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Multidrivers for earnings management: special focus on tax incentives

Multidrivers para la manipulación de resultados: énfasis en incentivos fiscales

MEMORIA PARA OPTAR AL GRADO DE DOCTOR

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MULTIDRIVERS FOR EARNINGS MANAGEMENT:

SPECIAL FOCUS ON TAX INCENTIVES

MULTIDRIVERS PARA LA MANIPULACION DE RESULTADOS:

ENFASIS EN INCENTIVOS FISCALES

Ph.D. Dissertation

By

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Introduction

Earnings management[1] is a hot topic, which attracts the attention of many researchers around the world. Not surprisingly, research on earnings management is at the interaction of accounting, taxation, finance or behavioural economics.

In this dissertation, we address the topic from the approach of financial accounting, with special focus on the drivers for earnings management, especially on tax incentives. The aim of financial accounting is to accurately prepare the financial statements to provide information to firm's stakeholders. Moreover, information included in financial statements is used in companies' valuation models (Collins, Pincus & Xie, 1999). Henceforth, quality of information included in companies' financial statements is a relevant and recurring topic in accounting research (Collins et al., 1999; Barth, Landsman & Lang, 2008). Financial statements must provide useful information about companies' financial situation to facilitate stakeholders' decision making (Epstein & Jermakowicz, 2007; Mackenzie, Coe, Njikizana, Chamboko & Colyvas, 2012). In addition, the level of usefulness of financial information is strongly related to the quality of earnings (Ball & Shivakumar, 2005). In order to be useful, information must be relevant, comparable,

[1] Even there is not a common accepted definition of earnings management, prior research show that there are not considerable differences between the meanings given by different authors. We follow the definition by Healy and Whalen (1999, p.368): "the manipulation of the companies' financial statements by managers based on their own judgment, with the purpose of confusing users about the company's real economic situation, either, to influence contracts that can rely on financial statements". See Chapter 1 for more details about earnings management definitions.

verifiable, timely and understandable (International Accounting Standard Board-Framework). Each of these characteristics is important and the presence of significant earnings management could affect such features.

The important social prejudices caused by the manipulation of annual reports can be seen, for example, in fraudulent cases as Enron or Parmalat (Wu, 2010). These cases do not compromise only the financial statements information quality but also the image of auditors, accountants and others professionals. Furthermore, such situations can prompt changes in legislation, for instance, the Sarbanes Oxley Act, in response to a number of corporate accounting scandals that occurred between the years 2000 and 2002.

Even earnings management is a topic widely investigated since the late eighties, the number of articles focused on it is still growing since 2000. Most of the studies use statistical research methodologies and are driven by positive accounting theory (Watts & Zimmermann, 1986, 1978). Nevertheless, some issues related to this topic have received modest attention or have found conflicting findings so far. Most of prior literature has been focused on larges economies (i.e. the U.S.), listed companies and on accrual-based earnings management. Therefore, the aim of this thesis is to shed light on some of the topics that prior research has lacked.

This Ph.D. dissertation has been built by using positivist research paradigm and is organized in three chapters.

Chapter 1 which is entitled ‘Literature Review of Earnings management: Who, why, when, how and what for?’ reviews the definitions of earnings management (what), the origin or causes that drive managers to engage in manipulation (who and why), the tools commonly used (how and when), the consequences of both techniques as well as the

trade-off that managers face and the implications of incurring in such manipulation. By doing so, we could detect the gaps in prior research, which drove the elaboration of chapters 2 and 3.

Changes in accounting standards and tax legislation could be scenarios for earnings manipulation (Watts & Zimmerman, 1978). Thus, Chapter 2 entitled 'Against time: Companies' behaviour around a tax vs. an accounting reform'[2] analyses whether companies generate tax savings by shifting profits to a period with a lower tax rate due to the introduction of a staggered tax reform. Similarly, we test whether the introduction of an accounting reform, which tighter accounting standards leaded, firms to engage in lower or higher levels of manipulation. Using a sample of 4,420 unique private firms and 20,671 firm-year observations, we show that companies engage in accrual-based earnings management to shift profits in order to generate tax savings. However, when companies experiment tax and financial accounting incentives at the same time, the results are weaker. For the purpose of this study, we first follow the modified Jones model (Dechow, Sloan & Sweeney, 1995) to calculate accrual manipulation. To test our hypotheses, we first conduct a matching differences-in-differences analysis which show the different behaviour from the two groups when the accounting reform is implemented. This statement suggest that the adoption of new accounting rules has an impact in the tax

[2] This chapter has been written during the Erasmus Ph.D. international stay at Trinity College Dublin and partially modified during her stay at Bocconi University. The authors acknowledge Complutense University of Madrid for financial support received for the research visit to Ireland and Italy and the scholarship by EAISM Association for the "5th Workshop on Current Research in Taxation", Prague (Czech Republic). The authors are grateful to the participants at the "ASEPUC Conference 2016", "CUNEF Finance Seminar", "UCD Doctoral Colloquium 2016", "5th Workshop on Current Research in Taxation", "IAFA Doctoral Colloquium 2015", "XX Workshop Raymond Konopka", "Doctoral Colloquium of School of Business, Trinity College of Dublin", "UAM-UC3M Doctoral students and junior faculty colloquium in accounting" and Begoña Giner (University of Valencia), Claudia Imperatore (Bocconi University), Mariya Ivanova (Bocconi University), Martin Jacob (Whu Otto Beisheim School of Management), Kalin Kalev (Yale University), Erkki K. Laitinen (University of Vaasa) and Ana Liceran (University of Jaen) for many helpful comments and suggestions.

incentives generated by the tax reform. To assess the analysis in further detail, we explore the companies' reaction by partitioning the sample and by focusing on the effect for every group and year. Thereby, we show that companies engage in accrual-based earnings management to shift profits in order to generate tax savings. By doing so, companies detract earnings quality provided in financial reports. Furthermore, we show the different behaviour between companies having tax and financial incentives at the same and those having only tax incentives. We provide a robustness test by estimating accruals with additional models and by using coarsened exact matching. The peculiarity of the setting allows us to analyse the effect of two reforms at the same time but with different incentives, which turns the study into a much more interesting one. Taking together, our findings yield important insights of firms' performance around different changes in legislation in a code-law country.

The title of Chapter 3 is 'Earnings management in the context of multinational groups'[3] and examines the effect of the context where multinational groups operate on earnings management. Especially, we focus the study on tax incentives to shift profits within the group, institutional settings and cultural factors of the countries where firms operate. Previous studies that have investigated determinants for manipulation within multinational groups across countries have taken into consideration corporate tax rates or institutional settings as drivers for earnings management (e.g. Beuselinck, Cascino,

[3] This chapter has been written during the Erasmus Ph.D. international stay at Trinity College Dublin and partially during her stay at Bocconi University. The authors acknowledge Complutense University of Madrid for financial support received for the research visit to Ireland and Italy and the scholarship by UAM-UC3M for the "XII International Accounting Research Symposium". The authors are grateful to the participants at the "XII International Accounting Research Symposium", "ASEPUC Doctoral Colloquium 2016", "IAFA Doctoral Colloquium", "UCD Doctoral Colloquium 2015" and Ariela Caglio (Bocconi University), Begoña Giner (University of Valencia), Claudia Imperatore (Bocconi University), Mariya Ivanova (Bocconi University), Erkki K. Laitinen (University of Vaasa) and Ana Liceran (University of Jaen) for many helpful comments and suggestions.

Deloof & Vanstraelen, 2016; Beuselinck, Deloof & Vanstraelen, 2015). However, we support that by considering exclusively institutional settings and corporate tax rates when analysing manipulation provides only a partial view of the country drivers to engage in earnings management. There is an obvious lack on the study of cultural factors as alternative incentive for manipulation within multinational groups, being most literature of cultural factors and earnings management focused on single companies (e.g. Desender, Castro & Escamilla, 2011; Doupnik, 2008). Similarly, tax incentives as an aggregated measure of profit shifting within a group have received little attention in earnings management prior research. Thus, we suggest that taking these three dimensions into account, we can provide a wider framework of earnings management drivers within multinational groups. To carry out the analysis, we first calculate earnings management proxies by following the models more used in prior literature. We select the Hofstede's cultural dimensions as our proxies for cultural factors, while we calculate the tax incentives proxy by using the model provided by Huizinga and Laeven (2008). To estimate institutional factors proxies, we adopt the same approach than Leuz, Nanda and Wysocki, (2003) and Enomoto, Kimura and Yamaguchi (2015), associated to investor's protection. Second, we use the multiple equation model (GMM) and varying clustering strategies to conduct the analysis. Using a sample of 33,190 multinational groups parent-subsidiaries observations over the period 2006-2014 with 8,096 firms from 26 different countries, we found that tax incentives are negatively related to all earnings management proxies. This implies that tax incentives and earnings management are alternatives rather than complements options that companies could adopt. Moreover, we identify that strong institutional settings are negatively related to accrual manipulation but positively related to real earnings management. This provides evidence about the substitute character of the

different tools to manipulate in multinational groups. Lastly, we found that the six cultural dimensions of Hofstede, Hofstede and Minkov (2010) have an important impact on earnings management in multinational groups. This last point has not been taken into consideration in prior research so far.

Introducción

El término "earnings management"[4] o manipulación de resultados es un concepto muy investigado en contabilidad, que ha atraído y atrae la atención de muchos investigadores en todo el mundo. No es sorprendente que la investigación en este tema se aborde desde distintas perspectivas como la contabilidad, la fiscalidad, las finanzas o el comportamiento económico.

En esta tesis doctoral desarrollamos este tema desde el punto de vista de la contabilidad financiera, con énfasis especial en el origen de estas prácticas desde el enfoque de los incentivos fiscales.

El objetivo de la contabilidad financiera es la preparación con precisión de los estados financieros para transmitir información a todas las partes interesadas en una empresa. Además, la información contenida en estos documentos se utiliza en multitud de ocasiones en los modelos de valoración de las compañías (Collins et al., 1999). Por ello, la calidad de la información incluida en los informes anuales de las empresas es un tema relevante y recurrente en la investigación contable (Collins et al., 1999; Barth et al., 2008).

[4] Aunque no existe una definición comúnmente aceptada de manipulación de resultados, la literatura previa muestra que no hay diferencias considerables entre las definiciones de autores diferentes. En este estudio, seguimos la definición de Healy and Whalen (1999, p. 368): "la manipulación de los estados financieros de las empresas por los directivos mediante la introducción de subjetividad, con el objetivo de confundir a los usuarios de la información sobre la real situación económica de la empresa o para influir en contratos vinculados a esos documentos".

Adicionalmente, la información útil proporcionada en los estados financieros sirve para facilitar la toma de decisiones de las partes interesadas en el funcionamiento de una empresa (Epstein & Jermakowicz, 2007; Mackenzie et al., 2012). Así, el nivel de utilidad de la información está estrechamente relacionado con la calidad de los resultados empresariales (Ball & Shivakumar, 2005). Para cumplir con esos requisitos de utilidad, la información debe ser relevante, comparable, verificable, oportuna y clara (marco conceptual del International Accounting Standard Board). Cada una de estas características es importante para poder proporcionar información útil de calidad, aunque la presencia de manipulación de resultados podría afectar seriamente a la consecución de las mismas.

Aunque es un tema muy estudiado desde finales de los años ochenta, sigue suscitando interés en la academia, como puede verse reflejado en el número de artículos centrados en este tema, que siguen creciendo exponencialmente desde el año 2000. La mayoría de ellos se han realizado utilizando metodologías de investigación estadísticas y bajo la teoría positiva de la contabilidad (Watts & Zimmermann, 1986, 1978). Sin embargo, hay ciertos aspectos que no han sido abordados aún o que arrojan resultados contradictorios hasta la fecha. Además, la mayoría de investigaciones en esta cuestión han estado centradas en economías más desarrolladas y, sobre todo, en países anglosajones (i.e. Estados Unidos), compañías cotizadas y manipulación de resultados por devengo. Por lo anteriormente expuesto, el objetivo de esta tesis es atender alguno de los temas no cubiertos por investigaciones previas.

Esta tesis ha sido realizada utilizando el paradigma de investigación positivista y está compuesta por tres capítulos.

El capítulo 1 titulado "Revisión de la literatura de manipulación de resultados: Quién, por qué, cuándo, cómo y para qué?" se centra en una revisión de las definiciones (qué), el origen o las causas que conducen a los directivos a incurrir en estas prácticas (quién y por qué), las técnicas normalmente utilizadas (cómo y cuándo) y las consecuencias del uso de la manipulación a través de estas técnicas, así como el conflicto de decisión al que se enfrentan los directivos y las implicaciones de manipular los estados financieros. Haciendo una extensa revisión de la literatura, hemos podido detectar alguno de los temas no tratados por estudios previos, lo que ha permitido la elaboración de los capítulos 2 y 3.

Cambios en la legislación contable y fiscal pueden ser escenarios para la manipulación de resultados (Watts & Zimmerman, 1978). Por ello, el capítulo 2 titulado "A contrarreloj: el comportamiento de las empresas alrededor de una reforma fiscal versus una reforma contable"[5] analiza si las empresas españolas generaron ahorros fiscales como consecuencia del anuncio de una importante reforma fiscal que se introdujo progresivamente en el año 2007. De forma similar, analizamos si la introducción de nuevas normas de contabilidad – más severas que las anteriores- condujo a mayores o menores niveles de manipulación por parte de las empresas. Usando una muestra de 4.420 empresas no cotizadas y 20.671 observaciones por año durante el periodo 2005-2009, los

[5] Este capítulo ha sido escrito durante la estancia doctoral internacional dentro del programa Erasmus en Trinity College Dublin y parcialmente modificado durante la estancia de la doctoranda en Bocconi University. Los autores quieren agradecer a la Universidad Complutense de Madrid por el apoyo financiero recibido durante las estancias internacionales de la doctoranda en Irlanda e Italia, así como la beca concedida por la asociación EAISM para la participación en el "5th Workshop on Current Research in Taxation", Prague (Czech Republic). Asimismo, los autores estan agradecidos a los participantes de "ASEPUC Conference 2016", "CUNEF Finance Seminar", "UCD Doctoral Colloquium 2016", "5th Workshop on Current Research in Taxation", "IAFA Doctoral Colloquium 2015", "XX Workshop Raymond Konopka", "Doctoral Colloquium of School of Business, Trinity College of Dublin", "UAM-UC3M Doctoral students and junior faculty colloquium in accounting" y a Begoña Giner (Universidad de Valencia), Claudia Imperatore (Bocconi University), Mariya Ivanova (Bocconi University), Martin Jacob (Whu Otto Beisheim School of Management), Kalin Kalev (Yale University), Erkki K. Laitinen (University of Vaasa) and Ana Liceran (University de Jaen) por sus comentarios y sugerencias que han sido de extrema utilidad para poder mejorar el artículo.

resultados evidencian que las empresas actuaron de forma oportunista alrededor de la reforma fiscal, incurriendo en manipulación de resultados y, consiguientemente, creando ahorros fiscales. Sin embargo, cuando las empresas experimentan incentivos fiscales y contables al mismo tiempo, la tendencia es diferente. Para llevar a cabo el estudio, en primer lugar, calculamos las medidas de manipulación de resultados aplicando el modelo modificado de Jones (Dechow et al., 1995) para la manipulación por devengo. Para realizar este análisis, utilizamos una muestra pareada y aplicamos la metodología de "diferencias en diferencias", que pone de manifiesto el comportamiento de las empresas cuando la reforma contable se lleva a cabo, señalando claramente la diferente conducta por parte de las mismas debido al impacto de la reforma contable en los incentivos fiscales. Para estudiar el suceso más detalladamente, realizamos el análisis separando la muestra en dos grupos y mostrando la tendencia por años. Así, se evidencia que las empresas incurrieron en manipulación de resultados para generar ahorros fiscales, lo cual deteriora la información provista en los estados financieros. Además, realizamos análisis de robustez para corroborar nuestros resultados, estimando la medida de manipulación por devengo, y siguiendo un modelo adicional comúnmente utilizado en la literatura, así como otra técnica para parear la muestra. La peculiaridad del entorno nos permite analizar los efectos de dos reformas al mismo tiempo pero que introducen diferentes incentivos, tornando el estudio en uno mucho más complejo e interesante. Nuestros resultados contribuyen a la literatura evidenciando diversos comportamientos por parte de las empresas debido a la diferencia en incentivos por parte de las reformas en un país de derecho romano.

El capítulo 3 titulado "Manipulación de resultados en el contexto de grupos multinacionales"[6] examina los posibles efectos en la manipulación de resultados originados por el contexto donde operan grupos multinacionales. En particular, el estudio se centra en los incentivos fiscales para la transferencia artificial de beneficios dentro del grupo empresarial, los factores institucionales y los factores culturales de los países donde operan las compañías. Algunos estudios previos que han examinado incentivos para la manipulación de resultados en grupos multinacionales han tenido en cuenta factores institucionales o el tipo del impuesto de sociedades (e.g. Beuselinck et al., 2016; Beuselinck et al., 2015). Sin embargo, consideramos que teniendo en cuenta exclusivamente factores institucionales o tipos de impuesto de sociedades al analizar manipulación de resultados, se da una visión parcial de las motivaciones derivadas a nivel del país para incurrir en estas prácticas. Así, encontramos que los factores culturales no han sido tenidos en cuenta en el contexto de los grupos multinacionales, encontrando literatura que relaciona factores culturales y manipulación de resultados pero en empresas individuales (e.g. Desender et al., 2011; Doupnik, 2008). De manera similar, los incentivos fiscales -como una medida agregada de la transferencia artificial de beneficios dentro del grupo empresarial- han recibido una atención limitada en la literatura. Por ello, tomando estos tres factores en cuenta, proporcionaremos un contexto más amplio sobre los incentivos dentro de grupos multinacionales para la manipulación de resultados. Para

[6] Este capítulo ha sido escrito durante la estancia doctoral internacional dentro del programa Erasmus en Trinity College Dublin y parcialmente modificado durante la estancia de la doctoranda en Bocconi University. Los autores quieren agradecer a la Universidad Complutense de Madrid por el apoyo financiero recibido durante las estancias internacionales de la doctoranda en Irlanda e Italia, así como la beca concedida por UAM-UC3M para la participación en el "XII International Accounting Research Symposium". Asimismo, los autores estan agradecidos a los participantes de "XII International Accounting Research Symposium", "ASEPUC Doctoral Colloquium 2016", "IAFA Doctoral Colloquium", "UCD Doctoral Colloquium 2015" y Ariela Caglio (Bocconi University), Begoña Giner (University of Valencia), Claudia Imperatore (Bocconi University), Mariya Ivanova (Bocconi University), Erkki K. Laitinen (University of Vaasa) and Ana Liceran (University of Jaen) por sus excelentes comentarios y sugerencias que han sido de gran ayuda para poder mejorar el artículo.

llevar a cabo el análisis, calculamos en primer lugar las medidas de manipulación de resultados recurriendo a los modelos más utilizados en la literatura previa. Como medida de los factores culturales, hemos seleccionado las seis dimensiones culturales propuestas por Hofstede et al. (2010), mientras que para medir los incentivos fiscales dentro de un grupo empresarial, seguimos el modelo propuesto por Huizinga y Laeven (2008). Para estimar las medidas de factores institucionales utilizamos el enfoque de Leuz et al. (2003) y Enomoto et al. (2015), que están asociados con la protección al inversor. En segundo lugar, para el análisis empírico usamos el modelo de ecuaciones simultáneas (GMM) y diversas estrategias de agrupación de los términos de error. Usando una muestra de 8.096 empresas matrices y filiales y 33.190 observaciones por año durante el período 2006-2014 de 26 países de la Unión Europea, nuestros resultados evidencian que los incentivos fiscales experimentados por las empresas dentro de un grupo multinacional están negativamente relacionados con todas las medidas de manipulación de resultados. Esto implica que los incentivos fiscales y la manipulación de resultados son prácticas alternativas y no complementarias para las empresas dentro de un grupo. Además, identificamos que los factores institucionales más severos están negativamente relacionados con manipulación por devengo pero, sin embargo, positivamente relacionados con manipulación mediante actividades reales. Esto pone de manifiesto el carácter sustitutivo de las diferentes técnicas de manipulación de resultados en grupos multinacionales. Finalmente, demostramos la gran importancia de las seis dimensiones culturales propuestas por Hofstede et al. (2010) en la manipulación de resultados en grupos multinacionales, tema que no había sido tratado en investigaciones anteriores hasta la fecha.

Abstract

Accounting financial information is a relevant element in business to measure and to communicate business performance (Watts & Zimmermann, 1986). External decision makers as stockholders, analysts, external auditors or investors need information about business activities to make their decisions or to provide an opinion about companies' performance. In a similar venue, internal decision makers, as managers, need also useful information to manage firm's activities. Thus, financial statements must provide useful information about companies' financial situation to facilitate stakeholders' decision making (Epstein & Jermakowicz, 2008; Mackenzi et al, 2012).

However, the presence of significant earnings management originated from information asymmetry and agency problems could affect such features and their effects could be noted in the firm, in the organizational field and societies in general (Cooper, Dacin & Palmer, 2013).

Previous studies have shown varying incentives that drive managers to manipulate the results of the company. On one hand, internal motivations for earnings management can be grouped into three categories: 1) contracting motivations, compensation and lending contracts, 2) capital market motivation, and 3) type of company. On the other hand,

external causes are given mainly by institutional settings, cultural factors, bankruptcy proceedings, corporate tax rates, and changes in regulation. Nevertheless, the research questions of this dissertation come from the interaction between some of the motivations for earnings management that surprisingly remain unaddressed.

In this way, chapter 1 review the literature concerning earnings management and the implications of the latter for stakeholders and firms. Using the Web of Science database, I investigate the most cited papers on this topic. A classification of the causes that drive managers to manipulate earnings is presented. I also explore the papers that show the trade-off faced by managers among the two techniques usually recognised in the earnings management literature, real activity and accrual manipulation, and when they are normally used. One of the major implications of earnings management is the deterioration of information quality in the financial statements, which could mislead stakeholders' decisions.

From this comprehensive literature review we found the gaps which drive the research questions addressed in chapter 2 and chapter 3.

In chapter 2 we look at changes in regulation since it could be an incentive to manipulate earnings. Using a sample of 4,420 unique private firms and 20,671 firm-year observations, we examine whether companies generate tax savings by shifting profits to a period with a lower tax rate due to the introduction of a staggered tax reform. We show that companies engage in accrual-based earnings management to shift profits in order to generate tax savings. By doing so, companies detract earnings quality provided in financial reports. Similarly, the introduction of an accounting reform which tighter accounting standards leaded firms to engage in more income decreasing earnings

management. The peculiarity of the setting allows us to analyse the effect of two reforms at the same time but with different incentives which turns the study into a much more interesting one. Taking together, our findings yield important insights of firms' performance around different changes in legislation in a code-law country.

Chapter 3 analyses whether multinational groups engage in earnings management because of the tax incentives within the group, institutional settings and/or cultural factors of the countries where they operate. The analysis has been carried out using real activity and accrual manipulation as proxies of earnings management. Our results show that tax incentives within a group are a significant mitigating element for earnings management while institutional settings and cultural factors are important drivers for manipulation. Furthermore, our results provide evidence of the substitutive character of earnings management and profit shifting.

