



UNIVERSITA' DEGLI STUDI DI PADOVA

**DIPARTIMENTO DI SCIENZE ECONOMICHE ED AZIENDALI
"M.FANNO"**

**CORSO DI LAUREA MAGISTRALE IN
BUSINESS ADMINISTRATION**

TESI DI LAUREA

**"Earnings quality in privately held firms: an exploratory analysis of the
larger business groups in the Province of Padova"**

RELATORE:

CH.MO PROF. AMEDEO PUGLIESE

LAUREANDA: MARTINA ROSATO

MATRICOLA N. 1179601

ANNO ACCADEMICO 2019 – 2020

Il candidato dichiara che il presente lavoro è originale e non è già stato sottoposto, in tutto o in parte, per il conseguimento di un titolo accademico in altre Università italiane o straniere.

Il candidato dichiara altresì che tutti i materiali utilizzati durante la preparazione dell'elaborato sono stati indicati nel testo e nella sezione "Riferimenti bibliografici" e che le eventuali citazioni testuali sono individuabili attraverso l'esplicito richiamo alla pubblicazione originale.

The candidate declares that the present work is original and has not already been submitted, totally or in part, for the purposes of attaining an academic degree in other Italian or foreign universities. The candidate also declares that all the materials used during the preparation of the thesis have been explicitly indicated in the text and in the section "Bibliographical references" and that any textual citations can be identified through an explicit reference to the original publication.

Firma dello studente

Acknowledgments

Ringrazio la mia famiglia, i miei genitori e mio fratello per essere stati una presenza costante, di supporto e di sfida, che mi ha motivato ad affrontare il percorso universitario.

Ringrazio tutte le persone che ho incontrato, anche solo brevemente, in questi anni di studio e con cui ho condiviso una crescita accademica, professionale ma soprattutto umana.

Ringrazio il Professor Pugliese per la disponibilità e il supporto nella redazione di questa tesi e il Professor Fabrizi per aver condiviso il suo database sulle top 500 aziende di Padova.

Table of contents

Introduction	9
1. An introduction to private firms.....	11
1.1 Privately held firms: relevance and issues.....	11
1.2 Definitions of private firm.....	12
1.3 Financial reporting disclosure and regulatory bodies	13
1.4 Agency theory and signalling in private firms	15
1.5 Accounting information demand and supply.....	16
1.5.1 Demand for accounting information by private firms.....	16
1.5.2 Supply of accounting information by private firms	17
1.5.3 Is accounting information economically important for private firms?	18
2. Financial reporting quality in private firms	19
2.1 How to define earnings quality	19
2.2 Proxies of earnings quality	20
2.2.1 Properties of earnings.....	20
2.3 Determinants and consequences of earnings quality.....	24
2.3.1 The determinants of earnings quality	24
2.3.2 The consequences of earnings quality.....	30
2.4 Financial reporting quality in private firms	35
2.4.1 Determinants and consequences of reporting quality in private firms.....	36
2.4.2 Accrual quality in private firms	37
2.4.3 Conservatism in private firms	37
2.4.4 IFRS adoption by private firms.....	38
2.4.5 Voluntary disclosure by private firms.....	39
3. Relevant literature, context and hypothesis development.....	40
3.1 Earnings management in business groups.....	40
3.2 Earnings management through affiliated transactions.....	41
3.3 Context of analysis	42
Italian related-party transactions background	43

3.4 <i>Hypothesis discussion and development</i>	44
3.4.1 Ownership concentration and earnings management (H1)	45
3.4.2 Group complexity and earnings management (H2)	46
3.4.3 Intra-group transactions and earnings management (H3)	47
4. Data, variable measurement and descriptive statistics	49
4.1 <i>Data</i>	49
4.2 <i>Variable measurement</i>	50
4.2.1 Ownership concentration metric	50
4.2.2 Subsidiaries metrics	51
4.2.3 Intra-group transactions metric	51
4.2.4 Control variables	52
4.2.5 Earnings quality measures.....	52
4.2.6 Variable summary	54
4.3 <i>Descriptive statistics</i>	56
Profit distribution and “kink”	57
5. Results	59
5.1 <i>Ownership concentration and earnings quality</i>	59
5.2 <i>Subsidiaries metrics and earnings quality</i>	61
5.3 <i>Intra-group transactions index and earnings quality</i>	63
5.4 <i>Discussion of results</i>	65
5.5 <i>Robustness checks</i>	66
Bootstrap analysis	66
5.6 <i>Limitations and future prospects</i>	69
Conclusions	71
References	73
Web sources	85

Introduction

Private corporations are the backbone of the global economic activity. This does not come as a surprise, as most firms develop out of entrepreneurial activity initiated by one or a group of private individuals. In nearly all cases, the emerging corporate entity is private in nature and has no traded equity or debt on a public market and often remains so, even for a long time and for mature firms.

In recent years, there has been strongly growing interest in private firms in academic accounting research. Besides a multitude of questions with respect to the specificities of private firms and their comparability to public peers, private firms have also proven to be a useful ground to test questions of general interest given their distinctive characteristics regarding agency issues, business context, and regulatory settings.

To motivate the importance of private firms, it is useful to provide descriptive insights on their relative economic significance using 2019 data from *Amadeus*, a popular research database on public and private corporations in the 28 EU Member States maintained by Bureau van Dijk. In absolute numbers, the overwhelming majority (99.81%) of firms are private, and in nearly all countries private firms account for at least 90% of the total number of firm observations. Adjusting for size, private firms still account for close to 37% of total assets in Europe, and for 18 of the 28 EU Member States, private firms make up more than half of all corporate assets.

However, it is likely that the relative share of private firms of around 37% of total assets is in fact a conservative estimate. According to the Fourth EU Directive 78/660/EEC of 25 July 1978 (superseded by the Directive 2013/34/EU of 26 June 2013), only limited liability firms are required to publish financial statements. Consequently, the database does not cover sole proprietorships that do not fall under this requirement. Likewise, alternative sources confirm the importance of private firms: Eurostat's 2019 Statistics on Small and Medium-Sized Enterprises states that 99.8 % of all enterprises in Europe employ less than 250 employees, and that such small and medium-sized enterprises account for about two thirds (66%) of all employment and turnover realization within Europe (Beuselinck et al., 2019).

Clarified private firms' prominence, Italy's statistics position the country well above the average. The private sector significance in Italy has always been renown, and its relative importance is sealed by *Amadeus*' relative percentage of private firms with respect to public firms (99.97%) and by their share of Assets (69.20%).

The scope of this research is the study of the organizational structure of the larger business groups in the Province of Padova and the focus of analysis is on its impact on earnings quality. The research question revolves around three perspectives: ownership concentration, subsidiaries' impact, and intra-group transactions magnitude.

The three stages investigate:

- (i) the intensity of earnings management when proprietorship is more or less concentrated;
- (ii) the intensity of earnings management when one or more subsidiaries are part of the business group and the relative impact of foreign subsidiaries;
- (iii) the intensity of earnings management when the parent engages in more or less intra-group transactions.

Given the context of interest, ownership concentration is expected to be positively related to earnings quality, as more dominant shareholders are expected to take on leadership roles that better align personal and company interest in a stewardship theory framework, reduce managerial discretion, and reduce agency issues.

Group complexity is expected to be positively correlated with earnings management as business groups have more chances to manipulate earnings when one or more subsidiaries belong to the group. Hence, earnings quality is expected to decrease as the number of subsidiaries increase. Predictions on the relative impact of foreign subsidiaries are mixed because while firms with extensive operations in weak rule-of-law countries or tax havens manage earnings more than other firms (Dyreng et al., 2012), generally earnings management is located at domestic level.

Furthermore, the magnitude of intra-group transactions is supposedly related to earnings management practices, of whom studies assume them to be a mean of implementation.

The relation between the intra-group transactions index and earnings management metrics is therefore expected to be positive.

The study pertains to two different streams of research: earnings management in business groups and earnings management through affiliated transaction.

It contributes to the literature focusing the impact of organizational structure on earnings management choices and overall to the understanding of the business ecosystem of private firms.

1. An introduction to private firms

1.1 Privately held firms: relevance and issues

Private firms significantly contribute to national GDPs, to create employment and to open up export opportunities. Despite the significant role played in the world economy and their relevance in the business world, private company research is still a minority in accounting empirical studies and most of accounting research has been focused on public companies.

Nevertheless, the prominence of private firms in the global economy is testified by several statistics although official assessments do not exist neither at national nor at worldwide level. To cite an example, Berzins et al. (2008) show that, in the aggregate, non-listed firms have about four times more employees, three times higher revenues, and twice the amount of assets than listed firms, and that these statistics are representative for most countries in the world. Asker et al. (2015) estimate that more than 50% of spending on aggregate fixed investments in the U.S. (2010) have been made by the private sector. It further testifies that private firms employ around two-thirds of the labour force and that almost 60% of total sales volume belong to them. Even among the larger firms, private firms dominate public ones: considering again the United States in 2007, private firms accounted for 85.6% of companies with 500 or more employees. Even in an economy believed to be driven by state-owned enterprises, such as China, only about 25% of gross industrial output came from such state enterprises in 2014, a drop from more than 75% in 1978¹.

Indeed, while many small businesses may be privately held, the impact on the world economic health of privately held firms on aggregate is likely considerable and widely unknown².

As said beforehand, despite the important role played by private firms in the business world, the dominant part of accounting empirical research in academia has been focused on listed firms. Intuitively, there are two main reasons for the relatively higher attention paid to public companies.

1. The lack of available public data on private companies considerably limits the research that can be performed on issues such as strategy, governance and outcomes.

¹ Bloomberg View, 2014

² As reference, "Private companies pull economy along", Forbes, October 1, 2012

2. The demand for accounting information is relatively limited compared to public firms as the number of outside decision makers that rely on publicly available information is smaller and there is evidence of different internal-decision mechanisms in place between private firms and their stakeholders (Ball and Shivakumar, 2005; Bigus and Hillebrand, 2017).

Bar-Yosef et al. (2019) states that research on private firms is relevant because it allows a better understanding of the private sector *per se*, but it may also provide a fertile ground to test general-interest accounting research questions.

Over the last decade, private companies have drawn the attention of regulators in order to provide a sufficient level of available financial information. In addition, standard setters such as the International Accounting Standards Board (IASB) have issued standards specifically thought for private companies, i.e. IFRS for Small and Medium enterprises. IFRS for SMEs modify “full” IFRS (i.e., IFRS used by public entities) with the intent of providing private companies a simplified, self-contained set of financial reporting standards while, at the same time, better meeting the needs of their financial statement users³.

Private firms are then an area of accounting research to develop because of the primary importance such companies play in the world economy and to deal with the particular questions that arise when approaching their study.

Before digging any further in the specific issues related to our study, it may be useful to introduce a brief definition of private firms among different studies in order to clarify our focus.

1.2 Definitions of private firm

According to Bar-Yosef et al. (2019), two types of business enterprises can be distinguished in empirical research, public and private. They can take different legal forms on the basis of their organisational needs such as proprietorship, partnership, or incorporation. In proprietorships and partnerships there is no legal separation between owners and business, while corporations rely on the principle of limited liability where the owners’ liability is limited to their stake of equity investment.

³ Deloitte, International Financial Reporting Standards, What it means for private company reporting (2009)

The Financial Accounting Standards Board (FASB) does not define a private company. Rather it defines a public company and if a company does not meet the definition, then it is a private company (Habib, 2018).

Public companies are corporations whose securities are traded on a stock exchange. On the other hand, private firms comprise all types of legal forms and their securities are not traded. Broadly speaking, non-traded securities are mostly intended as both equity and debt ones but that may depend on the scope of research. As an example, Haw et al. (2014) identify private firms as companies whose sole equity is not traded on a stock while taking into account firms with both private and public debt (such as publicly traded bonds). This is consistent in a stream of research that focuses on debt issues.

Legal regulations and accounting standards require public companies to disclose corporate information to the public, while the range of available information in the case of private firms depends on domestic legislation requirements. For example, while the mandatory disclosure regime for publicly traded companies is substantially similar in both the U.S. and Europe, the requirements for U.S. private companies are significantly less than those for European companies. A private U.S. company is under no obligation to make its accounts or other financial information publicly available, while every European company with limited liability is required by the Fourth Company Law Directive to publish its annual accounts (comprising balance sheet, profit-and-loss account and notes) and an Annual Report among other documents⁴. However, such requirements may be shaped by domestic thresholds that trigger requirements themselves such as the number of employees, revenues size, total assets or similar measures. It follows that private firms' accounting ecosystem is influenced by various players and regulations and thus the available accounting information is also shaped by different rationales.

Overall, boundaries when defining private firms are not clear cut.

1.3 Financial reporting disclosure and regulatory bodies

Information is conveyed to stakeholders by means of financial disclosure: insiders and external parties use such information to check over a company's overall soundness and to make

⁴ For reference: Public Disclosure Requirements for Private Companies: U.S. vs. Europe

investment decisions. As economic complexity increases, the role of financial reports becomes more and more crucial since information asymmetries arise between stakeholders and corporate insiders generating agency problems.

Following Bar-Yosef et al. (2019), in order to understand the diversified developments in the treatment of accounting information in private firms, it is important to identify the rationale between financial disclosure and information asymmetries.

