agents are therefore more likely respond to greater gender diversity on boards when firms have greater media visibility and when the media tone is more negative. As for the control variables, we see that profitability (*ROA)*, growth opportunities (*QTobin*), debt (*Leverage*), the fraction of male directors linked to women directors (*MD_WD*), and market control (Ibex35) display a positive and statistically significant effect on gender diversity. However, ownership concentration (*Voting*) shows a negative effect on gender diversity. Finally, firm size (*Size*), firm age (*Age*), and board of director seats (*Board_size*) have no significant effect. In addition, in order to test the consistency of the GMM estimates, we run two tests. First, the Hansen test indicates that instruments used by GMM regressions are valid. Second, the m2 test shows that the second-order autocorrelation is not present in the GMM regressions. Finally, we run Wald tests for the joint significance of the reported coefficients (z_1), the joint significance of the time dummies (z_2), and the joint significance of industry dummies (z_3).

Table 2.2. Media and board gender diversity. GMM estimator

	Women_Directors		
	Model 1	Model 2	Model 3
Media_Attention$_{t-1}$	0.001***		0.007**
	(2.68)		(1.95)
Media_Tone$_{t-1}$		1.57***	0.76*
		(4.14)	(1.79)
ROA	2.81***	3.29***	5.50
	(2.81)	(3.53)	(0.62)
Size	0.42	0.87	0.71
	(0.63)	(1.19)	(0.87)
Leverage	9.51*	6.37	4.24
	(1.94)	(1.40)	(0.88)
Age	-1.46	-1.11	-0.60
	(-0.98)	(-0.77)	(-0.51)
QTobin	3.13**	3.21**	2.35**
	(2.27)	(2.63)	(2.02)
Voting	-0.06*	-0.04	-0.05
	(-1.92)	(-1.43)	(-1.56)
Board_size	0.10	-1.42	1.84
	(0.40)	(-0.49)	(0.88)
MD_WD	0.22***	0.19***	0.19***
	(3.20)	(3.72)	(3.91)
Ibex35	2.07*	4.28*	2.08
	(1.72)	(1.85)	(0.87)
Constant	4.32**	7.43	16.90
	(2.01)	(0.62)	(1.61)
Industry effect	Yes	Yes	Yes
Year effect	Yes	Yes	Yes
m_2	1.39	-0.96	-0.59
Z_1	5.78***	8.77***	4.77***
Z_2	7.12***	2.87***	2.65***
Z_3	10.43***	11.75***	19.31***
Hansen test	67.72	62.48	41.56
F test	507.83***	371.2***	312.05***
No. of observations	1170	1170	1170

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

2.4.4. Reverse causality

The results of estimating the system of simultaneous equations through 3SLS are reported in Models 4 and 5 of Table 2.3. In Model 4, we study media attention and in Model 5 we study the media tone of news. In both models, the dependent variable of Equation (1) is *Women_Directors* while the dependent variable of Equation (2) is media visibility (*Media_Attention* and *Media_Tone*). Each equation includes the main explanatory variables together with the control variables. In this regard, the control variables used in Equation (2) are firm's size and age, the fraction of a firm's male directors who sit on other

boards with at least one female director, and market control, through the firm being listed on the Spanish stock exchange index. Equation (1) in Models 4 and 5 (Table 2.3) show a positive and statistically significant effect of media visibility on board gender diversity. In contrast, the presence of women directors has no significant influence on media coverage (Equation (2) in both Models). These results lend support to the idea concerning the lack of reverse causality between board gender diversity and media visibility.

Table 2.3. Media and board gender diversity. Three-stage Least Squares (3SLS)

	Model 4		Model 5	
	Women_ Directors (Equation (1))	Media_ Attention (Equation (2))	Women_ Directors (Equation (1))	Media_ Tone (Equation (2))
Women_Directors$_{t-1}$		0.01		0.01
		(0.43)		(1.50)
Media_Attention$_{t-1}$	0.03***			
	(2.88)			
Media_Tone$_{t-1}$			3.01***	
			(4.07)	
ROA	3.26		7.76	
	(1.22)		(1.08)	
Size	-2.53***	-0.63***	-0.72**	-0.02
	(-8.24)	(-7.96)	(-2.04)	(-1.40)
Leverage	0.82		-0.21	
	(1.08)		(-0.11)	
Age	-0.91*	-0.07	-0.02**	0.001
	(-2.25)	(-0.82)	(-2.05)	(0.8)
QTobin	2.43***		2.28***	
	(6.18)		(3.09)	
Voting	-0.05***		-0.04***	
	(-6.51)		(-2.62)	
Board_size	2.79**	-0.47*	-0.88	-0.21***
	(2.37)	(-1.68)	(-0.69)	(-3.42)
MD_WD	0.26***	0.03***	0.36***	-0.001
	(9.35)	(2.70)	(10.63)	(-0.16)
Ibex35	2.62***	0.84***	-0.97	0.15***
	(2.64)	(3.69)	(-0.90)	(3.07)
Constant	-1.64	-2.53***	-1.57	1.85***
	(-0.45)	(-3.16)	(-0.36)	(10.72)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Wald Chi^2 Women_Directors	487.14***		194.13***	
Wald Chi^2 Media_Attention		419.21***		
Wald Chi^2 Media_Tone				37.26***
No. of observations	1170	1170	1170	1170

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

2.4.5. Two-Stage Least Squares (2SLS) approach

We employ the instrumental variable approach as an alternative method to address the endogeneity concern (Liu & McConnell, 2013; Liu et al., 2017). El Ghoul et al. (2019) show that freedom of the press is a driver of firms' sensitivity to meeting stakeholders' demands. Thus, we include freedom of the press as our first instrumental variable. To do that, we use the Freedom of the Press Index (2020) published by Freedom House, defining *Press_Freedom* as the total number of countries in the Freedom of the Press Index minus Spain's position in the index. A higher value of the variable indicates greater freedom of the press. In addition, the media are rational agents who seek to maximize benefits by creating and disseminating information (Drake et al., 2014; Dyck et al., 2008; Houston et al., 2011). Consequently, from the perspective of economic incentives, news media coverage of firms satisfies a demand for information among their audiences and aims to maximize media revenue by increasing readership income while controlling the cost of providing information (Core et al., 2008). The media therefore select those firms for coverage who they believe their audiences will consider interesting. Baker et al. (2002) argue that the media increase their coverage of firms listed in international indexes, since the demand for information from investors and shareholders about those companies is greater. As a result, we define our second instrumental variable *Inverstor_Attractive* to consider firms' attractiveness for media, measured as the percentage of capitalization of the firm over the total capitalization of the FTSE Eurotop 100 index. A higher value of the variable will positively affect media coverage.

Table 2.4 (Models 6 and 7) shows the results of a 2SLS instrumental variable regression designed to obtain the exogenous element from media visibility, which is then used to estimate gender diversity. Panel A of Table 2.4 shows the results of the first-stage regression, where *Media_Attention* and *Media_Tone* are the two alternative measures of media visibility. For brevity, we simply report the coefficients for the main variables. Both instruments, *Press_Freedom* and *Inverstor_Attractive*, are statistically significant in the two models, and show a positive effect on media visibility. In addition, the reported F-statistics are high, suggesting that regressions are not weak. In this sense, the Cragg-Donald Wald F statistic rejects the null hypothesis that the instruments are weak. The last test we conduct on the validity of our instruments is the Hansen J over-identification test, which indicates that the instruments are valid since they are uncorrelated with the error term. Panel B shows the second-stage regressions, where the dependent variable is *Women_Directors*.

The two regressions confirm the significant and positive effect of the media on board gender diversity. Consequently, we confirm that our results are not affected by the estimator used.

Table 2.4. Media and board gender diversity. IV estimator

	Model 6	Model 7
Panel A: First-stage regressions		
	Dependent variable	
	Media_Attention	Media_Tone
Press_Freedom$_{t-1}$	0.03***	0.01*
	(5.99)	(1.79)
Investor_Attractive$_{t-1}$	0.249***	0.21***
	(3.94)	(3.29)
Controls	Yes	Yes
Industry effects	Yes	Yes
Year effects	Yes	Yes
F test	31.70***	27.67***
Cragg-Donald (CD) Wald F-statistic	25.03***	19.07***
J-statistic for over-identification	1.084	0.049
Panel B. Second-stage regressions		
	Dependent variable	
	Women_Directors	
Media_Attention$_{t-1}$	0.002***	
	(3.71)	
Media_Tone$_{t-1}$		1.43***
		(2.60)
ROA	6.17	2.07**
	(0.78)	(2.03)
Size	-3.15***	-2.58**
	(-3.29)	(-2.34)
Leverage	0.86	0.33
	(0.41)	(0.15)
Age	0.001	0.37
	(0.10)	(0.65)
QTobin	3.98***	3.57***
	(3.93)	(3.50)
Voting	-0.09***	-0.08***
	(-4.98)	(-4.20)
Board_size	1.84	0.26
	(1.25)	(0.18)
MD_WD	0.42***	0.43***
	(8.46)	(6.66)
Ibex35	4.81***	3.97**
	(3.40)	(2.39)
Constant	2.05***	1.94***
	(3.46)	(3.22)
Industry effect	Yes	Yes
Year effect	Yes	Yes
F test	16.13***	13.50***
No. of observations	1170	1170

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

2.4.6. Sensitivity analysis I. The presence of female directors

In this section, we analyze whether the presence of women directors on the board is affected by media visibility when we use a different measure for female representation on the board of directors. Specifically, we use *D_Women_Directors*, which is defined as a dummy variable taking the value 1 when at least one company director is a woman, and zero otherwise. Table 2.5 (Models 8 and 9) displays the results after estimating the Probit multivariate models with instrumental variables, considering the endogeneity of regressors. In this sense, Wald exogeneity tests show the presence of the endogeneity of the instrumented variables. Consequently, estimating a Probit model using instrumental variables is more appropriate than doing so without them. Results suggest that media visibility has a significant positive impact on the likelihood of a board having at least one female director.