Resumen

La información económico-financiera es un elemento clave en el ámbito empresarial para medir y comunicar el funcionamiento de una empresa (Watts & Zimmermann, 1986). Usuarios externos de la información financiera como accionistas, analistas, auditores externos o inversores necesitan información sobre la actividad empresarial para su toma de decisiones o para emitir una opinión sobre la compañía. De manera similar, usuarios internos como, por ejemplo, pueden ser los directivos, necesitan también información útil para gestionar las actividades de la empresa. Por ello, los estados financieros deben proporcionar información útil sobre la situación financiera para ayudar en el proceso de toma de decisiones a todas las partes interesadas en el proceso o "stakeholders" (Epstein & Jermakowicz, 2008; Mackenzie et al., 2012).

Sin embargo, la presencia de manipulación de resultados originada por la asimetría en la información y por los problemas de agencia podrían afectar a este propósito, y sus efectos notarse en las compañías, en el sector organizacional y en la sociedad en general (Cooper et al., 2013).

Estudios previos han demostrado la variedad de incentivos que conducen a los directivos a incurrir en estas prácticas. Así, las motivaciones internas para manipulación de resultados pueden agruparse en tres categorías: 1) motivaciones contractuales, de compensación o de financiación, 2) motivaciones de los mercados de capital y 3) tipos de

compañía. Por otro lado, las causas externas vienen dadas principalmente por factores culturales e institucionales, procesos concursales, tipos del impuesto de sociedades y cambios legislativos. Sin embargo, las preguntas de investigación de esta tesis doctoral se han formulado de la interacción de algunas de las causas, que sorprendentemente no se han abordado en profundidad por la academia hasta la fecha.

De esta manera en el capítulo 1 de la tesis doctoral se revisa la literatura concerniente a la manipulación de resultados y las implicaciones de estas prácticas para las empresas y sus 'stakeholders'. Usando la base de datos Web of Science, se investigan los artículos más citados en este tema. Se proporciona una clasificación de las causas que conducen a los managers a manipular los resultados. También se exploran los artículos en los que se muestra la decisión a la que se enfrentan los managers entre las dos técnicas normalmente utilizadas en la literatura, manipulación por actividades reales y manipulación por devengo. Una de las implicaciones más importantes es el deterioro de la calidad de la información en los estados financieros, lo cual puede perjudicar a los 'stakeholders' en la toma de decisiones.

Gracias a esta completa revisión de la literatura encontramos los 'gaps' que llevaron al desarrollo del capítulo 2 y el capítulo 3 de esta tesis doctoral.

En el capítulo 2 se investiga el impacto de los cambios legislativos ya que pueden ser incentivos a la manipulación de resultados. Usando 4.420 empresas no cotizadas y 20.671 observaciones, examinamos si las empresas generaron ahorros fiscales actuando de manera oportunista debido a la introducción de una reforma fiscal que reducía el impuesto de sociedades progresivamente. Así, se evidencia que las empresas incurrieron en manipulación de resultados para generar ahorros fiscales, lo cual deteriora la información

provista en los estados financieros. Además, se constata que la introducción de nuevas normas de contabilidad – más severas que las anteriores- condujeron a mayores o menores niveles de manipulación por parte de las empresas. La peculiaridad de la reforma fiscal establecida progresivamente para un grupo de empresas nos permite analizar los efectos de dos reformas al mismo tiempo pero que introducen diferentes incentivos, tornando el estudio en uno mucho más complejo e interesante. Nuestros resultados contribuyen a la literatura evidenciando diversos comportamientos por parte de las empresas debido a la diferencia en incentivos por parte de las reformas en un país de derecho romano.

En el tercer capítulo se analiza si las empresas multinacionales incurren en manipulación de resultados como consecuencia de incentivos fiscales dentro de un grupo empresarial, teniendo en cuenta los factores institucionales y culturales de los países en los que operan las empresas pertenecientes a dicho grupo. El análisis ha sido realizado usando manipulación por devengo y de actividades reales como 'proxies' de manipulación de resultados. Nuestros resultados ponen de manifiesto que los incentivos fiscales dentro del grupo son elementos mitigadores de la manipulación del resultado empresarial, mientras que algunos factores institucionales y culturales de los países donde operan las compañías conducen a incurrir en estas prácticas. Además, se demuestra como la manipulación de resultados y el desvío de beneficios dentro del grupo son prácticas de carácter sustitutivo.

CHAPTER 1

Literature Review of Earnings management: Who, why, when, how and what for?

Abstract

Accounting scandals such as Enron, Toshiba, Gowex or Pescanova are issues of special interest, given the impact that such fraudulent transactions have on society due, especially to earnings manipulation. The aim of this chapter is to review the literature concerning earnings management and the implications of the latter for stakeholders and firms. Using the Web of Science database, I investigate the most cited papers on this topic. A classification of the causes that drive managers to manipulate earnings is presented. I also explore the papers that show the trade-off faced by managers among the two techniques usually recognised in the earnings management literature, real activity and accrual manipulation, and when they are normally used. One of the major implications of earnings management is the deterioration of information quality in the financial statements, which could mislead stakeholders' decisions.

1. Introduction

Accounting scandals have always caught public interest. They negatively impacted public confidence in institutions such as stock markets, bankers, auditors, corporate managers and even governments (Sanders, Hamilton, Denisovsky, Kato, Kawai, Kozyreva & Tokoro, 1996).The important social prejudices caused by earnings management can be noted, for instance, in scandals such as Enron or Parmalat (Wu, 2010) as well as in most recent examples like Pescanova or Gowex. In regard of this, there are two extant lines of research focused on investigating accounting frauds or scandals. First, I have found studies that investigate who engage in earnings management and why, the motivations for wrongdoing, managers' behaviour and their characteristics and ways of detecting frauds. These studies are common within the psychological approach and are focused on the fraudster with the aim of developing ways to prevent that kind of behaviour, especially through audit procedures (e.g., Brazel, Jones & Zimbelman, 2009). Second, there is an area that investigates the outcomes of earnings management, for instance, stock market's reactions usually applying economic theories related to agency problems or markets' efficiency (e.g., Dechow, Sloan & Sweeney, 1995; García Lara, García Osma & Mora, 2005; Cohen, Dey & Lys, 2008; Cohen & Zarowin, 2010; Kothari, Mizik & Roychowdhury, 2016; among others). In this respect and based on the positivist agency theory, that takes place when cooperating parts have different targets (Ross, 1973; Jensen & Meckling, 1976), managers could engage in earnings management to their own benefit due to the split among ownership and management (Abdul Rahman & Haneem Mohamed Ali, 2006). Thus, they could affect the annual reports which serve for the stakeholders' decision making. In this line, accounting research link the definition of earnings management with research focused on frauds and

accounting scandals (Cooper, Dacin & Palmer, 2013) as earnings management is a clear signal of deceiving management (Beasley, Carcello & Hermanson, 1999; Beasley, Carcello, Hermanson & Neal, 2010; Jones, 2011). It should be noted that fraudulent accounting is related to practices that violate accounting standards, while earnings management are those practices that involve manipulation of financial statements by managers with different purposes (Healy & Wahlen, 1999, p.368). In this sense, earnings management is strongly related to the quality of information included in companies' financial statements, which is a relevant and recurring topic in accounting research (Collins, Pincus & Xie, 1999; Barth, Landsman & Lang, 2008). Financial statements should provide useful information about companies' financial situation to facilitate stakeholders' decision making (Epstein & Jermakowicz, 2008; Mackenzie, Coetsee, Njikizana, Chamboko, Colyvas & Hanekom, 2012). Moreover, the level of usefulness of financial information is strongly related to the quality of earnings (Ball & Shivakumar, 2005). In order to be useful, information must be relevant, comparable, verifiable, timely and understandable (IFRS-Framework). The presence of significant earnings management that originates from information asymmetry and agency problems between companies' insiders and outsiders, could affect such features and its effect occurs in the firm, in the organizational field and societies in general (Cooper, Dacin & Palmer, 2013).

There are two different tools of earnings management real activities and accruals (Schipper, 1989). Prior research shows that the discussion on earnings management was primarily focused on accrual manipulation strategies while, recently, many articles have focused on real activity manipulation as a proxy of earnings management. In accrual manipulation, managers introduce their judgement and subjectivity by accounting choices in the financial reports, and hence it could distort a company's underlying operating

performance. However, it does not generally involve altering operations themselves (Kothari et al., 2016). In real activity manipulation, on the other hand, managers' objectives are to mislead stakeholders into believing that the results reported in the financial statements have been achieved in the normal course of operations (Roychowdhury, 2006). Both methods may be used to manage earnings upwards or downwards for several reasons and with different implications for the future of the firm. Real activity is preferred to accrual manipulation because it is easier to implement, less costly and more difficult to detect by outsiders (García Lara et al., 2005). However, real manipulation is perceived to be less ethical than accrual manipulation (Graham, Harvey & Rajgopal, 2005), and it can reduce the future valuation of companies (Cohen & Zarowin, 2010) as well as their profitability and long-term competitiveness (Kothari et al., 2016). The decision to opt for one methodology rather than the other can be modified when managers identify circumstances or events whether they need to achieve particular objectives. Furthermore, a novel research avenue in earnings management is the investigation of the drivers for the choice of one practice over the other and to explain the reason such as an IPO or financial distress situations (Cohen et al., 2008; Cohen & Zarowin, 2010; Campa & Camacho-Miñano, 2015).

Accounting standard regulators are worried about the implications that both types of earnings management cause to information quality (Jaggi & Sun, 2012). Furthermore, the consequences originated from earnings management practices have several implications for stakeholders and regulators. Thus, investors and auditors must analyse cautiously the information provided by financial statements which may have been manipulated, while the board of directors and investors should be aware of the opportunistic behaviour that managers can adopt to beat benchmarks.

The aim of this chapter is to review the academic evidence on earnings management and its consequences for the firm, the stakeholders and institutional setters. In particular, I focus the literature review on the definitions of earnings management (what), the origin or causes that drive managers to engage in earnings management (who and why), the techniques used (how and when) and the consequences of both techniques as well as the trade-off that managers face and the implications of incurring in such manipulation.

The rest of the chapter is structured as follows. Section 2 presents the methodology used to compile the literature review. Section 3 provides the literature review related to the term earnings management as well as the causes commonly discussed in prior research. The different tools to manipulate earnings and the consequences derivate of such practices are shown in section 4. To conclude, section 5 provides the main conclusions related to the practical implications that earnings management could originate.

2. Methodology for literature review

The term "earnings management" is an accounting concept widely investigated since the late eighties, it being an important ethical financial reporting issue, since accountants deal with that everyday around the world (Armstrong, 1993). Most of the prior literature has been driven by positive accounting theory proposed by Watts and Zimmermann (1986). However, recent research has shifted the focus to capital market motivations (Xiong, 2006) or agency theory. The database "Web of Science", provided by Thomson Reuters, gave 6,836 results when I searched for papers with "topic" equal to "earnings management" on October 5th 2015, within social sciences and business and economics research areas. It shows that such a topic is of relevant interest to the international academic community. As indicated by Figure 1, since the year 2001 the trend of

publications related to the earnings management has consistently increased, showing a singular rise in 2008. The number of articles increases from 80 papers per year in 2006, to more than 400 papers per year from 2011 onwards.

[Insert Figure 1 here]

Another interesting fact is the number of references of articles on "earnings management". As shown in Figure 2, the trend is growing since 2000 but it almost doubled to 2,200 from 2007 to 2008. In 2014 the number of "earnings management" citations reached more than 10,000 references, representing a significant increase of 95% on this subject in the last ten years. Therefore, we can conclude that this is a hot topic in the accounting field, which still attracts the attention of many researchers around the world.

[Insert Figure 2 here]

3. Definitions of earnings management and causes

3.1 Definitions of earnings management

Before addressing the issue in greater detail, it is necessary to specify what earnings management means. There is not an accepted sole definition for this term (Healy & Wahlen, 1999; Beneish, 2001), but previous literature shows that there are no considerable differences among the meanings by different authors. The majority of researchers agree that its origin dates back to the middle of the twentieth century.

Hepworth (1953) was the first who started this topic-related research. Watts and Zimmermann (1978) state that earnings management occurs when managers have a discretionary behaviour related to accounting numbers with or without limits and this behaviour can be adopted in order to maximize the value of the company. Even so, Davidson, Stickney and Weil (1988) established that earnings management is 'the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings". In a similar way, Schipper (1989) defines earnings management as the intentional behaviour to alter the financial reports in their external process with the aim of obtaining a private gain. However, the most used description by researchers in this area is that earnings management is "the manipulation of the companies' financial statements by managers based on their own judgment, with the purpose of confusing users about the company's real economic situation, either, to influence contracts that can rely on financial statements" (Healy & Wahlen, 1999, p. 368). Close to all the definitions cited above Phillips, Pincus and Rego (2003) define it as a strategy to generate accounting earnings through managerial discretion related to accounting choices and operating cash flows. In this line, García Lara et al. (2005) establish that earnings management is an intentionally carried out management practice, opportunistic and/or educational, with the purpose to report desired results, distinct from the real ones. Among the several definitions of this concept, Scott (2009, p.403) determines earnings management as "the choice of accounting policies or actions that can affect earnings in order to achieve a specific objective". Since there is not a commonly accepted definition, the meaning of earnings management will largely depend on the context of the research. For instance, while most of research focused on U.S. companies relates the use of accruals to income smoothing motivation and the

provision of additional information to users (Collins et al., 1999; Tucker & Zarowin, 2006), transnational studies relate discretionary accruals to a decrease in the information quality, due to the presence of weak national legislation or low investor protection (Leuz, Nanda & Wysocki, 2003). The above definitions of earnings management coincide and suggest that this term would be defined as the intended manipulation of financial statements, carried out by managers driven by different purposes.

Regarding this, prior literature has shown many incentives that drive managers to manipulate the results of the company. Healy and Wahlen (1999) provide three general categories: capital market motivations, contracting motivations and regulatory motivations. I extend this taxonomy following the classification provided by Campa and Camacho-Miñano (2015) of the most referred to earnings management's incentives in the prior literature. These incentives are classified as internal and external causes, where the internal causes are those directly controlled by companies while external causes are those that firms cannot directly control.

3.1.1 Internal causes of earnings management

According to previous studies, the papers about the driving motivation for earnings management can be grouped into three categories: 1) contracting motivations, compensation and lending contracts, 2) capital market motivation, and 3) type of company.

Some research shows that managers will have greater incentives to manipulate earnings if they have debt covenants based on the profitability of the company, in order to avoid the risk of cancellation (DeAngelo, DeAngelo & Skinner, 1994; DeFond & Jiambalvo, 1994; Sweeney, 1994; Dechow et al., 1995) or the renegotiation of the debt conditions (Watts & Zimmermann, 1986; Jaggi & Lee, 2002). Other studies suggest that

manager's compensation is prone to being an incentive to manipulate, since it is likely they will be willing to engage in such manipulation to increase their compensation or bonus plans (Healy, 1985; Gaver, Gaver & Austin, 1995; Holthausen, Larcker & Sloan, 1995; Shuto, 2007).

The second point in this section is related to the evidence of capital market motivation for earnings management. The valuation of shares using information disclosure by the financial statements could potentially create incentives to manipulate the financial information provided by these documents (Healy & Wahlen, 1999). In this respect prior work documents that managers manipulate earnings regarding capital market expectations to increase the results of the company (Teoh, Welch & Wong., 1998a, 1998b; Erickson & Wang, 1999; Myers, Myers & Skinner, 2007), to avoid losses or decreased earnings (Burgstahler & Dichev 1997; Glaum, Lichtblau & Lindemann, 2004) and to beat or meet analysts' forecasts in order to obtain an advantage over analysts ensuring future growth forecasts (Burgstahler & Dichev, 1997; Graham et al., 2005; Lee, Petroni & Shen, 2006; Scott, 2009; Keung, Lin & Shih, 2010).

Finally, several authors agree that private companies usually manipulate their results more than public companies due to their higher level of information asymmetry among managers and the rest of the stakeholders (Mikhail, Walther & Willis, 1999) and the lower level of monitoring (Ball & Shivakumar, 2005). This trend is observed both in Anglo-Saxon countries (Beatty & Harris, 1999; Ball & Shivakumar, 2005) and in continental countries (Vander Bauwhede & Willeken, 2000; Arnedo, Lizarraga & Sanchez, 2007).

3.1.2. External causes of earnings management

Empirical evidence shows that external causes of earnings management are given mainly by the institutional framework, the degree of investor protection in the country

where the company is located, bankruptcy proceedings, economic crises, tax rates and accounting regulations.

Depending on the country where the company is located, they are subject to a different legal framework (i.e. code versus common law) which is the base of the level countries' investor protection (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997, 1998). There is evidence showing that the legal framework of a country has an impact on earnings management and firms in code law countries manipulate in a different manner to common law countries due to the level of investor protection (Archambault & Archambault, 2003; Leuz et al., 2003; Soderstrom & Sun, 2007; Enomoto, Kimura & Yamaguchi, 2015). For instance, Leuz et al. (2003) find evidence that shows that accrual manipulation decreases in countries with stronger investor protection. In a similar vein, García Lara et al. (2005) suggest that companies from code law countries are more willing to smooth out earnings than their common law peers, while Enomoto et al. (2015) find evidence of the use of real activity manipulation as a substitute for accrual manipulation in countries with stronger investor protection.

Related to the bankruptcy proceedings, there is evidence that suggests that bankrupt companies manipulated results more than healthy firms (Rosner, 2003, Garcia Lara et al., 2005; Campa & Camacho-Miñano, 2014). However, the economic situation could also be an incentive. In this regard, extant literature finds that during periods of crisis managers have more incentives to engage in downwards earnings management and blame the economic situation for such descent (Smith, Kestel & Robinson, 2001; Saleh & Ahmed, 2005).

Furthermore, evidence shows that changes in legislation can affect the way managers manipulate earnings (Goncharov & Zimmermann, 2006; Cohen et al., 2008). In this line,

the modification of corporate tax rates may be one of the factors that could also motivate earnings management (Goncharov & Zimmermann, 2006) and when firms have a high concentration of subsidiaries in foreign countries with a strong rule of law (Dyreng, Hanlon & Maydew, 2012). Previous research shows that managers found tax-incentives in the presence of a tax reform, driving them to manipulate earnings (Gramlich, 1991; Boynton, Dobbins & Plesko, 1992; Scholes, Wilson & Wolfson, 1992; Guenther, 1994; Maydew, 1997; Lopez, Regier & Lee, 1998; Calegari, 2000; Poterba, Rauh, Venti & Wise, 2007; among others).

4. Earnings management tools and their consequences

There are two techniques commonly recognised to manipulate earnings: accrual manipulation or real activity manipulation (Schipper, 1989). The research focused on accrual manipulation represents the most significant part in previous literature. Until the beginning of the 21st century, all of the studies used accruals manipulation as a proxy for earnings management. Nevertheless, total accruals can be split across discretionary and non-discretionary accruals, discretionary accruals being related to adjustment to cash flows carried out by managers, while non-discretionary accruals are those accounting adjustments to the companies' cash flows stated by accounting standard setters. Despite this, the disaggregation of these two variables has not been taken into account in the models most frequently proposed by prior research (i.e. Healy, 1985; DeAngelo, 1986; Jones, 1991; Dechow et al., 1995; Kothari, Leone & Wasley, 2005; among others). Even though, the aggregate accrual models have been widely criticised (i.e. Kothari et al., 2005; Ibrahim, 2009; Stubben, 2010), and even though they have some limitations, they still remain the most used by researchers in this area (Ibrahim, 2009).

Since accruals include a component of subjectivity, they are not completely identifiable or observable, and managers can take advantage of this situation to achieve a desired result (Alexander, Britton & Jorissen, 2011). Accrual manipulation is originated by the valuation of accounting items not directly related to changes in cash flow. Examples are the choice among the different depreciation methods, the valuation of inventories or the choice of the basis for asset valuation (historical cost or fair value), and the estimation of provisions. Even if these ways to manipulate earnings look easy, this is not what managers usually prefer, since annual reports must provide information about changes in the valuations of accounting items that could alert the stakeholders. Furthermore, it has been shown that firms that manipulate accruals will have to bear the cost of the reversal in subsequent years (Allen, Larson & Sloan, 2013) and for this reason it gives limited benefits (Teoh et al., 1998a).

Real activity manipulation instead directly affects economic results and is carried out through activities that involve the cash flows of the company. While manipulating through accrual manipulation is the technique which has been investigated by a higher number of papers, Graham et al. (2005) show that managers widely use real activity manipulation. Real activity manipulation occurs when managers put in place actions that change or restructure operations, investment or financial transactions with the aim of influencing the accounting system (Gunny, 2010). The main types of real activity manipulation are:

- Sales manipulation: Accelerating sales for the year through price reductions or not agreed sales on credit award will increase the results of the current year. However, it will result in a lower cash flow in the following periods (Roychowdhury, 2006).

- Overproduction: Managers will choose to use the overproduction with the intention of reducing costs through the achievement of economies of scale (Lin, Radhakrishnan & Su, 2006; Roychowdhury, 2006; Zang, 2012).
- Discretionary cost reduction: It results in reducing expenditures on certain items, such as research and development, thus altering the result of the current period. It could also have negative effects on companies' strategy and cause a decrease in the future results (Cohen et al., 2008).

In this line, Campa and Camacho-Miñano (2015) provide a table (Table 1 from their paper) that compiles from previous literature the forces which drive managers to choose between both techniques, classifying the forces among internal and external. Accordingly, it is noted that as external forces that drive managers to choose real activity over accrual manipulation are the overvaluation of firm's stock prices (Badertscher, 2011), the audit quality (Burnett, Cripe, Martin & McAllister, 2012), the high marginal rates, initial public offering and lightly regulated market (Alhadab, Clacher & Keasey, 2013), the upcoming credit rating changes (Kim, Kim & Song, 2013) as well as the strong investor protection (Enomoto et al., 2015). On the other hand, managers prefer to engage in accrual manipulation if they are in a lower taxation conditions or the country does not have a stable situation (Durnev, 2010).

The timing is also an element to take into account. Zang (2012) shows how managers could manipulate earnings using real activity manipulation during the fiscal year and adjust the results of the company according to their goals using accrual manipulation after the earnings' announcement. Facing a legislation reform, the choice depends on the type of reform and also if they are volunteer or mandatory adopters. For instance, Cohen et al. (2008) show that managers engaged in real activity manipulation after the Sarbanex and

Oxley Act, while a notable increase in accrual manipulation was noted just in the previous period. Ewert and Wagenhofer (2005) found evidence that managers preferred accrual manipulation after the accounting standards were strengthened while Ipino and Parbonetti (2011) show evidence of a preference for real activity over accrual manipulation after the mandatory IFRS adoption. In this last sense, we might be cautions before extracting some conclusions as there is an ongoing debate on the topic. Addressing the external forces, managers incurred in accrual more than real earnings management if the executives are younger than their counterparts (Demers & Wang, 2010), if the accounting flexibility is lower as well as the institutional ownership (Zang, 2012) or depending on the ownership structure. In this last case it is shown that the family firms are more disposed to engage in accrual manipulation than the rest of the firms (Achleitner, Guenter, Kaserer & Siciliano, 2014). On the other hand, around seasoned equity offerings managers are willing to engage more in real activity than accruals to take advantage of the lower risk of detection (Kothari et al., 2016). Finally, the use of real earnings management has been highlighted in the quarter of a debt covenant violation (Bhuiya & Henry, 2013), to reach benchmarks (Bjurman & Weihagen, 2013) or to manipulate earnings downwards by the new CEO's (Geertsema, Lont & Lu, 2014).

Table 1 shows a resume of the consequences detected in the previous literature related to both techniques. Managers faced a trade-off to manipulate through real activity or accrual manipulation. Even the choice is mainly based on the cost that it represents for the company.