A key agency issue lies in the separation between ownership and management, but private firms' owners typically have access to internal information. As for the other external stakeholders, they are more likely to resolve information asymmetries by an "insider access" model by means of individual contracts, so private firms are less likely to use public financial statements in contracting with lenders, suppliers and other parties (Ball and Shivakumar, 2005). The open question left is whether and how financial reports should be defined by regulatory bodies and standard setters when economic scenarios become more complex and agency issues become more relevant.

A country's institutions affect the quality of the contracting environment, and firms will voluntarily improve their financial reporting quality to facilitate contracting only when the net benefits of doing so are positive (Ball et al., 2003; Francis et al., 2003; Leuz et al., 2003)

Considering the U.S. setting, a survey research indicates that private company users find public company GAAP financial statements to have significant decision usefulness, and to be cost-benefit effective. In addition, evidence suggests that when the cost-benefit calculus is not favourable, market forces lead to deviations from GAAP. While some assert that the needs of private company financial statement users differ from those of public company stakeholders, the Committee does not find clear evidence of differential user needs or a clear articulation of how differential needs would lead to a framework for GAAP that differs from the current public company financial reporting requirements in the U.S. Overall, if there is demand for separate private company GAAP, then market forces, rather than standard setters, may be better at meeting the differential information needs of various private company stakeholders (Botosan et al., 2015).

As for demand for private auditors, Esplin et al. (2018) find that a private company demand for an audit comes from a variety of agents including bankers, directors, bonding companies, customers, employees, lenders, other regulators, private equity firms, owners hoping to attract prospective buyers, and vendors. In addition, managers also use auditing data to help them with internal governance.

Such studies highlight the several forces that influence the market for accounting information in private firms, their relative weight played in decision making and the reasons behind different domestic approaches. It is clear how uncertainty is still very relevant when defining such issues.

1.4 Agency theory and signalling in private firms

As suggested before, agency theory dominates, explicitly or implicitly, research on privately held firms. Asker et al. (2015) state that private firms are generally characterized by highly concentrated ownership, and being shareholders usually overlaps with undertaking active roles in management, thus they are characterized by lower agency costs. Further, private firms are subject to fewer short-term pressures. Overall, information asymmetry is reduced and there is less need for monitored public accounting information. On the other hand, the same study considers that private firms tend to rely more on debt than public firms do, so agency relationships with external stakeholders may still arise. The aforementioned fewer short-term pressures are related to the lack of market pressure that results in weaker managerial incentives to bias performance to achieve short-term goals. Financial reporting is then more likely to be influenced by taxation, dividend and other policies (Ball and Shivakumar, 2005).

Considering other frameworks, Francis et al. (2008) state that the voluntary adoption of IAS is one way of signalling accounting credibility and financial transparency, thus employing a signalling framework – when one party, the sender, must choose whether and how to communicate (or signal) that information, and the other party, the receiver, must choose how to interpret the signal (Connelly et al., 2011) – to explain firms' decisions to adopt specific, higher-quality, accounting standards.

The same theory is applicable to the adoption of voluntary audits such as in Lennox and Pittman (2011), whose research is grounded in the more general premise that, everything else constant, the low-risk (high-risk) types (intended as type of private company) have stronger (weaker) incentives to be audited. Appointing an auditor is, in fact, costly to implement and it sends a strong signal in terms of credibility and risk profile.

1.5 Accounting information demand and supply

1.5.1 Demand for accounting information by private firms

As suggested, agency theory is the dominant lens to analyse the market for accounting information and it is particularly cemented in public firm research.

Further analysing such framework, agency problems can be broken down in Type I and Type II issues. Agency problems stemming from information asymmetries between managers and outside shareholders (Jensen and Meckling, 1976) are classified as Type I, while dominant shareholders expropriating wealth from minority shareholders are Type II agency issues.

Type I mostly dominates the research approach to a public firm accounting framework, while Type II seems more fitting to a private firm setting.

This is a consequence of the more closely held nature of the private firm institution in which shareholders have access to inside information through private channels and ownership often overlaps with management (Ball and Shivakumar, 2005). Furtherly, as Habib et al. (2018) highlights, not all private firms have such an agency-oriented culture (e.g., opportunistic behaviour by dominant shareholders), and others may be characterized by a stewardship orientation that promotes the welfare of all stakeholders. The lack of capital market pressures reduces incentives for financial statement manipulation by private firm managers to meet short-term objectives, thereby reducing the demand for financial statements to monitor managerial opportunistic behaviour in reporting.

Overall, demand for accounting information doesn't seem to be as important as in a public firm theoretical framework but it is still worth highlighting some of its most relevant features.

Demand may still come from minority shareholders that demand published or better-quality financial statements to protect themselves against dominant shareholders' intention to expropriate their wealth. Owners-managers may also expropriate resources from creditors, thus lenders may seek guarantees for their exposure. As long as debtholders obtain the required information through private channels, there is less demand for enhanced financial statements. When there are more contacting parties, they will increase the demand for public financial information. This is a consequence of the efficiency of debt agreements, especially those that utilize financial statement variables (such as income-statement or balance-sheet variables). Accurate financial statements help ex-ante loan pricing and trigger ex-post violation of covenants more quickly, giving lenders the option to impose contractual restrictions timelier

(Ball and Shivakumar, 2005) and transferring decision rights from loss-making managers to lenders.

1.5.2 Supply of accounting information by private firms

Globally, there is both a voluntary and mandatory reporting regime in place, depending on domestic regulations.

Some authors claim that the ability of private firms to disclose information selectively is a major reason why private firms stay private, as it yields higher benefits (Farre-Mensa, 2010). Furthermore, the goal of disclosure is different in such a context as the recipients of financial accounting information are different (banks, customers, suppliers etc.) than public firms, where generally information is conveyed to capital markets, investors and more generally outside stakeholders.

Private firms publishing more, or higher quality information, are associated with higher leverage levels, suggesting that such a behaviour conveys a valuable signal to creditors and banks other than the information they may privately acquire (Van Caneghem and Van Campenhout, 2012). Voluntary supply may be motivated by the desire to access cheaper debt financing. Verrecchia (1983) argued that undisclosed proprietary information may come at a cost to a firm. As a matter of fact, disclosure can directly reduce cost of debt mainly by decreasing estimation risk and information risk. Estimation risk happens when there is uncertainty about i.e. investment projects. As for information risk, more disclosure mitigates information asymmetries among parties and makes it relatively more complex and costly to become privately informed (Beuselinck et al., 2013). Private firms may thus be encouraged to supply more informative financial reports in order to show positive performance and cash flows to creditors to obtain favourable loan terms. Interestingly, Givoly et al. (2010) find that private equity firms with publicly traded debt have higher quality accruals and a lower propensity to manage income than public equity firms. They further find that public equity firms report more conservatively, in line with their greater litigation risk and agency costs. Additionally, Ding et al. (2016) state that financial reporting quality is associated with the predictability of future cash flows (Dechow, 1994), and creditors are more likely to take borrowers' financial reporting quality into consideration for debt contracting. Ball et al. (2008) show that debt investors 'generate more demand than equity markets for financial reporting'. Creditors of private firms in particular have fewer information channels about borrowers' financial performance than do creditors from public firms, thus financial reporting quality is more important for private firms'

creditors. As expected, their finding in China documents a positive role played by accounting quality in debt financing: firms with higher quality accounting information have greater access to loans and enjoy a lower rate of interest.

1.5.3 Is accounting information economically important for private firms?

Considering the accounting setting portrayed above, the following question is whether accounting information is actually important for private firms.

Following Hope et al. (2017), in the absence of market-based measures of firm-value as well as other sources of information such as financial analysts, high-quality reporting may be relevant to analyse managerial performance and to support personnel and compensation decisions. Such usefulness has already been emphasized by McNichols and Stubben (2008), that highlight how the quality of reporting affects firms' internal decision processes and, consistently, by Shroff (2017) that argues that accounting rules affect investment decisions. Finally, private firms are less likely to have separate management accounting systems from financial accounting systems (e.g. Drury and Tayles, 1995), thus maybe enhancing the relative importance of financial statements for decision-making.

The discussed evidence suggests that financial accounting information is indeed valuable for private firms for several reasons.

2. Financial reporting quality in private firms

2.1 How to define earnings quality

Dechow et al. (2010) define earnings quality as follows:

“Higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision-maker.”

They then highlight that earnings quality is determined by both the relevance of the underlying financial performance to the decision-making process and the accounting system’s capability to measure such performance.

Following conventional wisdom, it is useful to define the basic element of such definition: reported earnings. Reported earnings are defined in practice as “a function of the enterprise’s financial performance during a reporting period”. When more than one reporting period is considered, performance represents three components (Dechow et al., 2010):

- (i) cash flows generated during the current period;
- (ii) the present value of cash flows that will be generated in future periods that are a result of actions taken in the current period;
- (iii) the present value of the change in the liquidation value of net assets that are a result of actions taken in the current period.

Financial performance is defined without relevance to a particular stakeholder, though the relevance of a specific element of a firm’s performance can vary across stakeholders and decision models. Furthermore, some elements of financial performance are not observable.

Reported earnings do not perfectly match financial performance for several reasons:

- Multiple decision models: Different decision models and stakeholders have differing needs in terms of information and accountability. A single number cannot be relevant in all different decision models.
- Variation in performance: Measurement regulations are predetermined and cannot perfectly measure performance and be equally relevant for all firms at the same time.
- Implementation: Given that performance is unobservable, retained earnings will naturally involve estimations and judgements. Bias are thus an issue to take into account.

2.2 Proxies of earnings quality

2.2.1 Properties of earnings

Earnings persistence

Earnings persistence is defined as the continuity and durability of the current earnings.

Generally, research on earnings persistence is focused on valuation purposes and it is a property related to valuation for several reasons. The most obvious motivation is that more persistent earnings are a better valuation input because they produce a more sustainable stream of earnings/cash flows to put into i.e. a DCF-based model.

A simple empirical proxy for earnings persistence is the following:

$$Earnings_{t+1} = \alpha + \beta Earnings_t + \varepsilon_t$$

β measures persistence, a higher β implies a more persistent earnings stream.

Accruals as a component of earnings and as a determinant of earnings persistence have been widely studied.

The definition of accrual has evolved over time. Jones (1991), for example, identifies accruals as non-cash working capital and depreciation. After the introduction of the Statement of Cash Flows, accruals have been defined as the difference between earnings and cash flows where cash flows are obtained from the statement of cash flows. This definition follows Hribar and Collins (2002) as they suggest that such process is less noisy. Richardson et al. (2005) provide a comprehensive measure of accruals, defined as the change in net operating assets other than cash with the change in cash balance reflecting “cash earnings”.

Generally, when earnings are composed predominantly of accruals, they are less persistent than when they are composed predominantly of cash flows. More broadly, accrual adjustments are still decision useful, but they are affected by measurement error, managerial discretion, and growth.

Even among types of accruals, persistence can vary. Richardson et al. (2005) divide financial statement's lines into short and long-term operating assets and liabilities and financial assets and liabilities. They show that short-term accrual components are less persistent than long-term components and that financial accruals are more persistent than operating accruals. Such evidence is consistent with reliability and measurement error concerns being greater for operating assets and, in particular, greater for short-term operating assets than for financial assets.

As for the consequences of earnings persistence, the majority of papers examine its impact on equity market valuation, and some other issues.

First, one consequence is that more persistent earnings are related to positive equity market returns. Collins and Kothari (1989) provide evidence that more persistent earnings have stronger positive stock prices reactions.

Second, Dechow et al. (2010), summoning up research on earnings persistence and informativeness, find out that if the behaviour of informed investors is the benchmark to evaluate the usefulness in decision-making processes of earnings persistence, then persistence is a decision useful characteristic of earnings.

Furthermore, Baber et al. (1998) find that compensation is more sensitive to earnings when they are more persistent.

Abnormal accruals/Discretionary accruals

Accruals have been distinguished in “normal” and “abnormal” accrual components. Performance adjustments are supposed to be captured by “normal” accruals while “abnormal” ones identify distortions in the aforementioned performance-modelling process.

Intuitively, the existence of abnormal accruals has been extensively used as a proxy of earnings quality in empirical research. Abnormal accruals can be the consequence of the application of accounting rules (i.e. errors in the accounting measurement system) or the result of earnings management.

Different accrual models have been estimated overtime. First thing to highlight is that measures of abnormality tend to be positively correlated with the overall level of accruals: high accrual levels call for high levels of abnormal accruals as well. Such concern should be kept in mind when analysing results.

As per Dechow et al. (2010), the following table summarizes the most widely used models of accruals.

Accrual Model

Jones (1991)	$Acc_t = \alpha + \beta_1 \Delta Rev_t + \beta_2 PPE_t + \varepsilon_t$
Modified Jones (Dechow et al., 1995)	$Acc_t = \alpha + \beta_1 (\Delta Rev_t - \Delta Rec_t) + \beta_2 PPE_t + \varepsilon_t$
Performance matched (Kothari et al., 2005)	$DisAcc_t - Matched\ firm's\ DisAcc_t$
Dechow and Dichev (2002) approach	$\Delta WC = \alpha + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \varepsilon_t$
Discretionary estimation errors (Francis et al., 2005)	$TCA_t = \alpha + \beta_1 CFO_{t-1}$ $+ \beta_2 CFO_t + \beta_3 CFO_{t+1} + \beta_4 \Delta Rev_t + \beta_5 PPE_t + \varepsilon_t;$ $\sigma(\varepsilon_t) = \alpha + \lambda_1 Size_t + \lambda_2 \sigma(CFO)_t + \lambda_3 \sigma(Rev)_t$ $+ \lambda_4 \log(OperCycle)_t + \lambda_5 NegEarn_t + v_t$

Abnormal accruals are measured from the residuals of estimation of the models.