Table 2.5. Sensitivity analysis I. Media and female director presence. IV Probit

	D_Women_Directors	
	Model 8	Model 9
Media_Attention$_{t-1}$	0.67***	
	(3.64)	
Media_Tone$_{t-1}$		0.90***
		(8.75)
ROA	0.29	4.21***
	(0.32)	(4.66)
Size	-0.35***	-0.50***
	(-3.07)	(-6.43)
Leverage	0.02	0.63**
	(0.12)	(2.51)
Age	0.007	0.001
	(0.51)	(0.89)
QTobin	0.38***	0.33***
	(3.66)	(3.50)
Voting	-0.007***	-0.007***
	(-3.37)	(-3.65)
Board_size	0.82***	0.64***
	(5.55)	(3.85)
MD_WD	0.04***	0.01*
	(6.07)	(1.71)
Ibex35	0.50***	0.69***
	(2.94)	(4.72)
Constant	0.11	1.73***
	(0.14)	(2.84)
Industry effect	Yes	Yes
Year effect	Yes	Yes
Wald test	259***	814.26***
Log Likelihood	-2020.07	-1946.19
Wald test of exogeneity	10.84***	18.77***
No. of observations	1170	1170

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

2.4.7. Sensitivity analysis II. Changes in the dependent variable and sample. Spanish and Anglo-American media. Effect of gender content

In an effort to ensure our findings are not affected by certain biases, we re-estimate the models using different definitions of the dependent variable, changes in the sample and we use new measures of the explanatory variables. Overall, these additional tests, which are reported in Table 2.6, reinforce our evidence that media visibility has a positive effect on board gender diversity. Independent directors are frequently associated with greater informational transparency and a higher level of CSR information disclosures (Armstrong et al., 2014; Cuadrado-Ballesteros et al., 2015). Models 10 and 11 only consider the percentage of female independent directors as the dependent variable (*Indep_WomenDirectors*). To control for the average proportion of female directors in each company's industry, we use the variable *Exc_WomenDirectors* as the dependent variable in Models 12 and 13, which is measured as the percentage of a firm's women directors minus the industry mean value. A positive value of *Exc_WomenDirectors* implies stronger board gender diversity in a given firm relative to the industry average. In addition, we re-estimate in Models 14 and 15 by excluding companies that belong to the Ibex35 index, since they will be subject to greater market control (Odriozola & Baraibar-Diez, 2017). Results are similar to those previously reported.

Dyck et al. (2008) argue that media impact is higher the greater their diffusion and credibility. Furthermore, media judgments work when society at large shares the same set of values (Dyck & Zingales, 2002). We therefore test whether our results also hold when considering media coverage in Spain and in the Anglo-American media. The results in Table 2.6 (Models 16 to 19) show that Spanish and Anglo-American media positively affect board gender diversity. However, the estimated coefficients of Spanish media coverage are higher than for Anglo-American media coverage. This greater impact of Spanish media as a driver of gender diversity on the board of directors may reflect two aspects: first, greater social and institutional penalization of female under-representation on corporate boards in Spain, in particular, and in continental Europe as a whole (Terjesen et al., 2015), and second, the magnitude of the penalization may be affected by the origin of the funds which finance the company (Dyck et al., 2008). In this sense, only 7% of Spanish companies are

listed in other stock markets (Bona-Sánchez et al., 2019), such that their funds are primarily national.

Finally, in Model 20, we analyze the effect of gender diversity news content on board gender diversity. We use *Gender_Content* as an explanatory variable, measured as the percentage of words related to gender diversity to the total number of words in the news. We use the words identified by Baker et al. (2020) as the most frequently used keywords in board diversity literature (gender diversity, gender, board gender diversity, women, female director, woman director, women directors, gender equality, women on board, and woman on board). The result in Model 20 reveals that the gender content of news has a significant positive impact on board gender diversity.

Table 2.6. Sensitivity analysis II. Changes in the dependent variable, the sample, and the effect of gender content. GMM estimator

	Indep_WomenDirectors		Exc_WomenDirectors		Women_Directors						
	Model 10	**Model 11**	**Model 12**	**Model 13**	**Model 14**	**Model 15**	**Model 16**	**Model 17**	**Model 18**	**Model 19**	**Model 20**
Media_Attention$_{t-1}$	0.001***		0.001**		0.002**						
	(3.83)		(2.48)		(2.53)						
Media_Tone$_{t-1}$		0.49**		0.46**		0.80**					
		(1.96)		(1.95)		(2.33)					
Spanish_M.Attention$_{t-1}$							0.003***				
							(2.80)				
Anglo_M.Attention$_{t-1}$								0.0006***			
								(3.44)			
Spanish_M.Tone$_{t-1}$									1.86**		
									(2.49)		
Anglo_M.Tone$_{t-1}$										1.30*	
										(1.88)	
Gender_Content$_{t-1}$											57.08***
											(3.73)
ROA	8.13*	1.22	4.13***	9.87*	3.89	4.99	2.93***	3.51***	7.54	2.66**	3.29***
	(1.70)	(0.34)	(9.24)	(1.86)	(0.80)	(1.05)	(3.91)	(8.77)	(0.83)	(2.56)	(2.89)
Size	-1.66***	-1.71***	-1.15*	-2.59***	-0.08	0.35	-1.65**	-0.51	-3.611***	-0.33	1.31
	(-5.05)	(-3.07)	(-1.83)	(-6.48)	(-0.14)	(0.54)	(-2.04)	(-1.01)	(-4.41)	(-0.88)	(1.55)
Leverage	4.37***	-0.01	-2.81	2.61	6.82**	6.07*	-1.81	3.88*	-1.603	0.86	-1.91
	(2.60)	(-0.10)	(-1.16)	(0.70)	(2.30)	(1.81)	(-0.40)	(1.67)	(-0.56)	(0.17)	(-0.44)
Age	-0.64	-0.02	-2.02**	-1.36	1.41	-3.75**	1.22	-0.32	-1.954	0.04	-3.78**
	(-0.75)	(-0.77)	(-2.39)	(-1.49)	(1.00)	(-2.68)	(0.63)	(-0.41)	(-1.30)	(1.22)	(-2.23)
QTobin	1.06	0.21	4.71***	1.49*	2.10**	0.06	4.39***	4.31***	0.021	3.64***	2.09*
	(1.59)	(0.36)	(3.17)	(1.79)	(2.05)	(0.50)	(2.86)	(6.95)	(0.20)	(3.02)	(1.69)
Voting	-0.04**	-0.04	-0.007	-0.04*	-0.05***	-0.05***	-0.02	-0.04**	-0.056**	-0.05**	0.03
	(-2.04)	(-1.42)	(0.25)	(-1.76)	(-3.80)	(-3.36)	(-0.56)	(-2.63)	(-2.14)	(-2.47)	(0.97)
Board_size	4.36**	-2.27	19.84***	6.72***	-2.11	5.11**	8.54***	-0.64	9.630***	-2.15	-1.64
	(2.24)	(-1.49)	(5.85)	(3.22)	(-1.02)	(2.52)	(3.91)	(-0.51)	(4.27)	(-0.87)	(-0.60)
MD_WD	0.08***	0.05*	0.40***	0.13***	0.32***	0.36***	0.39***	0.38***	0.187***	0.25***	0.35***
	(4.53)	(1.76)	(10.46)	(2.94)	(5.17)	(6.40)	(6.56)	(13.74)	(4.08)	(4.39)	(6.65)
Ibex35	0.43	-1.72	8.68***	6.89***			7.63***	3.84**	7.180***	5.32**	4.79***
	(0.46)	(-1.38)	(4.25)	(3.93)			(3.54)	(2.60)	(4.24)	(2.69)	(3.03)

Table 2.6

Constant	-3.97	-15.376*	-40.80***	-43.98***	8.73	1.49	17.71	1.15	-0.16	11.25	14.07
	(-0.76)	(-2.15)	(-3.89)	(-5.75)	(1.11)	(0.19)	(1.10)	(0.18)	(-0.20)	(1.61)	(0.98)
Industry effect	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
m_2	1.18	-0.22	0.25	-1.23	-0.16	0.18	-1.10	-1.02	-0.56	-0.67	-0.96
Z_1	162.08***	48.02***	63.32***	300.22***	8.29***	15.05***	19.64***	50.46***	74.03***	4.42***	12.96***
Z_2	60.25***	26.53***			2.31**	4.65***	4.93***	7.44***	30.19***	1.72*	1.82*
Z_3	424.57***	219.33***	10.54***	124.51***	12.37***	7.33***	10.45***	116.57***	154.73***	12.55***	13.26***
Hansen test	67.95	72.05	42.67	64.72	40.11	43.85	57.97	63.29	61.52	60.13	66.53
F test	3666.22***	2646.09***	689.13***	831.58***	1478.39***	470.35***	7762.26***	1736.8***	2436.92***	2348.23***	2566.91***
No. of observations	1170	1170	1170	1170	766	766	1170	1170	1170	1170	1170

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

2.5. Discussion and implications

Despite legislative and institutional efforts to deal with the relative under-representation of women on corporate boards, the number of seats on boards occupied by women remains scarce. Previous evidence has pointed to the importance of contextual factors concerning board gender diversity such as legislation, corporate governance guidelines, or economic, legal, or political aspects (Brammer et al., 2007; Grosvold & Brammer, 2011; Terjesen et al., 2015). However, no previous research has considered how the media might affect board gender diversity, a gap which our work strives to fill.

This study examines the role of media visibility on board gender diversity from an agency approach. Specifically, we examine an environment in which the weakness of the legal system means that it is almost replaced by reputation as an instrument of discipline. In this context, the information disclosed by the media can alter the reputation of firms and their agents. We therefore ask ourselves whether firms with media visibility are more likely to increase female representation on the board. We find evidence consistent with our hypothesis, since media attention and the negative tone of news positively affect the presence of female members on the board, regardless of where the source of the information comes from, as revealed by a subsequent sensitivity analysis.

Although we conducted this research in the context of Spain, its contributions and practical implications should not be underestimated, given that the under-representation of women on corporate boards is a global concern. Our study may have significant implications for other countries, especially European continental countries where the freedom of the press is high, dominant owners control board composition and where the institutional as well as social logic facilities the media's role as evaluators or judges of firms vis-à-vis board gender diversity. This study therefore has both theoretical and practical implications.