[Insert Table 1 here]

Recent studies have focused on the consequences of accrual and real activities manipulation. In this respect, Gunny (2010) explains why companies prefer the use of real activities to accrual manipulation. The former actions are controlled by managers and are related to firms' operations. Thus, they are not within auditors' judgement. They also indicated that if managers engage in accrual manipulation, they prefer to use the accounts that involve items' valuation rather than change accounting policies, which could be more costly and visible (Alexander et al., 2011). Gunny (2010) also found that companies that reached earnings benchmarks through real activity manipulation had a better corporate performance in the subsequent three years to the manipulation than firms that did not engage in real activity manipulation. Nevertheless, there is evidence that shows that firms which engaged in accruals and real activity manipulation to meet earnings' forecast, had a worse corporate performance and also presented an underperformance in the stock market in the subsequent three years to the manipulation, than firms that did not engage in earnings management to beat analysts' forecasts (Bhojraj et al., 2009). However, it is noted that the manipulation of results through real activities manipulation can reduce future valuation of the company (Cohen & Zarowin, 2010) and its profitability and competitiveness in the long-term (Roychowdhury et al., 2015).

This is a key point since it has been shown that managers prefer results related to the short-term. In line with this, Graham et al. (2005) suggest that managers are willing to alter their business plans and sacrifice resources in order to meet previously established objectives, even if it means increasing the risk to reduce future investments. In contrast, Taylor and Xu (2010) provide evidence that, on average, companies try to avoid the manipulation of their operations if it means damaging the future of the company. These results fit in with the investigation of Cheng (2004) which indicates that incentives to

managers prevent real activities manipulation. One of the most important consequences of the use of the earnings management is the loss of information or non-transparency in the information provided (Hanlon & Shevlin, 2005). The argument of these authors is based on the fact that accounting profit as well as tax profit provides information about the company. If both results are equal, the market would lose information since one of the measures is being manipulated to give the same result as the other. The manipulation of results with the aim of tax evasion is directly related to the risk of collapse of the shares' price of the company (Jin & Myers, 2006; Hutton, Marcus & Tehranian, 2009; Kim, Li & Zhang, 2011). The explanation for this behaviour is that manipulating earnings with the aim of tax avoidance is an income-decreasing manipulation. If this is perpetrated for long time, it becomes a bad signal for shareholders resulting in a drop in the stock price, due to lack of investors' confidence.

5. Discussion and main conclusions

In this chapter, I have reviewed previous academic evidence on earnings management with the aim of providing a useful earnings management index for future researchers in this area, while at the same time, identifying potential lines of research. Particularly, I approach the review on the causes that drive managers to manipulate, the consequences originated by the different ways to manipulate, as well as the trade-off that managers face and the implications of being involved in such manipulation. In this way, I have taken into account the consequences for the firm and the stakeholders: managers, accounting institutional setters, shareholders, future investors and broadly, the users of financial statements.

Previous literature focused on the effects of accounting scandals and frauds, especially the reaction of stock markets to different kinds of earnings management, as well as the

dishonest corporate behaviour and firm's corruption. The implications of earnings management affect all the stakeholders that use the information provided by financial statements, and they must trust its reliability when their decision-making is based on accounting information (Zeff, 2007). However, the manipulation of these documents is linked to the quality of information, creating opaqueness in the information and complicating stakeholders' decision making (Epstein & Jermakowicz, 2008; Mackenzie et al., 2012). Moreover, the level of usefulness of financial information is strongly related to the quality of earnings (Ball & Shivakumar, 2005). With regard to this, auditors as well as institutional setters may take into account the existence of these kinds of practices to analyse rigorously the information provided in the annual reports as managers could have altered it in an opportunistic way. Overall, they should be more cautions when some of the incentives described above had just happened or are capable to occur. Likewise, integrity in financial statements is a key point to obtain external resources (Hope, Thomas & Vyas, 2011). Additionally, stakeholders should consider that accrual manipulation and real earnings management could be used simultaneously or as substitutes, given different situations, as previous literature has shown. The consequences also could have implications in corporate governance (Burnett et al., 2012), as boards of directors and investors trust in high auditor quality, they should be aware of the opportunistic behaviour that managers could adopt in order to reach their benchmarks.

Additionally, the consequences at a macroeconomic level should also be considered as there is evidence showing that accruals could be taken in the definition of the corporate taxable income in an opportunistic way by the government (Goncharov & Jacob, 2014).

Finally, I have noted that earnings management remains a controversial topic even it has been widely investigated. Thus, I suggest that detailed research is needed in some of

the new lines that researchers are just addressing. For instance, it is surprising that the link between multinational enterprises and earnings management has received only modest attention. However, some authors have come to show some insights on it (e.g., Dyreng et al., 2012; Fan, 2008; Prencipe, 2012; Bonacchi, Cipollini & Zarowin, 2014; Beuselinck, Cascino, Deloof & Vanstraelen, 2016), and it seems to be one of the new directions for earnings management. In this case, future contributions could be focused on multinational enterprises and some issues not addressed yet, such as bankruptcy or cultural factors. On the other hand, and related to regulation issues, I suggest that it would be attractive for future research to address earnings management around the possible adoption of the CCCTB –common consolidated corporate tax base-, and possible ways to combat it. Finally, in a wider view it seems useful to determine the common characteristics of the companies that usually engage in earnings management, in order to predict future manipulation.

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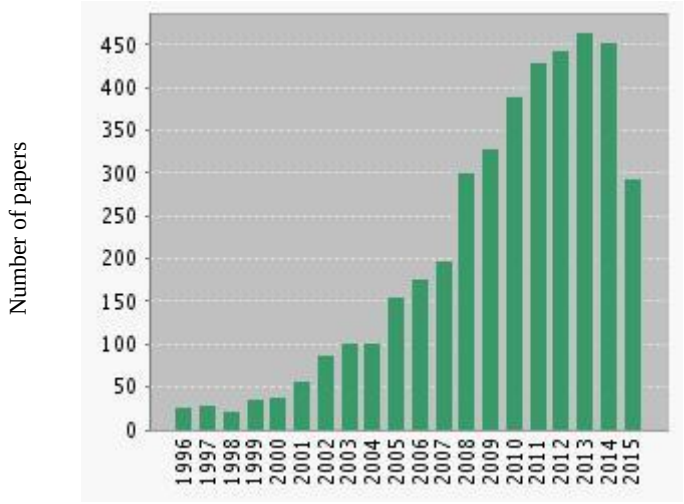
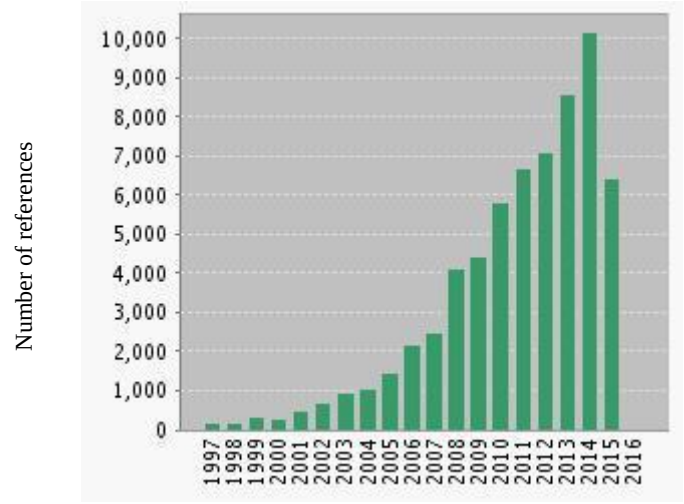
Figure 1. Evolution of the number of articles published on the Web of Science database data each year.



Source: Web of Science Database

Figure 2. Evolution of the number of references in journals of impact each year.



Source: Web of Science Database

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Table 1. Accrual-based vs. real earnings management's consequences

	Accrual-based earnings management	Real earnings management	Authors
Timing	After fiscal year-end	Before fiscal year-end	Zang (2012)
Costs	Low	High	Bhojraj, Hribar, Picconi and McInnis (2009); Chen, Yen and Chang (2009); Cohen and Zarowin, (2010); Kothari et al. (2016)
Detection risk	Moderate/high	Low	Garcia Lara et al. (2005); Kothari et al. (2016).
Affected earnings components	Accruals	Accruals/Cash Flows	Schipper (1989); Cheng (2004); Roychowdhury (2006); Zang, (2012); Cohen et al. (2008); Gunny (2010)
Risk of litigation	High	Low	Heninger, (2001); Garcia Lara et al. (2005)
Constraints	Prior manipulations/GAAP/ auditors & enforcement bodies	Marginal costs/benefits	Burnett et al. (2012); Zang (2012)
Manner to manipulate	Easily Difficultly	Difficultly Easily	Alexander et al. (2011); Garcia Lara et al. (2005); Gunny (2010); Kothari et al. (2016)
Perceptions from managers	Less ethical	More ethical	Graham et al. (2005)

Source: Adapted by the author from several sources.

CHAPTER 2

Against time:
Companies' behaviour around a tax vs. an accounting reform

Abstract

Changes in regulation could be an incentive to manipulate earnings. Using a sample of 4,420 unique private firms and 20,671 firm-year observations, we examine whether companies generate tax savings by shifting profits to a period with a lower tax rate due to the introduction of a staggered tax reform. We show that companies engage in accrual-based earnings management to shift profits in order to generate tax savings. By doing so, companies detract earnings quality provided in financial reports. Similarly, the introduction of an accounting reform which tighter accounting standards leaded firms to engage in more income decreasing earnings management. The peculiarity of the setting allows us to analyse the effect of two reforms at the same time but with different incentives which turns the study into a much more interesting one. Taking together, our findings yield important insights of firms' performance around different changes in legislation in a code-law country.

Key words: Accrual manipulation, trade-off, tax incentives, accounting reform, code-law country.

1. Introduction

This study investigates the impact of legislative changes' on earnings management, comparing companies' behaviours around an accounting and a tax reform.

In a broad sense, financial and tax accounting are dependent on each other. Companies are required to disclose their financial information through annual reports, which include some information about taxes but do not reveal the taxable income figure. Indeed, firms have to provide tax information to the authorities and financial and taxable income may differ from each other for different reasons (Shackelford et al., 2011)[7]. Moreover, managers are willing to manipulate their earnings to report better accounting numbers, thereby they could find some incentives to upward earnings management even if this results in an increased tax burden. It can be the case of companies close to debt covenants violation (Dyreng, 2009), increasing profit-related compensation (Shuto, 2007), avoiding that financial statements are identified as fraudulent (Erickson et al., 2004) or simply showing a better appearance in the annual reports (Dechow et al., 2010; Engel et al., 1999).

Whether tax or accounting incentives have a bigger impact on manipulation and how firms behave in the presence of a trade-off between both is an empirical issue still unaddressed. Studies show that managers manipulate earnings by shifting profits to the periods with lower taxation, with the aim to generate tax savings when there are changes in tax legislation with a negative impact on earnings quality (Blasch and Weichenrieder, 2007; Maydew, 1997; Scholes, et al., 2005; Watrin et al., 2014). However, after a change

[7] In particular Shackelford et al. (2011) pointed out three reasons: 1) differences in the purposes and audience of financial and tax reporting which explain the separate measure of profitability for stakeholders and tax authorities, 2) different objectives of financial and tax accounting, since financial accounting pursue the register of the transactions in an ascertainable way, while most of the tax systems reward to behave in certain manners, and finally 3) there are some incentives to deceive both audiences about ongoing operations.

in accounting standards, an improvement of the annual reports' quality is expected (Doukakis, 2014). Even though, there is an open debate about higher or lower levels of earnings quality after accounting standard changes such as IFRS adoption (e.g. Ball and Shivakumar, 2005; Barth et al., 2008; Burgstahler et al., 2006; Campa and Donnelly, 2016; Capkun et al., 2012; Christensen et al., 2015).

Consequently, it seems appealing to investigate companies' behaviours around a tax reform that provides tax incentives to manipulate earnings (i.e. reducing accounting quality), and an accounting reform, which should affects accounting quality. Thus, our identification strategy rely upon the hypothesis of different behaviours due to changes in incentives. We predict that in the presence of a decrease in corporate tax rates firms will generate tax savings by shifting profits using accrual-based earnings management. Nevertheless, they will incur in less manipulation after the adoption of new accounting standards.

In 2007 Spain implemented a tax reform in a staggered fashion for a group of firms (*SUBJECT_STR*) while it was implemented in one year for other group (*NO_ SUBJECT_STR*). This fact coincides during its last stage with the introduction of an accounting reform for all private firms. Thereby, it provides us with a quasi-natural experiment that help the identification of causal estimates (Leuz & Wysocki, 2016), due to the peculiarity of the setting which introduces two reforms close in time but with contrasting incentives for firms. Thereby, some companies have not tax incentives at the same time than the implementation of the new accounting standards (*NO_ SUBJECT_STR)* while others have it (*SUBJECT_STR*).

Our sample comprises 20,671 year-firm observations of 4,420 unique private companies from 2005 to 2009. As firms' economic fundamentals could drive different

patterns of manipulation we match each firm of *NO_SUBJECT_STR* with *SUBJECT_STR* firms.

To test our hypotheses, we first conduct a matching differences-in-differences analysis which show the different behaviour from the two groups when the accounting reform is implemented. This statement suggest that the adoption of new accounting rules has an impact in the tax incentives generated by the tax reform. To assess the analysis in further detail, we explore the companies' reaction by partitioning the sample (*NO_SUBJECT_STR* and *SUBJECT_STR*) and by focusing on the effect for every group and year.

On one hand, we observe a clear trend of profit shifting by accrual manipulation from the *NO_SUBJECT_STR* group in line with prior studies that show firms manipulating for tax purposes. On the other hand, companies show higher levels of earnings management after the adoption of the new accounting standards. This is consistent with findings from recent studies showing that accounting standards adoption decrease accounting quality in private firms (e.g. Cameran et al., 2014). Over the *SUBJECT_STR* group, we find a completely different trend. Even we find evidence of this group manipulating to generate tax savings, the financial accounting incentives introduced by the new accounting standards had an impact on tax incentives. Our results are in line with our predictions: We show that those firms that do not experiment tax incentives and the adoption of new accounting standards at the same time, engage in accrual-based earnings management to shift profits to generate tax savings. Alternatively, those firms that face the new accounting standards while having tax incentives could not behave in the same way. Hence, we show that reductions in corporate tax rates create incentives to shift profits to a period with a lower tax rate by incurring in accrual-based earnings management.

However, tightening accounting standards alleviate tax incentives to shift profits and generate tax savings, but also decrease accounting quality among private firms.

We conduct a number of additional analyses. First, we analyse whether firms with a negative (positive) EBIT in the year prior to the tax reform adopt a different (similar) behaviour respect to the pattern shown by the main analysis. We observe that firms with a positive EBIT adopt the same performance than the one shown by the main analysis. However, those firms with a negative EBIT before the reform and subject to the staggered adoption do not engage in manipulation, while those firms not subject to the staggered adoption engage in upwards earnings management.

In an attempt to evaluate the sensitivity of our analysis we use discretionary accruals by using the model proposed by Ball and Shivakumar (2006) which is well suited for private firms. We also conduct the analysis by using coarsened exact matching, obtaining similar results.

This research contributes to the extant literature by showing how companies react to the trade-off between tax incentives and the introduction of tightened accounting standards. Prior literature has addressed these two effects separately so far (e.g. Barth et al., 2008; Campa and Donnelly, 2016; Watrin et al., 2014). However, we suggest that addressing both reforms at the same time provide us with a better understanding of firm's behaviour.

This paper is organised as follows: section 2 reviews prior literature focusing on the relation between earnings management around accounting and tax reforms, reports an overview of the Spanish tax reform in 2007, the accounting reform in 2008 and the developed hypothesis. Section 3 explains the research design and details the sample

investigated. Section 4 provides the results and the discussion. Then, section 5 summarizes our findings and offers the main conclusion and implications.

2. Background and hypotheses development

2.1 Earnings management and regulation changes

Changes in accounting standards and tax legislation could be scenarios for earnings manipulation (Watts and Zimmerman, 1978).

Research related to earnings management and changes in regulation is summarised in Table 1. Over the past decades, one of the major issues for international tax literature has been the income-shifting behaviour in response to the US Tax Reform Act of 1986 (TRA 86). This reform introduced a reduction of 12% of the corporate tax rate in the US, being one of the most important events examined in papers related to earnings management and taxes. For instance, the seminal study of Gramlich (1992) highlights managers chose income-decreasing accruals manipulation the year preceding the reform with the idea to minimize their tax expenses. Scholes et al. (1992) show that companies deferred revenues or accelerated tax-deductible expenses in order to create tax savings as also indicated by additional research (Boynton et al., 1992; Lopez et al., 1998; Maydew, 1997; Mo and Yue, 2009; Scholes et al., 1992). Blasch and Weichenrieder (2007) find a positive relation of the propension to change the fiscal year and the amount of the expected tax savings after the German tax reform in 2001. Watrin et al. (2014), using the same German tax reform, assert that tax incentives have an impact on accrual-based earnings management behaviour for private but not for public firms.

In relation to earnings management and accounting reforms, the literature presents contradictory findings (see Table 1). Indeed, there is evidence of lower earnings management (i.e. higher accounting quality) after the introduction of the voluntary

adoption of IFRS (Barth et al., 2008; Christensen et al., 2015; Hung and Subramanyam, 2007) as well as with the mandatory adoption of IFRS (Campa and Donnelly, 2016; Chen et al., 2010; Chua et al., 2012). However, there are also papers that provide evidence that the pervasiveness of earnings management did not decline and even increased after the introduction of IFRS (Campa and Donnelly, 2016; Cameran et al., 2014; Jeanjean and Stolowy, 2008; Van Tendeloo and Vanstraelen, 2005). Christensen et al. (2015) explain that IFRS adoption does not necessarily have to be related to lower levels of earnings management and higher accounting quality, if the preparers have no incentives to be make their reporting more transparent.

2.2 Earnings management and institutional settings

Depending on the country where companies are located, they will be subject to a different legal framework (i.e. code versus common law) which is the base of the country-level investor protection (La-Porta et al., 1998, 1997). The legal framework of a country conditions investors' protection and, consequently, earnings management (Archambault and Archambault, 2003; Arnedo et al., 2007; Enomoto et al., 2015; Leuz et al., 2003; Soderstrom and Sun, 2007). Thus, the factors that create incentives for earnings management may be different within these environments (Burgstahler et al., 2006), and 'some results of Anglo-Saxon studies may not hold in non-Anglo-Saxon countries' (Vander Bauwhede and Willekens, 2000, p.190). Garcia Lara et al. (2005) suggest that companies from code law countries are more willing to smooth earnings than their common law peers. Additionally, Dyreng et al. (2012) find that firms in the US with subsidiaries located in countries with strong rule of law manipulate less than those with subsidiaries in countries where the rule of law is weak. Thus, we point out that the evidence from these studies claim a negative relation between the willingness of

managers to manipulate accruals and the strength of the legal environment, due to the investor protection which mitigate the incentives of managers to manipulate in their own benefit (Li et al., 2011).

2.3 Spanish tax reform of 2007

The Spanish tax reform, announced informally the first half of the 2006 and formally in November of the same year, was introduced by the Act 35/2006 of 28 November and came into force on 1st January 2007. The aim of the reform was the promotion of economic growth while, at the same time, ensuring that enough funds could flow to all public administrations[8].

The tax reform was mainly focused on corporate tax rate reduction for all different types of companies. As a novelty, it introduced a progressive decreasing tax rate that will have been applied depending on the amount of the revenues. The reduction was from 30% to 25% (from 2006 to 2007) for SMEs - those firms with an annual turnover lower than 8,000,000€. However, companies that exceed that amount were subject of a staggered adoption from 35% to 30% being the tax rate in 2007 of 32.5% and 30% in 2008.

2.4 Spanish accounting reform of 2008

The Spanish accounting reform – Spanish GAAP – for individual financial statements was introduced by the Act 16/2007 of 4 of July and came into force on 1st January 2008, being mandatory for individual companies and unlisted consolidated groups. The European accounting harmonization was one of the principal motivations for the reform. Additionally, as the IFRS adoption was mandatory only for the elaboration of listed groups' consolidated financial statements since 2005, there was a high risk to find

[8] Data from the OECD reveals the importance of this tax reform, having been relevant to the increase of corporate tax revenues from 2006 to 2007 and the decline of them from 2007 onwards.

divergences between the financial statements elaborated under different regulations. Thus, the Spanish standard setter accelerated the procedure to coordinate Spanish GAAP with IFRS.

The most relevant changes included in the Spanish accounting reform are related to a new conceptual framework according to the IFRS, the use of the fair value required for the initial valuation of transactions, final valuation of assets and liabilities and to calculate the recoverable amount on impairment. It also modified related party disclosure and introduced five new types of business portfolio where the procedure to calculate the impairment losses were different from each other (see Gonzalo Angulo, 2014 for more details).

2.5 Hypotheses development

According to the literature review, there are incentives for earnings manipulation around the announcement of regulation reforms. Since book income is the base to calculate taxable income, which is the basis of tax liabilities, it should be as low as possible to play down tax costs when tax accounting incentives are strong (Guenther et al., 1997; Scholes et al., 1992; Watrin et al., 2014). In this sense, Burgstahler et al. (2006) find that a higher tax rate[9] will enhance the incentive to conceal benefits in financial reporting. Notably, prior findings show that a reduction in the tax rate boosts shifting profits to the period with a lower tax rate (Maydew, 1997; Scholes et al., 1992). Therefore, we suggest that the tax reform in 2007 entices managers to engage in earnings manipulation in order to generate tax savings. It means that managers might engage in income-decreasing earnings management when they knew the reform was to be

[9] Data from OECD reveals that the corporate tax rate in Spain before the tax reform was 6.8 percentage points above the European average.

implemented, reversing such an income-increasing earnings management in future periods. Thus, we propose the following hypothesis:

H1. After the announcement of a reduction in corporate tax rates, firms engaged in income-decreasing accrual manipulation in the period pre-reform and in income-increasing accrual manipulation in the period post-reform to generate tax savings.

On the other hand, we assume that the Spanish accounting reform has no effect on firms' cash incentives to generate savings. Furthermore, the new rules might be very successful to improve financial reporting behaviour since they were modified accordingly to national institutional characteristics, conversely to principles-based standards (IFRS) (Jeanjean and Stolowy, 2008). Additionally and in line with prior evidence, we support the approach related to new accounting standards that is linked with higher levels of earnings quality, which means less accrual-based earnings management (Chen et al., 2010; Christensen et al., 2015; Chua et al., 2012). Thus, our second hypothesis can be explained as follows:

H2. After the announcement of a mandatory adoption of new accounting standards, companies show an improvement in earnings quality which is related to a decrease in accrual manipulation.

3. Research Design

3.1. Accrual-Based earnings management

In our study we measure accrual earnings management using discretionary accruals consistent with influential studies which estimate abnormal accruals as proxy for earnings management (e.g. Dechow and Dichev, 2002; Kothari et al., 2005). This is often associated with the degree of managerial judgement to achieve specific goals (Healy and Whalen, 1999).

We use the cross-sectional modified Jones model (Dechow et al., 1995) to estimate discretionary accruals, since it is the most widely measure used in accounting research as it estimates them more precisely than other methodologies (e.g. Chi et al., 2014; Cohen et al., 2008; Zang, 2012) and eliminates the presumed tendency of error in the measurement due to discretion of revenue recognition (Bartov et al., 2001) from the Jones (1991) model.

We compute total accruals as follows:

$$TA_{it} = (\Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STD_{it}) / A_{it-1}$$

Where:

TA_{it} = Total accruals.

ΔCA_{it} = Change in current assets.