Models can be exposed to Type I and Type II errors: Type I errors are committed when normal accruals are classified as abnormal, and Type II when the opposite happens.

Jones (1991) defines accruals (working capital accruals and depreciation) as a function of sales growth and PPE. The relation is reasonable, but the power of the Jones estimation is generally low. Furtherly, the model is subject to both Type I and Type II errors.

Dechow et al. (1995) adjust for growth in credit receivables as they are easily manipulated. Type II errors are reduced but the modified Jones model still suffers of Type I ones.

Kothari et al. (2005) suggest a way to deal with the correlation performance-accruals mentioned above. In their model, they identify a firm in the same industry and year with a close level of ROA and deduct its residuals from those of the sample firm to generate “performance-matched” residuals. In this way they control for the normal level of accruals, but this estimation is likely to add noise.

In Dechow and Dichev (2002), accruals are matched to past, current, and future cash flows. The rationale is that accruals are supposed to anticipate changes in cash flows. Their proxy of earnings quality is the standard deviation of the residuals.

Francis et al. (2005) expand the Dechow and Dichev model and they introduce growth in revenues to reflect performance and add PPE to include depreciation. They further investigate the standard deviation of residuals to distinguish innate and discretionary estimation errors, to

try and identify intentional misstatements (by managerial choice) from the operating environment.

Abnormal accruals and persistence. Based on the studies of Xie (2001) and Dechow and Dichev (2002), abnormal accruals have lower but positive persistence compares to that of non-discretionary accruals. The higher the accruals, the more likely it is for earnings to bear estimation errors that will reverse in the future, compromising their persistence. Overall, it is demonstrated that abnormal accruals are less relevant than other components of earnings to predict future earnings.

Earnings smoothness

Earnings smoothness as a proxy of earnings quality is rooted in the idea that earnings smooth fluctuations in the timings of cash movements, making them more informative about performance than cash flows themselves. Following Dechow et al. (2010), the standard accrual system of accounting may be more representative of a firm's underlying performance, but that is just an assumption. In practice, accruals can delay recognition of changes in performance in a way that may impact negatively on decision usefulness.

In order to better understand if smoothness can reflect earnings quality, it is required to differentiate inherent smoothness to that related to accounting choice, and then distinguish informative choices from opportunistic ones. That would allow to measure artificial smoothness from fundamental performance smoothness, but such measurement is complex and the relation between smoothness and quality is still debatable.

Asymmetric timeliness and timely loss recognition

Timely recognition in earnings is another measure that has been linked with earnings quality. The main study is Basu (1997) that measures timely loss recognition as the following reverse earnings-returns regression:

$$\begin{aligned} \text{Earnings}_{t+1} &= \alpha_0 + \alpha_1 D_t + \beta_0 \text{Ret}_t + \beta_1 D_t * \text{Ret}_t + \varepsilon_t \\ D_t &= 1 \text{ if } \text{Ret}_t < 0 \end{aligned}$$

This measure is based on market returns and implies some degree of market efficiency.

The same study provides a second measure of timeliness that is not based on returns:

$$\Delta NI_t = \alpha_0 + \alpha_1 NEG DUM_{t-1} + \alpha_2 \Delta NI_{t-1} + \alpha_3 (NEG DUM_{t-1} * \Delta NI_{t-1}) + \varepsilon_t$$

$NEG DUM_{t-1}$ is a dummy equal to one if ΔNI_{t-1} is negative

As mentioned, the regression based on returns assumes market efficiency, hence concerns arise if variations in the measures reflect effective variations in earnings quality or rather variations in the quality of the return generating process.

Overall, there is evidence that timely loss recognition is positively correlated with investor protection and that it is higher for firms with Big-Four auditors (Francis and Wang, 2008). Further, García Lara et al. (2009) find a positive association between timely loss recognition and governance characteristics usually linked with effective monitoring.

Benchmarking

Benchmarking studies use small positive differences between reported earnings and any benchmark as a measure of earnings quality (Dechow et al., 2010).

Literature comprehends studies that analyse the “kink” in the distribution of reported earnings around zero (Burgstahler and Dichev, 1997), but also “meet or beat” studies etc.

An interpretation for the “kink” pattern is that firms with unmanaged earnings just less than the heuristic target of zero (i.e. firms with small losses) intentionally manage earnings just enough to report a small profit. In this way, small profits would be a flag for earnings management.

Other similar proxies of earnings management are small earnings increases (Burgstahler and Dichev, 1997) and meeting or beating an analyst forecast (Dechow et al., 2003), based on the findings of a “kink” around analysts forecast.

2.3 Determinants and consequences of earnings quality

2.3.1 The determinants of earnings quality

Six broad categories of determinants can be identified from research (Dechow et al., 2010):

- (1) Firm characteristics;
- (2) Financial reporting practices;
- (3) Governance and controls;
- (4) Auditors;
- (5) Equity market incentives;
- (6) External factors.

Firm characteristics as determinants

Specifically, the focus is on four characteristics that emerged as key determinants: (1) firm performance, (2) debt, (3) growth and investment, (4) size.

As for firm performance, there is evidence of earnings management through accounting tactics in order to improve earnings in firms that perform poorly. As an example, Doyle et al. (2007) find that a weak performance in terms of weak disclosure drives lower quality in accruals. On the other hand, research also suggests that a sustained period of weak performance can lower opportunities to manage earnings (DeAngelo et al., 1994), so evidence is mixed.

Some of a firm's fundamental decisions are related to debt. Following Watts and Zimmerman (1986), the "debt covenant" hypothesis has been largely investigated: managers make accounting decisions to reduce the likelihood that their firms will violate accounting-based debt covenants, which are rare but costly events for borrowers (Dichev and Skinner, 2002). For this reason, managers may take actions to manipulate income and financial statements, and there is evidence linked with different measures of earnings quality such as income increasing accounting method choices, real earnings management, restatements etc. Furtherly, higher leverage is associated with lower quality earnings but whether that is due to covenant violations or other concerns is still debated.

The third firm characteristic that has been investigated is a firm's relation with growth and investments. There is a negative association between a firm's growth and earnings quality, measured as earnings persistence (Penman and Zhang, 2002), earnings management opportunities (Richardson et al., 2005), as well as other proxies.

Finally, the relation between firm size and some earnings measures has been tested but the evidence is mixed. Some studies suggest that firm size would be negatively associated with earnings quality as there would be incentives to make income-decreasing choices because of the greater regulatory scrutiny (Watts and Zimmerman, 1986). On the other hand, later studies

revealed that there is a positive association with earnings quality because of the fixed costs associated with setting up internal control procedures (Ball and Foster, 1982).

Financial reporting practices as determinants

Dechow et al. (2010) identify *accounting methods* as: principles (e.g., full cost versus successful efforts), estimates associated with accounting principles (e.g., straight-line versus accelerated depreciation), or estimates (e.g., pension accounting assumptions).

The hypothesis that accounting method choice leads to lower earnings quality is generally not supported, moreover, Aboody et al. (1999) state that investors appear to adjust their valuations when they predict earnings management so earnings informativeness should not be impaired.

Other financial practices have been investigated as well. Firms may opportunistically take advantage of income statement classification in order to shift expenses into less persistent categories in order to meet analysts' forecasts (McVay, 2006).

Finally, the evidence on principles-based versus rules-based standards and their impact on earnings quality is mixed. Barth et al. (2008) suggest that International Accounting Standards (IAS) are principles-based and find evidence that their use is related to less earnings management, more timely loss recognition, and greater value relevance.

Overall, institutions, demand for information, enforcement, and firm characteristics affect accounting choices and earnings measures so results should be evaluated carefully.

Governance and controls as determinants

Following Jensen and Meckling (1976), internal controls include monitoring and bonding mechanisms chosen by the parties in a principal-agent relationship. Generally speaking, that means corporate governance mechanisms and internal control procedures.

Research studies view internal control mechanisms as monitors over financial reporting that constrain managers' opportunistic behaviours. On the other hand, mechanisms as managerial ownership and other forms of compensation tend to provide incentives for earnings management.

Ashbaugh-Skaife et al. (2008) investigate the effect of control deficiencies and find that firms reporting internal control deficiencies have lower quality accruals as measured by accrual noise and absolute abnormal accruals, relative to control firms. The finding highlights that internal

control weaknesses are more likely to lead to errors that add noise to accruals or to intentional misstatements that bias earnings upward. Moreover, turnover in managerial personnel reduces earnings management, measured as discretionary accruals (Geiger and North, 2006).

Regarding audit committees, Vafeas (2005) suggests more independent boards and higher audit committee quality are associated with less earnings management, but Larcker et al. (2007) identifies fourteen governance factors and find mixed evidence with earnings quality.

The evidence on managerial ownership is even less clear: depending on the study, a greater share has been associated with both an entrenchment effect, so controlling shareholders extrapolating benefits from minority shareholders, and an incentive alignment effect, meaning that more equity ownership by the manager may increase corporate performance because of the better alignment of the monetary incentives between the manager and other shareholders. At last, even the association between managerial compensation and earnings management is mixed, and it is strictly related to the specific incentive and earnings management tool: hence, results are variable and decision specific.

As a whole, there is a consistent positive association between audit committee quality and earnings quality, which is not surprising considered that is the function the committee is set up for in the first place. Though, an important issue to consider is that many internal control mechanisms are substitutes or complements so that may impair the econometric analysis (Dechow et al., 2010).

Auditors as determinants

Studies hypothesize a relation between auditors and earnings quality because of the auditors' role in supervising and evaluating the soundness and reliability of a company's financial statements. DeAngelo (1981) suggests an auditor's ability to detect intentional or unintentional misstatements depends on the capability to detect it and to adjust for or report it, and such ability is a function of, for example, the auditor's independence, litigation risks and reputation costs. Given the auditor's role itself, such association is intuitive but empirical research is limited because many data are unobservable.

Possible proxies for auditor effort and effectiveness are hours spent auditing or industry expertise (Krishnan, 2003). Caramanis and Lennox (2008) test the effect of hours worked on earnings management and verify that when audit hours are lower, abnormal accruals are more often positive than negative, positive abnormal accruals are larger, and companies are more likely to manage earnings upwards in order to meet or beat the zero earnings benchmark.

A common proxy associated with accruals quality is the auditor's size, implied as Big-X versus non-Big-X auditors. Generally, firms with a Big-X auditor have consistently lower discretionary accruals than firms that have not. For example, Kim et al. (2003) find that Big-6 auditors are more effective than non-Big 6 auditors in deterring and monitoring opportunistic earnings management, but solely when managers have incentives to prefer income-increasing accrual choices.

As for audit fees, evidence is mixed and is dependent on a number of factors (i.e. sample firms, measures of accrual quality etc.). To cite one, Larcker and Richardson (2004) measure fees paid to auditors for audit and non-audit services, and then consider the choice of accrual measures. They find that the ratio of non-audit fees to total fees has a positive relation with the absolute value of accruals similar, but also consistent evidence of a negative relation between the level of fees (both audit and non-audit) paid to auditors and accruals (i.e., higher fees are associated with smaller accruals).

To summarise, the usual caution is recommended when evaluating empirical evidence, given the difficulty to disentangle the reasons for the auditor's impact on quality. As DeAngelo (1981) highlights, audit fees are related with auditor expertise and influence, so positively related with the auditor's detection ability. On the other hand, they are also negatively associated with auditor independence. The evidence on the impact on reporting incentives is hence conflicting.

Capital market incentives as determinants

a. Incentives when firms raise capital.

Dechow et al. (2010) highlight that a firm's accounting choices may change after a firm's decision to raise capital and lead to more opportunistic behaviour because of, for example, greater litigation risk or greater utility associated with capital. For this reason, earnings quality may differ when a firm is raising capital.

Studies yield to the following conclusions: firms are incentivized to influence equity market valuations, and this is done through accounting and accrual choices. Morsfield and Tan (2006), for example, predict positive correlation between earnings quality and VC monitoring for a sample of 2,630 IPO firms, and find that IPO-year abnormal accruals are lower in the presence of VCs.

Despite consistent evidence of accruals management, studies still fail to observe variations related to the degree of detectability of such manipulation. The assumption of equity market

incentives to manipulate earnings is intuitive and reasonable only if earnings management is not detectable (or if managing earnings is not costly).

Moreover, considering adverse selection models, a firm's reputation for high quality disclosures would be negatively affected by one-time, event-specific opportunistic accounting choices (i.e., IPOs), which may bear negatively long-term consequences due to decreased reporting credibility. However, most studies do not consider such impact or any trade-off between short-term benefits and long-term losses related to the aforementioned behaviour.

b. Incentives provided by earnings-based targets.

Targets may provide incentives for earnings management in a "meet or beat" framework.

Given that reported earnings per share (EPS) are frequently rounded to the nearest cent, Das and Zhang (2003) find that firms manipulate earnings so that they can round-up and report one more cent of EPS.

Although studies provide evidence on specific tools of earnings management, they generally fail to acknowledge how firms choose among different tools, so the rationale behind the decision-making process remains an open question.