2.5.1. Theoretical contribution

This chapter has major theoretical implications for prior theoretical development concerning the media's role in corporate governance. Previous literature has pointed to the positive impact of media visibility on CSR in a context of disperse ownership and efficient stakeholder protection from the legal system and corporate governance (Borghesi

et al., 2014; Zyglidopoulos et al., 2012). This positive media effect on CSR indicates that greater visibility increases company vulnerability to stakeholder pressure or drives the use of CSR as a mechanism to support the professional career of directors. Nevertheless, previous literature has failed to evidence the media's effect on one specific aspect of CSR: board gender diversity. Moreover, this relation has not been explored in a setting in which ownership concentration prevails, where the legal system offers stakeholders only weak protection, and in which corporate governance lies in the hands of dominant owners. This paradigm reduces any incentive for directors to use investment in CSR as an entrenchment mechanism and weakens the pressure of stakeholders' demands on the firm (Barnea & Rubin, 2010; Cespa & Cestone, 2007; Dam & Scholtens, 2013; Ducassy & Montandrau, 2015; López-Iturriaga & López-de-Foronda, 2011). In this context, our results indicate that the media are able to discipline managers and dominant owners by inflicting reputational costs (Dyck et al., 2008; Dyck & Zingales, 2002; Fama, 1980; Fama & Jensen, 1983; Gomes, 2000), thereby supporting the notion that the media encourage companies to increase board gender diversity so as to improve the public image and reputation of managers and dominant owners. This study contributes to the existing body of knowledge concerning the media's role in board composition (Ahmad et al., 2016; Bednar, 2012; Cahan et al., 2017; Core et al., 2008; Dyck & Zingales, 2002; Engelberg & Parsons, 2011; Fang & Peress, 2009; Jansson, 2013; Lauterbach & Pajuste, 2017; Liu et al., 2017). The finding that media visibility significantly influences board gender diversity provides a relevant contribution regarding what role the media play as a corporate governance driver. In particular, our study helps to extend this body of research by showing a new driver of gender diversity on boards of directors in a setting in which directors and dominant owners may have little incentive to invest in CSR and, in particular, to appoint women to boards, given that female directors may increase control over their action (Adams & Ferreira, 2009). In addition, the results suggest that the media play their role not only through coverage but also through the content of their news, thereby encouraging research into the role of the news message in gender diversity.

2.5.2. Practical implications

The results have practical implications. Samara et al. (2019) point out that policymakers should take alternative measures to establishing gender quotas in order to foster female

board appointments. The measures cited by the authors include carrying out awareness-raising campaigns or advertisements in social media, television, and radio. In this line, knowing that the media improve the percentage of female directors, government and policymakers should facilitate the independent labour of the media so that they can carry out their role as corporate governance instruments efficiently. Our findings suggest that information disclosed to a wide audience by the media might offer a complementary instrument to institutional factors such as laws and recommendations in codes of good governance and might help to ensure that female under-representation on boards of directors becomes a thing of the past. In addition, the results under-score the relevance of reputational costs as disciplinary mechanisms for the task of managers and dominant owners in contexts where the legal system offers weak stakeholder protection. In this sense, the government and market regulators should encourage greater transparency in board composition so as to increase the disciplining role of reputation. Results also indicate that the content of the news related to gender diversity positively encourages the appointment of women on boards of directors. The media should therefore attach greater prominence to this type of content so that it becomes a more efficient driver of board gender diversity.

2.5.3. Limitations and future research

Our research has several limitations, particularly in terms of assuming women to be a homogeneous group. Previous research suggests that women are not a homogeneous group, thus motivating an analysis of the media's impact on gender diversity by considering certain characteristics of women directors such as family ties, education, or experience. Finally, our study points to certain future research avenues. It might be interesting to examine what impact the percentage of women directors has on the presence of words related to gender diversity in the news. Moreover, it would be enlightening to consider how the media impact board gender diversity dependent upon the kind of dominant owner, whether family, institutional, or state.

References

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94, 291-309.

Ahern, K. R., & Sosyura, D. (2014). Who writes the news? Corporate press releases during merger negotiations. *The Journal of Finance*, 69, 241-291.

Ahmad, K., Han, J., Hutson, E., Kearney, C., & Liu, S. (2016). Media-expressed negative tone and firm-level stock returns. *Journal of Corporate Finance*, 37, 152-172.

Arena, C., Cirillo, A., Mussolino, D., Pulcinelli, I., Saggese, S., & Sarto, F. (2015). Women on board: Evidence from a masculine industry. *Corporate Governance: The International Journal of Business in Society*, 15, 339-356.

Armstrong, C. S., Core, J. E., & Guay, W. R. (2014). Do independent directors cause improvements in firm transparency? *Journal of Financial Economics*, 113, 383-403.

Baker, H. K., Nofsinger, J. R., & Weaver, D. G. (2002). International cross-listing and visibility. *Journal of Financial and Quantitative Analysis*, 37, 495-521.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, 108, 232-246.

Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. Journal of Business Ethics, 97, 71-86.

Baron, D. P. (2008). Managerial contracting and corporate social responsibility. *Journal of Public Economics*, 92, 268-288.

Baselga-Pascual, L., Trujillo-Ponce, A., Vähämaa, E., & Vähämaa, S. (2018). Ethical reputation of financial institutions: Do board characteristics matter? *Journal of Business Ethics*, 148, 489-510.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2011). Using STATA for applied research: reviewing its capabilities. *Journal of Economic Surveys*, 25, 380-394.

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, 97, 207-221.

Bednar, M. K. (2012). Watchdog or lapdog? A behavioral view of the media as a corporate governance mechanism. *Academy of Management Journal*, 55, 131-150.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115-143.

Bona-Sánchez, C., Pérez-Alemán, J., & Santana-Martín, D. J. (2019). Earnings credibility in politically connected family firms. *The British Accounting Review*, 51, 316-332.

Borghesi, R., Houston, J. F., & Naranjo, A. (2014). Corporate socially responsible investments: CEO altruism, reputation, and shareholder interests. *Journal of Corporate Finance*, 26, 164-181.

Boubakri, N., El Ghoul, S., Wang, H., Guedhami, O., & Kwok, C. C. (2016). Cross-listing and corporate social responsibility. *Journal of Corporate Finance*, 41, 123-138.

Brammer, S., Millington, A., & Pavelin, S. (2007). Gender and ethnic diversity among UK corporate boards. *Corporate Governance: An International Review*, 15, 393-403.

Brammer, S., Millington, A., & Pavelin, S. (2009). Corporate reputation and women on the board. *British Journal of Management*, 20, 17-29.

Cahan, S. F., Chen, C., Chen, L., & Nguyen, N. H. (2015). Corporate social responsibility and media coverage. *Journal of Banking & Finance*, 59, 409-422.

Cespa, G., & Cestone, G. (2007). Corporate social responsibility and managerial entrenchment. *Journal of Economics & Management Strategy*, 16, 741-771.

Chen, J., Leung, W. S., & Goergen, M. (2017). The impact of board gender composition on dividend payouts. *Journal of Corporate Finance*, 43, 86-105.

Choi, T. H., & Jung, J. (2008). Ethical commitment, financial performance, and valuation: An empirical investigation of Korean companies. *Journal of Business Ethics*, 81, 447-463.

Choi, J. S., Kwak, Y. M., & Choe, C. (2010). Corporate social responsibility and corporate financial performance: Evidence from Korea. *Australian Journal of Management*, 35, 291-311.

Core, J. E., Guay, W., & Larcker, D. F. (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88, 1-25.

Corporate Women Directors International. (2018). Women board directors of fortune global 200 companies.

Cuadrado-Ballesteros, B., Rodríguez-Ariza, L., & García-Sánchez, I. M. (2015). The role of independent directors at family firms in relation to corporate social responsibility disclosures. *International Business Review*, 24, 890-901.

Cuervo, A. (2002). Corporate governance mechanisms: A plea for less code of good governance and more market control. *Corporate Governance: An International Review*, 10, 84-93.

Daily, C. M., Certo, S. T., & Dalton, D. R. (1999). A decade of corporate women: Some progress in the boardroom, none in the executive suite. *Strategic Management Journal*, 20, 93-99.

Dam, L., & Scholtens, B. (2013). Ownership concentration and CSR policy of European multinational enterprises. *Journal of Business Ethics*, 118, 117-126.

De Anca, C., & Gabaldon, P. (2014). The media impact of board member appointments in Spanish-listed companies: A gender perspective. *Journal of Business Ethics*, 122, 425-438.

Deckop, J. R., Merriman, K. K., & Gupta, S. (2006). The effects of CEO pay structure on corporate social performance. *Journal of Management*, 32, 329-342.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Donker, H., Poff, D., & Zahir, S. (2008). Corporate values, codes of ethics, and firm performance: A look at the Canadian context. *Journal of Business Ethics*, 82, 527-537.

Ducassy, I., & Montandrau, S. (2015). Corporate social performance, ownership structure, and corporate governance in France. *Research in International Business and Finance*, 34, 383-396.

Dyck, A., & Zingales, L. (2002). The Corporate Governance Role of the Media. Working Paper. NBER.

Dyck, A., Volchkova, N., & Zingales, L. (2008). The corporate governance role of the media: Evidence from Russia. *The Journal of Finance*, 63, 1093-1135.

El Ghoul, S., Guedhami, O., Nash, R., & Patel, A. (2019). New evidence on the role of the media in corporate social responsibility. *Journal of Business Ethics*, 154, 1051-1079.

Engelberg, J. E., & Parsons, C. A. (2011). The causal impact of media in financial markets. *The Journal of Finance*, 66, 67-97.

Eulerich, M., Velte, P., & Van Uum, C. (2014). The impact of management board diversity on corporate performance - An empirical analysis for the German two-tier system. *Problems and Perspectives in Management* (PPM), 12, 25-39.

European Commision. (2019). Report on equality between women and men in the EU.

Faccio, M., & Lang, L. H. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics*, 65, 365-395.

Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88, 288-307.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law & Economics*, 26, 301-325.

Fan, J. P., & Wong, T. J. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics*, 33, 401-425.

Fang, L., & Peress, J. (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64, 2023-2052.

Farrell, K. A., & Whidbee, D. A. (2002). Monitoring by the financial press and forced CEO turnover. *Journal of Banking & Finance*, 26, 2249-2276.

Fischer, K., & Khoury, N. (2007). The impact of ethical ratings on Canadian security performance: Portfolio management and corporate governance implications. *The Quarterly Review of Economics and Finance*, 47, 40–54.

Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sensegiving via framing and decoupling. *Academy of Management Journal*, 49, 1173-1193.

Freedom of the Press Index (2020). Freedom house.

Gomes, A. (2000). Going public without governance: Managerial reputation effects. *The Journal of Finance*, 55, 615-646.

Grosvold, J., & Brammer, S. (2011). National institutional systems as antecedents of female board representation: An empirical study. *Corporate Governance: An International Review*, 19, 116-135.

Gurun, U. G., & Butler, A. W. (2012). Don't believe the hype: Local media slant, local advertising, and firm value. *The Journal of Finance*, 67, 561-598.

Harjoto, M.A. & Jo, H. (2011). Corporate governance and CSR nexus. *Journal of Business Ethics*, 100, 45-67.

Hillman, A. J., Shropshire, C., & Cannella Jr, A. A. (2007). Organizational predictors of women on corporate boards. *Academy of Management Journal*, 50, 941-952.

Houston, J. F., Lin, C., & Ma, Y. (2011). Media ownership, concentration and corruption in bank lending. *Journal of Financial Economics*, 100, 326-350.