ΔCL_{it} = Change in current liabilities.

$\Delta CASH_{it}$ = Change in cash and equivalents.

ΔSTD_{it} = Change in short-term debts.

A_{it-1} = Lagged total assets.

The modified Jones model tries to capture the effects of change in a firm's economic environment on discretionary accruals (Dechow et al., 1995) and related firm total accruals to a vector of control variable for each NACE[10]-year as follows:

$$TA_{it} / A_{it-1} = \beta_1 (1/A_{it-1}) + \beta_2 (\Delta REV_{it} /A_{it-1}) + \beta_3 (PPE_{it} /A_{it-1}) + e_{it} \quad (1)$$

Where:

TA_{it} = Total accruals.

A_{it-1}= Lagged total assets.

ΔREV_{it} = Change in current revenues.

PPE_{it} = Net property, plant and equipment.

We estimate the normal accruals (NA_{it}) using the coefficients calculated in Equation (1):

$$NA_{it} = \widehat{\beta_1} (1/A_{it-1}) + \widehat{\beta_2} ((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \widehat{\beta_3} (PPE_{it} /A_{it-1}) \quad (2)$$

Where:

NA_{it} = Normal accruals.

ΔREC_{it} = the change in accounts receivables from the prior year.

The measure of discretionary accruals is the difference between total accruals and normal accruals as follows:

$$DA_{it} = (TA_{it} /A_{it-1}) - NA_{it}$$

Where:

DA_{it} = Discretionary accruals.

[10] Statistical classification of economics activities on the European Community.

3.2 Model specification: Difference-in-difference estimator

We examine whether firms incurred in earnings management to generate tax savings by shifting profits to a period with a lower tax rate due to the introduction of a tax reform in 2007. The staggered adoption of the tax reform helps our identification of causal estimates (Leuz & Wysocki, 2016). Since some firms have tax incentives only for one year while others have two years to shift the profits to a period with a lower tax rate, it provides us with an extensive set of counterfactuals to employ a differences-in-differences design similarly than Barrios (2014) and Illiev (2010). Furthermore, in 2008 the introduction of the accounting reform is effective for all private firms. Therefore, we can compare the effect of the accounting reform for firms that still had tax incentives with those that had not.

The staggered adoption of the tax reform for some firms provides us with firms subject to the tax reduction in one year and firms subject to the staggered tax reform. Since the group subject to the staggered reform is the largest one and with a larger variance within the group, we set it as a *SUBJECT_STR* group, while the group of firms subject to the reform in one year is our *NO_SUBJECT_STR* group. However, since the decision of being in a group rather than in the other depends on the revenues, firms can behave differently due to their disparate firm's characteristics. To alleviate this concern and to fulfil the parallel trend assumption required by diff-in-diff specification, we use propensity score matching – PSM 1:N - to create a control group *(SUBJECT_STR)* from those firms subject to the staggered adoption. We match using leverage, change in liabilities and if the company was audited by a big 4[11] .

[11] We also used Coarsened Exact Matching as a robustness test including additional variables for the matching.

We first test firms' behaviour the year in which some companies have tax incentives while the other group has not using the following equation[12]:

$$DA_{it} = \alpha + \beta_1 Y\_BEFORETAXREFORM + \beta_2 1\_YTAXREFORM + \beta_3 2\_ YTAXREFORM +$$

$$+ \beta_4 NO\_SUBJECT\_STR_{it} + \beta_5 NO\_SUBJECT\_STR_{it} *2\_ YTAXREFORM +$$

$$+ \beta_4 GROWTH_{it} + \beta_5 LISSUE_{it} + \beta_6 EISSUE_{it} + \beta_7 CFO_{it} + \beta_8 SIZE_{it} +$$

$$+ \beta_9 LEVERAGE_{it} + \beta_{10} LOSSES_{it} + \beta_{10} BIG4 + \beta_{11} TREND + Firm\ fixed\ effects + \varepsilon_{it} \quad (5)$$

Where:

DA = Row value of abnormal discretionary accruals for firm i in time t using the modified Jones model.

Y_BEFORETAXREFORM = Dummy variable equal to 1 for the year before the reform is implemented and 0 otherwise.

1_YTAXREFORM = Dummy variable equal to 1 for the first year in which the tax reform applies and 0 otherwise.

2_YTAXREFORM = Dummy variable equal to 1 for the years after the reform and 0 otherwise.

$GROWTH_{it}$ = Annual change in net sales.

$LISSUE_{it}$ = Annual change in liabilities.

$EISSUE_{it}$ = Annual change in shareholder equity.

CFO_{it} = Cash flow from operations divided by total assets.

[12] All continuous variables have been winsorized at 5% level.

LOSSES = Dummy variable, equal to 1 if the firm had a negative EBIT and 0 otherwise.

LEV_{it} = Total liabilities over total equity.

$SIZE_{it}$ = Natural logarithm of total assets.

BIG4 = Dummy variable equal to 1 if the firm was audited by a Big 4 and 0 otherwise.

TREND = Variable that captures any trends in the dependent variable over the given period of time.

The specification also control for firm fixed effects. Since all firms not have the same fiscal-year end, the tax reform is released at different times. We take into consideration this issue to create the binary variables explained above. Therefore, for companies with a fiscal-year end at 31st December *Y_BEFORETAXREFORM* is set to 1 in 2006 and 2007 otherwise. For companies with a fiscal-year end at 31st December *1_YTAXREFORM* is set to 1 in 2007 and 2008 otherwise. For companies with a fiscal-year end at 31st December *2_YTAXREFORM* is set to 1 starting from 2008 and starting from 2009 otherwise. *NO_SUBJECT_STR* is a dummy variable equal to 1 for those companies with revenues lower than 8,000,000-subject to the corporate tax reduction in one year-.

Additional variables included in the model control for other company's characteristics that could impact the level of discretionary accruals. Prior studies have found that managers could engage in upward earnings management to report a sustainable growth (*GROWTH*) appearance (Summers and Sweeney, 1998). *LISSUE*

and *EISSUE* control for debt and equity issuance being. *CFO* and *LOSSES* control for the extreme performance which could have an effect on earnings management (e.g. Kothari et al., 2005; McNichols, 2002) while *LEV* control debt-contracting incentives for manipulation (Francis and Wang, 2008). *SIZE* is included to control for the effect of firm dimension on earnings management (Watts and Zimmerman, 1978).

[Insert Table 2 here]

To test our hypotheses, we look at the sign and the significance of β_5 from equation (5). We propose that both groups of firms engage in downwards earnings management before the reform. However, since the *NO_SUBJECT_STR* group has only one year to shift profits, we expect a reversal of the accruals for this group the first year of the tax reform. Conversely, we expect that the *SUBJECT_STR* sample engage in downwards earnings management the first year of the tax reform and upwards earnings management over the second year. Nevertheless, our prediction for the *SUBJECT_STR* group in the second year could be affected by the accounting reform turned to downwards earnings management. If our hypotheses are fulfilled, we expect a negative and significant coefficient β_5. This would show that the *NO_SUBJECT_STR* group engaged in more income-decreasing accrual manipulation than the control group after the reform implementation given that the *SUBJECT_STR* group would reverse accruals from the prior years.

To show the clear pattern for both groups, we conduct the analysis by partitioning the sample using the following equation:

$$DA_{it} = \alpha + \beta_1\ 2006 + \beta_2\ 2007 + \beta_3\ 2008 + \beta_4\ NO\_SUBJECT\_STR_{it} + \beta_5\ GROWTH_{it} + \beta_6\ LISSUE_{it} + \beta_7\ EISSUE_{it} + \beta_8\ CFO_{it} + \beta_9\ SIZE_{it} + \beta_{10}\ LEVERAGE_{it} + \beta_{11}\ LOSSES_{it} + \beta_{12}\ BIG4 + \beta_{13}\ TREND + Firm\ fixed\ effects + \varepsilon_{it} \quad (6)$$

Where:

2006 = Dummy variable, equal to 1 for year 2006 and 0 otherwise.

2007 = Dummy variable, equal to 1 for year 2007 and 0 otherwise.

2008 = Dummy variable, equal to 1 for year 2008 and 0 otherwise.

3.3 Sample

Using SABI database, the sample is composed of unlisted non-financial companies operating in Spain. We only focused on non-listed companies since the accounting reform had no impact on listed companies which had adopted new IFRS Standards in 2005. We also exclude financial companies due to their special characteristics and regulations. We restrict the sample to "very large" and "large"[13], because they presented audited financial statements[14]. We selected only audited and non-consolidated data since the former requirement ensures the reliability and integrity of the data while the latter relates to the only financial statements with implications in terms of taxation. The period chosen is from 2005-2009. Starting from the population of firms and excluding the entities that did not have all the data necessary for our analyses, the final sample consists of 4,420 unique firms and 20,671 firm-year observations[15]. By considering the partition set by the tax

[13] The definition of 'large' and 'very large' companies follows the criteria set by SABI database. More specifically, 'very large companies' are those that match at least one of the following conditions: 1) Operating Revenue >= 100 million EUR (130 million USD); Total assets >= 200 million EUR (260 million USD); Employees >= 1,000. 'Large companies' are those that when they match at least one of the following conditions: Operating Revenue >= 10 million EUR (13 million USD); Total assets >= 20 million EUR (26 million USD); Employees >= 150.

[14] Following Spanish Law on Corporations, companies that reach at least two of the following aspects over two consecutive financial years are required to be audited: Total assets > 2,800,000 €; Annual turnover > 5,700,000 €; Employees>50 .

[15] The total observation is not companies multiplied by 5 years due to fact that the data for the full time series were not available for all companies.

reform, 25% of our sample are firms with revenues lower than 8,000,000€ (*NO_SUBJECT_STR*) while 75% are companies with revenues higher than 8,000,000€ (*SUBJECT_STR*).

An important issue to consider is that firms' economic fundamentals (e.g. leverage) could drive different patterns of manipulation. Hence, we match each *NO_SUBJECT_STR* observation with N observations from *SUBJECT_STR* based on the propensity of undergoing the treatment. In our particular case is the likelihood of applying the reform in one year. We use a logit model to estimate the propensity score by using Leverage (*LEV*), changes in liabilities (*LISSUE*) and if the firm was audited by a Big4 (*BIG4*) which also control by size. We match without replacement and with a maximum distance of 3 percent. This model provide us with two similar samples regardless the level of revenues, to parse out the firms' manipulation behaviour around both reforms at a different time.

Table 3 shows mean tests for the full sample and the matched sample before the adoption of the tax reform.

[Insert Table 3 here]

4. Empirical findings

4.1 Univariate analyses

Table 4 reports descriptive statistics relating to the variables used in our study.

[Insert Table 4 here]

The mean abnormal discretionary accruals are around 0.5% of firm total assets. Firms included in the sample present a high level of debt while the mean of *CFO* and *GROWTH* is positive which suggests that, on average, the sample shall comprise profitable firms. On average, 38.9% of the sample was audited by a big 4 and only 1.7% presents a negative EBIT.

Table 5 presents the correlation matrix related to all the variables.

[Insert Table 5 here]

4.2 Accrual-based earnings management to generate tax savings

We begin our analysis by investigating the difference between the two groups of companies which have different incentives at the implementation of new accounting standards date. Table 6 reports the results from equation (5).

[Insert Table 6 here]

The model is robust in all the cases (p-value = 0.00). Column I looks at the full sample while column II analyses the matched sample. Our findings do not change if we consider the full rather than the matched sample. The coefficient for the year pre-reform *Y_BEFORETAXREFORM* is negative and significant as predicted (Full sample β_1 = -0.184; p-value = 0.000; Matched sample β_1 = -0.284; p-value = 0.000), which indicates a general trend of downward accrual manipulation before the tax reform consistent with the

idea of income-decreasing strategy from both groups. The coefficient β_4 (*NO_SUBJECT_STR*) captures any difference between the *NO_SUBJECT_STR* and the *SUBJECT_STR* group. β_4 is significant for the full sample (Full sample β_4 = 0.051; p-value = 0.000) while is not significant for the matched sample which reinforce the validity of the matching process (Matched sample β_4 = 0.027; p-value = 0.719). The coefficient *2_YTAXREFORM* NO_SUBJECT_STR* is negative and significant for both cases at the 5% level. It indicates that firms without tax incentives over the first year of the tax reform implementation (*NO_SUBJECT_STR*) engage in more downwards accrual manipulation than those firms which still had tax incentives, supporting our predictions as *SUBJECT_STR* had incentives to engage in upwards accrual manipulation. This points out that the accounting reform has an impact on those firms that tax incentives at the same time.

To show a clearer picture, we conduct the analysis by partitioning the sample (*NO_SUBJECT_STR* and *SUBJECT_STR*). Since in table 6 we could not appreciate the trend across time, table 7 attempts to shed further light to the previous results for both sub-samples by focusing in the effect for every year. For this analysis we exploit that 95% of our sample have an end-year at 31st December, hence we can use the year 2006, 2007 and 2008 in order to simplify the interpretation.

[Insert Table 7 here]

We rely on the results provided by the matched sample since they are more accurate. We start by exploring the effect of the tax reform on the *NO_SUBJECT_STR* group. The coefficient for 2006 is negative and significant showing that firms incurred in downwards

accrual manipulation to reverse the accruals in 2007 where we find a positive and significant coefficient as expected. This evidence further confirm that the *NO_SUBJECT_STR* group incurred in accrual manipulation to shift their profits to a period with a lower tax rate in order to generate tax savings. The coefficient for 2008 shows a negative and significant relation with accrual manipulation, which indicates that companies engage in more income-decreasing in 2008 in contrast with our second hypothesis, due to the introduction of the accounting reform[16].

Evidence for the *SUBJECT_STR* group shows downward earnings in 2006 which is in line with our prediction. However, the coefficient for 2007 is not significant. Hence, we do not observe any significant effect at the 10% level in 2007 –even the coefficient is positive- but a negative effect in 2008 contrary to our prediction of reverse accruals from the prior years. Thus, we suggest that *SUBJECT_STR* behaved in a similar way during the first stage of the tax reform probably due to the concern of being discovered during 2007. However, untabled results show higher levels of accrual-based earnings management due to more income-decreasing –although results show that companies also engaged in income-increasing earnings management-. This is in contrast with our H2 indicating higher levels of accrual manipulation by the *SUBJECT_STR* companies by incurring in more income-decreasing even they still had to reverse accruals from the pre-period.

Even both group of companies exhibit higher levels of accrual-based earnings management in 2008, the coefficient for *SUBJECT_STR* is substantially higher. This

[16] Untabled results show higher levels of accrual-based earnings management after the accounting standard adoption due to more income decreasing.

points out the importance of the introduction of new accounting standards at the same time than having tax incentives. Nevertheless, we also show the limited effectiveness new accounting standards for private firms in a code-law country.

Table 8 shows the test in coefficients from table 7

[Insert Table 8 here]

To sum up, our results show that companies engage in accrual-based earnings management to shift profits in order to generate tax savings. By doing so, they detract the earnings quality provided in financial reports. Surprisingly, in this particular setting the book-tax conformity requirements was reduced to minimize the impact of tax accounting on financial statements (Dicken, 2000). Nevertheless, tighter accounting standards lead to firms to engage in more earnings management while not having tax incentives. The increase in accrual manipulation after the accounting reform points out that stricter accounting standards deteriorate information quality among private firms.

4.3 Beyond tax savings

We examine differences in companies' performance depending on whether the firm held a negative EBIT the year before the reform was implemented. Table 9 shows the results testing the model by partitioning the sample between companies with negative EBIT (Loss) and companies with positive EBIT (No Loss) before the reform.

[Insert Table 9 here]

Companies with a positive EBIT before the tax reform was carried out exhibit the same trend than the one showed in table 8. However, if the firm held a negative EBIT before the reform

4.4 Robustness test

To ensure the reliability of our findings, we carried out some additional tests using two alternatives accruals models that are often used in the earnings management literature. We use the model proposed by Ball and Shivakumar (2006), which it is non-linear and well suited for private firms. It recognizes the differential timeliness of gain and loss recognition by including the level of firm's cash flows in the estimation of non-discretionary accruals as follows:

$$TA_{it} / A_{it-1} = \beta_0 + \beta_1 (\Delta REV_{it} / A_{it-1}) + \beta_2 (PPE_{it} / A_{it-1}) + \beta_3 (CFO_{it} / A_{it-1}) + \beta_3 (CFO_{it} / A_{it-1}) + \beta_4 (DCFO_{it} / A_{it-1}) + \beta_5 ((CFO_{it} * DCFO_{it}) / A_{it-1})) + e_{it} \quad (1)$$

Where:

TA_{it} = Total accruals.

A_{it-1}= Lagged total assets.

ΔREV_{it} = Change in current revenues.

PPE_{it} = Net property, plant and equipment.

CFO_{it} = Cash from operations.

$DCFO_{it}$ = Dummy variable equal to 1 if cash from operations is negative and 0 otherwise.

Untabled results provide evidence in favour of the previous findings. Furthermore to increase the power of our tests we replicate our results by using Coarsened Exact Matching –CEM-. We matched by change in liabilities, leverage, ROA, big4 and exact year and industry, obtaining similar results.

5. Conclusions

This research aims to provide evidence of whether firms behave differently when they have tax and accounting incentives at the same time rather than having only tax incentives. Most of previous studies focuses on companies' behaviour around changes in regulation which introduce tax or financial accounting incentives isolated. However, the trade-off between incentives introduced by different changes in regulation has remain unaddressed so far. Spain provides us with a particular setting to address this issue. We exploit the introduction of an accounting and a tax reform close in time but with opposite incentives. Thus, while the tax reform introduces tax incentives to engage in profit shifting, the accounting reform may affect accounting quality. We predict that companies will engage in profit shifting to generate tax savings while incurring in less manipulation when the accounting reform is adopted. The staggered adoption of the tax reform allows us to test our predictions by using a group of companies *NO_SUBJECT_STR (SUBJECT_STR)* that face tax and financial accounting incentives separately (simultaneously).

The analysis thus highlights that firms engage in profit shifting by using accrual-based earnings management when they experiment only tax incentives and incur in more accrual-based earnings management while facing the introduction of new accounting standards. However, when companies face tax and financial accounting incentives at the

same time, we found that companies are concern about tightening accounting standards and therefore they did not undertake profit shifting by using accrual-based earnings management. Our results are supported by findings from prior research which suggest that accrual manipulation are more likely to draw auditors' attention after changes in legislation (Cohen et al., 2008). Moreover, if companies present positive earnings before the implementation of the tax reform they follow the pattern showed by the main analysis. However, those companies subject to the staggered tax reform which present losses before the reform do not incur in manipulation. This is in line with our previous findings showing the firms alleviated behaviour by facing both incentives at the same time. Nevertheless, those firms with losses before the reform which experimented tax and financial accounting incentives isolated manipulate earnings upwards through accruals.

The main implication for auditors, analysts and institutional setters is that the information presented in the financial statements should be analysed carefully because managers could alter it in an opportunistic way, before and after legislative reforms. Furthermore, according to prior research that proposes tax systems as a financial reporting incentive (Soderstrom and Sun, 2007), we find that changes in tax legislation in a code-law country are a clear inducement for managers to engage in manipulation. Together, our findings would be also matter of interest for countries that have either mandated or are in the process of mandating the adoption of new regulation with different incentives simultaneously.

All studies are subject to caveats and ours is not an exception. First, with the aim to provide a better understanding of the use of additional cash generated from the tax reform, we suggest to look at the real generation cash and investment derived by profit-shifting. Second, we cannot analyse the real effects of the tax reform (i.e. improvement in

profitability and growth) given that the financial crisis in Spain started from 2009. Finally, it could be interesting cross-country future research in order to consider differences on incentives for manipulation derived from trade-offs in changes in regulation across varying institutional settings.

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List of tables

Table 1: Studies related to EM and changes in tax and accounting reforms

Paper	Country	Tax reform	EM tool	Results
(Gramlich, 1992)	USA	TRA 86	Accruals	Income-decreasing accrual behaviour in the initial year of the tax reform.
(Boynton et al., 1992)	USA	TRA 86	Discretionary accruals	Firms without net operating losses and foreign tax credits managed their earnings by unusual income decreasing discretionary accruals.
(Scholes et al., 1992)	USA	TRA 86	Real activities (sales, RD expenses, depreciation, ad expenses)	Firms defer sales and accelerate tax-deductible expenses in anticipation of tax rate declines.
(Guenther et al., 1997)	USA	TRA 86	Current accruals	Current accruals are lower for large firms in the year immediately before the tax rate reduction.
(Maydew, 1997)	USA	TRA 86	Current accruals	Firms generating net operating losses in the years immediately following TRA 86 delayed income recognition or accelerated deduction recognition to increase their losses.
(Lopez et al., 1998)	USA	TRA 86	Current accruals	Tax-aggressive firms will make greater negative discretionary accrual shifts in the year prior to the tax rate reduction than other firms and it is a function of the rate change faced by the firm.
(Blasch and Weichenrieder, 2007)	Germany	German 2001 tax reform	Current accruals	German companies changed their fiscal year-end in 2000 in order to gain from the German 2001 tax reform.
(Mo and Yue, 2009)	China	Chinese tax law reform 2002	Current accruals	Unusual income-decreasing discretionary accruals in the higher tax rate period to save taxes but more unusual for private companies than for state-owned enterprises.
(Watrin et al, 2014)	Germany	German 2001 tax reform	Current accruals	Tax incentives have an impact on accrual manipulation for private but not for public firms.
(Zeng, 2014)	China	Chinese 2007 corporate tax reform	Accrual and real activity manipulation	Decreases income in the fourth quarter of 2007 and increase income in the first quarter of 2008. Ownership and ownership concentration matters.

Paper	Country	Accounting reform	EM tool	Results
(Ewert and Wagenhofer, 2005)	Netherlands	Asumptions.	Accrual and real activity manipulation	Tighter Standards can increase rather than decrease earnings management.
(Van Tendeloo and Vanstraelen, 2005)	Germany	IFRS 2005	Accrual manipulation	Voluntary IFRS adopters in Germany cannot be associated with lower earnings management.
(Hung and Subramanyam, 2007)	Germany	Voluntary adoption of IFRS	Proxies based on accounting figures which do not follow the approach of accrual or real activity manipulation	They find that total assets and book value of equity, as well as variability of book value and net income, are significantly higher under IAS than HGB. Additionally, they find that book value (net income) plays a greater (lesser) valuation role under IAS than under HGB. Finally, they find that while the IAS adjustments to book value are generally value relevant, the adjustments to income are generally value irrelevant.
(Barth et al., 2008)	Sample: 21 countries	IAS	Accrual manipulation Earnings smoothing.Earnings management toward a target	Adopters of IAS generally are associated with less earnings management toward a target, less earnings smoothing, more timing recognition of losses and a higher association of accounting amounts with share prices and returns,. Thus higher accounting quality.
(Cohen et al., 2008)	USA	Sarbanes-Oxley Act	Accrual and real activity manipulation	Real activity manipulation decrease in the period pre-SOX and increase in the period post-SOX while accrual manipulation had an important increase in the period pre-SOX.
(Jeanjean and Stolowy, 2008)	Australia, France and UK	IFRS	Distribution of earnings	Pervasiveness of earnings management did not decline after IFRS adoption and even increase in France. Findings suggest that management incentives and national institutional factors play an important role in framing financial reporting characteristics, probably more important than accounting standards alone.
(Chen et al., 2010)	15 EU Countries	IFRS 2005	Accrual manipulation and earnings smoothing	They found less earnings management toward a target, a lower magnitude of absolute discretionary accruals, and higher accruals quality after IFRS adoption. On the other hand they also found more earnings smoothing and recognize large losses in a less timely manner in post-IFRS periods. They support the approach that IFRS improve the quality of information.
(Capkun et al., 2012)	EU countries	IFRS	Earnings smoothing	They found an increase in earnings smoothing from pre-2005 to post-2005 for Early Voluntary Adopters and Late Adopters in countries that allowed early IAS/IFRS adoption, and also for Mandatory Adopters in countries that did not allow early IFRS adoption.
(Ipino and Parbonetti, 2016)	37 Countries	IFRS	Accrual and real activity manipulation	Findings suggest a decrease in accrual manipulation after the IFRS adoption and an increase related to real activity manipulation.
(Chua et al., 2012)	Australia	IFRS	Earnings smoothing	Evidence suggests that financial firms are engaged in managing earnings toward a small positive target after the mandatory adoption of IFRS in Australia.
(Cameran et al., 2014)	Italy	IFRS	Accruals	Their results show that IFRS adoption did not improve reporting quality among private companies but, on the contrary, decreased it.
(Doukakis, 2014)	22 EU countries	IFRS	Accrual and real activity manipulation	The results suggest that mandatory IFRS adoption had no significant impact on either real or accrual based earnings management practices.
(Christensen et al., 2015)	Germany	IFRS	Earnings smoothing	They found a decrease in earnings management after IFRS adoption.
(Campa and Donnelly, 2016)	U.K. and Italy	IFRS	Accruals and earnings smoothing	Their results show that in a code-law country IFRS adoption not improve earnings quality when it is already at an adequate level.
(Ferentinou and Anagnostopoulou, 2016).	Greece	IFRS	Accrual and real activity manipulation	Their findings suggest that companies prefer engage in real activity rather than accrual manipulation after the IFRS adoption.