External factors as determinants

External factors such as capital requirements, tax and non-tax regulations may affect reporting quality and accounting choices in general: when profits generate costly regulatory intervention or political outcomes, firms engage in income-decreasing practices. For example, Watts and Zimmerman (1978) hypothesize that a regulation such as price control is costly to firms, and for this reason it is a type of regulatory intervention that can impact a firm's accounting decisions.

The most widely considered regulation are capital requirements. The evidence of an association of capital requirements with earnings management is strong but research mostly focuses on regulations within the banking or insurance industries so conclusions may not be easily generalised to other settings.

Kim and Kross (1998) investigate whether banks with low capital ratios use accounting accruals for capital ratio management, focusing on a time where a change in bank managers behaviour was expected. In 1989 regulatory changes created incentives to depress loan loss provisions after 1989. Their results find that banks with low capital ratios reduced their loan loss provisions

and increased write-offs during the 1990–1992 period compared to the 1985–1988 period. Banks with high capital ratios exhibited no difference in loss provisions but increased loan write-offs during 1990–92.

Other external determinants of earnings studies are tax regulations; potential litigation awards; ongoing implicit claims with third parties including customers, suppliers, employees, and short-term creditors; bankruptcy avoidance (Hall and Stammerjohan, 1997; Bowen et al., 1995; Rosner, 2003). They all document that accrual choices respond to incentives like those.

2.3.2 The consequences of earnings quality

Based on research studies, Dechow et al. (2010) identify nine categories to define possible consequences related to earnings quality:

- (1) Litigation propensity;
- (2) Audit opinions;
- (3) Market valuations;
- (4) Real activities including disclosure;
- (5) Executive compensation;
- (6) Labour market outcomes;
- (7) A firm's cost of equity capital;
- (8) A firm's cost of debt capital;
- (9) Analyst forecast accuracy.

The main feature of these studies is that earnings quality, measured through several different proxies, is the independent variable.

Litigation propensity

Research studies suggest litigation propensity is associated with various measures of earnings quality.

Lev et al. (2008) examine a sample of restatements of earnings and find that the revision of the historical pattern of earnings significantly affects investors' decisions and is followed by class action lawsuits. Also Gong et al. (2008) find a similar relation expanding research to a high-risk setting such as a M&A framework. They find a positive association between stock-for-

stock acquirers' pre-merger abnormal accruals and post-merger announcement lawsuits and highlight the relation with post-merger long-term market underperformance.

Audit Opinions

Evidence on audit opinion is mixed.

Francis and Krishnan (1999) state that accounting accruals are managers' subjective estimates of future outcomes and cannot, by definition, be objectively verified by auditors prior to occurrence. They find that auditors are more conservative when issuing reports for high-accruals firms, so these firms are more likely to receive modified audit opinions. Quite the opposite, Bradshaw et al. (2001) find that analysts' earnings forecasts do not incorporate the future earnings declines that may be associated with high accruals, and they also show that auditors do not signal the future earnings issues associated with high accruals through either adverse audit opinions or through auditor turnover.

The divergence in evidences may signal difficulties in assessing the relation itself but may also be a consequence of different samples and period-specific issues, so results are mixed.

Market valuations

Myers et al. (2007) find that firms that report long strings of consecutive increases in earnings per share (EPS) are rewarded with abnormal returns, so managers of these firms use different earnings management tools to sustain earnings. A further incentive for earnings management is that these market premia are likely to disappear rapidly as soon as firms' positive strings end. Other forms of earnings management are not rewarded as much so Dechow et al. (2010) hypothesize two possible reasons for this result: (a) only some types of earnings management are rewarded, (b) less transparent types of earnings management are more mispriced than others.

To conclude, Karpoff et al. (2008) examine the penalties imposed on 585 firms targeted by SEC enforcement actions for financial misrepresentation. They highlight that penalties related to such misconduct imposed through legal action are relatively modest when compared with the huge penalties imposed by the market. They define reputational loss as the expected loss in the present value of future cash flows due to lower sales and higher contracting and financing costs,

and they estimate that such reputational loss is over 7.5x the sum of all penalties imposed through the regulatory system.

Real activities

The relation between earnings quality and some real activities variables has been investigated. Investment efficiency and earnings quality have been consistently associated, but the determinants examined in the studies are different.

Biddle and Hilary (2006) find that higher quality reporting betters investment efficiency by reducing information asymmetry between managers and suppliers of capital. The effect is stronger for economies where financing is mostly provided through arm's-length transactions. McNichols and Stubben (2008) examine fixed assets investment for a sample of public firms and find that firms that manipulate their earnings substantially over-invest during their misreporting period. Furthermore, following the misreporting period, these firms no longer over-invest. They provide two possible reasons for this behaviour: (1) internal decision-making is affected by reporting, and managers believe in the misreported accounting numbers, (2) managers intentionally over-invest despite knowledge of the misstatement distortions. In any case, investment decisions are distorted.

Executive-level compensation

Compensation based on performance is generally positive associated with several measures of earnings quality.

Based on an analysis of 713 US firms, Baber et al. (1998) find that the sensitivity of compensation to earnings varies directly with earnings persistence and that this sensitivity is greater for managers that are facing finite decision horizons (i.e., retirement).

Dechow et al. (2009) hypothesize that the assumptions related to valuing retained interests from securitizations provide management with discretion to determine the “gain on sale” of the receivables. They find that compensation is sensitive to highly discretionary gains and that better monitoring does not reduce earnings management or CEO-pay sensitivity.

It is suggested that when earnings quality is observable, compensation boards adjust for lower quality of it. The degree of observability varies across different determinants.

To conclude, Cheng and Farber (2008) investigate whether firms that experience earnings restatements recontract compensation with their CEOs and they find that the proportion of CEOs' compensation declines significantly in the two years following the restatement. Changes in earnings quality are thus associated with *ex post* recontracting.

Executive-level labour market outcomes

A number of research studies examine labour market consequences for individuals at firms with low earnings quality.

Desai et al. (2006) investigate the reputational penalties to managers of firms related to earnings restatements by examining managerial turnover and subsequent employment. They find that 60% of restating firms experience the displacement of at least one top manager within 24 months following restatement. Moreover, the employment prospects following turnover of restatement firms are poorer than those of displaced managers of control firms.

Restatements are highly transparent indicators of poor quality, together with misstatements and auditor turnover, as highlighted by Dechow et al. (2010). For this reason, it is not clear whether the decision-processes are motivated by poor quality itself rather than the perception of poor quality.

Engel et al. (2003) document that accounting information appears to receive greater weight in turnover decisions when accounting-based measures are more precise and more sensitive, measured by asymmetric timeliness.

Again, it is highlighted how the context plays an important role when evaluating research evidence. Compensation issues depend on *ex ante* appropriate signals and transparency but also on *ex post* informativeness. Also, reputational issues need to be considered when weighting the importance of low (or perceived low) earnings quality.

Cost of equity capital

Cost of equity has been identified as a possible consequence of earnings quality.

Francis et al. (2004) examine the relation between the cost of equity capital and seven measures of earnings: accrual quality, predictability, persistence, smoothness (all four are considered accounting-based), value relevance, timeliness, conservatism (market-based). They test an association between earnings quality and the cost of equity and find that firms generally

experience a larger cost of equity when they experience lower values of each attribute, compared to firms with most favourable values. The largest effects on the implied cost of equity are related to accounting-based measures, particularly accrual quality.

Furthermore, Kravet and Shevlin (2010) investigate the association between accounting restatements and the pricing of information risk. They find a significant increase in discretionary information risk following a restatement announcement, that is subsequently related to an increase in the estimated cost of capital.

Hribar and Jenkins (2004) find that, on average, accounting restatements lead to both decreases in expected future earnings and increases in the firm's cost of capital. They also find that restatements are related to larger increases in the cost of capital when initiated by auditors, and that firms with greater leverage experience greater increases.

Overall, there are statistically significant evidences of a negative association between earnings quality proxies and the cost of equity, but comparability varies among settings, contexts and proxies.

Cost of debt capital

There is limited evidence on the consequences on the cost of debt capital, but it is consistent with what has been hypothesized for equity markets. In fact, the cost of debt seems to be higher when earnings quality measures exhibit lower quality.

A wide study by Francis et al. (2005) investigate how accruals quality is priced. They find that poorer accruals quality is associated with larger costs of debt: in fact, it is associated with a higher ratio of interest expense to interest-bearing debt and lower credit ratings.

Graham et al. (2008) study the effect of financial restatements on bank loan contracting. Loans initiated after restatements have significantly higher spreads, shorter maturities, they are more secured and more likely to be restricted by covenants than loans initiated before. Moreover, such increase is significantly higher for fraudulent restating firms than other restating ones. This evidence shows that banks use tighter loan contract terms to overcome risk and information problems.

Generally, it is inferred that debt markets validate results obtained by analysing equity markets.

Analysts

Analysts, and specifically analysts' forecasts, are predicted to be associated with earnings quality.

The underlying assumption is analyst efficiency: analysts are unbiased and able to predict future earnings. Following this assumption, variation in the accuracy of analyst forecasting reflects variations in the underlying earnings quality.

A first study by Kim and Schroeder (1990) examines whether analysts are able to anticipate discretionary accruals choices when forecasting earnings. They predict that analysts are consistently not misled by discretionary accruals that managers use to maximize their bonus incentives.

The advantage in using analyst forecasting is that it is a measure exclusively related to earnings, while other measures such as market prices incorporate other information as well. On the other hand, the assumption of analyst efficiency is questionable.

Burgstahler and Eames (2003) find that analysts anticipate earnings management to avoid small losses and small earnings decreases, but analysts are unable to consistently identify the specific firms that engage in earnings management to avoid small losses.

To conclude, Abarbanell and Lehavy (2003) analyse if analyst forecasting is biased or inefficient, and how that can lead to inconsistent inferences. They show that earnings are, in fact, biased, even if analysts are able to understand the implications of accruals for earnings predictability and quality.

2.4 Financial reporting quality in private firms

As we mentioned already, private firms are subject to different drivers than public firms in an agency or signalling theoretical framework.

Public firms face stronger demand for quality reporting than private firms as they get stronger pressures from capital markets, but managers are also influenced by "meet or beat" earnings benchmarks that incentivize opportunistic behaviours. Because of the abovementioned reasons, it is interesting to further investigate different predictions on financial reporting related to private ownership.

2.4.1 Determinants and consequences of reporting quality in private firms

Determinants identify possible variables that may incentivize private firms to modify their level of financial reporting quality.

Katz (2009) investigates the monitoring role of private equity sponsorship in private firms before and after their IPOs. They find that PE-backed firms generally have better reporting quality than those that do not have PE sponsorship, engage less in earnings management, and their reporting is more conservative before and after the IPO. They tie this evidence to professional ownership, tighter monitoring, and reputational considerations related to PE sponsors.

More broadly, Hope et al. (2017) find that higher accrual quality is positively related to the monitoring exercised by equity investors, lenders and suppliers.

Haw et al. (2014) investigate the relation between public debt and conservatism in privately held firms and they suggest that debt financing provides incentives to improve financial reporting quality in order to get efficient financing.

To further confirm debt associations, Bigus and Hillebrand (2017) analyse relationship lending in Germany. They find that firms with a single bank relationship disclose their reports later, the report size is smaller, and they exhibit more earnings management. This finding confirms the monitoring effect accomplished by bank lending.

Audit quality and audit monitoring may also play a role. Van Tendeloo and Vanstraelen (2008) analyse whether Big 4 auditor (considered as high-quality auditors) provide a constraint on earnings management. Consistent with this explanation, they find that it holds true only in high-tax alignment countries, where more scrutiny is expected.

Chi et al. (2013)'s setting is Taiwan's 2001 change in reporting regime. Before 2001, a mandatory public reporting regime was in place, so firms had to file audited financial statements. After that, firms had discretion over financial reporting and the process was voluntary. They retroactively divided private firms in voluntary and nonvoluntary reporting firms (whether the firm continued or discontinued the practice after the change). They find that financial reporting quality is higher for voluntary firms than nonvoluntary ones and that voluntary firms also obtain lower cost of debt.

As for the consequences of earnings quality in private firms, Hope et al. (2017) confirm that accrual quality in privately held firms is associated with the ability of accruals to predict future cash flows while Chen et al. (2011) examine if the positive relation between financial reporting quality and investment efficiency holds true for private firms as well: they find empirical evidence that financial reporting quality positively affects investment efficiency.

De Meyere et al. (2018) find that earnings quality is positively associated with the likelihood of having long-term debt and with the proportion of long-term debt on total debt, also this relation is stronger in SMEs rather than larger firms.

2.4.2 Accrual quality in private firms

Studies on accruals quality tend to support the different demand hypothesis for financial reporting quality: generally, earnings management is showed to be more pervasive in private firms than public ones.

Burgstahler et al. (2006) focus on the level of earnings management, as it is a form of quality particularly responsive to reporting incentives. They find that private firms present higher levels of earnings management and that earnings management is inversely related to the strength of the legal system. They also highlight that differences in ownership determine different responsiveness to institutional factors, especially among private firms, and stronger tax alignment leads to higher levels of earnings management.

Furthermore, private firms may be more willing to manage income downward to reduce tax expenses but at the same time, they have strong incentives to report higher earnings to avoid covenants violations due to the stronger dependence on debt financing. For these reasons, different and conflicting drives influence earnings management behaviour.