Jansson, A. (2013). “Real owners” and “common investors”: Institutional logics and the media as a governance mechanism. *Corporate Governance: An International Review*, 21, 7-25.

Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, 44, 238-251.

Joe, J. R., Louis, H., & Robinson, D. (2009). Managers’ and investors’ responses to media exposure of board ineffectiveness. *Journal of Financial and Quantitative Analysis*, 44, 579-605.

Katmon, N., Mohamad, Z. Z., Norwani, N. M., & Al Farooque, O. (2019). Comprehensive board diversity and quality of corporate social responsibility disclosure: evidence from an emerging market. *Journal of Business Ethics*, 157, 447-481.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54, 471-517.

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106, 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.

Labelle, R., Francoeur, C., & Lakhal, F. (2015). To regulate or not to regulate? Early evidence on the means used around the world to promote gender diversity in the boardroom. *Gender, Work & Organization*, 22, 339-363.

Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review*, 23, 325-340.

Lauterbach, B., & Pajuste, A. (2017). The media and firm reputation roles in corporate governance improvements: Lessons from European dual class share unifications. *Corporate Governance: An International Review*, 25, 4-19.

Levi, M., Li, K., & Zhang, F. (2014). Director gender and mergers and acquisitions. *Journal of Corporate Finance*, 28, 185-200.

Li, H., & Chen, P. (2018). Board gender diversity and firm performance: The moderating role of firm size. *Business Ethics: A European Review*, 27, 294-308.

Liu, B., & McConnell, J. J. (2013). The role of the media in corporate governance: Do the media influence managers' capital allocation decisions? *Journal of Financial Economics*, 110, 1-17.

Liu, B., McConnell, J. J., & Xu, W. (2017). The power of the pen reconsidered: The media, CEO human capital, and corporate governance. *Journal of Banking & Finance*, 76, 175-188.

López-Iturriaga, F. J., & López-de-Foronda, Ó. (2011). Corporate social responsibility and reference shareholders: An analysis of European multinational firms. *Transnational Corporations Review*, 3, 17-33.

Loughran, T., & McDonald, B. (2011). When is a liability not a liability? Textual analysis, dictionaries, and 10-Ks. *The Journal of Finance*, 66, 35-65.

Maas, K. (2018). Do corporate social performance targets in executive compensation contribute to corporate social performance? *Journal of Business Ethics*, 148, 573-585.

Mallin, C. A., & Michelon, G. (2011). Board reputation attributes and corporate social performance: An empirical investigation of the US best corporate citizens. *Accounting and Business Research*, 41, 119-144.

Malmendier, U., & Tate, G. (2009). Superstar CEOs. *The Quarterly Journal of Economics*, 124, 1593-1638.

Miller, G. S. (2006). The press as a watchdog for accounting fraud. *Journal of Accounting Research*, 44, 1001-1033.

Odriozola, M. D., & Baraibar-Diez, E. (2017). Is corporate reputation associated with quality of CSR reporting? Evidence from Spain. *Corporate Social Responsibility and Environmental Management*, 24, 121-132.

Oh, W. Y., Chang, Y. K., & Martynov, A. (2011). The effect of ownership structure on corporate social responsibility: Empirical evidence from Korea. *Journal of Business Ethics*, 104, 283–297.

Peña-Martel, D., Pérez-Alemán, J., & Santana-Martín, D. J. (2018). The role of the media in creating earnings informativeness: Evidence from Spain. *BRQ Business Research Quarterly*, 21, 168-179.

Pollock, T. G., & Rindova, V. P. (2003). Media legitimation effects in the market for initial public offerings. *Academy of Management Journal*, 46, 631-642.

Rodríguez-Ariza, L., Cuadrado-Ballesteros, B., Martínez-Ferrero, J., & García-Sánchez, I. M. (2017). The role of female directors in promoting CSR practices: An international comparison between family and non-family businesses. *Business Ethics: A European Review*, 26, 162-174.

Rodríguez-Fernández, M. (2016). Social responsibility and financial performance: The role of good corporate governance. *Business Research Quarterly*, 19, 137-151.

Samara, G., Jamali, D., & Lapeira, M. (2019). Why and how should SHE make her way into the family business boardroom? *Business Horizons*, 62, 105–115. https://doi.org/10.1016/j.bushor.2018.09.001

Schulze, W. S., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency relationships in family firms: Theory and evidence. *Organizational Science*, 12, 99-116.

Studenmund, A. H. (1997). Using econometrics: a practical guide (3rd ed.). Reading: Addison-Wesley.

Terjesen, S., Aguilera, R. V., & Lorenz, R. (2015). Legislating a woman's seat on the board: Institutional factors driving gender quotas for boards of directors. *Journal of Business Ethics*, 128, 233-251.

Triana, M. D. C., Miller, T. L., & Trzebiatowski, T. M. (2014). The double-edged nature of board gender diversity: Diversity, firm performance, and the power of women directors as predictors of strategic change. *Organization Science*, 25, 609-632.

Tuggle, C. S., Schnatterly, K., & Johnson, R. A. (2010). Attention patterns in the boardroom: How board composition and processes affect discussion of entrepreneurial issues. *Academy of Management Journal*, 53, 550-571.

United Nations (2020). Human Development Report 2020.

Wiesenfeld, B. M., Wurthmann, K. A., & Hambrick, D. C. (2008). The stigmatization and devaluation of elites associated with corporate failures: A process model. *Academy of Management Review*, 33, 231-251.

Zaid, M. A., Wang, M., Adib, M., Sahyouni, A., & Abuhijleh, S. T. (2020). Boardroom nationality and gender diversity: Implications for corporate sustainability performance. *Journal of Cleaner Production*, 251, 119652.

Zyglidopoulos, S. C., Georgiadis, A. P., Carroll, C. E., & Siegel, D. S. (2012). Does media attention drive corporate social responsibility? *Journal of Business Research*, 65, 1622-1627.

Appendix 2.1. Definitions of variables

Table A2.1. Definitions of variables

Measures of diversity	
Women_Directors	The percentage of women directors out of the total number of directors.
D_Women_Directors	Dummy variable that takes the value of 1 when at least one of a company's directors is a woman, and zero otherwise.
Indep_WomenDirectors	The percentage of independent women directors out of the total number of directors.
Exc_WomenDirectors	The percentage of a firm's women directors minus the industry mean value.
Measures of media	
Number of news items	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire.
Number of negative words	The number of negative words in news on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire. We use Loughran and McDonald's (2011) dictionary to identify negative words in a financial context.
Media_Attention	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire.
Spanish_M.Attention	The number of news items on a firm reported by Expansión, Cinco Días and El Economista.
Anglo_M.Attention	The number of news items on a firm reported by Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire.
Media_Tone	Percentage of negative words out of total words. The dictionary of Loughharan and McDonald (2011) collects words with a negative tone in the financial context and this is used to count the number of negative words in news.
Spanish_M.Tone	Percentage of negative words out of total words in the Spanish media. The dictionary of Loughharan and McDonald (2011) collects words with a negative tone in the financial context and this is used to count the number of negative words in news.
Anglo_M.Tone	Percentage of negative words out of total words in Anglo-American media. The dictionary of Loughharan and McDonald (2011) collects words with a negative tone in the financial context and this is used to count the number of negative words in news.
Gender_Content	The percentage of words related to gender diversity out of the total words in the news. We use the words identified by Baker et al. (2020) as the most frequently used keywords in board diversity literature (gender diversity, gender, board gender diversity, women, female director, woman director, women directors, gender equality, women on board, and woman on board).

Table A2.1.

Control variables	
ROA	Return on assets, computed as earnings before interest, taxes, depreciation, and amortization divided by total assets.
Size	The natural logarithm of total assets.
Leverage	The sum of short- and long-term debt divided by total assets.
Age	The natural logarithm of one plus the number of years since the firm was created.
QTobin	Market value of equity plus total debt, all divided by total assets.
Voting	The voting rights of the largest shareholders.
Board_size	The natural logarithm of the total number of directors.
MD_WD	The fraction of a firm's male directors who sit on other boards with at least one female director.
Ibex35	Dummy variable that takes the value 1 if the company is part of the representative index of the Spanish stock market (IBEX-35), and 0 otherwise.
Instruments	
Press_Freedom	The total number of countries in the Freedom of the Press Index minus Spain's position in the index. A higher value of the variable indicates greater freedom of the press. Freedom of the Press is an annual report on media independence around the world.
Investor_Attractive	The percentage of capitalization of a firm out of the total capitalization of the FTSE Eurotop 100 index.

CHAPTER 3

MEDIA ATTENTION AND INNOVATION

CHAPTER 3

Media attention and innovation

Abstract

Research exploring how extra-legal institutional aspects might impact corporate investment policy in innovation is currently still in its early stages. This lack of research is even greater when it comes to studying the role of media attention in corporate innovation. Thus, this study extends prior literature by investigating the relationship between media visibility and corporate innovation. We examine a sample of Spanish firms over a wide period: 2004-2019. The results obtained indicate that media attention has a positive effect on the level of corporate innovation. This finding is robust to alternative measures of media visibility and innovation, and different econometric specifications. The result to emerge is consistent with the arguments that state that the media curb the opportunistic practices of directors and dominant owners, reduce information asymmetry, and thereby foster the use of external funding, as well as increase the pressure on firms to meet stakeholders' demands for innovation.

Keywords: Media attention, Innovation, R&D investment, Extra-legal institutions.

3.1. Introduction

The role played by innovation has become increasingly important for policymakers, academics, and investors alike, since innovation contributes to companies' productivity, growth, and sustainability (Romer, 1990; Aghion & Howitt, 1992; Driver & Guedes, 2012; Honoré et al., 2015; Pindado et al., 2015). Innovation has become a key factor in company development and growth in what is a highly competitive world (Kim & Koo, 2018; Lv et al., 2019). Yet despite this interest, research exploring how extra-legal institutional aspects might impact corporate investment policy in innovation is currently still in its early stages (Kurzhals et al., 2020; Miroshnychenko & Massis, 2020). This lack of research is even greater when it comes to studying the role of media attention in corporate innovation, a link which, to the best of our knowledge, remains unexplored.

Analysis of the media-innovation coverage linkage may be approached by considering stakeholder and agency theories. The stakeholder perspective states that the various stakeholders can pressure companies to adopt new procedures, develop new ideas and new products, which drives increased investment in innovation (Vargo & Lusch, 2004; Eesley & Lenox, 2006; Ommen et al., 2016; Durugbo & Amankwah-Amoah, 2019; Konadu et al., 2020). Greater company visibility in the media means that internal agents are more vulnerable to stakeholders' demands, since company action is subject to closer scrutiny (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). Companies subject to greater attention therefore feel more pressured to innovate in order to adapt to stakeholders' diverse and shifting needs.