Table 2. Tax rates and expected behaviour across groups

Panel A: tax rates by groups across years			
Tax rate / Tax incentives	**2006**	**First year tax reform**	**Second year tax reform**
(NO_ SUBJECT_STR companies (Revenues<8,000,000)	30% Tax incentives	25% No tax incentives	25% No tax incentives
SUBJECT_STR companies (Revenues>8,000,000)	35% Tax incentives	32.5% Tax incentives	30% No tax incentives
Panel B: tax rates by groups across years			
Earnings manipulation (Accruals manipulation)	**2006**	**First year tax reform**	**Second year tax reform**
(NO_ SUBJECT_STR companies (Revenues<8,000,000)	Profit shifting by accrual manipulation		?
SUBJECT_STR companies (Revenues>8,000,000)	Profit shifting by AM		

Table 3. Test mean differences

	Variable used in PSM	Full Sample (before reform)			Matched sample (before reform)		
		NO_SUBJECT STR	SUBJECT STR	Diff.	NO_SUBJECT STR	SUBJECT STR	Diff.
DA	Yes	0.216	0.165	-0.051*	0.216	0.191	-0.025
GROWTH	No	0.189	0.161	-0.028	0.189	0.169	-0.020
EISSUE	No	0.141	0.148	0.007	0.141	0.181	0.040
LISSUE	Yes	0.170	0.130	-0.040*	0.170	0.180	0.010
CFO	No	0.070	0.081	0.010**	0.070	0.081	0.011*
SIZE	No	9.252	10.125	0.873***	9.355	10.023	0.668***
LEV	Yes	3.853	3.459	-0.394	3.853	4.148	0.295
LOSSES	No	0.251	0.149	-0.103***	0.239	0.101	-0.138***
ROA	No	0.031	0044	0.013***	0.031	0.044	0.012**
BIG4	Yes	0.290	0.410	0.120***	0.025	0.315	0.025

DA is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *NO_SUBJECT_STR* is a dummy variable equal to 1 for those companies with revenues lower than 8.000.000-subject to the corporate tax reduction in one year-. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. CFO is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total equity. *LOSSES is a dummy variable, equal to 1 if the firm had a negative EBIT and 0 otherwise.BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *TREND is a variable which captures any trends in the dependent variable over the given period of time.* *A coefficient is statistically significant at the 10% level or better, two-tailed. **A coefficient is statistically significant at the 5%

Table 4. Descriptive Statistics

	N	Mean	Median	Std. Dev.
DA	20,671	0.051	0.041	0.297
NO_SUBJECT_STR	20,671	0.245	0	0.431
GROWTH	20,671	0.059	0.047	0.292
EISSUE	20,671	0.090	0.070	0.310
LISSUE	20,671	0.061	0.026	0.280
CFO	20,671	0.071	0.059	0.066
SIZE	20,671	10.10	9.998	1.163
LEV	20,671	3.134	1.75	3.775
LOSSES	20,671	0.017	0	0.371
BIG4	20,671	0.389	0	0.488

DA is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *NO_SUBJECT_STR* is a dummy variable equal to 1 for those companies with revenues lower than 8.000.000-subject to the corporate tax reduction in one year-. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. CFO is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total equity. *LOSSES is* a dummy variable, equal to 1 if the firm had a negative EBIT and 0 otherwise.*BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *TREND* is a variable which captures any trends in the dependent variable over the given period of time. *A coefficient is statistically significant at the 10% level or better, two-tailed. **A coefficient is statistically significant at the 5% level or better, two-tailed. ***A coefficient is statistically significant at the 1% level or better, two-tailed

Table 5. Pearson correlation matrix

	DA	Y_BEFORETAXREFORM	1_YTAXREFORM	2_ YTAXREFORM	NO_SUBJECT _STR	GROWTH	EISSUE	LISSUE	CFO	SIZE	LEV	LOSSES	BIG4
DA	1.000												
Y_BEFORETAXREFORM	0.043***	1.000											
1_YTAXREFORM	0.179***	-0.103***	1.000										
2_ YTAXREFORM	-0.292***	-0.103***	-0.103***	1.000									
NO_SUBJECT_STR	0.005***	-0.411***	-0.411***	0.251***	1.000								
GROWTH	0.130***	0.124***	0.082***	-0.024***	-0.208***	1.000							
EISSUE	0.085***	0.064***	0.063***	0.019***	0.131***	0.202***	1.000						
LISSUE	-0.048***	0.113***	0.033***	-0.049***	-0.169***	0.291***	0.056***	1.000					
CFO	0.124***	0.086***	0.080***	0.015***	-0.183***	0.184***	0.337***	0.005	1.000				
SIZE	0.141***	-0.003	0.017***	0.021***	0.011**	-0.026***	-0.029***	0.006	-0.114***	1.000			
LEV	-0.033***	0.014***	0.010*	-0.003	-0.018***	0.069***	-0.131***	0.107***	-0.232***	0.039***	1.000		
LOSSES	0.071***	0.066***	0.080***	0.015***	-0.149***	0.185***	0.368***	0.030***	0.864***	-0.093***	-0.232***	1.000	
BIG4	0.022***	0.007	0.004	0.002	0.022***	-0.001	-0.006***	0.006	0.032***	0.340***	0.028***	0.010	1.000

DA is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *NO_SUBJECT_STR* is a dummy variable equal to 1 for those companies with revenues lower than 8.000.000-subject to the corporate tax reduction in one year-. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. CFO is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total equity. *LOSSES is* a dummy variable, equal to 1 if the firm had a negative EBIT and 0 otherwise.*BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *TREND* is a variable which captures any trends in the dependent variable over the given period of time. *A coefficient is statistically significant at the 10% level or better, two-tailed. **A coefficient is statistically significant at the 5% level or better, two-tailed. ***A coefficient is statistically significant at the 1% level or better, two-tailed

Table 6. Baseline model.

		(I)	(II)
DA	Expected sign	Full sample	Matched sample PSM
Y_BEFORETAXREFORM	-	-0.184***	-0.284***
		(0.012)	(0.035)
1_YTAXREFORM	?	-0.155***	-0.289***
		(0.019)	(0.057)
2_YTAXREFORM	?	-0.481***	-0.695***
		(0.032)	(0.102)
NO_SUBJECT_STR		0.074***	0.016
		(0.021)	(0.044)
*2_YTAXREFORM * NO_SUBJECT_STR*	-	-0.184***	-0.075**
		(0.012)	(0.038)
GROWTH		-0.155***	0.022
		(0.019)	(0.017)
LISSUE		-0.481***	-0.135***
		(0.032)	(0.035)
EISSUE		0.074***	-0.003
		(0.021)	(0.027)
CFO		-0.184***	0.486**
		(0.012)	(0.225)
SIZE		-0.155***	0.082*
		(0.019)	(0.044)
LEV		-0.481***	0.002
		(0.032)	(0.002)
LOSSES		0.074***	0.006
		(0.021)	(0.028)
BIG4		-0.184***	0.025
		(0.012)	(0.061)
TREND		-0.155***	0.118***
		(0.019)	(0.025)
INTERCEPT		-0.481***	-0.748*
		(0.032)	(0.441)
Observations		20,671	4,648
R-squared		0.106	0.144
Firm fixed effects		Yes	Yes

Standard errors (in parentheses below the coefficients) are calculated using standard errors clustered by firm. *DA* is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *Y_BEFORETAXREFORM* is a dummy variable equal to 1 for the year just before the reform - 2006 for companies with an end-year at 31st December and, and 2007 otherwise - and 0 otherwise. *1_YTAXREFORM* is a dummy variable equal to 1 for the year just after the reform -2007 for companies with an end-year at 31st December and, and 2008 otherwise - and 0 otherwise. *2_YTAXREFORM* is a dummy variable equal to 1 for the years after the reform – starting from 2008 for companies with an end-year at 31st December and, and 2009 otherwise - and 0 otherwise. *NO_SUBJECT_STR* is a dummy variable equal to 1 for those companies with revenues lower than 8.000.000-subject to the corporate tax reduction in one year-. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. CFO is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total equity. *LOSSES is a dummy variable, equal to 1 if the firm had a negative EBIT and 0 otherwise. BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *TREND is a variable which captures any trends in the dependent variable over the given period of time.* *A coefficient is statistically significant at the 10% level or better, two-tailed. **A coefficient is statistically significant at the 5% level or better, two-tailed. ***A coefficient is statistically significant at the 1% level or better, two-tailed.

Table 7. *DAit = α + β1 2006 + β2 2007 + β3 2008 + β4 NO_SUBJECT_STR it + β5 GROWTHit + β6 LISSUEit + β7 EISSUEit + β8 CFOit + β9 SIZEit + β10 LEVERAGEit+ β11 LOSSESit + β12 BIG4 + β13 TREND + Firm fixed effects + εit (6)*

	Expected sign		Without Matching		PSM Matching	
DA	NO_ SUBJECT STR	SUBJECT _STR	NO_ SUBJECT STR	SUBJECT _STR	NO_ SUBJECT STR	SUBJECT _STR
2006	-	-	-0.105***	-0.070***	-0.105***	-0.134***
			(0.027)	(0.008)	(0.027)	(0.041)
2007	+	-	0.091***	0.091***	0.091***	0.044
			(0.025)	(0.007)	(0.025)	(0.036)
2008	?	+	-0.212***	-0.138***	-0.212***	-0.160***
			(0.029)	(0.009)	(0.029)	(0.052)
GROWTH			0.024	0.032**	0.024	0.077
			(0.019)	(0.013)	(0.019)	(0.064)
LISSUE			-0.101**	-0.125***	-0.101**	-0.157***
			(0.039)	(0.016)	(0.039)	(0.052)
EISSUE			-0.007	0.007	-0.007	-0.007
			(0.032)	(0.012)	(0.032)	(0.049)
CFO			0.451	0.190**	0.451	0.870**
			(0.296)	(0.083)	(0.296)	(0.352)
SIZE			0.012	0.052***	0.012	0.046
			(0.068)	(0.019)	(0.068)	(0.069)
LEV			0.002	-0.000	0.002	0.003
			(0.002)	(0.001)	(0.002)	(0.004)
LOSSES			-0.005	-0.031**	-0.005	0.036
			(0.033)	(0.012)	(0.033)	(0.053)
BIG4			-0.026	0.025	-0.026	0.080
			(0.101)	(0.028)	(0.101)	(0.103)
TREND			-0.071***	-0.049***	-0.071***	-0.057***
			(0.008)	(0.003)	(0.008)	(0.010)
INTERCEPT			0.192	-0.324*	0.192	-0.287
			(0.648)	(0.189)	(0.648)	(0.680)
Observations			2,248	16,929	2,248	2,183
R-squared			0.169	0.113	0.169	0.167
Firm fixed effects			Yes	Yes	Yes	Yes

2006 is a dummy variable, equal to 1 for year 2006 and 0 otherwise. *2007* is a dummy variable, equal to 1 for year 2007 and 0 if it was not. *2008* is a dummy variable, equal to 1 for year 2008 and 0 if it was not. Rest of legend: same than in table 6.

Table 8. Test in coefficients from table 7.

	Full Sample			**Matched sample**		
	NO SUBJECT STR	SUBJECT_STR	Diff.	NO SUBJECT STR	SUBJECT_STR	Diff.
2006	0.216	0.165	-0.051*	0.216	0.191	-0.025
2007	0.189	0.161	-0.028	0.189	0.169	-0.020
2008	0.141	0.148	0.007	0.141	0.181	0.040

Table 9.

	Full Sample				PSM Sample			
	NO_SUBJECT_STR		SUBJECT_STR		NO_SUBJECT_STR		SUBJECT_STR	
DA	Loss_06	NOLoss_06	Loss_06	NOLoss_06	Loss_06	NOLoss_06	Loss_06	NOLoss_06
2006	0.106**	-0.123***	0.017	-0.063***	0.106**	-0.097***	0.094	-0.158***
	(0.041)	(0.030)	(0.022)	(0.008)	(0.041)	(0.022)	(0.212)	(0.041)
2007	0.248***	0.068**	0.184***	0.091***	0.248***	0.079***	0.222	0.026
	(0.053)	(0.029)	(0.023)	(0.007)	(0.053)	(0.022)	(0.255)	(0.037)
2008	-0.062	-0.255***	-0.097***	-0.136***	-0.062	-0.191***	-0.140	-0.157***
	(0.045)	(0.036)	(0.028)	(0.011)	(0.045)	(0.024)	(0.096)	(0.057)
GROWTH	0.002	0.021	0.051	0.029**	0.002	0.016	0.036	0.075
	(0.035)	(0.022)	(0.036)	(0.014)	(0.035)	(0.017)	(0.167)	(0.071)
LISSUE	-0.130*	-0.077	-0.351***	-0.095***	-0.130*	-0.089***	-0.421*	-0.141**
	(0.074)	(0.048)	(0.052)	(0.016)	(0.074)	(0.033)	(0.218)	(0.056)
EISSUE	0.002	0.006	0.023	-0.002	0.002	0.009	0.022	-0.019
	(0.050)	(0.041)	(0.021)	(0.014)	(0.050)	(0.028)	(0.123)	(0.055)
CFO	-0.883	0.229	-0.054	0.441**	-0.883	-0.018	2.038	1.200**
	(1.379)	(0.560)	(0.316)	(0.177)	(1.379)	(0.370)	(1.652)	(0.533)
SIZE	0.062	0.049	0.093	0.056***	0.062	0.041	-0.297	0.096
	(0.110)	(0.088)	(0.057)	(0.021)	(0.110)	(0.059)	(0.442)	(0.076)
LEV	0.002	0.000	0.001	-0.000	0.002	0.002	-0.011	0.002
	(0.004)	(0.003)	(0.001)	(0.001)	(0.004)	(0.002)	(0.021)	(0.005)
LOSSES	1.084	0.206	0.029	-0.183	1.084	0.367	-2.385	0.012
	(1.415)	(0.563)	(0.342)	(0.184)	(1.415)	(0.378)	(1.609)	(0.563)
BIG4	-0.062	-0.082	0.109**	0.006	-0.062	-0.073	-0.789	0.129
	(0.105)	(0.165)	(0.052)	(0.031)	(0.105)	(0.103)	(0.833)	(0.136)
INTERCEPT	-0.623	-0.087	-1.006*	-0.370*	-0.623	-0.076	3.373	-0.795
	(1.120)	(0.832)	(0.591)	(0.194)	(1.120)	(0.558)	(4.687)	(0.755)
Observations	480	1,768	1,722	15,207	480	1,768	198	1,985
R-squared	0.159	0.193	0.176	0.115	0.159	0.227	0.420	0.181
Trend variable included	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

2006 is a dummy variable, equal to 1 for year 2006 and 0 otherwise. *2007* is a dummy variable, equal to 1 for year 2007 and 0 if it was not. *2008* is a dummy variable, equal to 1 for year 2008 and 0 if it was not. Rest of legend: same than

CHAPTER 3

Earnings management in the context of multinational groups

Abstract

This chapter analyses whether multinational groups engage in earnings management as a consequence of the tax incentives within the group, institutional settings and/or cultural factors of the countries where they operate. The analysis has been carried out using real activity and accrual manipulation as proxies of earnings management. Our results show that tax incentives within a group are a significant mitigating element for earnings management while institutional settings and cultural factors are important drivers for manipulation. Furthermore, our results provide evidence of the substitutive character of earnings management and profit shifting.

Key words: Earnings management, multinational groups, tax incentives, cultural factors, institutional settings.

1. Introduction

This study examines whether the countries' characteristics[17] where multinational groups operate, has an impact on earnings management practices. More specifically, the objective of this study is to investigate the influence of Hofstede's six cultural dimensions and institutional settings on tax incentives as a moderating variable for earnings management. We also investigate whether tax incentives, cultural factors or institutional settings have a different impact on the techniques of earnings management normally used by prior literature, real activity and accrual manipulation.

Over the past decades the importance of multinational groups –multinational groups– .in the new global economy has grown significantly. Academics and policy makers also have shown an increasing interest in this matter (Crescenzi, Gagliardi & Iammarino, 2015). multinational groups are relevant contributors to Government revenues through their foreign subsidiaries- comprising almost a quarter of the GDP raised by multinational groups- and by themselves –almost half part of the world GDP (UNCTAD, 2015).

In this way, it is surprising the modest attention received by the link among multinational groups and earnings management. Indeed, there are few studies that investigate financial reporting of multinational groups (Beuselinck & Deloof, 2014; Prencipe, 2012). However, current research is focusing on this topic and it seems to be one of the new research directions for earnings management. Recent academic evidence shows that business groups manipulate earnings differently from single companies (Bonacchi, Cipollini & Zarowin, 2014) and they have more opportunities to manage earnings (Beuselinck & Deloof, 2014; Kim & Yi, 2006) because of their complex structure.

[17] As context we understand institutional settings, cultural factors and tax incentives within the group derived by the difference corporate tax rates between countries where parent company and subsidiaries operate.

Previous studies that have examined determinants for manipulation within multinational groups across countries have been mainly focused on firm's characteristics (e.g. Beuselinck et al., 2016, 2015; Durnev, Li & Magnan, 2015). Some of them have taken into consideration tax incentives and institutional settings as drivers of earnings management. However, considering merely institutional settings when analysing manipulation provides only a partial view of the country drivers to conduct earnings management. Thus, there is an obvious lack on the study of cultural factors as alternative incentive for manipulation within multinational groups. In this sense, extant literature using single companies suggests that cultural dimensions can potentially influence earnings management (i.e. Desender, Castro & Escamilla, 2011; Doupnik, 2008; Han, Kang, Salter, & Yoo, 2010; Gray, 1988; Guan, Pourjalali, Sengupta & Teruya, 2006). We suggest that taking these three dimensions into account, we can provide a wider framework of earnings management drivers within multinational groups.

We examine a sample of 33,190 multinational groups parent-subsidiaries observations over the period 2006-2014 with 8,096 firms from 26 different countries across Europe. Using three different proxies of manipulation and GMM simultaneous equation models we show that tax incentives, institutional settings and cultural factors are all significant explaining earnings management. Furthermore, we show that profit shifting and earnings management are substitute option for companies.

Our study contributes to the literature as follows. It studies cultural factors, tax incentives and different institutional settings as drivers of manipulation among business groups across different countries. In such a way, we provide a broader framework of drivers for manipulation within multinational groups. Furthermore, prior literature about this topic is overall focused on accrual manipulation. However, since accrual and real

earnings management can be used as alternatives or at the same time (Zang, 2012) we consider both tools of manipulation in our analysis.

The remainder of our study is organized as follows. Section 2 presents the literature relevant to our study and the developed hypothesis. Section 3 describes the methodology and the sample. Section 4 shows the results and the discussion. Then, the main conclusions of our study are shown in section 5.

2. Literature review

2.1 Earnings management within multinational groups

Research focused on earnings management within multinational corporations has been surprisingly under investigated with the exception of some recent papers (Prencipe, 2012) and existing evidence shows that business groups manipulate differently from individual companies (Beuselinck et al., 2016).

Bonacchi et al. (2014), focusing on Italian business groups, show that non-listed subsidiaries manipulate their results when their listed parent company is reporting low profits; in other words, the parent company drives its subsidiaries to manipulate their results to avoid losses. This is in line with the findings provided by Fan (2012) who indicates that multinational groups manage foreign profits to avoid losses and Shuto (2009) that shows that parent companies could use the subsidiaries in order to stave a decrease in their earnings. Shuto (2009) and Thomas et al. (2004) use parent's consolidated and non-consolidated financial statements from a Japanese sample and show that parent companies use subsidiaries in order to manage their unconsolidated earnings. However, none of the authors mentioned above use the non-consolidated annual reports of the subsidiaries. In this respect, Baker, Christensen and Cottrell (2012) show that

consolidated financial statements do not reflect the transactions between the parent company and its subsidiaries neither operations carried out to manage earnings. Hence, Beuselinck et al. (2016) analyse whether parent companies push their subsidiaries to manipulate non-consolidated earnings with the aim to beat consolidated reporting objectives. They use the non-consolidated financial statements of the subsidiaries and they also control by different jurisdictions. They document that multinational groups manage their consolidated earnings throughout an organised reporting strategy in their subsidiaries, being emphaticized the influence to manage with the degree of subsidiary integration and vice versa. Likewise, it is documented that if headquarters are located in countries with a strong regulation, the group manages earnings through the subsidiaries located in countries with weakest law enforcement (Beuselinck, Deloof & Vanstraelen, 2015). These findings are in line with evidence from prior studies that show that the legal framework of a country has an impact on earnings management, and firms in code law countries manipulate more than the others due to the investor protection (Archambault & Archambault, 2003; Burgstahler et al., 2006; Leuz et al. 2003; Soderstrom & Sun, 2007). Accordingly, Dyreng, Hanlon and Maydew (2012) using a sample of U.S. multinational groups, show that firms with a higher amount of subsidiaries in countries with a weak institutional setting manipulate more than others, observing manipulation mainly in foreign income. The limitation of their paper is based on the fact that they did not have access to the annual reports of the non-listed domestic subsidiaries, which can create a bias in the results.

2.2 Earnings management and country context

2.2.1 Earnings management and tax incentives

International tax prior literature has widely studied income-shifting in business groups. Indeed, a substantial reason for managers to manipulate is to try to reduce the tax expense (Beuselinck & Deloof, 2014). The corporate tax rate is a substantial incentive to manipulate commonly studied in prior literature and linked to it, the tax incentives (Boynton, Dobbins, & Plesko, 1992; Goncharov & Zimmermann, 2006; Gramlich, 1991; Guenther, 1994; Lopez, Regier, & Lee, 1998; Maydew, 1997; Poterba, Rauh, Venti, & Wise, 2007; Scholes, Wilson, & Wolfson, 1992; among others). In regard of this, there is broad research around income shifting as a tool of tax avoidance in multinational corporations, which supports that internationally diversified multinational groups could take advantage of the different jurisdictions where they operate to reduce their tax expense through internal transactions (e.g. Collins, Kemsley, & Lang, 1998; Mills & Newberry, 2004; Rego, 2003). In line with these findings, Dharmapala and Riedel (2013) show that the impact of parent company's profits in a business group are associated with a significant increase of benefits before taxes in those subsidiaries located in countries with low tax rates, as compared to the effect on earnings before taxes of subsidiaries located in countries with high rates. Other previous research has been focused on measuring the impact a company's tax rates related to the profitability of its subsidiaries (Grubert & Mutti, 1991; Hines & Rice, 1994; Huizinga & Laeven, 2008). Nonetheless, any of these studies is focused on the specific study of earnings management with the exception of the paper by Beuselinck and Deloof (2014). They hypothesized whether Belgium business groups manage accruals more than single firms, with the aim to reduce the tax expense,

finding that business groups manage more than single firms and this manipulation is driven by intra-group transactions.