Hope et al. (2013) investigate a database of US private and public companies and find that generally public firms have higher accrual quality and are more conservative, but these reporting qualities may be mitigated by more favourable earnings management incentives.

To conclude, Givoly et al. (2010) compare public equity firms with private firm with publicly traded debt. They find positive evidence supporting the opportunistic behaviour hypothesis: public equity firms have lower accruals quality and higher propensity to manage earnings. This is consistent with the idea that managers of public firms are incentivized to manipulate earnings.

2.4.3 Conservatism in private firms

The notion of conservatism, broadly defined as “anticipate no gains but provide for all losses and if in doubt, write it off”, is another dimension of reporting quality.

A pioneering study is Ball and Shivakumar (2005), based on a sample of UK public and private companies. They find that recognition of losses is less timely in private companies than in

public companies due to different market demand. This is consistent with the idea that public firms are more conditionally conservative than private ones.

Following Peek et al. (2010), demand for conditional conservatism is likely originated from creditors rather than investors. In fact, it is positively related to a country's degree of creditor protection but not to the level of investor protection.

2.4.4 IFRS adoption by private firms

Adopting IFRS is mandatory for public firms in many jurisdictions but such requirement has not been applied widely to privately held companies.

Assuming the demand and supply framework that was outlined before, private firms may have different reporting needs so the benefits related to adopting IFRS may be limited for smaller realities. Also, such adoption may be outweighed by the costs associated with changing reporting regime, so private firms would generally choose to keep applying local GAAPs.

Francis et al. (2008) find that both firm and country factors matter in the voluntary IFRS adoption decision, based on a sample of 3,722 small and medium-sized private enterprises from 56 countries. They also find evidence that firm specific factors dominate country factors in more developed countries, while in less developed countries, country factors dominate firm factors in explaining IFRS adoption decision processes. Overall, firms with greater contracting incentives (larger ones, greater external financing, etc.) are more likely to adopt IFRS. It is also suggested that firms benefit from IFRS adoption when legal protection or the overall level of institution support is weak, in such case IFRS are likely to support better contracting with external parties.

Bassemir (2018) exploits the German setting and suggests that expected benefits of IFRS adoption vary substantially across the sample and that depends on their financing needs, governance system, and organizational and informational complexity. He states that "private firms using IFRS have more growth opportunities, are more leveraged, are externally rated, seek to raise external capital by issuing public bonds or equity, are registered as a stock corporation, are characterized by private equity (PE) involvement, have more international sales and operations, and have a Big Five auditor".

As for Italy, Cameran (2014) interestingly shows that IFRS adoption did not improve earnings quality among private companies in the sample (Italian companies in the 2005 to 2008-time span). On the contrary, reporting quality decreased as firms exploited a higher level of flexibility for their own reporting incentives.

Considering a broader sample, Bassemir and Novotny-Farkas (2018) find evidence that IFRS contribute to higher earnings quality. Also, IFRS firms tend to disclose more information and show higher propensity to publish information voluntarily.

The IASB has made efforts to issue standards that could meet the necessities of firms that are not quoted but need to deal with external users: the International Financial Reporting Standards for Small and Medium-sized Entities (IFRS for SMEs).

Gassen (2017) has explored the effect of IFRS for SMEs interviewing a sample of accounting experts from 24 jurisdictions. He finds significant differences among jurisdictions and finds that mostly, IFRS for SMEs has either been adopted as a voluntary reporting framework or served as a blueprint for domestic changes in regulations.

2.4.5 Voluntary disclosure by private firms

The aforementioned discussion about disclosure benefits and costs of financial reports for private firms influences voluntary disclosure as well. It may be interesting to investigate whether firms are willing to voluntarily disclose such information and the level of quality of disclosed reports.

Bernard et al. (2018) find that firms near size thresholds that impose disclosure are willing to manage their size downwards to avoid such requirement or to avoid mandatory audit.

Regarding quality of disclosure, Armstrong et al. (2007) study 5-year-ahead forecasts by private-backed firms and find evidences of strategic behaviour (they are asymmetrically optimistic).

Bigus and Hillebrand (2017) show that private firms tend to be opaque when they are not monitored by the existence of lending relationships and the quality and timeliness of their financial reports tend to be lower.

As final evidence, Brockbank and Hennes (2018) analyse managers' behaviour when they can discretionally choose the day of the week to disclose information. They find that firms with private ownership, but publicly traded debt tend to file 8-K filings strategically: bad news is more likely to be released when market attention is low (just after markets close, on Fridays, and after markets close on Fridays).

3. Relevant literature, context and hypothesis development

Two sets of literature pertain to the following research, earnings management in business groups and earnings management through affiliated transactions.

3.1 Earnings management in business groups

The first strand of literature attempts to find what drives the business groups' earnings management, in particular their ownership structure (Gopalan and Jayaraman, 2012; Kim and Yi, 2006), their location in terms of rule of law and tax-haven status (Dyreng et al., 2012), their governance characteristics (Beuselinck et al., 2016), and their tax minimization incentives (Beuselinck and Deloof, 2014).

In an environment of concentrated ownership, such as the Italian one, the agency problem (Jensen and Meckling, 1976) arises from conflicts of interest between minority and controlling shareholders. Controlling shareholders may have the incentive and the ability to expropriate minority shareholders, hence business groups could manipulate earnings using various forms of intragroup transactions (Kim and Yi, 2006).

On the other hand, when a firm is family-owned, the managers of its subsidiaries have incentives that are aligned with those of the controlling family (or owner), since families tend to be more involved and more knowledgeable about the business (e.g., having subsidiary directors chosen from family members or parents' directors), enabling them to better monitor the subsidiary managers (Anderson and Reeb, 2003; Bertrand and Schoar, 2006).

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

management in business groups as a way to disguise value expropriation at the expense of the minority shareholders.

Dyreng et al. (2012) examine the geographical location of earnings management within U.S. multinationals and show that firms with extensive foreign subsidiaries located in weak rule-of-law countries or tax havens manage earnings more than other firms and that the difference in earnings management is concentrated in foreign income. Beuselinck et al. (2016) also look at multinational firms and show that the corporate governance characteristics of the parent firm (ownership structure and analyst coverage) and the institutional features of the subsidiary's country affect the reporting quality of the subsidiary.

Beuselinck and Deloof (2014) show that firms affiliated with a business group strategically manage earnings in response to tax incentives.

3.2 Earnings management through affiliated transactions

The second strand of literature examines earnings management through affiliated transactions by delving into the relation between the parent's consolidated and unconsolidated earnings. Shuto (2009) and Thomas et al. (2004) explore the consolidated and unconsolidated earnings of Japanese parent firms.

In particular, Thomas et al. (2004) highlight that the parent's managers can manage their unconsolidated earnings through affiliated transactions because the parent has significant control over the related subsidiaries. According to Thomas et al. (2004), increased management of parent earnings is related to the firm's ability to use such affiliated transactions. A dominant company may use its influential relationship with an affiliated company in the group to structure transactions between the two companies in a way that allows profits to be shifted from the affiliated to the dominant company. The complex structure of business groups is conducive to self-dealing transactions and makes it difficult for outside investors to monitor these transactions. As a result, group firms have more opportunities and means than independent firms to divert firm resources through related-party transactions at the expense of minority shareholders.

Shuto (2009) demonstrates that, to avoid an earnings decrease, the earnings management is more pronounced in the parents' unconsolidated earnings for the period of 1980–1999 and is then less pervasive following the introduction of a new consolidated reporting system.

From the efficient transaction point of view, many studies argue that related-party transactions and the formation of corporate groups can reduce transaction costs and enhance the enforcement of property rights and contracts (Coase, 1937; Fisman and Khanna, 2004; Fan and Goyal, 2006; Khanna and Palepu, 1997; Kim, 2004; Shin and Park, 1999). Compared to stand-alone, independent firms, companies in a group show better performance when transfers of products and managerial expertise within the group increase (Chang and Hong, 2000). Khanna and Palepu (2000) find that business groups add value to firms by creating internal markets that supplement inefficient external markets.

Recent research suggests that contextual analyses are useful to disentangle these alternatives (contingency approach): lack of strong legal protection of minority investors, as in the Italian system, exacerbates the expropriation of minority investors by controlling shareholders (Marchini et al., 2018). Pizzo (2013) supports the idea that it is necessary to interpret related-party transactions bearing in mind contingency factors, such as specific organizational contexts and institutional environments, and to take into account the influence of complementarity/substitution between governance factors. Dyck and Zingales (2004) find that where the ownership is in the hands of dominant shareholders, there is an increase in the risk that related-party transactions will be used by the controlling party to extract private benefits of control at the expense of minority shareholders. Almeida and Wolfenzon (2006) and Faccio and Lang (2002) find that the risk that related-party transactions will be used in accordance with the agency theory increases if there is a wide separation between ownership and control, for instance in a pyramidal group.

3.3 Context of analysis

The dataset employed in the analysis is a collection of Italian private business groups. In Italy three sets of business groups financial statements are publicly available:

- (i) The parent's consolidated financial statements;
- (ii) The parent's unconsolidated financial statements;
- (iii) The subsidiaries' financial statements.

For the purpose of this study, the most important sets are the consolidated and unconsolidated financial statements of the business groups.

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

It is important to notice that the Italian ecosystem consists of a relatively large proportion of listed firms that are family-owned, have concentrated ownership, or both (Bianchi and Bianco, 2006; Lins et al., 2013).

Italian related-party transactions background

Studying the Italian context is interesting given the peculiarity of the national legislation contained in its regulations for public interest entities (including listed firms and banks) issued by the Italian security exchange commission (CONSOB) and in the Italian Civil Code. These peculiarities originating from CONSOB include the authorization mechanism and the ex-ante disclosure required. Other peculiarities, contained in the Italian Civil Code, include disclosure on the relationships between the company and the firms of its group in the management discussion and analysis (MD&A) and the specification on where related-party transactions information should be disclosed ex-post.

In terms of financial reporting, the provisions of the Italian Civil Code are combined with those of the European legislation and, therefore, of International Accounting Standard/International Financial Reporting Standard (IAS/IFRS). Italian private companies must comply with the legislation included in the Italian Civil Code, but the same national legislation also applies to public companies for the issues not covered by IFRS.

The Italian Civil Code requires that the financial statement be disclosed together with the MD&A, and it also identifies specific information that should be included in the MD&A. In particular, the MD&A should include information about research and development activities; relationships between the company and its subsidiaries, associates and ultimate parents; characteristics of the company's shares; significant events that occurred after the fiscal year end, and general outlooks regarding the business.

The requirement on disclosure about the relationships between the company that issues the consolidated financial statements and the firms in its group (subsidiaries, associated and

eventually ultimate parent companies) has created some confusion regarding the requirement of IAS 24 on related-party transactions disclosure (Marchini et al., 2018). The Italian Civil Code, which enacts IAS 24, requires the information on related party transactions to be disclosed in the financial statements, while the information on relationships between the company and the firms of its group is disclosed in the MD&A. This difference may not have been effectively understood by some Italian companies, which have disclosed related-party transactions in the MD&A, contrary to the requirements of the Italian Civil Code.

IAS 24 does not specify where related-party transactions disclosure should be located in the financial statements. In Italy, it is disclosed in the notes to the financial statements and may be included in either their main body or the annexes. The annexes are presented at the end of the notes to the financial statements and usually contain information that is not specifically required by IFRS, such as the list of companies included in the consolidation, detailed information about fixed assets, etc. They are an integral part of the notes, and hence of the financial statements, and are covered by the audit report. The company has the choice of presenting related-party transactions disclosure in narrative form or as tables in the notes to the financial statements but also in tables in the annexes.

The enforcement mechanisms are different for violation of the CONSOB regulation or the Civil Code (which enacts also IAS/IFRS). The CONSOB has more power; it can promote a monitoring action through several inspections that can lead to a sanction by itself, while the enforcement of the Civil Code needs a promotion by a third party toward a court. The quality of the CONSOB enforcement should be, but is not assured, by the presence of a specific office and continuing inspections. There are very few sanctions published on the legal journal of CONSOB. However, the quality of the Civil Code enforcement is assured only if the third party engages a judicial action.

3.4 Hypothesis discussion and development

It is time to technically define the research questions that this study aims to answer.

The scope of analysis is the business group as a setting to analyse earnings manipulation in financial statements considering organizational structure and firm complexity.

3.4.1 Ownership concentration and earnings management (H1)

Such relation has been widely discussed both *per se* and comparatively with other metrics.

Bonacchi et al. (2017), using the proxies for stakeholder demand from Hope et al. (2017), argue that, among private firms, business groups have larger ownership dispersion, are more leveraged, and have higher transaction intensity with suppliers than private standalone firms. They state that there is a differential level of demand for earnings quality by minority shareholders, debtholders, and suppliers and they expect business groups to face greater stakeholder pressures compared to other organizational structures. Such pressure is related to higher earnings quality and lower earnings management.

Their analysis is part of the broader spectrum of agency issues that involve different business stakeholders. Generally, an issue arises when higher concentration of ownership allows to exert power to expropriate benefits from minority shareholders. In such case there is a negative relation between ownership concentration and earnings quality, and more dispersed ownership is linked to better monitoring of the quality of reporting.

On the other hand, other perspectives draw to different conclusions.