From an agency perspective, investment decisions in innovation may spark conflicts between managers and shareholders as a result of differences stemming from risk taking (Eisenhardt, 1989). Directors will thus have little incentive to invest in innovation, since this involves substantial initial expenditure, coupled with the fact that investments tend to be long term and entail high risk (Keupp & Gassmann, 2009; Honoré et al., 2015; Pindado et al., 2015). Moreover, in a context of high ownership concentration, dominant owners might have an incentive to decrease R&D related activities, since such investments may limit the use of company resources devoted to extracting private benefit (Shleifer & Vishny, 1997; La Porta et al., 1999; Claessens et al., 2000). In this context, the media can exert an

influence on companies' R&D investment policies by acting as a corporate governance mechanism that can discipline and influence internal agents, thereby reducing information asymmetries and judging the action of directors and dominant owners (Fischer & Khoury, 2007; Choi & Jung, 2008; Donker et al., 2008; Dyck et al., 2008). The media can thus help to mitigate underinvestment in R&D, reducing the financial constraints that stem from the high uncertainty and reduced transparency associated to this kind of investment (Hall, 2002).

Given the above, this chapter addresses the following research question: does media attention drive investment in company innovation? In order to provide an answer to this question, we draw on a sample of Spanish listed firms over the period 2004-2019. Our results show a positive relation between media attention and investment in R&D, suggesting that greater company visibility in the media drives company investment in innovation. This finding highlights the importance of extra-legal governance mechanisms as determinants of R&D. Our results are robust to different measures of R&D and to different econometric specifications.

This chapter makes several contributions to the literature. To the best of our knowledge, this is the first study to explore the link between media attention and investment in innovation. Previous literature has focused on analysing how ownership and the board might impact R&D (Tribó et al., 2007; Wu, 2008; Latham & Braun, 2009; Driver & Guedes, 2012; Balsmeier et al., 2014; Honoré et al., 2015; Pindado et al., 2015; Zhang et al., 2017; Tsao et al., 2019; Rodrigues et al., 2020; Díaz-Díaz et al., 2022). Yet, our understanding of what effect external governance mechanisms have on innovation remains scarce (Kurzhals et al., 2020; Miroshnychenko & Massis, 2020) and has centred on the legal protection afforded to external investors (Brown et al., 2013; Pindado et al., 2015) and ownership rights (Brown, et al., 2017; Fang et al., 2017). Our study contributes to the current debate concerning what impact corporate governance mechanisms have on R&D and enriches the debate by exploring the role played by the media as a driver of business innovation decisions. We provide evidence on the link between media attention and investment in R&D in the continental European framework. In this context, high ownership concentration, the less than efficient governance system and the weak protection afforded to stakeholders by the legal system mean that the media play a key role as discipline

mechanisms, influencing managerial and dominant owner decision making (La Porta et al., 1998; Djankov et al., 2008). The media can thus emerge as a substitute mechanism for the legal system (Dyck et al., 2008), since reputation and public image in this context become a core factor in securing contracts and, therefore, in company sustainability (La Porta et al., 2000).

Previous literature has also focused on the reduction of information asymmetries as a driver of innovation, examining the role of accounting information quality (Brown et al., 2017; Zhong, 2018). Given such a context, this chapter sheds light on the part played by the media in the degree of transparency of company action. This aspect may prove to be key in the continental European context, where accounting information plays a more restricted role in addressing information asymmetries in favour of the use of private channels between directors and dominant owners (Ball & Shivakumar, 2005; Peek et al., 2010; Bona-Sánchez et al., 2011). Finally, we further current understanding of how media attention acts as a company legitimising mechanism by looking at whether media scrutiny affects innovation in terms of meeting stakeholders' demands.

3.2. Theory and hypothesis development

Analysis of corporate investment in innovation has been one of the main paradigms in recent years, principally because innovation has become a key factor for company survival and growth in an ever more competitive environment (Kim & Koo, 2018). Nevertheless, the literature has yet to explore the effect of media visibility as a driver in innovation decisions.

The media increase corporate decision transparency by pinpointing and spreading information related to companies' actions and the decisions taken by their internal agents. Bushee et al. (2010) highlight that the financial press has enormous power of dissemination that can take information to all the stakeholders involved in the market. This great power to distribute keeps stakeholders informed about the firm's movements, with the media often being the only means through which they can access corporate information. The media can therefore reduce information asymmetries between internal and external agents (Dyck et al., 2008; Fang & Peress, 2009; Liu & McConnell, 2013; Ahern & Sosyura, 2014; Lauterbach & Pajuste, 2017). The media also act as a social reference that can offer judgement and opinions on directors and dominant owners, influencing many people's

views on company action and exerting an influence on the image and reputation of internal agents (Dyck & Zingales, 2002; Farrell & Whidbee, 2002; Pollock & Rindova, 2003; Miller, 2006; Wiesenfeld et al., 2008; Bednar, 2012). Moreover, the media encourage politicians to make legislative changes or to enforce legal provisions in favour of external investors and can also affect the level of punishment imposed for corporate governance violations (Dyck et al., 2008).

The stakeholder theory suggests that different groups can push the firm to adopt new practices, routines, services, or products that adapt to diverse and shifting needs (Vargo & Lusch, 2004; Freeman, 2005; Eesley & Lenox, 2006; Durugbo & Amankwah-Amoah, 2019; Konadu et al., 2020). Faced with the need to respond to said demands, companies must innovate (Vargo & Lusch, 2004; Ommen et al., 2016). In this context, the media encourage managers and dominant owners to accentuate stakeholders' interests since greater media visibility increases firms' vulnerability to pressures from different stakeholders and will drive firms to meet such demands in order to ensure survival and long-term success (Fiss & Zajac, 2006; Zyglidopoulos et al., 2012). Greater media attention will therefore foster investment in innovation as a source of legitimisation and reputation in the eyes of stakeholders.

Furthermore, investment decisions in R&D are linked to high risk and are difficult to understand for external agents. Moreover, the results are subject to great uncertainty, added to which they tend to be long-term investments that are related to intangible assets (Eisenhardt, 1989; Goodacre & Tonks, 1995; Rajan & Zingales, 2001; Hall, 2002; Schivardi & Schneider, 2008; Minetti et al., 2015). These characteristics may trigger agency conflicts between directors and shareholders, since directors' short-term horizon and their desire for personal wealth dampens their incentive to invest in innovation (Graham et al., 2005; Keupp & Gassmann, 2009; Honoré et al., 2015; Pindado et al., 2015). In this regard, the presence of dominant shareholders with both the capacity and the incentive to control directors' actions may reduce the conflict between directors and shareholders linked to innovation (Jensen & Meckling, 1976). However, the presence of these controlling shareholders may exacerbate conflicts between controlling owners and minority shareholders (Shleifer & Vishny, 1997; La Porta et al., 1999; Claessens et al., 2000). Given such a context, dominant owners may have the incentive to reduce activity in R&D, since

such investments may restrict the use of corporate resources dedicated to securing private benefits and because their insufficiently diversified portfolios distort their risk aversion to innovation (Bolton & Von-Thadden, 1998; Minetti et al., 2015). In this way, greater dissemination of company information may reduce opportunistic behaviour when taking decisions concerning the allocation of economic resources. Specifically, the media play a corporate governance role by focusing the spotlight on firm performance and by spurring firms to make changes aimed at correcting deviant behaviour. As a result, significant media attention may promote investment decisions in corporate innovation, disciplining managers and dominant owners by inflicting reputational costs that can negatively affect their professional careers, public image, and access to capital markets (Dyck & Zingales, 2002; Fischer & Khoury, 2007; Choi & Jung, 2008; Donker et al., 2008; Dyck et al., 2008).

Brown et al. (2017) and Zhong (2018) state that the information asymmetry and uncertainty linked to innovation projects are some of the main reasons to explain the low levels of investment in R&D, since the limited collateral value significantly reduces access to external funding of innovation projects. In this line, the intangible nature of innovation makes it difficult for external investors to obtain information about the efficiency or value of a firm's R&D projects (Aboody & Lev, 2000). A greater degree of transparency drives investment in innovation since it helps to evaluate directors' actions, filtering uncontrollable market risks (Bushman & Smith, 2001; Zhong, 2018). Greater media attention enhances the transparency of company action, which would lead to an increase in innovation incentives, either because the reduction in informational asymmetries reduces the limitations placed on external funding or because it reduces the risk of making an incorrect assessment of directors' actions. Taking into account the above arguments, we propose the following research hypothesis:

H: Media attention positively influences the level of investment in corporate innovation.

3.3. Research design

3.3.1. Sample

Our sample is made up of 94 Spanish listed firms included in the OSIRIS (Bureau Van Dijk) database covering 2004-2019, not including financial firms and real estate firms. This leaves

an unbalanced sample of 1,228 firm-year observations, and 91.4% of the firms have five or more observations over the period. This sample represents over 90% of Spanish market capitalization in 2019. The continuous variables were winsorized at the 1st and 99th percentiles in order to lessen the impact of possible outliers.

3.3.2. Variables

To generate our measures of media attention and tone we use data from Peña-Martel et al. (2018), compiling the level of coverage from the FACTIVA database considering the number of news items that offer financial information by firm and year for the period 1996–2014 in the Spanish financial press (Expansión, El Economista and Cinco Días) and international press (Dow Jones, Reuters, Financial Times, Wall Street Journal, and Business Wire). These data exclude news that does not provide informative content such as alerts, announcements of dividend payments, or quotes. Since our study covers the period 2004-2019, we expand the previous database by adding new data covering 2015 to 2019.

The dependent variable is *R&D(Employees*), measured as the relationship of R&D expenditures over the number of employees. Our variable of interest is the level of media visibility (*Media_Attention*). Following previous literature (Core et al., 2008; Dyck et al., 2008; Gurun & Butler, 2012; Liu & McConnell, 2013; Ahern & Sosyura, 2014; Liu et al., 2017), we use the number of news items on a firm reported by the media in each year between 2004-2019.

In addition, we control for several firm characteristics that might affect the presence of women on boards. In particular, we include *ROA* (return on assets), measured as the relationship between earnings before interest, taxes, depreciation and amortization to total assets. To control the leverage effect, we use *Leverage*, which is defined as the ratio of total debt (short- and long-term debt) divided by total assets. Growth opportunities are controlled by the *QTobin* and are computed as the market value of equity plus total debt, divided by total assets. In addition, we consider the size of the firm (*Size*) as the natural logarithm of total assets and age (*Age*), defined as the natural logarithm of one plus the number of years since the firm was created. Furthermore, we incorporate the *Voting* variable, which represents the voting rights of the largest shareholders. We also include

Duality, measured as dummy variable that takes the value 1 if the CEO is the chair, and 0 otherwise. All the variables are defined in the Appendix 3.1.