2.2.2 Earnings management and institutional settings

Depending on the country where the company is located, they will be subject to a different legal framework (i.e. code versus common law) which is the base of the level countries' investor protection (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997, 1998). There is evidence showing that the legal framework of a country has an impact on earnings management and firms in code-law countries manipulate in a different manner than common-law countries due to the investor protection (Archambault & Archambault, 2003; Enomoto, Kimura, & Yamaguchi, 2015; Leuz, Nanda & Wysocki, 2003; Soderstrom & Sun, 2007). For instance, Leuz et al. (2003) using a sample of 31 countries, show that accrual manipulation decreases in countries with a stronger investor protection. Accordingly, they maintain that earnings quality is worse in countries with a weak legal system, since insiders get more private control benefits and consequently their incentives to manipulate are stronger. In a similar venue, García Lara, García Osma & Mora (2005) suggest that companies from code-law countries are more willing to smooth earnings than their common law peers. Additionally, Dyreng et al. (2012) find that firms in the US with subsidiaries located in countries with strong rule of law manipulate less than those with subsidiaries in countries where the rule of law is weak. Thus, we can conclude that the evidence from these studies claims a negative relation between the willingness of managers to manipulate accruals and the strength of the legal environment, due to the investor protection which mitigate the incentives of managers to manipulate in their own benefit (Li, Hasan & Francis, 2011). It is noted that a strong legal environment is an extenuating factor to engage in accrual manipulation, but managers may substitute accrual

by real manipulation, even if it implies a worse future performance (Cohen & Zarowin, 2010; Fan, Barua, Cready & Thomas, 2010; Li et al., 2011). Accordingly, Enomoto et al. (2015) find evidence of the use of real activity as a substitute of accrual manipulation in countries with stronger investor protection, since neither accounting institutional setters nor auditors can temper companies to engage in real activity manipulation, (Li et al., 2011).

2.2.3 Earnings management and cultural factors

Culture dimensions also have an impact on earnings management (Desender et al., 2011; Doupnik, 2008; Gray, 1988; Guan et al., 2006; Hooghiemstra, Hermes, & Emanuels, 2015; Nabar & Boonlert-U-Thai, 2007; among others), even if cultural factors have infrequently been considered as explanatories variables in prior accounting literature (Desender et al., 2011). Hofstede's dimensions are one of the most widely used measures of cultural values (Kreiser et al., 2010). In the field of culture and business, Hofstede's dimensions are considered as the best contemporary framework (Chapman, 1996). They can be used to capture cross-country differences originating from difference institutional settings or economic development (Laitinen & Suvas, 2016). On this matter, Hooghiemstra et al. (2015) suggest that managers' perception about the costs and benefits of disclosing information in the financial statements is directly influenced by national culture and indirectly by the level of investor protection in a country. More closely to our topic, Gray (1988) suggests that cultural factors identified by Hofstede (1980) have an effect in the accounting system, for instance, due to shared practices by the members of the accounting community in a country-level. Guan et al. (2006) hypothesized that the accounting values identified by Gray (1988) affect earnings management using a sample of Asian-Pacific countries, and find that cultural factors explain the accrual manipulation

choices among different countries. Accordingly, Doupnik (2008) shows evidence of a strong relation between cultural factors and income smoothing across different countries, finding a negative relation among uncertainty avoidance and earnings management in line with the results provided by Han et al. (2010). Desender et al. (2011) show relevant cultural influence on earnings management using individualism as proxy of cultural dimension. They document a negative relation among these two variables in a country while, Nabar and Boonlert-U-Thai (2007) find a strong positive relation using masculinity and uncertainty avoidance. In contrast with the raised approach which support the negative relation among individualism and earnings management, Kanagaretnam, Lim and Lobo (2011) using a sample of banks from 39 countries find that those banks with high individualism and masculinity and low uncertainty avoidance manipulate their earnings in order to meet or beat the prior year's earnings. They evidence also that high individualism and power distance and low uncertainty avoidance are linked to earnings smoothing.

2.3 Hypotheses

Following the approach that supports that individualism societies are more respectful about individual rights (Licht, Goldschmidt & Schwartz, 2005), we suggest that managers from these context would be less willing to engage in manipulation since this practice affects negatively the shareholders' rights. Doupnik (2008), Gray (1988) and Han et al. (2010) evidence that societies with higher levels of uncertainty avoidance, are related to lower levels or earnings management. In contrast, Gray (1988) states a positive connection among earnings management and power distance dimension. Hofstede (2001) point out societies with a high level of masculinity use to show an emphasis on performance, being more willing to engage in risk-taking decisions. On the other hand,

in short-term oriented societies there might be more use of earnings management to accelerate the effect that managerial decisions can have on current profits (Doupnik, 2008). Thus, we formulate our first hypothesis as follows:

H1a: Earnings management proxies will show a negative relation with individualism, uncertainty avoidance, long-term orientation and power distance and a positive relation with masculinity dimension and indulgence.

According to prior literature, managers do not engage in earnings management in the same way in different institutional settings (Enomoto et al., 2015; Leuz et al., 2003). Following this assumption, we suggest that different institutional settings have a direct impact on earnings management. Indeed, prior research show evidence that in countries with weak legal environments, managers find greater incentives to manipulate due to the deficient investor's protection system, which has a negative impact in the earnings quality (Beuselinck et al., 2016; Leuz et al., 2003). In accordance to that, the hypothesis we propose can be stated as follows:

H1b: Multinational groups –parent and subsidiaries- in countries with strong institutional settings will show lower levels of real and accrual earnings management.

Likewise, there is evidence that show that multinational groups in countries with a higher corporate tax rate exhibit more incentives to shift income to those countries with lower taxation, especially in presence of weak tax enforcement (Atwood, Drake, Myers & Myers, 2012; Beuselinck et al., 2015). This would be reflected as a positive value of our tax incentives variable, which would reveals that the company shifted profits to other firm within the group located in a different country. It may be linked to lower levels of manipulation since if the firm shift the profits to other jurisdictions for tax purposes will have lower incentives to manipulate in its host country. This argument leads to the following hypothesis:

H1c: Multinational groups –parent and subsidiaries- which presents tax incentives will show lower levels of real and accrual-based earnings management.

Since real activity and accrual manipulation could be used as substitutes for each other activities accordance to companies' needs (Cohen, Dey & Lys, 2008; Cohen & Zarowin, 2010), or at the same time with the same purposes (Zang, 2012), then examining each type of manipulation in isolate does not explain completely earnings management. In regard of this and related to our exogenous variables, prior literature show that in presence of stronger legal environment managers prefer to engage in real activity rather than accrual manipulation (Enomoto et al., 2015).

H2: Multinational groups prefer to manipulate using real activity manipulation rather than accrual manipulation in countries with strong institutional settings and higher tax incentives.

3. Research design

3.1 Data selection and sample

Our data related to multinational groups is compiled using accrual manipulationADEUS database provided by Bureau van Dijk[18]. Additionally, we compile countries' rule of law and control of corruption data from the Worldwide Governance Indicators developed by the World Bank (Kaufmann, Kraay & Mastruzzi, 2004), macroeconomic data from the International Fund's World Economic Outlook Database (2015), corporate tax rates from KPMG International (2015) and growth of capital good prices from OECD.

Following the same criterium as Beuselinck and Deloof (2014), we restrict the sample to multinational corporations with available consolidated and non-consolidated financial statements across the countries EU-28[19]. We include countries within different legal frameworks following the criterion provided by La Porta et al. (1998)[20] , to enhance the literature related to this topic. We exclude financial companies (SIC codes 6000-6999), utilities (SIC codes 4800-4999) and quasi regulated industries (SIC codes 4000-4499) since they are subject to a special regulation. We have also dismissed those parent and

[18] AMADEUS is a comprehensive dataset that contains over than 23 million public and private companies for 44 countries. It provides firm-level from annual reports and country-level data.

[19] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

[20] They set three different groups as follows: common-law countries or English origin average, Scandinavian-German average countries and code-law or French origin average countries.

subsidiaries with total assets and sales lower than U.S. $10,000. We restrict also the subsidiaries to those which are owned with a percentage greater than 51% to ensure the requirement of consolidation. At the end of this process, our final sample comprises 33,190 multinational groups parent-subsidiaries observation over the period 2006-2014 with 8,096 firms.

Table 1 presents the firms-year distribution across the countries. Our sample comprises EU-28 countries. We divide our sample into different groups by the legal origin following the criterion by La Porta et al. (1997,1998, 2002) and Zhang and Liu (2016). In this way, we have five different categories by: Scandinavian, German, French, Ex-Socialist and English legal origin. The most represented country is Germany (18.93%), followed by France (13.32%) and Spain (10.51%), while the less represented countries are Cyprus (0.18%), Slovenia (0.20%) and Malta (0.24%).

[Insert Table 1 here]

3.2 Earnings management metrics

While historically the discussion on earnings management has tended to focus on accrual manipulation strategies, recently many articles have focused on real activity manipulation as proxy of earnings management. Indeed, the way that firms manipulate the results – real activity manipulation vs. accrual manipulation– has different implications for the future of the companies (Campa & Camacho-Miñano, 2015; Cohen & Zarowin, 2010; García Lara et al., 2005; Graham, Harvey, & Rajgopal, 2005; Kothari,

Mizik & Roychowdhury, 2016) and there is evidence that finds relations among the several earnings management tools and different institutional settings (Enomoto et al., 2015; Leuz et al., 2003), and depending also on the countries' corporate tax rate (Alhadab et al., 2013). Thus, the decision to choose one methodology rather than the other can be modified according to managers' specific goals. Furthermore, standard regulators are worried about the implications that both types of earnings management cause to information quality (Jaggi & Sun, 2012). A novel research avenue in earnings management is the investigation of the drivers for the choice of one practice over the other and to explain the reasons (Campa & Camacho-Miñano, 2014; Cohen et al., 2008; Cohen & Zarowin, 2010; Doukakis, 2014). However, to date has been little discussion about the use of both proxies of manipulation around business groups, and we have found only the papers provided by Bonacchi et al. (2014) and Durnev et al. (2015) related to this matter.

3.2.1 Accrual-Based earnings management

To estimate accruals manipulation, we use the cross-sectional modified Jones model (Dechow, Sloan, & Sweeney, 1995) since it is the most widely used in accounting research area and it is accepted as the one that estimates discretionary accruals most precisely (e.g. Chi, Yang & Young, 2014; Cohen et al., 2008; Zang, 2012). It is also more effective than other models (Bartov, Givoly, & Hayn, 2002), which eliminates the presumed tendency of error in the measurement due to discretion of revenue recognition (Bartov, Gul, & Tsui, 2000) from the Jones (1991) model.

Total accruals are calculated as follows:

$$TA_{it} = (\Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STD_{it}) / A_{it-1}$$

Where:

TA_{it} = Total accruals.

ΔCA_{it} = Change in current assets.

ΔCL_{it} = Change in current liabilities.

$\Delta CASH_{it}$ = Change in cash and equivalents.

ΔSTD_{it} = Change in short-term debts.

A_{it-1}= Lagged total assets.

The modified Jones model tries to capture the effects of change in a firm's economic environment on discretionary accruals (Dechow et al., 1995) and related firm total accruals to a vector of control variable for each NACE[21]-year as follows:

$$TA_{it} / A_{it-1} = \beta_1 (1/A_{it-1}) + \beta_2 (\Delta REV_{it} /A_{it-1}) + \beta_3 (PPE_{it} /A_{it-1}) + e_{it} \quad \text{(Eq.1)}$$

Where:

TA_{it} = Total accruals.

A_{it-1}= Lagged total assets.

ΔREV_{it} = Change in current revenues.

PPE_{it} = Net property, plant and equipment.

We estimate the normal accruals (NA_{it}) using the coefficients calculated in Equation (1):

[21] Statistical classification of economics activities on the European Community.

$$NA_{it} = \widehat{\beta_1}\ (1/A_{it-1}) + \widehat{\beta_2}\ ((\Delta REV_{it} - \Delta REC_{it})/A_{it-1}) + \widehat{\beta_3}\ (PPE_{it}/A_{it-1}) \quad \text{(Eq.2)}$$

Where:

NA_{it} = Normal accruals.

ΔREC_{it} = the change in accounts receivables from the prior year.

The measure of discretionary accruals is the difference between total accruals and normal accruals as follows:

$$DA_{it} = (TA_{it}/A_{it-1}) - NA_{it}$$

Where:

DA_{it} = Discretionary accruals.

3.2.2 Real activities manipulation

Following Roychowdhury (2006), real activity manipulation is investigated looking at sales and production costs since they are the items more commonly manipulated (Dechow, Hutton, Kim, & Sloan, 2012). Sales manipulation is estimated by the level of companies' abnormal cash flows. It is given by the residuals of the following model estimated separately for each industry and year, in accordance with Roychowdhury (2006):

$$(CFO_{it}/A_{it-1}) = \beta_0 + \beta_1 (1/A_{it-1}) + \beta_2 (S_{it}/A_{it-1}) + \beta_3 (\Delta S_{it}/A_{it-1}) + e_{it} \quad \text{(Eq.3)}$$

Where:

CFO_{it} = Cash flow from operations (calculated as earnings before interests and taxes + depreciation and amortization, +/- changes in inventories, changes in trade and other receivables, changes in trade and other payables).

A_{it} = Total assets.

S_{it} = Net sales.

ΔS_{it} = Change in net sales.

Low levels of abnormal cash flow could be associated to income increasing earnings management through an aggressive recognition of sales, since it would mean that a lower amount of sales is converted into cash. It can be due to several causes: the concession of abnormal discount to customers, premature sale recognition, more lenient credit terms. Or, as an extreme scenario, it could potentially be related to a financial statement fraud i.e. recognition of fictitious sales rather than simple earnings management.

Production cost manipulation is estimated by the level of companies' abnormal production costs given by the residuals of the following model estimated separately for each industry and year, in accordance with Roychowdhury (2006):

$$(PROD_{it}/A_{it-1}) = \beta_0 + \beta_1 (1/A_{it-1}) + \beta_2 (S_{it}/A_{it-1}) + \beta_3 (\Delta S_{it}/A_{it-1}) +$$

$$+\beta_4 (\Delta S_{it-1}/A_{it-1}) + e_{it} \quad \text{(Eq.4)}$$

Where:

$PROD_{it}$ = Sum of COGS in event year t and the change in inventory.

A_{it-1} = Lagged total assets.

S_{it} = Net revenues in the current period.

ΔS_{it} = Change in net revenues.

ΔS_{it-1} = Change in net revenues in the prior period.

High level of abnormal production costs could be associated to income increasing earnings management, since it would indicate that exhibit higher production costs as a result of an overproduction, which lowers fixed costs per unit, with a consequent decrease of the cost of goods sold and an increase of the operating margin (Roychowdhury, 2006).

3.3 Country context metrics

3.3.1 Tax incentives

Corporate income in Europe is subject to different tax rates depending of the country where the company is operating. Thus, multinational groups experiment incentives to reallocate their profits with the aim to reduce the total tax burden. This is another incentive for multinational groups to manipulate earnings. In regard of this, prior literature focused on tax avoidance and multinational groups report that they exploit tax-differences across countries through internal operations to reduce the total tax charge (e.g. Mills & Newberry, 2004; Rego, 2003). Moreover, profit shifting can occur between the parent company and a subsidiary located in a foreign country or between two subsidiaries in different countries. We follow the model proposed by Huizinga and Laeven (2008) to estimate the tax incentives' variable, which consider not only incentives to shift profits between the parent company and a subsidiary but also the incentives between subsidiaries in different host countries. The model considers a multinational group that operates in *n* countries and maintains that multinational groups' profit shifting in a country depends on the national tax rate and the difference between the national and the foreign tax rates in all countries where the multinational group operates. The variable is a composite tax

variable, which includes all the information about profit shifting incentives (or the tax *t* in all countries where the group operate).We estimate the tax incentive as follows:

$$C\ (Tax\ Incentives) = \frac{1}{(1 - t_i)} \frac{\sum_{k \neq i}^{n} \left(\frac{B_k}{1 - t_k}\right)(t_i - t_k)}{\sum_{k=1}^{n} \left(\frac{B_k}{1 - t_k}\right)}$$

Where:

B_k = Profits (sales figure) for a subsidiary of the group in the country *k*

t_i = Statutory tax rate in the country *i*

t_k = Statutory tax rate in the country *k*

A positive value of the variable implies that the firm opportunistically shifts profits out of country *i.* It would mean that the subsidiary faces a high tax rate relative to other subsidiaries in the controlled group in the same year.

To facilitate the comparison between variables we create a dummy variable equal to 1 for positives values, which would mean that the firm experiment tax incentives, and 0 otherwise. This dummy variable will be used in the regression analysis. However, for univariate analysis we keep the values we obtain directly from the formula since them provide more useful information.

3.3.2 Institutional settings

There is extant evidence in earnings management research about the importance of institutional factors as laws, regulations or market mechanisms (Wysocki, 2011). We use investor protection variables to measure the legal enforcement. Enomoto et al. (2015) and

Leuz et al. (2003), measure legal enforcement as the mean score of three legal variables applied in La Porta et al. (1998): (1) efficiency of the judicial system as used in La Porta et al. (1998), (2) an assessment of rule of law and (3) the corruption index. Employing two[22] of the three attributes of the framework used by Enomoto et al. (2015) and Leuz et al. (2003) we measure legal enforcement as the mean score of (1) an assessment of rule of law and (2) the corruption index based on Kaufmann, Kraay and Mastruzzi (2009). To date, these two variables have been used separately in prior research focused on earnings management and multinational groups (e.g. Beuselinck et al., 2016; Durnev et al., 2015) in spite of the fact that both of them measure legal enforcement.

In order to do so, we use Worldwide Governance Indicators created by the World Bank, all of them ranking from zero to one.

3.3.3 Cultural factors

We follow the criteria defined by Minkov, Blagoev and Hofstede (2012) related to the proxies of cultural factors –power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence- as independent variables in our model. Geert Hofstede's scientific approach divides the world base on the culture taking six proxies to classify the culture. In 1980 Hofstede surveyed 100,000 employees of IBM across 66 countries to develop these cultural dimensions. Nowadays, the score on the dimensions are available for 76 countries since subsequent research have replicated and extended the study on different populations (Hofstede et al., 2010). Since these dimensions capture cross-country differences (Mihet, 2013) we suggest is the most appropriate approach to capture the fully essence of our study which is based on cross-

[22] There is not available data of "efficiency of the judicial system" for all countries comprised in our sample.

country analysis. Furthermore, even these dimensions have been widely adopted in many areas of research (Hofstede et al., 2010), they have rarely been used as explanatory variables in accounting research.

All of the six proxies that Hofstede index investigates will be taken into account ranking all of them from zero to one in order to facilitate the comparison between all the independent variables.

Following the definition of national culture identified by Hofstede (2001) power distance is the degree to which the less powerful members of a society accept and expect that power is distributed unequally. In our rank, values closer to zero represent societies that strive to equalize the distribution of power. At the firm level, Mihet (2013) show a negative relation between risk-taking and power distribution. Individualism is a preference for a social framework in which individuals take care of only themselves and their immediate families. In addition, individualism is associated with overconfidence and over-optimism. In such cases, individuals are more risk-tolerant (Pan & Statman, 2009). Values closer to 1 represent individualism societies. Masculinity is the preference in society for achievement, heroism, assertiveness and material rewards for success. The highest side of this dimension represent more competitive and tough societies that encourage the risk-taking. Uncertainty avoidance is the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. Values closer to one represent those countries with rigid codes of belief and behaviour. Values closer to zero in long-term orientation are related to societies that prefer to maintain norms and traditions that are not willing to change. Highest values of indulgence represent a society that allows free gratification of basic and natural human drives related to enjoying life and having fun.

3.3.4 Principal component analysis of cultural factors

To deal with potential problems of multicollinearity when including the six cultural proxies in the same regression we apply principal component analysis on our proxies. PCA, unlike confirmatory factor analysis, does not test a specific hypothesis but instead explores relationships within the variables. We retain three factors with eigenvalues greater than one, accounting for about 83.36% of the total variance. The first component clusters together power distance and uncertainty avoidance. We denote this component as PC1: "Equality comfort" which could be explained as the highest level of comfort while dealing with uncertainty situations when the countries show a high level of power distribution. The second component clusters long-term orientation and individualism. We denote this second component as PC2: "Long-term low self-confidence" which link those societies willing to do not change their traditions –long-term oriented- with a lowest level of positivism and self-confidence. Finally, the third component clusters together the two proxies for masculinity and indulgence (this last one negatively correlated). We denote this component as PC3: "Sanctioned competition" which refers to do not allow gratification for those societies more competitive and risk-taking.

3.4 Methodology

We regress each proxy in order to test whether the trends of real activity management and accrual manipulation are associated with power distance, individualism, masculinity, uncertainty avoidance, long-term orientation and indulgence (equation (5)), institutional settings (equation (6)) and tax incentives as shown in equation (7).

To provide evidence of the multiple factors that likely affect earnings management together we specify equation (8). Nevertheless, the endogenous character of cultural factors and institutional settings proxies might bias our results. Thus, to improve the

identification we estimate it by using different empirical strategies. We also take into account the control variables commonly used in prior literature on earnings management that could affect our independent variables.

$$Y_{it} = \alpha + \beta_1 CF + \beta_2 GROWTH_{it} + \beta_3 LISSUE_{it} + \beta_4 EISSUE_{it} + \beta_5 CFO_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 ROA_{it} + \beta_9 BIG4_{it} + \beta_{10} IFRS_{it} + \beta_{11} LISTED_{it} + \varepsilon_{it}$$

(Eq. 5)

$$Y_{it} = \alpha + \beta_1 LE + \beta_2 GROWTH_{it} + \beta_3 LISSUE_{it} + \beta_4 EISSUE_{it} + \beta_5 CFO_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 ROA_{it} + \beta_9 BIG4_{it} + \beta_{10} IFRS_{it} + \beta_{11} LISTED_{it} + \varepsilon_{it}$$

(Eq. 6)

$$Y_{it} = \alpha + \beta_1 C_{it} + \beta_2 GROWTH_{it} + \beta_3 LISSUE_{it} + \beta_4 EISSUE_{it} + \beta_5 CFO_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 ROA_{it} + \beta_9 BIG4_{it} + \beta_{10} IFRS_{it} + \beta_{11} LISTED_{it} + \varepsilon_{it}$$

(Eq.7)

$$Y_{it} = \alpha + \beta_1 LE + \beta_2 C_{it} + \beta_3 GROWTH_{it} + \beta_4 LISSUE_{it} + \beta_5 EISSUE_{it} + \beta_6 CFO_{it} + \beta_7 SIZE_{it} + \beta_8 LEV_{it} + \beta_9 ROA_{it} + \beta_{10} BIG4_{it} + \beta_{11} IFRS_{it} + \beta_{12} LISTED_{it} + \varepsilon_{it}$$

(Eq.8)

$$Y_{it} = \alpha + \beta_1 LE + \beta_2 C_{it} + \beta_3 PC1_{it} + \beta_4 PC2_{it} + \beta_5 PC3_{it} + \beta_6 GROWTH_{it} + \beta_7 LISSUE_{it} + \beta_8 EISSUE_{it} + \beta_9 CFO_{it} + \beta_{10} SIZE_{it} + \beta_{11} LEV_{it} + \beta_{12} ROA_{it} + \beta_{13} BIG4_{it} + \beta_{14} IFRS_{it} + \beta_{15} LISTED_{it} + \varepsilon_{it}$$

(Eq.9)

Where:

Y = |*ABNCFO*|, |*ABNPRO* | *and* |*ABNDA*|.

|*ABNCFO*| = Absolute value of abnormal levels of cash flow.

|*ABNPRO*| = Absolute value of abnormal levels of production cost.

|*ABNDA*| = Absolute value of abnormal levels of accruals.