As mentioned earlier, agency issues may arise towards the owners as well: it is the conflict case between managerial self-interests and owners. In some cases, like in family-controlled firms, the managers have incentives that are aligned with those of the controlling family (or owner), since families tend to be more involved and more knowledgeable about the business (e.g., having subsidiary directors chosen from family members or parents' directors), enabling them to better monitor managers. As argued by Anderson and Reeb (2003): "because the family's wealth is so closely linked to firm welfare, families may have strong incentives to monitor managers and minimize the free-rider problem inherent with small, atomistic shareholders." As an example, such monitoring is achieved by the choice of directors.

As said, this is especially true in the case of family-controlled firms, Weiss (2013) investigates the relationship between family ownership and material weaknesses in internal controls over financial reporting. The findings reveal that family ownership is significantly associated with less material weaknesses in internal controls, and that family-owned firms use internal controls as a mechanism to enhance earnings quality. Furthermore, Prencipe et al. (2008) find that family firms are less sensitive to earnings management motivations, since the main goal of the controlling family is to keep the long-term survival and prosperity of the company rather than to maximize short-term shareholder wealth. This could also be a result of the lower sensitivity

of executive turnover to current firm performance in family-held firms, due to their personal relationships with the controlling shareholders.

Considered the context this research is operating in, and given that the large majority of sampled firms are at least partially family-controlled, the first hypothesis that will be tested is

Hypothesis 1: Proprietorship concentration enhances financial reporting quality and it is negatively related to the intensity of earnings management.

3.4.2 Group complexity and earnings management (H2)

Kim and Yi (2006) find that business group affiliation provides controlling shareholders with more incentives and opportunities for earnings management. Their findings highlight that firms affiliated with business groups tend to engage in earnings management more intensely than independent firms. This suggests that business group affiliation provides the controlling shareholders of a group-affiliated firm with stronger incentives and greater means to engage in earnings management. Jung and Kwon (2002) find similar results.

Shifting our attention on multinational business groups, Dyreng et al. (2012) find that firms with extensive foreign operations in weak rule of law countries have more foreign earnings management than companies with subsidiaries in locations where the rule of law is strong, that profitable firms with extensive tax haven subsidiaries manage earnings more than other firms, and that such earnings management is concentrated in foreign income.

Except for these results, they state that most earnings management takes place in domestic income, not foreign income. Prencipe (2012) validates these results finding that US multinational firms manage earnings less than domestic firms.

Beuselinck et al. (2010) find that multinational firms manage their consolidated earnings through an elaborated reporting strategy across subsidiaries over which they exert significant influence, clustering earnings management in subsidiaries from countries with more lenient regulations.

After carefully evaluating prior research, two hypotheses are structured to capture the effects of group complexity on earnings management and the relation with the existence of one or more foreign subsidiaries.

Hypothesis 2a: The intensity of earnings management increases as the degree of complexity of the business group increases.

Hypothesis 2b: The existence of one or more foreign subsidiaries is negatively related to earnings quality.

Group complexity is estimated as the number of subsidiaries belonging to the business group.

3.4.3 Intra-group transactions and earnings management (H3)

Beuselinck and Deloof (2014) define business groups as the network of parent and subsidiary firms structured in holding groups.

In a typical holding, the parent firm is explicitly organized for the purpose of owning a controlling interest in other firms which then *de jure* become holding firm's subsidiaries.

Holding group membership may yield a number of benefits for the parent as well as for affiliated firms. First, parent companies do not need to obtain 100% share ownership for taking control. Also, parent companies can expand their debt capacity since shares of stock in subsidiaries are recorded as parent-level assets and treated as collateral in loan agreements.

Holdings provide another set of features that are particularly interesting from a group perspective. First, holdings are typically structured through a number of complicated networks, which provide group members with substantial discretionary tools and flexibility to manage earnings through related-party transactions.

Their findings show that subsidiary firm-level discretionary accruals are positively related to the relative proportion of intra-group credit sales versus total credit sales, and they interpret it as: "the extent to which business operations are executed within the holding network facilitates earnings management activities".

Similarly, Thomas et al. (2010) state that "when a parent company has a dominant relation over affiliated companies, the parent company can structure transactions between itself and affiliates in a way that allows it to achieve income-reporting objectives".

They find that earnings management behaviour for both parent and consolidated earnings revolve around three earnings thresholds: avoiding losses, avoiding earnings declines, and avoiding negative forecast errors. Consistent with additional earnings management through affiliated transactions, parent earnings show stronger evidence of earnings management than

consolidated earnings at each of these three earnings thresholds. They highlight that the increased management of parent earnings around these three earnings thresholds is related to the firm's ability to use affiliated transactions, while the management of consolidated earnings is unrelated to the firm's ability to use affiliated transactions.

Kim and Yi (2006) further analyse ABSDACs obtained using unconsolidated financial statements and using consolidated financial statements for the same parent firms in our sample and they get mixed results. However, comparing ABSDAC (obtained from consolidated financial statements) of chaebol-affiliated firms with that of independent firms they show that both the mean and median of ABSDAC are significantly greater for chaebol-affiliated firms than for independent firms. The results suggest that chaebol-affiliated firms engage in earnings management more than independent firms and that the magnitude of earnings management is consistent both in consolidated and unconsolidated financial statements.

The last research question to be tested is the following:

Hypothesis 3: As the magnitude of intra-group transactions increases, the intensity of earnings management increases.

The magnitude of intra-group transactions is estimated as the relative proportion of revenues of the parent versus total revenues of the group.

4. Data, variable measurement and descriptive statistics

4.1 Data

In the following analysis, earnings quality is studied in a dataset of privately held business groups sampled in the Province of Padua.

The sample data spans from fiscal year 2014 to 2018 and use 2014 to construct lags, with a total of 352 firm-year observation.

Italy, and broadly the European Union, provides an interesting setting to test hypothesis because private firms have to publish audited financial statements and it is possible to distinguish between business groups and stand-alone firms.

The data is obtained from three sources:

- (1) Academic database collected over the years 2013-2019 to assess the top 500 companies in the Province of Padua (in collaboration with PricewaterhouseCoopers and Il Mattino di Padova);
- (2) AIDA database published by Bureau van Dijk (BvD), which includes ownership and financial information about public and private firms across Italy;
- (3) TELEMACO, the Italian Chamber of Commerce business register to access financial statements and other official documents.

Information about each business group's structure has been drawn by the BvD's AIDA database: the main advantage of the database is that it includes all privately held corporations and provides information about the structure of the groups, the number of subsidiaries and ownership information.

As previously mentioned, Corporate Acts of European countries, following EU recommendations and enforced by Italian legislation, require that all privately held limited liability firms, above a certain size threshold, have their financial statements audited by independent auditors, that is, external certified public accountants (CPAs). Only small companies might be relieved from this obligation on a country basis. Virtually, in this analysis, only privately held business groups that are above country-specific thresholds are considered and hence they all have audited financial statements. This ensures similar accounting accuracy

and level of external supervision of the accounting information reported. All firms with missing information (e.g., revenues, accruals data, subsidiaries, listing status) were excluded.

4.2 Variable measurement

4.2.1 Ownership concentration metric

The first measure that was taken into consideration because of its impact on earnings quality is ownership concentration (*Ownership*). Following Hope et al. (2017), ownership concentration, and conversely minority shareholders' demand, is proxied as the ownership percentage of the single dominant shareholder.

The intention is to capture the impact of a single dominant shareholder on earnings quality. Hence, for the sake of clarity, a dummy (*Ownership*) is built and takes the value of:

- (1) when there is a single recorded shareholder that has a direct, total, or calculated total ownership percentage of over 50%;
- (0) when the known recorded shareholder has a direct or total ownership percentage below 50%.

Evidence in literature on the relation between earnings quality and such an index is mixed. Leuz (2006) predicts that more concentrated firms have lower demand from minority shareholders and hence supposedly lower accounting quality. While other studies, as Fama and Jensen (1983)'s agency theory or Badertscher et al. (2013)'s studies on tax-avoidant behaviours hypothesize that when equity ownership and corporate decision-making are concentrated in just a small number of decision takers, risk aversion is higher, and the managers/owners are less likely to engage in risky behaviours. Furtherly, as discussed earlier, a stewardship theory framework of analysis can be applied where the stewards/managers assume a pro-organizational behaviour: Jung and Kwon (2002) find that earnings are more informative as holdings of the owner increase, supporting the convergence of interest explanation for the owner–manager structure.

Data is built considering the single largest shareholder percentage (*SHARE*), and double checked with Bureau van Dijk's independence indicator. The independence indicator

characterises the degree of independence of a company with regard to its shareholders and it is classified in A, B, C, D with regards to specific thresholds (A: no recorded shareholder having more than 25% of direct or total ownership; B: 25% < known shareholder < 50%; C: known shareholder with total or calculated ownership over 50%; D: recorded shareholder with direct ownership over 50%).

4.2.2 Subsidiaries metrics

The sample consists of the consolidated financial statements (from 2014 to 2018) detected in the top 500 companies (mixed sample of both business groups and stand-alone companies) in 2019 in the Province of Padua. Hence, the second hypothesis related to the business group nature of the sample, is that as business groups grow more complex, more earnings management opportunities arise. The hypothesis is backed by the studies of Kim and Yi (2010) that find evidence that the magnitude of earnings management (measured as unsigned discretionary accruals) is greater for group-affiliated firms than for non-affiliated firms.

The metrics that were tested with earnings quality are:

- number of subsidiaries (*Subs*) belonging to the business group;
- dummy variable (*fdummy1*) that takes the value of (1) in the absence of subsidiaries located in a foreign country and (0) otherwise;
- dummy variable (*fdummy2*) that takes value (1) when the number of foreign subsidiaries is equal or higher the median of the sample and (0) otherwise.

The metrics *Subs* is tested together with *fdummy1* and *fdummy2*.

4.2.3 Intra-group transactions metric

The last step of the analysis attempts to estimate the magnitude of intra-group transactions and find evidence of a positive relation between such magnitude and the amount of earnings management.

The metric was built as the ratio between the Revenues of the holding company and the Revenues extracted from the consolidated financial statement as follows, consistently with the literature discussed in Chapter 3:

$$\text{Rev}_{\text{Ratio}} = \frac{\text{RevenuesHolding}}{\text{RevenuesConsolidated}}$$

Recalling findings in Beuselinck and Deloof (2014), “the extent to which business operations are executed within the holding network facilitates earnings management activities”.

4.2.4 Control variables

A firm’s decision-making process might be correlated with its maturity, operational complexity, effectiveness of management, or a combination of these. Given that some groups are substantially smaller than others, including the variables *SIZE*, *LEV*, *ROA* and *GROWTH*, help control for these factors.

As in Francis and Wang (2008), control for firm size (*SIZE*) could in fact proxy for underlying constructs e.g., information environment, capital market pressure or financial resources (Dechow et al., 2010). Control for leverage (*LEV*) helps because a higher total debt to asset ratio indicates a higher possibility of debt covenant violation, which creates an incentive to increase reported earnings through accruals-based earnings management. Further, the return on assets (*ROA*) is added to control for firm profitability and the control for sales growth is added as well (*GROWTH*) because it can affect yearly earnings management if the relation is nonlinear (e.g., Francis and Wang 2008).

4.2.5 Earnings quality measures

As highlighted previously, there is no unanimous agreement on earnings quality measures, and for this reason two distinct metrics from the literature are employed:

- (i) abnormal working capital accruals, estimated using the DeFond and Park (2001) model, which is particularly suitable when the number of observations per year/industry is limited as in our case;
- (ii) the modified Jones model (Dechow et al., 1995), which is the Jones model (1992) adjusted for growth in credit receivables.

DeFond and Park metric

Our first earnings management metric is abnormal working capital accruals (AWCA). Following DeFond and Park (2001), abnormal working capital accruals are defined as follows:

$$AWCA_{i,t} = WC_{i,t} - WC_{i,t-1} * (Rev_{i,t}/Rev_{i,t-1}) \quad (1)$$

where *Rev.* is revenues and $WC_{i,t}$ is the level of noncash working capital observed in year t for firm i , scaled by the beginning total assets determined as follows:

$$WC_{i,t} = (CA_{i,t} - Cash_{i,t}) - (CL_{i,t} - D_{i,t}) \quad (2)$$

Where, in eq. (2), CA is current assets, $Cash$ is cash and short-term investments, CL is current liabilities, and D is short-term debt. The second term of eq. (1) represents the predicted value of working capital, calculated as working capital in the previous year ($WC_{i,t-1}$) adjusted for the change in sales.

Modified Jones metric

The second measure of earnings management taken into consideration is the modified Jones model, following Dechow et al. (1995):

$$TA_{i,t}/Assets_{i,t-1} = \alpha_0 (1/Assets_{i,t-1}) + \beta_1 (\Delta Rev_{i,t} - \Delta Rec_{i,t})/Assets_{i,t-1} + \beta_2 (PPE_t/Assets_{i,t-1}) + \varepsilon_t \quad (3)$$

where $TA_{i,t}$ is total accruals for firm i in year t , $Assets_{i,t-1}$ is total assets at $t-1$, $\Delta Rev_{i,t}$ is the change in revenue from $t-1$ to t , $\Delta Rec_{i,t}$ is the change in accounts receivable from $t-1$ to t , and $PPE_{i,t}$ is net property, plant, and equipment in year t . All variables are deflated by lagged Total Assets to control for differences in firm size.