3.4. Results

3.4.1. Univariate analysis

In this section, we report the descriptive statistics (Table 3.1) and the correlation matrix (Table 3.2) amongst our variables. Panel A (Table 3.1) shows how the R&D variable has a mean value of 48,706 thousand euros per employee and how the measure of visibility displays a mean of 397 news items with a median of 129. In Panel B (Table 3.1), we determine whether the mean values of innovation differ between firms subject to greater or less media coverage compared to the median. In this regard, the results show that firms which receive greater media attention invest more in innovation, are more profitable, issue more debt, are larger, are older and evidence a greater presence of duality in the role of board president. Nevertheless, firms receiving greater media attention do not differ from those which are less visible when it comes to growth opportunities and level of ownership concentration. The univariate analysis gives results that are in line with the theoretical arguments set out previously.

Table 3.1. Descriptive statistics

Panel A. Descriptive statistics

	MEAN	ST. DEV.	Q1	MEDIAN	Q3
R&D(Employees)	48.70	102.23	0.00	0.00	19.96
Media_Attention	397.80	706.01	57.00	129.50	403.50

ROA	6.24	4.93	2.97	5.99	9.57
QTobin	1.45	0.57	1.02	1.25	1.65
Leverage	63.98	17.73	50.57	65.29	73.39
Size	14.03	2.04	12.52	13.91	15.29
Voting	48.51	20.91	32.56	50.45	63.69
Age	50.98	30.30	27.00	45.00	73.00
Duality	0.65	0.47	0.00	1.00	0.00

Panel B. Firms with high and low media attention

	Firms with high media attention			**Firms with low media attention**			
	MEAN	**ST. DEV**	**MEDIAN**	**MEAN**	**ST. DEV**	**MEDIAN**	**DIFF.**
R&D(Employees)	64.76	112.75	0.00	32.64	87.69	0.00	-5.57***
ROA	6.71	4.53	6.54	5.78	5.27	5.17	-3.33***
QTobin	1.44	0.54	1.26	1.46	0.60	1.24	0.49
Leverage	68.11	15.81	69.09	59.85	18.57	58.79	-8.38***
Size	15.40	1.65	15.25	12.67	1.36	12.65	-31.47***
Voting	47.53	19.47	48.57	49.48	22.24	51.53	1.63
Age	52.49	28.10	44.00	49.47	32.31	45.00	-3.76***
Duality	0.69	0.46	1.00	0.62	0.48	1.00	-2.52**

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

The correlation matrix (Table 3.2) shows how media attention is correlated positively and significantly in statistical terms with our variable of interest, R&D. There is also a positive and significant relation with certain control variables such as return on assets, growth opportunities, size, age and CEO duality, and a negative correlation with ownership concentration. In addition, the low VIF values reported suggest that multicollinearity is not a problem in our study (Studenmund, 1997).

Table 3.2. Correlation matrix

	R&D(Employees)	*Media_Attention*	*ROA*	*QTobin*	*Leverage*	*Size*	*Voting*	*Age*	*VIF*
Media_Attention	0.27***								2.91
ROA	0.04*	0.07***							1.60
QTobin	0.08***	-0.10***	0.48***						1.57
Leverage	-0.02	0.13***	-0.30***	-0.14***					1.29
Size	0.24***	0.66***	0.04*	-0.25***	0.29***				2.33
Voting	-0.21***	-0.19***	-0.02	0.04	0.03	-0.02			1.06
Age	0.10***	0.20***	-0.02	-0.16***	0.13***	0.17***	-0.12***		1.10
Duality	0.09***	0.12***	0.11***	-0.04*	-0.004	0.14***	-0.11***	0.06**	1.05

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

3.4.2. Multivariate analysis

After conducting a prior descriptive analysis, we employ different econometric specifications to test our hypothesis. Table 3.3 displays the results obtained from the three models in which we analyse how media attention affects investment in innovation vis-à-vis the different approaches. In Model 1, we estimate the regression using ordinary least squares (OLS) since this method has been widely used in the previous literature focusing on the study of investment in corporate innovation (O'Connor & Rafferty, 2012; Ferraris et al., 2021). The results obtained in Model 1 show a positive and statistically significant effect of media attention on the level of investment in R&D activities, in line with the hypothesis set out.

Several authors who have focused their studies on media have estimated their regressions using the Two-Stage Least Squares (2SLS) approach (Liu & McConnell, 2013; Liu et al., 2017). This method enables the exogenous component from media coverage to be extracted and then used to explain R&D investment, employing instrumental variables (IV) that capture media visibility, but which are uncorrelated with innovation. The 2SLS estimator thus proves useful in purging coefficients of endogeneity bias (Baum et al., 2011; Chen et al., 2017). The media emerge as rational agents whose aim is to capitalize on benefits by creating and distributing information (Dyck et al., 2008; Houston et al., 2011; Drake et al., 2014). From the standpoint of economic incentives, news media coverage of firms fulfils the demand for information from audiences and seeks to take advantage of media revenue by boosting readership income while controlling the cost of providing information (Core et al., 2008). The media cover firms whom they believe their audiences will find to be of interest. Baker et al. (2002) claim that the media intensify their coverage of internationally listed firms, as there is greater demand for information from investors and shareholders about such companies. We consequently define an instrumental variable *Investor_Atractive* to consider firms' media appeal, and which is measured as the firm's percentage of capitalization over the total FTSE Eurotop 100 index capitalization.[7]

[7] *Investor_Attractive* is 49.9% correlated with media attention and only 4.8% with investment in innovation.

Table 3.3. Media attention on R&D investment

	Model 1	Model 2		Model 3
	OLS	2SLS		GMM
		First-stage	Second-stage	
	R&D (Employees)	Media_ Attention	R&D(Employees)	
Media_Attention $_{t-1}$	0.02***		0.02**	0.01***
	(4.05)		(2.48)	(14.40)
Investor_Atractive$_{t-1}$		0.01***		
		(10.88)		
ROA	-2.49***	-0.85***	-2.49***	-0.86***
	(-3.48)	(-2.73)	(-3.56)	(-4.48)
QTobin	29.54***	5.12**	29.58***	36.09***
	(4.53)	(2.15)	(4.32)	(5.60)
Leverage	-0.72***	-0.15**	-0.72***	-0.46***
	(-3.83)	(-1.94)	(-4.30)	(-3.37)
Size	13.73***	17.91***	13.90***	15.06***
	(6.52)	(16.17)	(5.33)	(6.72)
Voting	-0.83***	-0.38***	-0.83***	-0.27**
	(-5.95)	(-6.06)	(-5.52)	(-2.08)
Age	0.16	0.28***	-0.16*	-0.05
	(1.63)	(5.70)	(-1.68)	(-0.51)
Duality	-10.83*	3.51	-10.87*	-4.75
	(-1.75)	(1.40)	(-1.79)	(-0.76)
Constant	-128.59***	-213.26***	-123.13***	-203.61***
	(-3.90)	(-13.49)	(-3.40)	(-7.25)
Year effect	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes
Adj. R^2	0.23			
Ftest	12.3***	118.34***	10.83***	1151.37***
Cragg-Donald Wald F statistic		295.08		
Stock and Yogo (2005) weak ID test critical value		16.38		
J-statistic for over-identification				60.34
M2				-1.40
Z1				57.23***
Z2				17.09***
Z3				49.30***
No. of observations	1134	1134	1134	1134

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

Model 2 of Table 3.3 displays the results of the first-stage regression, in which *Media_Attention* is estimated using *Investor_Attractive* as an instrument. This proves to be statistically significant and shows a positive impact on media visibility. Moreover, the reported F-statistics are high, which suggests that regressions are not weak. The Cragg-Donald Wald F statistic rejects the null hypothesis that the instruments are weak. Model 2 shows the second-stage regressions, in which the dependent variable is R&D. The regression confirms the significant and positive impact that the media have on innovation.

Finally, although the 2SLS estimator reduces possible problems related to endogeneity in the media-innovation linkage, various authors whose studies focus on the media estimated their regressions through the Generalised Method of Moments (GMM) by Blundell & Bond (1998). This allows us to address endogeneity problems and enables individual heterogeneity to be controlled, as the omitted unobservable factors might impact both media coverage and investment in innovation. Model 3 shows the regression using GMM, with the results proving to be in line with previous ones. Consequently, we confirm that our results are not affected by the estimator used.

3.4.3. Robustness analysis

In order to ensure the reliability of our findings, we carried out a series of robustness tests in which we re-estimate the model, including new definitions of the dependent variable and new measures of the independent variable. Table 3.4 shows the results of these additional tests, which strengthen our evidence that investment in innovation is positively affected by media visibility.

In Models 4 and 5 (Table 3.4), we re-estimate the principal model, considering different measures of investment in R&D (Kor, 2006; Cassell et al., 2012; Hirshleifer et al., 2012; Balsmeier et al., 2017; Rodrigues et al., 2020). In Model 4, we use the variable *R&D(Assets)* and in Model 5 we use the variable *R&D(Sales)*. As can be seen through the results to emerge in these models the outcomes do not vary from the previous ones.

We also tested our results using different measures of media attention. In line with Peña-Martel et al. (2018), in Model 6 we use *Media50*, and in Model 7 we add *Media25*. Finally, Model 8 reports the results of the regression using the measure of visibility adjusted to the mean for the sector (*Media_Attention_Adjust*). The findings to emerge are consistent with those obtained previously, confirming the key role played by the media in investment in corporate innovation.