CF= Power distance (*PD),* Individualism (IND), Masculinity (MASC), Uncertainty Avoidance (UA), Long-term orientation (LTO) and Indulgence (INDULG).

LE = Legal enforcement.

C_{it} = Dummy variable equal to 1 if the tax incentive variable derived by Huizinga and Laeven (2008) is positive and zero otherwise.

PC1 = Equality comfort.

PC2 = Long-term low self-confidence.

PC3 = Sanctioned competition.

$GROWTH_{it}$ = Annual change in net sales.

$LISSUE_{it}$ = Annual change in liabilities.

$EISSUE_{it}$ = Annual change in shareholder equity.

CFO_{it} = Cash flow from operations divided by total assets.

$SIZE_{it}$ = Natural logarithm of total assets.

LEV_{it} = Leverage measured as total liabilities over total assets.

ROA_{it} = Return on asset calculated as operating profit over total assets.

BIG4 = Dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 otherwise.

IFRS = Dummy variable, equal to 1 if the firm applied IFRS standards and 0 otherwise.

We need to control for other company's characteristics that could incentive earnings management, as our objective is to study earnings manipulation driven by the context where multinational groups operate. Prior studies have found that managers could engage in upward earnings management to report a sustainable growth *(GROWTH)* appearance (Summers & Sweeney, 1998). *LISSUE* and *EISSUE* control for debt and equity issuance. *SIZE* is included to control for the effect of firm dimension on earnings management (Watts & Zimmerman, 1978). *ROA* and *CFO* control the extreme performance, which could have an effect on earnings management (e.g. Kothari et al., 2005). *LEVERAGE* control debt-contracting incentives for manipulation (Francis & Wang, 2008).

As ABNCFO, ABNPRO, and ABNDA are variables that could be carried out simultaneously by the firms, we apply the model considering the simultaneity of them and controlling each regression by the industry parameters. Thus, following Liu, Hodgkinson and Chuang (2014) we estimate panel system equation, taking into account the interdependences among the equations in the system (Wooldridge, 2002). In our

study, equation (5) includes proxies for accrual, production cost and sales manipulation that are estimated simultaneously using the generalized methods of moments (GMM). This simultaneous approach takes into account the correlations in the residuals across equations and allows us to consider the interdependence between the manipulation's proxies. Such an empirical approach enables us to treat real activity manipulation and accrual manipulation as interdependent as these kinds of manipulation are not mutually exclusive (Liu et al., 2014).

4. Empirical findings

4.1 Univariate analyses

Table 2 presents descriptive statistics for all the variables used in our study. Production cost manipulation (sales manipulation) has a mean of -0.007 (-0.002) in the sample. Discretionary accruals are on average slightly positive (0.094). The slight predominance of positive discretionary accruals is consistent with the sample's mean of the signed values of discretionary accruals. Companies included in the study, on average, present a high level of debt, being financed for more than 60% by creditors. However, in the sample period, the mean of ROA (mean= 0.029), CFO (mean= 0.074) and GROWTH (mean= 0.034) is positive which suggests that the sample comprises profitable firms. LE has a mean of 0.819, which indicates that on average, our sample do not present strong institutional settings characteristics. The mean for tax incentives is negative (C=-0.002), but very close to zero. This is not surprising since the composite tax variable is a weighted average of bilateral tax differences (Huizinga & Laeven, 2008).

[Insert Table 2 here]

Table 3 presents the Pearson correlation matrix. The correlations suggest that in countries with strong institutional settings there are higher levels of discretionary accruals but lower real activity manipulation. Tax incentives show a non-significant correlation with accrual manipulation but a negative correlation with real earnings management. This indicates that multinational groups with higher tax incentives included in this group have lower levels of real activity manipulation. On the other hand, countries with higher power distance and higher levels of indulgence exhibit less real earnings management. However, countries with higher levels of uncertainty show lower levels of manipulation through all proxies.

As expected, there are high correlations between some of the key independent variables. For instance, power distance and uncertainty avoidance show a high positive correlation of 0.76. This may be due to the fact they do not change significantly over time and they are related to economic development as has been shown by prior literature over last decades (Hofstede, Hofstede, & Minkov, 2010; Mihet, 2013). However, the rest of the correlations are clearly below the critical level (0.8) to reflect serious problems of multicollinearity. Nonetheless, we adopt various empirical strategies to improve the identification.

[Insert Table 3 here]

However, to ensure the reliability of our findings and we calculate the variance inflated factor values for the group of independent variables and they all turned out to be less than 10.

4.2 Regression analyses

Table 4 reports the GMM results for absolute values of earnings management. Since companies within the same business group and country-industry may share common unobservable characteristics, we cluster standard errors at the business group-country, and within-country subsidiary-industry level controlling by year-fixed effects[23]. We use the absolute values of discretionary accruals (|ABNDA|), sales manipulation (|ABNCFO|) and production cost manipulation (|ABNPRO|).

The results show evidence of earnings management driven by cultural factors as we expected in line with H1a. Table 4 Panel A shows that most of the coefficients for cultural factors are significantly related to discretionary accruals or real activity manipulation, which allude to the fact that cultural dimensions have an important impact on earnings management (Desender et al., 2011; Doupnik, 2008; Hooghiemstra, Hermes, & Emanuels, 2015; among others). Power distance and individualism coefficients are negatively related to discretionary accruals ($\beta_{1\ PD}$ = -0.073; p-value = 0.000; $\beta_{1\ IND}$ = -0.085; p-value = 0.000). Moreover, individualism is also negatively related to production cost manipulation ($\beta_{1\ IND}$ = -0.098; p-value = 0.000) while power distance shows a negative relation with sales manipulation ($\beta_{1\ PD}$ = -0.071; p-value = 0.000). This proposes that greater power distance and individualism lead lower levels of manipulation accordance to our H1a and findings provided by Desender et al (2011). It can be explained since societies with a high level of individualism tend to respect more individual rights, which could be extended to managers' behaviour in relation to shareholders' rights. However, although in high power distance society's managers can influence financial

[23] In untabled additional analysis, we apply different clustering strategies obtaining similar results. We cluster standard errors at the business group-country and business group-industry level controlling by year-fixed effects. Additionally, we cluster also standards errors by country, industry, group and year.

reporting choices more easily in an opportunistic way, our results show lower levels of earnings management. Coefficients of uncertainty avoidance are negatively related to production cost manipulation ($\beta_{1\ UA}$ = -0.040; p-value = 0.002), sales ($\beta_{1\ UA}$ = -0.069; p-value = 0.000) and accrual manipulation ($\beta_{1\ UA}$ = -0.080; p-value = 0.005). Gray (1988) holds that countries with higher levels of uncertainty avoidance exhibit more accounting conservative practices since they used to have more severe accounting regulation. Our results support the findings by Doupnik (2008) and Han et al. (2010) where is shown a negative relation of earnings management and uncertainty avoidance. In similar vein, long-term orientation coefficient is positively related to production cost manipulation ($\beta_{1\ LTO}$ = 0.045; p-value = 0.000) and negatively related to accrual manipulation ($\beta_{1\ LTO}$ = -0.103; p-value = 0.000) in accordance to our H1a and which again points out the chance that firms have to use both techniques as substitutes (Cohen et al., 2008). In this regard, surprisingly our results show that long-term orientation businesses prefer manipulate through real earnings management even though real activities manipulation can reduce future valuation of the company (Cohen & Zarowin, 2010) and its profitability and competitiveness in the long-term (Kothari et al., 2016). Masculinity coefficient for sales and accrual manipulation ($\beta_{1\ MASC}$ = 0.023; p-value = 0.002; $\beta_{1\ MASC}$ = 0.054; p-value = 0.000) are positively related as we expected from H1a, as well as indulgence coefficients for production cost and sales manipulation ($\beta_{1\ INDULG}$ = 0.039; p-value = 0.000; $\beta_{1\ INDULG}$ = 0.028; p-value = 0.000).

Overall our findings hold the importance of cultural factors as explicative variables of earnings management within multinational business groups across different countries.

As shown in Table 4 Panel B, there is a negative significant association between institutional settings and accrual (|ABNDA| $\beta_{1\ LE}$ = -0.112; p-value = 0.000). These results

are in line with those reported by prior research that show that in countries with strong institutional settings companies exhibit lower levels of accrual manipulation (Dyreng et al., 2012; García Lara et al., 2005; Leuz et al., 2003). However, it is positively associated to production cost manipulation (|ABNPRO| $\beta_{1\ LE}$ = 0.031; p-value = 0.078) which indicates that multinational groups located in countries with strong legal enforcement engage in more real earnings management through production cost manipulation. This is consistent with prior literature that argues that countries with a strong legal enforcement are more likely to engage in real earnings management (Enomoto et al., 2015). However, our results show that the ways of manipulation are rather complements than substitutes and therefore used simultaneously. This is again in line with prior literature focused on individual companies (e.g. Bonacchi, et al., 2014; Cohen et al., 2008; Enomoto et al., 2015), where multinational groups were shown to manipulate differently than single companies.

Table 4 Panel C reports a negative relation between tax incentives, production cost (|ABNPRO| $\beta_{1\ C}$ = -0.044; p-value = 0.000), sales (|ABNCFO| $\beta_{1\ C}$ = -0.013; p-value = 0.000) and accrual manipulation (|ABNDA| $\beta_{1\ C}$ = -0.027; p-value = 0.000). It indicates that if a firm within a group presents tax incentives to shift the profits out of its host country, the firm will engage in lower levels of manipulation due to the current depressed profit level. This assumption is also in line with prior literature focused on income shifting models which find a negative relation between tax incentives and pre-tax profits reflecting lower pre-tax profits for high-tax firms and vice versa (Huizinga & Laeven, 2008; Huizinga, Laeven & Nicodeme, 2008).

[Insert Table 4 here]

Across table 5 and table 6, we estimate our model by including all our variables of interest. Table 5 presents the results of the simultaneous equation by taking into account tax incentives and institutional settings as independent variables. We find no considerable changes than in table 4 in terms of significance and direction, which support our hypotheses H1b and H1c.

[Insert Table 5 here]

Table 6 presents the results of testing our hypotheses by adding the cultural factors variables created using principal component analysis to deal with multicollinearity. As expected, we find evidence supporting our results disclosed in table 4 and 5 being the tax incentives significant and negatively correlated with earnings management proxies as well as accrual manipulation and legal enforcement. However, we found conflicting results regarding cultural factors and the different tools to manipulate. We again maintain the substitute character of these techniques as pointed out previously by legal enforcement. The findings suggest that countries equally power distributed and willing to engage in uncertainty situations prefer manipulate through production cost manipulation instead of accrual or sales manipulation. Again, we can see the trade-off between the different techniques as shown by PC2. Those countries not willing to change their traditions and with lowest levels of self-confidence and positivism prefer to manipulate

by using real earnings management instead of accrual manipulation. However, societies more competitive and more willing to risk-taking manipulate results only through accrual manipulation.

Furthermore, across the models from tables 4, 5 and 6 the r-square improves while adding all of our independent variables, which indicates that the model is better specified by taking into account all of the different effects.

[Insert Table 6 here]

4.3.1 Tax incentives, profit shifting and earnings management

To provide evidence in favour of the negative relation between profit shifting and earnings management within the firm in presence of tax incentives, we test whether the companies did engage in profit shifting. We start by ensuring we can replicate inferences from the studies of Hines and Rice (1994) and Huizinga and Laeven (2008). Thus, we apply the following model:

$$LogEBIT_{it} = \alpha + \beta_1 c_{it} + \beta_2 LogAssets_{it} + \beta_3 LogComp_{it} + \beta_4 LogGDPPC_{it} + FixedEffects + \varepsilon_{it}$$

(Eq.9)

Where:

$LogEBIT_{it}$ = Logarithm of earnings before interest and taxes.

c = Tax incentive variable derived by Huizinga and Laeven (2008).

$LogAssets_{it}$ = Logarithm of the amount of fixed assets.

$LogComp_{it}$ = Logarithm of total labour compensation.

$LogGDPPC_{it}$ = Logarithm of GDP per capita of the country.

Table 7 shows that tax incentives are significant and negatively related to earnings before interest and taxes in line with the findings by Huizinga and Laeven (2008). It documents that multinational firms included in the sample did shift profits from high-tax to low-tax jurisdictions. At the same time as documented in previous tables, tax incentives are negatively correlated with earnings management proxies that point out the substitutive character of profit shifting and earnings management.

4.3.2 Fixed effects

In table 8 we show the results of our model by including country fixed-effects and industry fixed-effects instead of use multi-label clustering. Those results are robust to our previous findings shown in table 4, and all the coefficients remain equally significant.

[Insert Table 8 here]

5. Conclusions

The questions we address in this research are related to the impact of institutional settings, cultural factors and tax incentives on earnings management within multinational groups.

Our results suggest that cultural factors are important drivers to take into account in the study of earnings management within business groups even they have not been taken into account so far. Countries equally power distributed and willing to engage in uncertainty situations prefer manipulate through production cost manipulation instead of accrual or sales manipulation. We can notice the trade-off between the different techniques as shown in the previous chapter. Those countries not willing to change their traditions and with lowest levels of self-confidence and positivism prefer to manipulate by using real earnings management instead of accrual manipulation. However, societies more competitive and more willing to risk-taking manipulate results only through accrual manipulation. The main analysis reveals that countries with a strong (weak) institutional settings show lower (higher) levels of accrual and sales manipulation while the opposite behaviour for manipulation through production cost.

Our results are in line with prior research showing that those countries with strong institutional settings are linked to lower levels of accrual manipulation. Similarly, is pointed out that real and accrual earnings management are substitute techniques used by multinational groups, in line with previous studies that have addressed this trade-off in unique companies (Zang, 2012).

Furthermore, we show that earnings management and profit-shifting are substitutive techniques rather than complements. Companies that shift the profits out of their host

country due to tax incentives within the group, exhibit lower levels of manipulation and vice-versa.

Thus, we suggest regulators should not be concerned only about tightening standards, since these measures could push managers to use real activity or another mechanism to manipulate earnings (Fan et al., 2010) counteracting the institutional setters' purpose. Also, this study show evidence about the potential risks of tax and financial accounting institutional setters ignoring the interplay between financial and tax accounting.

The main implication for auditors, analysts and institutional setters is that the information presented in the financial statements should be analysed carefully because managers could alter it in an opportunistic way. Specially, they should take into account tax incentives within multinational groups as well as the country where the companies are located and the cultural factors they are subject to. Furthermore, regulators as well as the rest of the stakeholders should consider that accrual manipulation and real activity manipulation could be used simultaneously or as substitutes, given different situations. Moreover, tax incentives and therefore profit shifting and earnings management is of concern to many countries since it impacts negatively on their national economics' growth.

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List of tables

Table 1 : Sample Distribution		
Country	**Firm-year Observations**	**Percentage Firm-year Observations**
Austria	269	0.81
Belgium	4,922	14.83
Bulgaria	259	0.78
Croatia	360	1.08
Czech Republic	922	2.78
Denmark	125	0.38
Estonia	242	0.73
Finland	1,237	3.73
France	5,936	17.88
Germany	1,169	3.52
Greece	566	1.71
Hungary	496	1.49
Ireland	127	0.38
Italy	4,413	13.3
Latvia	24	0.07
Luxembourg	58	0.17
Malta	10	0.03
Netherlands	96	0.29
Poland	1,251	3.77
Portugal	1,014	3.06
Romania	115	0.35
Slovakia	559	1.68
Slovenia	159	0.48
Spain	5,560	16.75
Sweden	1,360	4.1
United Kingdom	1,941	5.85
Total	33,190	100

Table 2: Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min	Max
ABNPRO	33,190	-0.007	0.442	-1.021	0.910
ABNCFO	33,190	-0.002	0.200	-0.570	0.476
ABNDA	33,190	0.094	0.363	-0.688	1.023
POSDA	20,334	0.289	0.294	0.000	1.023
NEGDA	12,856	-0.214	0.218	-0.688	-0.000
PD	33,190	0.560	0.144	0.110	1.000
IND	33,190	0.653	0.144	0.270	0.890
MASC	33,190	0.506	0.177	0.050	1.000
UA	33,190	0.776	0.188	0.230	1.000
LTO	33,190	0.595	0.146	0.240	0.830
INDULG	33,190	0.478	0.153	0.130	0.900
LE	33,190	0.819	0.123	0.505	0.995
C	33,190	-0.002	0.064	-0.140	0.100
GROWTH	33,190	0.034	0.237	-0.403	0.628
LISSUE	33,190	0.055	0.358	-0.611	1.324
EISSUE	33,190	0.017	0.118	-0.292	0.359
CFO	33,190	0.074	0.113	-0.182	0.356
SIZE	33,190	9.036	1.689	3.664	12.150
LEV	33,190	0.621	0.354	0.003	1.295
ROA	33,190	0.029	0.109	-0.279	0.270
BIG4	33,190	0.359	0.480	0.000	1.000
IFRS	33,190	0.211	0.408	0.000	1.000
LISTED	33,190	0.004	0.062	0.000	1.000

ABNCFO is a proxy for sales manipulation. *ABNPROD* is a proxy for production cost manipulation. *ABNDA* is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *POSDA* is a proxy for positive values of discretionary accruals, while *NEGDA* represents negative values of discretionary accruals. *PD* (Power Distance), *IND* (individualism), *MASC* (masculinity), *UA* (uncertainty avoidance), LTO (long-term orientation) and INDULG (indulgence) are the proxies of cultural factors following the approach of Minkov et al. (2012), ranking from 0 to 1. *LE* is the average score across two variables (1) an assessment of rule of law and (2) the corruption index based on Kaufmann et al. (2009), ranking from 0 to 1. *C* is the tax incentives variable derived by Huizinga and Laeven (2008), equal to 1 for positives values and 0 otherwise. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. *CFO* is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total assets. *ROA* is operating profit divided by total assets. *BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *IFRS* is a dummy variable, equal to 1 if the firm applied IFRS standards and 0 otherwise. *LISTED* is a dummy variable, equal to 1 if the company is listed and 0 otherwise.

Table 3. Pearson correlation matrix

	ABNDA	ABNCFO	ABNPRO	PD	IND	MASC	UA	LTO	INDULG	LE	C	GROWTH	LISSUE	EISSUE	CFO	SIZE	LEV	ROA
ABNDA	1																	
ABNCFO	0.05***	1																
ABNPRO	0.10***	0.17***	1															
PD	0.01	-0.03***	0.00	1														
IND	0.01	0.00	-0.01	-0.33***	1													
MASC	-0.01	-0.03***	-0.03***	0.02***	0.17***	1												
UA	-0.02***	-0.06***	-0.04***	0.76***	-0.5***	0.18***	1											
LTO	-0.01	-0.03***	0.02***	-0.02***	0.24***	0.34***	0.15***	1										
INDULG	0.00	0.03***	0.02***	-0.4***	0.46***	-0.38***	-0.58***	-0.15***	1									
LE	-0.01***	0.02***	0.03***	-0.48***	0.4***	-0.14***	-0.41***	0.13***	0.55***	1								
C	-0.01	-0.04***	-0.04***	0.15***	0.19***	0.11***	0.29***	0.39***	-0.06***	0.07***	1							
GROWTH	0.02*	0.12***	0.13***	0.00	-0.01***	-0.02***	-0.02***	-0.03***	-0.01*	0.00	-0.04***	1						
LISSUE	0.02***	0.16***	0.14***	0.03***	0.00	-0.01***	0.02***	0.00***	0.00	-0.01**	-0.01***	0.33***	1					
EISSUE	0.00	0.33***	0.07***	-0.01***	0.00	-0.01*	-0.01	0.01**	0.00	0.00	-0.02***	0.21***	-0.03***	1				
CFO	0.00	0.05***	0.04***	-0.02***	0.02***	-0.01*	-0.04***	0.04***	0.06***	0.07***	-0.05***	0.15***	0.03***	0.54***	1			
SIZE	-0.24***	-0.22***	-0.20***	0.02***	-0.02***	0.01*	0.03***	-0.07***	0.01***	-0.05***	-0.02***	0.00	0.01*	0.06***	0.01	1		
LEV	0.00	-0.05***	0.08***	-0.04***	0.01***	-0.02***	-0.02***	0.03***	-0.03***	-0.05***	0.05***	0.07***	0.07***	-0.01*	-0.08***	0.1***	1	
ROA	-0.03***	-0.05***	0.03***	-0.05***	0.02***	-0.01***	-0.05***	0.01*	0.05***	0.07***	-0.05***	0.11***	-0.04***	0.47***	0.82***	0.12***	-0.03***	1

*A coefficient is statistically significant at the 10% level or better, two-tailed.
**A coefficient is statistically significant at the 5% level or better, two-tailed.
***A coefficient is statistically significant at the 1% level or better, two-tailed.