Total Accruals are defined as:

$$TA_{i,t} = (\Delta CA_{i,t} - \Delta Cash_{i,t}) - (\Delta CL_{i,t} - \Delta D_{i,t}) - Dep_{i,t} \quad (4)$$

where $\Delta CA_{i,t}$ is the change in total current assets, $\Delta Cash_{i,t}$ is the change in cash/cash equivalents and short investments, $\Delta CL_{i,t}$ is the change in current liabilities, $\Delta D_{i,t}$ is the change in financial debt included in current liabilities, and $Dep_{i,t}$ is depreciation expense in year t . Changes related to financial transactions, such as changes in cash and cash equivalents and financial debt, are excluded from accruals because they relate to financial transactions and not to cash operations. The residuals from the regression estimated in equation (3) are used as proxy for discretionary accruals, while the regression excluding residuals represent nondiscretionary accruals that can be computed as:

$$NDA_{i,t} = TA_{i,t} - Res_{i,t} \quad (5)$$

where $Res_{i,t}$ are the residuals estimated in equation (3).

4.2.6 Variable summary

Table 4.1

Variable overview

Variable	Description	Label
<i>Dependent</i>		
Modified Jones	$TA_{i,t} = \alpha_0 + \beta_1 (\Delta Rev_{i,t} - \Delta Rec_{i,t}) + \beta_2 (PPE_t) + \varepsilon_t$	DACC
DeFond and Park	$AWCA_{i,t} = WC_{i,t} - WC_{i,t-1} * (Rev_{i,t}/Rev_{i,t-1})$	AWCA
<i>Independent</i>		
Ownership concentration	Dummy: (1) if ownership > 50%, (0) otherwise	Ownership
Number of subsidiaries	Discrete, from 1 to 49	Subs

Absence of foreign subsidiaries	Dummy: (1) if no foreign subs, (0) otherwise	fdummy1
Foreign subsidiaries	Dummy: (1) if n >= Median, (0) otherwise	fdummy2
Intra-group transactions magnitude	Continuous variable, computed as RevenuesHolding/RevenuesConsolidated	Rev_Ratio
 <i>Controls</i>		
Size of the firm	Natural logarithm of total Assets	<i>SIZE</i>
Leverage	Debt-to-equity ratio	<i>LEV</i>
Profitability	Stands for yearly return on assets and equals net income divided by lagged total assets	<i>ROA</i>
Sales growth	Annual percentage change in revenue	<i>GROWTH</i>

4.3 Descriptive statistics

The following table depicts the descriptive statistics for all the variables included in the models for the pooled sample. All variables were defined in Table 4.1.

Table 4.2

Descriptive statistics for the pooled sample

	# firm-years	Min	Max	Mean	SD	Median
<i>EM Metrics</i>						
Jones	352	0.00	4.86	0.09	0.47	0.03
DeFond	352	0.00	4.73	0.10	0.47	0.04
Jones	352	-4.04	4.86	0.001	0.48	-0.01
DeFond	352	-4.73	4.24	-0.02	0.48	-0.01
%_Share	440	0.00	1.00	0.51	0.29	0.5
Subs	440	1	49	11	9.77	8
Foreign_Sub	440	0.00	46	6	9.48	3
Rev_Ratio	440	0.00	1.65	0.41	0.44	0.07
<i>Controls</i>						
<i>SIZE</i>	440	9.79	14.28	11.83	1.01	11.61
<i>LEV</i>	440	-15.11	24.89	3.06	4.17	1.88
<i>ROA</i>	352	-0.25	0.58	0.03	0.62	0.02
<i>GROWTH</i>	352	-0.51	0.47	0.05	0.13	0.05
<i>AGE</i>	440	0.00	73	28.68	18.43	29

The mean absolute value of accruals is 0.8% of total assets for both earnings management metrics. The firms in our analysis have a mean value of *leverage* equal to 3.06 and their sales

are growing rather slowly (on average 5%), consistent with Corbella et al. (2015) and Marchini et al. (2018).

The median firm exhibits below average abnormal accruals both when considering the modified Jones model and the DeFond and Park model. The *SHARE* percentage of the single largest shareholder is aligned with the average at 51%, consistent with Italy having a history of concentrated ownership. The media owns 8 subsidiaries, 3 of which are foreign subsidiaries. The *Rev_Ratio* is 0.07, well below the sample average of 0.4.

Profit distribution and “kink”

Consistent with Bonacchi et al. (2019), the next investigation aims to highlight whether business groups in our sample exhibit the famous “kink” at zero.

Prior research has documented a “kink” in the earnings distribution: too few firms report small losses, too many firms report small profits (Hayn, 1995). Burgstahler and Dichev (1997) build on Hayn by showing a kink in both the earnings change and the earnings level distributions and suggesting the cause of the kink is earnings management.

Further evidence on the link between earnings management and the “kink” is mixed at best but it is interesting to verify whether this condition holds true in our sample as well.

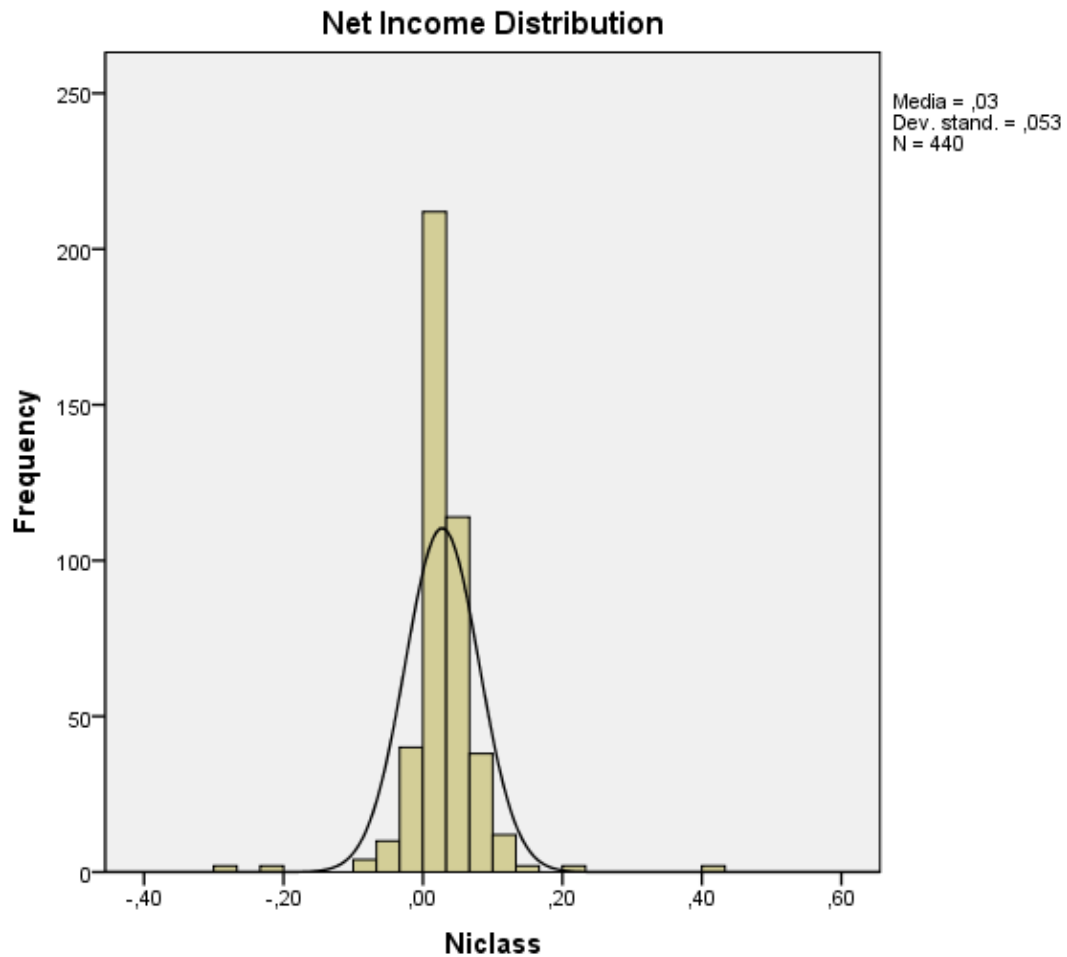


Figure 4.1

Profit distribution. Figure 4.1 shows income distribution across our sample of private business groups. As per Dechow et al. (2003), firms are grouped into net income classes (*Niclass*) by scaling net income over total assets (*NI_TA*). The range of each niclass is 0.03. Our benchmark beater class is *Niclass 0* and includes all firm-years where $0 \leq NI_TA < 0.03$.

Considering Figure 4.1, our sample of private business groups exhibit the kink at “zero” when looking at the benchmark beater class, *Niclass 0*.

5. Results

5.1 Ownership concentration and earnings quality

In the first analysis, our hypothesis on ownership concentration and earnings quality is tested. Following H1, a higher degree of earnings management is expected to be related to lower ownership degree of the dominant shareholder, therefore negatively related with the *Ownership* variable.

H1: Proprietorship concentration enhances financial reporting quality and it is negatively related to the intensity of earnings management.

The estimated regression model is the following:

$$\mathbf{EQ}_{i,t} = \alpha_0 + \beta_1 \mathbf{Ownership}_{i,t} + \beta_2 \mathbf{SIZE}_{i,t} + \beta_3 \mathbf{LEV}_{i,t} + \beta_4 \mathbf{ROA}_{i,t} + \beta_5 \mathbf{GROWTH}_{i,t} + \varepsilon_t \quad (1)$$

The results of the analysis for both earnings quality metrics show a negative relation between the absolute value of earnings management measures and the dummy for ownership concentration, but both results delivered through the Modified Jones model and the DeFond and Park model are significant.

Table 5.1

Modified Jones model and DeFond and Park model to test ownership concentration

Variables	 Jones Model 	 DeFond Model
Ownership	-0.103** (-2.065)	-0.091* (-0.822)
SIZE	0.003 (0.101)	0.006 (0.234)
LEV	-0.005 (-0.798)	-0.006 (-0.868)
ROA	1.433*** (3.495)	1.619*** (3.940)
GROWTH	0.170 (0.896)	0.182 (0.953)
<i>Intercept</i>	<i>0.073</i> (0.246)	<i>0.029</i> (0.099)
# Obs. (firm-years)	352	352
R²	5.3%	6.1%

Table 5.1 reports the coefficient estimates from a regression of two measures of earnings quality (*|Jones_Mod|*, *|DeFond|*) on ownership concentration (*Ownership*) plus control variables for the private firm sample. **Ownership** is the dummy variable for ownership concentration. **LEV** is the debt-to-equity ratio. **SIZE** is the book value of total assets at the end of the fiscal year (natural log). **ROA** stands for yearly return on assets and equals net income divided by lagged total assets. **GROWTH** measures the change in sales from t-1 to t.

*, **, *** show significance at the 10%, 5%, and 1% levels, respectively.

5.2 Subsidiaries metrics and earnings quality

The second performed analysis aims to address the issue of group complexity and earnings management.

H2a: The intensity of earnings management increases as the degree of complexity of the business group increases.

The first regression relates earnings quality metrics and a discrete variable representing the number of subsidiaries belonging to the business group as follows:

$$\mathbf{EQ}_{i,t} = \alpha_0 + \beta_1 \mathbf{Subs}_{i,t} + \beta_2 \mathbf{SIZE}_{i,t} + \beta_3 \mathbf{LEV}_{i,t} + \beta_4 \mathbf{ROA}_{i,t} + \beta_5 \mathbf{GROWTH}_{i,t} + \varepsilon_t \quad (2)$$

The results show a strong positive connection when testing both metrics of earnings quality, confirming the predicted hypothesis of positive relation between higher earnings management and higher number of subsidiaries (untabulated).

Furthermore, the second part of our H2 needs to be tested.

H2b: The existence of one or more foreign subsidiaries is negatively related to earnings quality.

For the sake of completeness, a second and third dummy variable were built to test the effects of the foreign nature of one or more subsidiaries on earnings management behaviours, and tested together with *Subs* as follows:

$$\mathbf{EQ}_{i,t} = \alpha_0 + \beta_1 \mathbf{Subs}_{i,t} + \beta_2 \mathbf{fdummy1}_{i,t} + \beta_3 \mathbf{fdummy2}_{i,t} + \beta_4 \mathbf{SIZE}_{i,t} + \beta_5 \mathbf{LEV}_{i,t} + \beta_6 \mathbf{ROA}_{i,t} + \beta_7 \mathbf{GROWTH}_{i,t} + \varepsilon_t \quad (3)$$

Table 5.2

Modified Jones model and DeFond and Park model to test group complexity

Variables	 Jones Model 	 DeFond Model
Subs	0.015*** (4.091)	0.016*** (4.258)
fdummy1	0.038 (0.377)	0.006 (0.058)
fdummy2	-0.008 (-0.078)	-0.044 (-0.423)
SIZE	-0.083*** (-2.646)	-0.083*** (-2.649)
LEV	-0.004 (-0.610)	-0.004 (-0.651)
ROA	1.460*** (3.585)	1.658*** (4.072)
GROWTH	0.165 (0.880)	0.179 (0.958)
<i>Intercept</i>	<i>0.862**</i> (2.347)	<i>0.888**</i> (2.419)
# Obs. (firm- years)	352	352
R²	9.3%	10.6%

Table 5.2 reports the coefficient estimates from a regression of two measures of earnings quality (*|Jones_Mod|*, *|DeFond|*) on group complexity variables (*Subs*, *fdummy1*, *fdummy2*) plus control variables for the private firm sample. **Subs** represents the number of subsidiaries belonging to the group, **fdummy1** is the dummy variable for foreign subs existence, **fdummy2** is the dummy variable for number of foreign subs > sample Median. **LEV** is the debt-to-equity ratio. **SIZE** is the book value of total assets at the end of the fiscal year (natural log). **ROA** stands for yearly return on assets and equals net income divided by lagged total assets. **GROWTH** measures the change in sales from t-1 to t.