Table 3.4. Robustness analysis. Alternative measures of R&D and media coverage. GMM

	Model 4	Model 5	Model 6	Model 7	Model 8
Dependent variable	**R&D(Assets)**	**R&D (Sales)**		**R&D(Employees)**	
Media_Attention$_{t-1}$	0.0001***	0.0003***			
	(6.72)	(11.82)			
Media50$_{t-1}$			0.01***		
			(10.92)		
Media25$_{t-1}$				0.03***	
				(13.89)	
Media_Attention_Adjust$_{t-1}$					0.01***
					(20.49)
ROA	0.0005	-0.005	-0.71**	-0.61**	-1.03***
	(0.11)	(-0.57)	(-2.37)	(-2.04)	(-2.90)
QTobin	0.73***	1.36***	42.11***	29.68***	62.41***
	(9.58)	(7.21)	(7.82)	(5.12)	(12.82)
Leverage	-0.007***	-0.01***	-0.55***	-0.35**	-0.90***
	(-2.83)	(-3.73)	(-3.15)	(-2.38)	(-7.88)
Size	0.28***	0.54***	16.42***	13.63***	16.74***
	(6.34)	(8.39)	(6.82)	(6.61)	(15.90)
Voting	-0.003*	-0.008**	-0.39***	-0.30***	-0.57***
	(-1.90)	(-2.54)	(-3.27)	(-2.90)	(-8.07)
Age	-0.003***	-0.008**	-0.12	-0.40***	-0.04
	(-2.97)	(-2.08)	(-1.28)	(-3.45)	(-0.58)
Duality	0.07	0.26	-2.50	-6.45	2.32
	(0.59)	(1.28)	(-0.40)	(-1.10)	(0.39)
Constant	-3.60***	-7.22***	-217.72***	-179.57***	-212.76***
	(-6.02)	(-7.99)	(-7.53)	(-5.94)	(-10.14)
Year effect	Yes	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes	No
Ftest	1547.89***	2273.11***	7972.42***	5699.44***	6149.55***
J-statistic for over-identification	56.11	56.56	60.21	57.23	77.37
M2	0.02	-0.43	-1.41	-1.43	-1.46
Z1	32.54***	40.51***	38.64***	80.36***	294.78***
Z2	42.54***	26.26***	10.64***	14.95***	
Z3	43.17***	18.94***	64.69***	46.71***	631.72***
No. of observations	1134	1134	1134	1134	1134

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

3.5. Discussion and conclusions

Investors, analysts and regulators display an enormous interest in the level of investment in business innovation, since it has become a key aspect in terms of understanding the economic growth of firms and countries in an environment of fierce global competition. Yet, despite this interest, research into the impact of extra-legal institutional instruments on corporate innovation is currently still in its early stages (Kurzhals et al., 2020; Miroshnychenko & Massis, 2020). To date, no study has explored the possible role played by the media in decisions taken on investment in corporate innovation. This chapter thus focuses on furthering present knowledge of the impact of extra-legal factors as

determinants of innovation and seeks to fill the gap vis-à-vis the effect of media visibility as a driver of corporate innovation.

This study draws on a sample of Spanish listed firms over the period 2004-2019. The results obtained indicate that media attention has a positive effect on the level of corporate innovation. This result is robust when using different methods of estimation and measures of media coverage as well as investment in innovation. The result to emerge is consistent with the arguments which state that the media curb the opportunistic practices of directors and dominant owners, reduce information asymmetry, and thereby foster the use of external funding, as well as increase the pressure on firms to meet stakeholders' demands for innovation.

The results point to major theoretical implications since they highlight the importance of extra-legal mechanisms and media attention as a driver of innovation in the corporate field. This mechanism may prove to be particularly relevant in an environment where the legal system is not efficient as a corporate governance mechanism, as is the case in most continental European countries (Djankov et al., 2008). Moreover, from a practical perspective, our results indicate that politicians and regulators should focus particular attention on those mechanisms that enhance the transparency of action undertaken by directors and dominant owners in order to drive investment in innovation. Aspects such as the freedom of the press and the spread of news through specialised media may be instruments that power economic growth and company competitiveness by fostering innovation.

This chapter is not without its limitations. Although our results may be extrapolated to other countries that have similar institutional environments, such as continental European countries, they need to be tested in other environments such as Asia or Anglo-American countries in which agency conflicts, the role of the media, sources of funding and stakeholder power may differ significantly to the continental European context. Finally, the chapter opens the door to extending future lines of research. It may, for example, prove interesting to explore the effect of media attention in terms of the nature of the dominant owner (i.e., families or institutional investors). It might also be interesting to examine the effect of media attention on other innovation variables such as patents or corporate

procedures. Another key area of interest may involve exploring the role of the media as a driver of innovation in firms that are experiencing financial difficulties.

References

Aboody, D., & Lev, B. (2000). Information asymmetry, R&D, and insider gains. *The Journal of Finance*, 55(6), 2747-2766.

Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrics: Journal of the Econometric Society*, 60, 323-351.

Ahern, K. R., & Sosyura, D. (2014). Who writes the news? Corporate press releases during merger negotiations. *The Journal of Finance*, 69, 241-291.

Baker, H. K., Nofsinger, J. R., & Weaver, D. G. (2002). International cross-listing and visibility. *Journal of Financial and Quantitative Analysis*, 37, 495-521.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39(1), 83-128.

Balsmeier, B., Buchwald, A., & Stiebale, J. (2014). Outside directors on the board and innovative firm performance. *Research Policy*, 43(10), 1800-1815.

Balsmeier, B., Fleming, L., & Manso, G. (2017). Independent boards and innovation. *Journal of Financial Economics*, 123(3), 536-557.

Baum, C. F., Schaffer, M. E., & Stillman, S. (2011). Using STATA for applied research: reviewing its capabilities. *Journal of Economic Surveys*, 25, 380-394.

Bednar, M. K. (2012). Watchdog or lapdog? A behavioral view of the media as a corporate governance mechanism. *Academy of Management Journal*, 55, 131-150.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87, 115-143.

Bolton, P., & Von Thadden, E. L. (1998). Blocks, liquidity, and corporate control. *The Journal of Finance*, 53(1), 1-25.

Bona-Sánchez, C., Pérez-Alemán, J., & Santana-Martín, D. J. (2011). Ultimate ownership and earnings conservatism. *European Accounting Review*, 20(1), 57-80.

Brown, J. R., Martinsson, G., & Petersen, B. C. (2013). Law, stock markets, and innovation. *The Journal of Finance*, 68(4), 1517-1549.

Brown, J. R., Martinsson, G., & Petersen, B. C. (2017). What promotes R&D? Comparative evidence from around the world. *Research Policy*, 46(2), 447-462.

Bushee, B. J., Core, J. E., Guay, W., & Hamm, S. J. (2010). The role of the business press as an information intermediary. *Journal of Accounting Research*, 48(1), 1-19.

Bushman, R. M., & Smith, A. J. (2001). Financial accounting information and corporate governance. *Journal of Accounting and Economics*, 32(3), 237-333.

Cassell, C. A., Huang, S. X., Sanchez, J. M., & Stuart, M. D. (2012). Seeking safety: The relation between CEO inside debt holdings and the riskiness of firm investment and financial policies. *Journal of Financial Economics*, 103(3), 588-610.

Chen, J., Leung, W. S., & Goergen, M. (2017). The impact of board gender composition on dividend payouts. *Journal of Corporate Finance*, 43, 86-105.

Choi, T. H., & Jung, J. (2008). Ethical commitment, financial performance, and valuation: An empirical investigation of Korean companies. *Journal of Business Ethics*, 81, 447-463.

Claessens, S., Djankov, S., & Lang, L. H. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, 58, 81-112.

Core, J. E., Guay, W., & Larcker, D. F. (2008). The power of the pen and executive compensation. *Journal of Financial Economics*, 88, 1-25.

Díaz-Díaz, N. L., López-Iturriaga, F. J., & Santana-Martín, D. J. (2022). The role of political ties and political uncertainty in corporate innovation. *Long Range Planning*, 102111.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, 88, 430-465.

Donker, H., Poff, D., & Zahir, S. (2008). Corporate values, codes of ethics, and firm performance: A look at the Canadian context. *Journal of Business Ethics*, 82, 527-537.

Drake, M. S., Guest, N. M., & Twedt, B. J. (2014). The media and mispricing: The role of the business press in the pricing of accounting information. *The Accounting Review*, 89, 1673-1701.

Driver, C., & Guedes, M. J. C. (2012). Research and development, cash flow, agency and governance: UK large companies. *Research Policy*, 41(9), 1565-1577.

Durugbo, C., & Amankwah-Amoah, J. (2019). Global sustainability under uncertainty: How do multinationals craft regulatory policies? *Corporate Social Responsibility and Environmental Management*, 26(6), 1500-1516.

Dyck, A., & Zingales, L. (2002). The Corporate Governance Role of the Media. Working Paper. NBER.

Dyck, A., Volchkova, N., & Zingales, L. (2008). The corporate governance role of the media: Evidence from Russia. *The Journal of Finance*, 63, 1093-1135.

Eesley, C., & Lenox, M. J. (2006). Firm responses to secondary stakeholder action. *Strategic Management Journal*, 27(8), 765-781.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74.

Fang, L. H., Lerner, J., & Wu, C. (2017). Intellectual property rights protection, ownership, and innovation: Evidence from China. *The Review of Financial Studies*, 30(7), 2446-2477.

Fang, L., & Peress, J. (2009). Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64, 2023-2052.

Farrell, K. A., & Whidbee, D. A. (2002). Monitoring by the financial press and forced CEO turnover. *Journal of Banking & Finance*, 26, 2249-2276.

Ferraris, A., Giachino, C., Ciampi, F., & Couturier, J. (2021). R&D internationalization in medium-sized firms: The moderating role of knowledge management in enhancing innovation performances. *Journal of Business Research*, 128, 711-718.

Fischer, K., & Khoury, N. (2007). The impact of ethical ratings on Canadian security performance: Portfolio management and corporate governance implications. *The Quarterly Review of Economics and Finance*, 47, 40–54.

Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sensegiving via framing and decoupling. *Academy of Management Journal*, 49, 1173-1193.

Freeman, R. E. (2005). The development of stakeholder theory: An idiosyncratic approach. *Great minds in management: The process of theory development*, 417-435.

Goodacre, A., & Tonks, I. (1995). Finance and technological change. *Handbook of the Economics of Technological Change, Oxford: Basil Blackwell*, 298-341.

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1-3), 3-73.

Hall, B. H. (2002). The financing of research and development. *Oxford Review of Economic Policy*, 18(1), 35-51.

Hirshleifer, D., Low, A., & Teoh, S. H. (2012). Are overconfident CEOs better innovators? *The Journal of Finance*, 67(4), 1457-1498.

Honoré, F., Munari, F., & de La Potterie, B. V. P. (2015). Corporate governance practices and companies' R&D intensity: Evidence from European countries. *Research Policy*, 44(2), 533-543.

Houston, J. F., Lin, C., & Ma, Y. (2011). Media ownership, concentration and corruption in bank lending. *Journal of Financial Economics*, 100, 326-350.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

Keupp, M. M., & Gassmann, O. (2009). Determinants and archetype users of open innovation. *R&D Management*, 39(4), 331-341.

Kim, J., & Koo, K. (2018). Are Founder CEO s Effective Innovators? *Asia-Pacific Journal of Financial Studies*, 47(3), 426-448.