Table 4: Panel A. accrual manipulation and real earning manipulation driven by cultural factors within multinational groups

	Independent variable: PD			Independent variable: IND			Independent variable: MASC		
	|ABNPRO|	|ABNCFO|	|ABNDA|	|ABNPRO|	|ABNCFO|	|ABNDA|	|ABNPRO|	|ABNCFO|	|ABNDA|
IND. Variable	-0.012	-0.071***	-0.073***	-0.098***	-0.011	-0.085***	0.005	0.023***	0.054***
	(0.016)	(0.011)	(0.018)	(0.018)	(0.013)	(0.020)	(0.012)	(0.009)	(0.014)
GROWTH	0.118***	0.045***	0.046***	0.119***	0.046***	0.047***	0.118***	0.046***	0.047***
	(0.009)	(0.006)	(0.010)	(0.009)	(0.006)	(0.010)	(0.009)	(0.006)	(0.010)
LISSUE	0.112***	0.049***	0.030***	0.112***	0.049***	0.031***	0.112***	0.049***	0.031***
	(0.006)	(0.004)	(0.007)	(0.006)	(0.004)	(0.007)	(0.006)	(0.004)	(0.007)
EISSUE	0.140***	0.035**	0.077***	0.143***	0.036**	0.080***	0.140***	0.036**	0.078***
	(0.021)	(0.015)	(0.024)	(0.021)	(0.015)	(0.024)	(0.021)	(0.015)	(0.024)
CFO	0.102***	0.420***	0.235***	0.099***	0.416***	0.230***	0.101***	0.415***	0.229***
	(0.036)	(0.024)	(0.039)	(0.036)	(0.024)	(0.039)	(0.036)	(0.024)	(0.039)
SIZE	-0.047***	-0.022***	-0.063***	-0.047***	-0.022***	-0.062***	-0.047***	-0.023***	-0.063***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
LEV	0.004***	-0.001***	0.001***	0.004***	-0.001***	0.001***	0.004***	-0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.040	-0.455***	-0.299***	0.0396	-0.451***	-0.297***	0.0412	-0.449***	-0.291***
	(0.035)	(0.024)	(0.039)	(0.035)	(0.024)	(0.039)	(0.035)	(0.024)	(0.039)
BIG4	0.046***	0.034***	0.025***	0.047***	0.037***	0.029***	0.047***	0.039***	0.033***
	(0.005)	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)
IFRS	-0.047***	-0.002	-0.027***	-0.067***	-0.005	-0.044***	-0.046***	0.000	-0.022***
	(0.005)	(0.003)	(0.005)	(0.006)	(0.004)	(0.007)	(0.005)	(0.004)	(0.006)
LISTED	-0.048	0.012	0.015	-0.057*	0.008	0.005	-0.049	0.008	0.011
	(0.033)	(0.022)	(0.037)	(0.033)	(0.023)	(0.037)	(0.033)	(0.022)	(0.037)
Intercept	0.755***	0.375***	0.894***	0.812***	0.339***	0.905***	0.745***	0.322***	0.826***
	(0.015)	(0.010)	(0.017)	(0.017)	(0.011)	(0.019)	(0.013)	(0.009)	(0.014)
Observations	33,190	33,190	33,190	33,190	33,190	33,190	33,190	33,190	33,190
R-squared	0.079	0.048	0.070	0.080	0.046	0.070	0.079	0.047	0.070
Chi2	2624.59	1523.48	2291.94	2655.04	1479.50	2292.52	2624.21	1486.58	2290.51
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4: Panel A. (Continued)

	Independent variable: UA			Independent variable: LTO			Independent variable: INDULG		
	|ABNPRO|	|ABNCFO|	|ABNDA|	|ABNPRO|	|ABNCFO|	|ABNDA|	|ABNPRO|	|ABNCFO|	|ABNDA|
IND. Variable	-0.040***	-0.069***	-0.080***	0.045***	0.003	-0.103***	0.039***	0.028***	-0.042***
	(0.013)	(0.009)	(0.014)	(0.016)	(0.011)	(0.018)	(0.014)	(0.011)	(0.015)
GROWTH	0.117***	0.044***	0.045***	0.118***	0.045***	0.046***	0.118***	0.045***	0.047***
	(0.009)	(0.006)	(0.010)	(0.009)	(0.006)	(0.010)	(0.009)	(0.006)	(0.010)
LISSUE	0.112***	0.049***	0.030***	0.112***	0.049***	0.030***	0.112***	0.049***	0.031***
	(0.006)	(0.004)	(0.007)	(0.006)	(0.004)	(0.007)	(0.006)	(0.004)	(0.007)
EISSUE	0.141***	0.037**	0.079***	0.141***	0.035**	0.075***	0.141***	0.036**	0.077***
	(0.021)	(0.015)	(0.024)	(0.021)	(0.015)	(0.024)	(0.021)	(0.015)	(0.024)
CFO	0.100***	0.414***	0.229***	0.097***	0.416***	0.242***	0.099***	0.414***	0.235***
	(0.036)	(0.024)	(0.039)	(0.036)	(0.024)	(0.039)	(0.036)	(0.024)	(0.039)
SIZE	-0.047***	-0.022***	-0.062***	-0.047***	-0.022***	-0.062***	-0.047***	-0.022***	-0.063***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
LEV	0.004***	-0.001***	0.001***	0.004***	-0.001***	0.001***	0.004***	-0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	0.041	-0.453***	-0.298***	0.044	-0.451***	-0.303***	0.041	-0.451***	-0.296***
	(0.035)	(0.024)	(0.039)	(0.035)	(0.024)	(0.039)	(0.035)	(0.024)	(0.039)
BIG4	0.045***	0.034***	0.026***	0.047***	0.037***	0.026***	0.045***	0.036***	0.030***
	(0.005)	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)	(0.005)	(0.003)	(0.005)
IFRS	-0.043***	0.004	-0.019***	-0.038***	-0.002	-0.046***	-0.045***	-0.001	-0.029***
	(0.005)	(0.003)	(0.006)	(0.006)	(0.004)	(0.006)	(0.005)	(0.003)	(0.006)
LISTED	-0.052	0.004	0.007	-0.052	0.009	0.021	-0.046	0.011	0.009
	(0.033)	(0.022)	(0.037)	(0.033)	(0.022)	(0.037)	(0.033)	(0.022)	(0.037)
INTERCEPT	0.779***	0.386***	0.913***	0.721***	0.330***	0.910***	0.729***	0.318***	0.870***
	(0.015)	(0.011)	(0.017)	(0.015)	(0.010)	(0.017)	(0.013)	(0.009)	(0.015)
Observations	33,190	33,190	33,190	33,190	33,190	33,190	33,190	33,190	33,190
R-squared	0.080	0.048	0.070	0.079	0.046	0.070	0.079	0.047	0.070
Chi2	2634.39	1542.91	2307.66	2632.24	1478.81	2308.37	2632.31	1487.82	2281.72
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4: Panel B. accrual manipulation and real earning manipulation driven by institutional settings within multinational groups

	(1) |ABNPRO|	(2) |ABNCFO|	(3) |ABNDA|
LE	0.031*	-0.015	-0.112***
	(0.017)	(0.012)	(0.021)
GROWTH	0.093***	0.037***	0.038***
	(0.009)	(0.006)	(0.010)
LISSUE	0.102***	0.045***	0.027***
	(0.006)	(0.004)	(0.007)
EISSUE	0.192***	0.044***	0.096***
	(0.021)	(0.015)	(0.024)
CFO	0.147***	0.446***	0.250***
	(0.035)	(0.024)	(0.039)
SIZE	-0.043***	-0.022***	-0.062***
	(0.001)	(0.001)	(0.001)
LEV	0.219***	0.056***	0.079***
	(0.008)	(0.006)	(0.009)
ROA	0.188***	-0.415***	-0.237***
	(0.035)	(0.024)	(0.039)
BIG4	0.038***	0.037***	0.036***
	(0.005)	(0.003)	(0.005)
IFRS	-0.039***	0.000	-0.028***
	(0.005)	(0.003)	(0.006)
LISTED	-0.025	0.017	0.015
	(0.033)	(0.022)	(0.036)
Intercept	0.557***	0.297***	0.882***
	(0.021)	(0.013)	(0.022)
Observations	30,575	30,575	30,575
R-squared	0.097	0.049	0.072
Chi2	3294.74	1581.17	2389.22
Year fixed effects	Yes	Yes	Yes

Standard errors (in parentheses below the coefficients). Legend: table 2.

Table 4: Panel C. accrual manipulation and real earning manipulation driven by tax incentives within multinational groups

	(1) |ABNPRO|	(2) |ABNCFO|	(3) |ABNDA|
C	-0.044***	-0.013***	-0.027***
	(0.004)	(0.003)	(0.005)
GROWTH	0.092***	0.037***	0.036***
	(0.009)	(0.006)	(0.014)
LISSUE	0.102***	0.044***	0.026***
	(0.006)	(0.004)	(0.007)
EISSUE	0.198***	0.046***	0.101***
	(0.021)	(0.015)	(0.024)
CFO	0.136***	0.443***	0.244***
	(0.035)	(0.024)	(0.039)
SIZE	-0.043***	-0.022***	-0.061***
	(0.001)	(0.001)	(0.001)
LEV	0.225***	0.058***	0.083***
	(0.008)	(0.006)	(0.009)
ROA	0.194***	-0.415***	-0.244***
	(0.035)	(0.024)	(0.039)
BIG4	0.036***	0.035***	0.024***
	(0.004)	(0.003)	(0.005)
IFRS	-0.043***	-0.000	-0.027***
	(0.005)	(0.003)	(0.005)
LISTED	-0.041	0.014	0.012
	(0.033)	(0.022)	(0.037)
Intercept	0.602***	0.290***	0.802***
	(0.013)	(0.009)	(0.015)
Observations	30,575	30,575	30,575
R-squared	0.100	0.050	0.073
Chi2	3414.01	1599.97	2390.28
Year fixed effects	Yes	Yes	Yes

Standard errors (in parentheses below the coefficients). Legend: table 2.

Table 5: accrual manipulation and real earning manipulation driven by tax incentives and institutional settings within multinational groups

	(1) |ABNPRO|	(2) |ABNCFO|	(3) |ABNDA|
LE	0.067***	-0.005	-0.095***
	(0.018)	(0.012)	(0.020)
C	-0.047***	-0.012***	-0.023***
	(0.004)	(0.003)	(0.005)
GROWTH	0.091***	0.037***	0.037***
	(0.009)	(0.006)	(0.010)
LISSUE	0.101***	0.044***	0.027***
	(0.006)	(0.004)	(0.007)
EISSUE	0.200***	0.046***	0.099***
	(0.021)	(0.015)	(0.024)
CFO	0.136***	0.443***	0.245***
	(0.035)	(0.024)	(0.039)
SIZE	-0.043***	-0.022***	-0.061***
	(0.001)	(0.001)	(0.001)
LEV	0.226***	0.058***	0.083***
	(0.008)	(0.006)	(0.009)
ROA	0.188***	-0.415***	-0.236***
	(0.035)	(0.024)	(0.039)
BIG4	0.031***	0.035***	0.032***
	(0.005)	(0.003)	(0.005)
IFRS	-0.041***	-0.000	-0.029***
	(0.005)	(0.003)	(0.005)
LISTED	-0.038	0.013	0.008
	(0.033)	(0.022)	(0.037)
Intercept	0.548***	0.294***	0.878***
	(0.021)	(0.013)	(0.022)
Observations	30,575	30,575	30,575
R-squared	0.101	0.050	0.073
Chi2	3429.45	1600.16	2414.49
Year fixed effects	Yes	Yes	Yes

Standard errors (in parentheses below the coefficients). Legend: table 2.

Table 6: accrual manipulation and real earning manipulation driven by tax incentives , institutional settings and cultural factors within multinational groups

	(1)	(2)	(3)
	|ABNPRO|	|ABNCFO|	|ABNDA|
LE	0.059**	-0.015	-0.045*
	(0.023)	(0.016)	(0.026)
C	-0.061***	-0.011***	-0.011**
	(0.051)	(0.003)	(0.006)
PC1	0.004**	-0.008***	-0.010***
	(0.002)	(0.001)	(0.002)
PC2	0.011***	0.004**	-0.009***
	(0.002)	(0.002)	(0.003)
PC3	0.001	0.001	0.008***
	(0.002)	(0.002)	(0.003)
GROWTH	0.092***	0.036***	0.036***
	(0.009)	(0.006)	(0.010)
LISSUE	0.101***	0.044***	0.027***
	(0.006)	(0.004)	(0.007)
EISSUE	0.203***	0.045***	0.096***
	(0.021)	(0.015)	(0.024)
CFO	0.124***	0.443***	0.258***
	(0.03)	(0.024)	(0.039)
SIZE	-0.043***	-0.022***	-0.061***
	(0.001)	(0.001)	(0.001)
LEV	0.227***	0.057***	0.081***
	(0.008)	(0.006)	(0.009)
ROA	0.198***	-0.415***	-0.248***
	(0.035)	(0.024)	(0.039)
BIG4	0.034***	0.034***	0.028***
	(0.005)	(0.003)	(0.005)
IFRS	-0.022***	0.012***	-0.036***
	(0.007)	(0.005)	(0.007)
LISTED	-0.044	0.016	0.014
	(0.033)	(0.022)	(0.037)
Intercept	0.561***	0.305***	0.837***
	(0.023)	(0.016)	(0.025)
Observations	30,575	30,575	30,575
R-squared	0.102	0.051	0.074
Chi2	3462.24	1646.92	2450.76
Year fixed effects	Yes	Yes	Yes

Standard errors (in parentheses below the coefficients). *ABNCFO* is a proxy for sales manipulation. *ABNPROD* is a proxy for production cost manipulation. *ABNDA* is a proxy for accrual manipulation in accordance with the modified Jones model (1995). *LE* is the average score across two variables (1) an assessment of rule of law and (2) the corruption index based on Kaufmann et al. (2009), ranking from 0 to 1. *C* is the tax incentives variable derived by Huizinga and Laeven (2008), equal to 1 for positives values and 0 otherwise. *PC1* is equality comfort, *PC2* is long-term low self-confidence and *PC3* is sanctioned competition computed by using Principal Component Analysis from the cultural factors. *GROWTH* is the annual change in net sales. *LISSUE* is the annual change in liabilities. *EISSUE* is the annual change in shareholder equity. *CFO* is cash flow from operations divided by total assets SIZE is the natural logarithm of the total assets. *LEV* is calculated as total liabilities over total assets. *ROA* is operating profit divided by total assets. *BIG4* is a dummy variable, equal to 1 if the firm was audited by a Big 4 and 0 if it was not. *IFRS* is a dummy variable, equal to 1 if the firm applied IFRS standards and 0 otherwise. *LISTED* is a dummy variable, equal to 1 if the company is listed and 0 otherwise.

Table 7. Estimation of the profit shifting equation

	(1) LogEBIT	(2) LogEBIT
c	-1.555***	-1.550***
	(0.225)	(0.225)
LogAssets	0.201***	0.201***
	(0.009)	(0.010)
LogComp	0.621***	0.620***
	(0.015)	(0.016)
LogGDPPC	-0.014	-0.022
	(0.018)	(0.018)
Year dummies	Yes	Yes
Industry dummies	No	Yes
Observations	22,795	22,795
R-Square	0.520	0.527

Standard errors (in parentheses below the coefficients). $LogEBIT_{it}$ is the logarithm of earnings before interest and taxes. *c* is the value of the tax incentives variable derived by Huizinga and Laeven (2008). $LogAssets_{it}$ is the logarithm of the amount of fixed assets. $LogComp_{it}$ is the logarithm of total labour compensation. $LogGDPPC_{it}$ is the logarithm of GDP per capita of the country.

Table 8. Fixed effects.			
	(1)	(2)	(3)
	|ABNPRO|	|ABNCFO|	|ABNDA|
LE	0.059**	-0.015	-0.045*
	(0.023)	(0.016)	(0.026)
C	-0.061***	-0.011***	-0.011**
	(0.005)	(0.003)	(0.006)
PC1	0.004**	-0.008***	-0.010***
	(0.002)	(0.001)	(0.002)
PC2	0.011***	0.004**	-0.009***
	(0.002)	(0.002)	(0.003)
PC3	0.001	0.001	0.008***
	(0.002)	(0.002)	(0.003)
Intercept	0.561***	0.305***	0.837***
	(0.023)	(0.016)	(0.025)
Observations	30,575	30,575	30,575
R-Squared	0.101	0.050	0.073
Control variables as in table 6	**Included**	**Included**	**Included**
Country fixed effects	**Yes**	**Yes**	**Yes**
Industry fixed effects	**Yes**	**Yes**	**Yes**
Year fixed effects	**Yes**	**Yes**	**Yes**

Standard errors (in parentheses below the coefficients). Legend: table 6.

General conclusions

Our focus on tax incentives reflects that they are important drivers for manipulation when it is linked to corporate tax rates' reduction. However, within multinational groups we will refer tax incentives as the opportunity to shift profits out to other firm within the group located in a different jurisdiction. In respect of this, our findings document that tax incentives are significant mitigating elements for earnings management. Additionally, we also provide evidence about the importance of institutional settings and cultural factors as drivers for manipulation.

This study contributes to prior literature as follows. First, due to the wide variety and the complexity of the topic, the objective of the first chapter is to clarify and explain the definition, causes, techniques and consequences of earnings management. It addresses the concept and the ongoing debates on the topic by showing existing literature from different countries. Second, it shows how companies engage in accrual-based earnings management after the announcement of a tax reform to shift profits and therefore generate tax savings. On the other hand, the announcement of an accounting reform drove companies to engage in more manipulation through accruals. We analyse the impact of two reforms close in time but with different incentives for companies. Hence, we provide a richer understanding of companies' behaviour around incentives' trade-off related to legislative changes. Third, it studies cultural factors, tax incentives and institutional

settings as drivers of manipulation among business groups across different countries. In such a way, it provides a broader framework of drivers for manipulation within multinational groups. Furthermore, prior literature about this topic is overall focused on accrual manipulation. However, since accrual and real earnings management can be used as alternatives or at the same time (Zang, 2012), it is relevant to consider both tools of manipulation in the analysis.

The main implication for auditors, analysts and institutional setters is that the information presented in the financial statements should be analysed carefully because managers could alter it in an opportunistic way.

Furthermore, we find that changes in tax legislation in a code-law country are a clear inducement for managers to engage in manipulation in order to generate tax savings according to prior research that proposes tax systems as a financial reporting incentive (Soderstrom & Sun, 2007). Thus, we suggest that they should be more caution when some of the incentives described above had just happened or are capable to occur. Additionally, they should take into account tax incentives within multinational groups as well as the country where the companies are located and the cultural factors they are subject to. In such a way, we suggest tax incentives and therefore, profit shifting and earnings management is of concern to many countries since it affects negatively on their national economics' growth.

Also, this study show evidence about the potential risks of tax and financial accounting institutional setters ignoring the interplay between financial and tax accounting.

Finally, regulators as well as the rest of the stakeholders should consider that accrual and real earnings management could be used simultaneously or as substitutes, given

different situations. Furthermore, research that ignores real activity manipulation could be overestimating institutional safeguards.

Conclusiones generales

En esta tesis centramos nuestra atención en los incentivos fiscales para la manipulación del resultado. El estudio demuestra que cuando los incentivos están relacionados con reducciones en el impuesto de sociedades son importantes conductores de la manipulación de resultados empresariales. Sin embargo, en grupos multinacionales nos referiremos a incentivos fiscales como la oportunidad de transferir beneficios artificialmente de una empresa a otra compañía perteneciente al grupo que se encuentre en una jurisdicción diferente. A este respecto, nuestros resultados documentan que los incentivos fiscales son elementos mitigadores de la manipulación de resultados. Además, también proporcionamos evidencia sobre la importancia de los factores institucionales y culturales como incentivos de dicha manipulación.

Este estudio contribuye a la literatura previa en diversos aspectos. En primer lugar, debido a la variedad y complejidad del tema, el objetivo del primer artículo es aclarar y explicar la definición, causas, técnicas y consecuencias de la manipulación de resultados. El capítulo aborda el concepto y los debates abiertos del tema, reseñando la literatura existente en diferentes países. En segundo lugar, se demuestra como las compañías incurren en manipulación de resultados para generar ahorros fiscales después del anuncio

de una reforma fiscal. Sin embargo, el anuncio de la reforma contable condujo a que las compañías manipulasen más los resultados mediante manipulación por devengo. Así, podemos analizar el impacto por separado de las dos reformas, al igual que el impacto conjunto gracias a la introducción progresiva de la reforma fiscal. Ello proporciona un mejor entendimiento sobre las preferencias de las empresas, al analizar reformas diferentes con diversos incentivos para las empresas en un país de derecho romano. En tercer lugar, el último capítulo estudia los incentivos fiscales y factores institucionales y culturales como impulsores de la manipulación de resultados en grupos multinacionales a través de empresas del mismo grupo situadas en diferentes países.

Además, la literatura sobre este tema está, sobre todo, focalizada en la manipulación por devengo. Sin embargo, ya que las dos técnicas de manipulación (devengo y actividades reales) pueden ser utilizadas como sustitutas o simultáneas (Zang, 2012), es relevante considerar ambas herramientas de manipulación en el análisis.

La principal implicación para auditores, analistas y los organismos legislativos es que la información presentada en los estados financieros debería ser analizada cuidadosamente ya que los directivos pueden alterar estos documentos de manera oportunista.

Nuestros resultados indican que los cambios en la legislación fiscal en un país de derecho romano son claros incentivos para que los directivos incurran en manipulación, de acuerdo con la literatura previa, que proponen los sistemas fiscales como incentivo para la manipulación de los estados financieros (Soderstrom & Sun, 2007). Por ello, proponemos que deberían ser más cautelosos cuando alguno de los incentivos descritos anteriormente acabe de ocurrir o exista una alta probabilidad de que ocurra. De forma

adicional, cuando se trata de grupos multinacionales se deberían tener en cuenta los incentivos fiscales que puedan ocurrir dentro del grupo, así como el país donde las empresas operan, y los factores culturales del mismo. De manera similar, los incentivos fiscales y, por lo tanto, la transferencia artificial de beneficios y la manipulación de los resultados es un tema interesante para los países en los que compañías multinacionales realizan sus transacciones, ya que puede afectar negativamente al crecimiento económico nacional.

Los reguladores no deberían preocuparse solamente sobre el endurecimiento de las normas, ya que este comportamiento podría empujar a que los directivos se decantasen por el uso de herramientas de manipulación por actividades reales u otro mecanismo de manipulación (Fan et al., 2010), contrarrestando el objetivo del organismo legislativo. Así, también este estudio demuestra los riesgos potenciales a los que los organismos legislativos, fiscales y contables se enfrentan si ignoran el papel interdisciplinar que tienen la contabilidad y la fiscalidad.

Finalmente, reguladores asi como el resto de las partes interesadas o «stakeholders» deberían considerar que las herramientas de manipulación por devengo y manipulación por actividades reales pueden ser utilizadas de manera simultánea o como sustitutas cuando se dan diferentes situaciones. Ademas, consideramos que es necesario que la investigación tenga en cuenta las dos posibilidades de manipulación, ya que el estudio aislado de una de ellas podría estar sobreestimando la seguridad institucional realizada por los reguladores, generalmente preocupados solamente por el endurecimiento de las normativas de devengos.

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December 2015: Presentation of a paper entitled “Tax regimes, institutional settings and cultural factors as conditionings of earnings management within business groups” at the UCD Doctoral Colloquium 2015, Dublin (Ireland).

November 2015: Presentation of a paper entitled “Managers' behaviours around an accounting reform vs. a tax reform in a code law country” at the EAA Talent Workshop, Madrid (Spain).

July 2015: Presentation of a paper entitled “Managers' behaviours around a tax-law change in a code law country” at the 5th Workshop on Current Research in Taxation, Prague (Czech Republic). Scholarship by EAISM Association.

May 2015: Presentation of a paper entitled “The effect of a tax reform on earnings management: evidence from a code-law country” at the IAFA Doctoral Colloquium 2015, Dublin (Ireland).

January 2015: Presentation of a paper entitled “Taxes Strategies and Earnings Management” at the XX Workshop Raymond Konopka, Segovia (Spain).

December 2014: Presentation of a paper entitled “Taxes Strategies and Earnings Management” at the Doctoral Colloquium of School of Business, Trinity College of Dublin, Dublin (Ireland).

March 2014: Presentation of a paper entitled “Earnings Management and Taxes Strategies” at the UAM- UC3M Doctoral students and junior faculty colloquium in accounting, Madrid (Spain).

ADDITIONAL TRAINING

PSM Course (6 hs)
R course, Economics department of Trinity College Dublin (6 hs).
Big data course, Economics department of Trinity College Dublin (12 hs).
Stata course, La Laguna University, Santa Cruz de Tenerife (30 hs).

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

EAA (European Accounting Association)
AAA (American Accounting Association)
ASEPUC (Asociación española de profesores Universitarios de Contabilidad)
IAFA (Irish Accounting and Finance Association)

WORK EXPERIENCE

Financial controller assistant. Airbus Operations, S.L**.**	**2013-2014**
Assistant in Logistic Department. Siemens, S.A.	**2013**
Accounting assistant. PKF Attest.	**2012-2013**

OTHER ACTIVITIES

Languages: Spanish (native), English (fluent), French (intermediate), Italian (Beginner).