Konadu, R., Owusu-Agyei, S., Lartey, T. A., Danso, A., Adomako, S., & Amankwah-Amoah, J. (2020). CEOs' reputation, quality management and environmental innovation: The roles of stakeholder pressure and resource commitment. *Business Strategy and the Environment*, 29(6), 2310-2323.

Kor, Y. Y. (2006). Direct and interaction effects of top management team and board compositions on R&D investment strategy. *Strategic Management Journal*, 27(11), 1081-1099.

Kurzhals, C., Graf-Vlachy, L., & König, A. (2020). Strategic leadership and technological innovation: A comprehensive review and research agenda. *Corporate Governance: An International Review*, 28, 437-464.

La Porta, R. L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106, 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics*, 58, 3-27.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54, 471-517.

Latham, S. F., & Braun, M. (2009). Managerial risk, innovation, and organizational decline. *Journal of Management*, 35(2), 258-281.

Lauterbach, B., & Pajuste, A. (2017). The media and firm reputation roles in corporate governance improvements: Lessons from European dual class share unifications. *Corporate Governance: An International Review*, 25, 4-19.

Liu, B., & McConnell, J. J. (2013). The role of the media in corporate governance: Do the media influence managers' capital allocation decisions? *Journal of Financial Economics*, 110, 1-17.

Liu, B., McConnell, J. J., & Xu, W. (2017). The power of the pen reconsidered: The media, CEO human capital, and corporate governance. *Journal of Banking & Finance*, 76, 175-188.

Lv, D. D., Chen, W., Zhu, H., & Lan, H. (2019). How does inconsistent negative performance feedback affect the R&D investments of firms? A study of publicly listed firms. *Journal of Business Research*, 102, 151-162.

Miller, G. S. (2006). The press as a watchdog for accounting fraud. *Journal of Accounting Research*, 44, 1001-1033.

Minetti, R., Murro, P., & Paiella, M. (2015). Ownership structure, governance, and innovation. *European Economic Review*, 80, 165-193.

Miroshnychenko, I., & De Massis, A. (2020). Three decades of research on corporate governance and R&D investments: a systematic review and research agenda. *R&D Management*, 50(5), 648-666.

O'Connor, M., & Rafferty, M. (2012). Corporate governance and innovation. *Journal of Financial and Quantitative Analysis*, 47, 397-413.

Ommen, N. O., Blut, M., Backhaus, C., & Woisetschläger, D. M. (2016). Toward a better understanding of stakeholder participation in the service innovation process: More than one path to success. *Journal of Business Research*, 69(7), 2409-2416.

Peek, E., Cuijpers, R., & Buijink, W. (2010). Creditors' and shareholders' reporting demands in public versus private firms: Evidence from Europe. *Contemporary Accounting Research*, 27(1), 49-91.

Peña-Martel, D., Pérez-Alemán, J., & Santana-Martín, D. J. (2018). The role of the media in creating earnings informativeness: Evidence from Spain. *BRQ Business Research Quarterly*, 21(3), 168-179.

Pindado, J., de Queiroz, V., & de la Torre, C. (2015). How do country-level governance characteristics impact the relationship between R&D and firm value? *R&D Management*, 45(5), 515-526.

Pollock, T. G., & Rindova, V. P. (2003). Media legitimation effects in the market for initial public offerings. *Academy of Management Journal*, 46, 631-642.

Rajan, R. G., & Zingales, L. (2001). Financial systems, industrial structure, and growth. *Oxford Review of Economic Policy*, 17(4), 467-482.

Rodrigues, R., Samagaio, A., & Felício, T. (2020). Corporate governance and R&D investment by European listed companies. *Journal of Business Research*, 115, 289-295.

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, 98(5), S71-S102.

Schivardi, F., & Schneider, M. (2008). Strategic experimentation and disruptive technological change. *Review of Economic Dynamics*, 11(2), 386-412.

Shleifer, A., & Vishny, R. W. (1997). A Survey of Corporate Governance. *The Journal of Finance*, LII, 737-783.

Studenmund, A.H., 1997. Using Econometrics: A Practical Approach. Addison-Wesley, Boston.

Tribo, J. A., Berrone, P., & Surroca, J. (2007). Do the type and number of blockholders influence R&D investments? New evidence from Spain. *Corporate Governance: An International Review*, 15(5), 828-842.

Tsao, S. M., Chang, Y. W., & Koh, K. (2019). Founding family ownership and myopic R&D investment behavior. *Journal of Accounting, Auditing & Finance*, 34(3), 361-384.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to Logic for Marketing. *Journal of Marketing*, 68(1), 1-17.

Wiesenfeld, B. M., Wurthmann, K. A., & Hambrick, D. C. (2008). The stigmatization and devaluation of elites associated with corporate failures: A process model. *Academy of Management Review*, 33, 231-251.

Wu, H. L. (2008). How do board–CEO relationships influence the performance of new product introduction? Moving from single to interdependent explanations. *Corporate Governance: An International Review*, 16(2), 77-89.

Zhang, H., Ou, A. Y., Tsui, A. S., & Wang, H. (2017). CEO humility, narcissism, and firm innovation: A paradox perspective on CEO traits. *The Leadership Quarterly*, 28, 585-604.

Zhong, R. I. (2018). Transparency and firm innovation. *Journal of Accounting and Economics*, 66(1), 67-93.

Zyglidopoulos, S. C., Georgiadis, A. P., Carroll, C. E., & Siegel, D. S. (2012). Does media attention drive corporate social responsibility? *Journal of Business Research*, 65, 1622-1627.

Appendix 3.1. Definitions of variables

Table A3.1. Definitions of variables

Measures of R&D	
R&D(Employees)	The relationship of R&D expenditures over the number of employees.
R&D(Assets)	The relationship of R&D expenditures over total assets.
R&D(Sales)	The relationship of R&D expenditures over sales.
Measures of media visibility	
Media_Attention	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire.
Media50	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire, when the news contains at least 50 words.
Media25	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire, when the news contains at least 50 words, and the name of the company appears in the first 25 words.
Media_Attention_Adjust	The number of news items on a firm reported by Expansión, Cinco Días, El Economista, Financial Times, Wall Street Journal, Reuters, Dow Jones, and Business Wire adjusted to the mean for the sector.
Control variables	
ROA	Return on assets, computed as earnings before interest, taxes, depreciation, and amortization divided by total assets.
QTobin	Market value of equity plus total debt, all divided by total assets.
Leverage	The sum of short- and long-term debt divided by total assets.
Size	The natural logarithm of total assets.
Voting	The voting rights of the largest shareholders.
Age	The number of years since the firm was created.
Duality	Dummy variable that takes the value 1 if the CEO is the chair, and 0 otherwise.
Investor_Attractive	The percentage of capitalization of a firm out of the total capitalization of the FTSE Eurotop 100 index.

CONCLUSIONS

The academic world, investors and regulators are showing ever-increasing interest in understanding the role played by the media in firm performance. Despite this, the literature which focuses on exploring this link may be considered to be still in emerging development, particularly those studies that focus on continental Europe. In an effort to understand what role this external governance mechanism plays, this thesis seeks to explore the impact of media attention on corporate decision-making.

The key role played by the media as a corporate governance mechanism has been highlighted throughout this thesis, since media coverage has been shown to impact key corporate actions such as the dissemination of accounting information, board gender diversity, or investment decisions in innovation. This research thus points out how aspects such as transparency, board composition, and long-term investment decisions are affected by the scrutiny and impact on reputation that the media has. The results to emerge from each chapter have theoretical and practical implications which urge us to explore in even greater depth the role played by the media as a corporate governance mechanism.

With regard to the impact of media attention on the quality of the accounting information disseminated, the results show that the media plays a complementary role, driving the credibility of financial reporting and thereby reducing asymmetries between internal and external agents. The media therefore becomes an extra-legal mechanism that enhances the transparency of corporate action. This finding might prove to be particularly relevant in an environment such as continental Europe, in which the legal system affords weak protection for the interests of external investors and in which private information channels are key to decision-making in the corporate sphere.

The results also underpin the importance of considering the media as drivers of board composition and, specifically, of the presence of women in terms of holding seats on the board. In this regard, the media drives firms to increase the number of female board members in order to enhance their public image and reputation. This points to a link between scrutiny and board diversity that might prove to be particularly relevant given the scant efficiency displayed by other mechanisms –such as legislation or codes of good governance– as instruments that encourage greater female representation in companies' principal decision-making bodies.

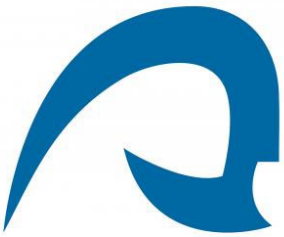
As regards the impact of media visibility on generating knowledge and, in particular, vis-à-vis investment in research, the results indicate that media attention drives strategies linked to the creation of innovation in firms, since greater transparency reduces conflict with financial institutions and increases pressure to face the shifting demands of stakeholders.

From a theoretical perspective –and in a context characterized by weak protection from the legal system and the widespread presence of dominant owners who have both the ability and the incentive to control corporate decisions– the results to emerge from the thesis point to the media as being a key extra-legal mechanism that has an effect on managers and controlling shareholders through scrutiny and reputation and which, via this, can impact the relations between said internal agents and stakeholders.

As regards the practical implications, the results to emerge concerning the role played by the media as a driver of credibility in accounting information imply that analysts, investors and regulators should promote the media's independent work as a mechanism in order to reduce information asymmetries between firm and market. Moreover, agents and auditors alike should consider the complementary role played by media coverage in its work as a guarantor of the accounting information. The results also highlight that the media acts as a mechanism that stimulates greater female presence on boards of directors in conjunction with other institutional instruments such as the female board member quotas established through legislation or the recommendations concerning diversity set out in codes of good governance. Finally, the thesis has shown that transparency and reputation are drivers of innovation. As a result, the political arena should seek to endow the media with a greater role as disseminators and judges of firms' actions, since this would foster the presence of a significant number of firms able to undertake investments in innovation that would bring social and economic improvements in an increasingly competitive environment. In addition, the role of the media, as drivers of innovation, is also key to investors, since greater investment in knowledge favours the company's long-term existence and is critical to other stakeholders, given that greater investment in innovation helps firms to find solutions to changing demands.

As pointed out in each chapter, the results are by no means free from limitations. These basically concern the difficulty involved in finding wide databases that can provide key

information. Despite this, the thesis has shown that, in addition to the legal system, other external governance mechanisms can also have a major impact on firm performance. As a result, it is necessary to continue exploring the role of media coverage in other aspects of this behaviour and to examine the links with other extra-legal instruments. This analysis will entail the need to carry out future research based on the use of international samples.



ULPGC
Universidad de
Las Palmas de
Gran Canaria