*, **, *** show significance at the 10%, 5%, and 1% levels, respectively.

The positive relation between *Subs* and earnings quality measures remains strongly significant, while no significant relation between earnings management metrics and the existence of one or more foreign subsidiaries was detected. It is interesting to notice that the coefficient of *fdummy2*, despite insignificant, exhibits a negative sign. Although it may be unexpected, it is backed by previous studies that highlight that earnings management takes place mostly at domestic level (i.e., Dyreng et al, 2012).

5.3 Intra-group transactions index and earnings quality

The last regression was performed to test the hypothesized positive relation between intra-group transactions and earnings quality.

H3: As the magnitude of intra-group transactions increases, the intensity of earnings management increases.

The regression tested was the following:

$$\mathbf{EQ}_{i,t} = \alpha_0 + \beta_1 \mathbf{Rev_Ratio}_{i,t} + \beta_2 \mathbf{SIZE}_{i,t} + \beta_3 \mathbf{LEV}_{i,t} + \beta_4 \mathbf{ROA}_{i,t} + \beta_5 \mathbf{GROWTH}_{i,t} + \varepsilon_i \quad (4)$$

Where *Rev_Ratio* is the ratio between the revenues of the parent company and the revenues extrapolated from the consolidated financial statements.

Table 5.3

Modified Jones model and DeFond and Park model to test the magnitude of intra-group transactions

Variables	 Jones Model 	 DeFond Model
Rev_Ratio	0.072 (1.249)	0.062 (0.062)
SIZE	0.011 (0.419)	0.013 (0.013)
LEV	-0.005 (-0.800)	-0.006 (-0.006)
ROA	1.377*** (3.332)	1.571*** (1.571)
GROWTH	0.140 (0.733)	0.155 (0.155)
<i>Intercept</i>	-0.095 (-0.311)	-0.381 (-0.381)
# Obs. (firm-years)	352	352
R²	4.6%	5.6%

Table 5.3 reports the coefficient estimates from a regression of two measures of earnings quality (*|Jones_Mod|*, *|DeFond|*) on the magnitude of intra-group transactions (*Rev_Ratio*) plus control variables for the private firm sample. **Rev_Ratio** is the ratio between the Revenues of the holding company and the Revenues extracted from the consolidated financial statement. **LEV** is the debt-to-equity ratio. **SIZE** is the book value of total assets at the end of the fiscal year (natural log). **ROA** stands for yearly return on assets and equals net income divided by lagged total assets. **GROWTH** measures the change in sales from t-1 to t.

*, **, *** show significance at the 10%, 5%, and 1% levels, respectively.

Unfortunately, coefficients were positive, but the regression did not highlight any significant relation. It could be due to the insufficient size of the sample, but also to the unsuitability of the index to identify the research question correctly.

5.4 Discussion of results

The analysis performed give some interesting insights to discuss about.

Our first hypothesis aimed to test the relation between ownership structure and earnings management behaviour and stated that proprietorship concentration is positively related to earnings quality.

Our prediction proved correct, higher levels of ownership concentration are negatively related to our proxies for earnings management, hence showing that when decision-making processes are concentrated in just a small number of hands, financial reporting quality is improved.

Such results are backed by different motivations. First, as Fama and Jensen (1983)'s agency theory states, when equity ownership and corporate decision-making are concentrated in just a small number of decision takers, risk aversion is higher, and the managers and owners (or managers/owners) are less likely to engage in risky behaviours. Second, consistent with Jung and Kwon (2002)'s findings, earnings are more informative as holdings of the owner increase, supporting the convergence of interest explanation for the owner–manager structure. Last, a stewardship theory framework of analysis can be applied where the stewards (the managers of the organization), or a blend of managers and owners, assume a pro-organizational behaviour due to either higher monitoring, better interest alignment, or both.

Our second hypothesis was articulated in: a higher number of subsidiaries is related to higher levels of earnings management, and the existence of foreign subsidiaries encourages earnings management by providing more chances to manipulate earnings. The first hypothesis was proved correct, as it was expected given the literature.

Business groups and their affiliates are found to engage in earnings management more intensely than independent firms (i.e., Kim and Yi, 2006; Dyreng et al., 2012), hence subsidiaries are positively related to earnings manipulation opportunities.

On the other hand, literature findings on foreign subsidiaries are mixed and our regression on such independent variables proved nonsignificant.

The last hypothesis linked intra-group transactions and earnings quality, and it proved nonsignificant. The magnitude of intra-group transactions is hard to detect, especially when analysing consolidated financial statements, where intuitively the consolidation process may wash out the earnings management at the consolidated level (i.e., the effects of earnings management via intercompany transactions are eliminated during consolidation). Hence, further research is needed to identify suitable proxies to detect them more accurately.

5.5 Robustness checks

As mentioned in previous chapters, earnings management metrics inherently suffer of low power. For such reason, regressions were specified with multiple measures of control (*SIZE*, *LEVERAGE*, *ROA* and *GROWTH*) in order to better our results. The power of the analysis improved significantly after these indexes were added.

A number of robustness tests was conducted to make sure that results are not sensitive to variable specification and tests were re-run.

First, for control variables, ROE was used instead of ROA, and firm size (*SIZE*) was measured in quantiles, instead of as the natural logarithm of total assets. Leverage (*LEV*) was computed as debt over lagged total assets, instead of debt scaled by equity. Second, ownership concentration (*Ownership*) was tested specified as the percentage of the largest shareholder as well. The results of the analysis are quantitatively and qualitatively unchanged with respect to all hypotheses and with all these different variable specifications.

Bootstrap analysis

Bootstrapping is a resampling technique used to estimate statistics on a population by sampling a dataset with replacement. It is appropriate to control and check the stability of various results as it resamples a single dataset to create many simulated samples. Each of these simulated samples has its own properties, such as the mean, median and standard deviation.

As it merely resamples the data, bootstrapping does not make assumption about the distribution of such data, and it is ideal to control whether our results, drawn from a relatively small sample, hold true.

All our regressions were re-run to double test our analysis and tabulated below.

Table 5.4

Bootstrap to test ownership concentration

Variables	 Jones Model 	 DeFond Model
Ownership	-0.103** (0.049)	-0.091* (0.052)
SIZE	0.003 (0.009)	0.006 (0.010)
LEV	-0.005 (0.003)	-0.006 (0.003)
ROA	1.433*** (0.978)	1.619*** (0.963)
GROWTH	0.170 (0.084)	0.182 (0.089)
<i>Intercept</i>	0.073 (0.094)	0.029 (0.106)
R²	5.3%	6.1%

Table 5.4 reports bootstrapping to test ownership concentration. Bootstraps results are based on 1000 bootstrap samples. Standard errors are reported in parentheses.

Table 5.5

Bootstrap to test group complexity

Variables	 Jones Model 	 DeFond Model
Subs	0.015*** (0.007)	0.016*** (0.007)
fdummy1	0.038 (0.022)	0.006 (0.021)
fdummy2	-0.008 (0.021)	-0.044 (0.020)
SIZE	-0.083*** (0.034)	-0.083*** (0.034)
LEV	-0.004 (0.002)	-0.004 (0.002)
ROA	1.460*** (0.995)	1.658*** (1.071)
GROWTH	0.165 (0.092)	0.179 (0.091)
<i>Intercept</i>	0.862** (0.330)	0.888** (0.70)
R²	9.3%	10.6%

Table 5.5 reports bootstrapping to test group complexity. Bootstraps results are based on 1000 bootstrap samples. Standard errors are reported in parentheses.

Table 5.6

Bootstrap to test the magnitude of intra-group transactions

Variables	 Jones Model 	 DeFond Model
Rev_Ratio	0.072 (0.036)	0.062 (0.038)
SIZE	0.011 (0.012)	0.013 (0.013)
LEV	-0.005 (0.003)	-0.006 (0.003)
ROA	1.377*** (0.928)	1.571*** (1.005)
GROWTH	0.140 (0.079)	0.155 (0.076)
<i>Intercept</i>	<i>-0.095</i> (0.144)	<i>-0.381</i> (0.160)
R²	4.6%	5.6%

Table 5.6 reports bootstrapping to test the magnitude of intra-group transactions. Bootstraps results are based on 1000 bootstrap samples. Standard errors are reported in parentheses.

Bootstrapped results were consistent with our main analysis.

5.6 Limitations and future prospects

Our study has a number of limitations. First, it is focused on the Italian institutional setting. The existence of national cultural factors and different accounting regulations suggest caution in generalizing our conclusions to other countries.

Also, as already mentioned, in Italian family firms the controlling family is particularly involved in the activities of the company. At the same time, banks play a particularly relevant role as lenders, due to the historical tradition of the Italian financial system. All these features

may exacerbate the motivations for earnings management, thus limiting the generalizability of our results to other settings. Second, required information was found for only 440 firm-years, preventing more sophisticated statistical tests and our ability to perform more meaningful research. Third, we use empirical proxies that could be incomplete representations of theoretical constructs. The most intuitive example is our proxy for intra-group transactions, because of the assumption that the share of the parent's revenues over consolidated earnings is a representative metric. To the extent that our control variables are incomplete representations of underlying theoretic constructs, which are in turn correlated with our research variables, our results must be interpreted with caution. Furthermore, in this analysis we focus on a specific metric of earnings management, that is, abnormal or discretionary accruals. This represents only one type of earnings management that a company may carry out to reach its purposes; therefore, our conclusions need to be interpreted carefully when generalized to other types of earnings management.

Further research can contribute to the field by analysing larger samples and other real earnings management actions. Moreover, it may be interesting to carry out cross-country analysis to broaden the generalisation of our results. Finally, multinational business groups represent a fertile ground to test affiliated-party transaction issues, by taking into account parent, consolidated and both foreign and domestic subsidiaries' data.

Conclusions

The analysis studies earnings management in Italian business groups by focusing on the consolidated and unconsolidated financial statements of the largest business groups in the province of Padua. The focus on Italy is ideal because, unlike Canada and the United States, financial information on private companies is publicly available and the characteristics of the Italian ecosystem, such as weaker protection and the prevalence of family-owned firms (concentrated ownership), provide a setting where managers are more likely to manage earnings to align with the parent's goals.

In such sense, research finds strong evidence that higher ownership, in terms of concentration of the single largest shareholder, is related to less earnings management. This is consistent with a stewardship theory perspective, where managers left on their own act as responsible stewards of the assets they control and align their interests to the property ones.

The following stage of the analysis provides insights on the effects of subsidiaries, both domestic and foreign on the degree of earnings management. A strong relation is proved between the quality of earnings and the number of subsidiaries, regardless their location and proves our hypothesis of higher earnings management related to higher complexity of the group. When investigating the presence of foreign subsidiaries in the sample, no further significant results are found, but it is interesting to notice that the coefficient of the independent variable identifying foreign subsidiaries is negative. That may mean that more foreign subsidiaries are associated with less earnings management, and despite it might be surprising, it is consistent with recent findings that earnings management takes place mostly at domestic level.

Furthermore, the intra-group transactions investigations proved positive but not significant, such results could be due to the small sample size, index inaccuracy, or both.

While such results might not generalize to countries where the features of the Italian setting are inconsistent, the analysis finds evidence on how a business group's decision-making process (ownership/management) may affect earnings management and how earnings quality is shaped by the features of the business group. Overall, findings show the importance of investigating the components of the consolidation process to evaluate the financial reporting quality of a firm. More in-depth research may employ larger samples to conduct cross-country analysis, considering both subsidiaries' and consolidated financial statement data in order to find

appropriate metrics to estimate affiliated-party issues, detect earnings quality and further analyse such promising field.

References

- Abarbanell, J., Lehavy, R. (2003). Can stock recommendations predict earnings management and analysts' earnings forecast errors? *Journal of Accounting Research*, 41, 1–31
- Aboody, D., Barth, M., Kasznik, R. (1999). Revaluations of fixed assets and future firm performance: evidence from the UK. *Journal of Accounting and Economics*, 26, 149–178
- Almeida, H., Wolfenzon, D. (2006). A theory of pyramidal ownership and family business groups. *Journal of Finance*, 61 (6), 2637–2680
- Anderson, R. C., Reeb, D. M. (2003). Founding-family ownership and firm performance: Evidence from the S&P 500. *The Journal of Finance*, 58 (3), 1301–28
- Armstrong, C. S., Dávila, A., Foster, G., Hand, J. R. M. (2007). Biases in multi-year management financial forecasts: Evidence from private venture-backed U. S. companies. *Review of Accounting Studies*, 12, 183–215
- Ashbaugh-Skaife, H., Collins, D., Kinney, W., LaFond, R. (2008). The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review*, 83, 217–250
- Asker, J., Farre-Mensa, J., Ljungqvist, A. (2015). Corporate investment and stock market listing: A puzzle? *Review of Financial Studies*, 28, 342–390
- Baber, W., Kang, S., Kumar, K. (1998). Accounting earnings and executive compensation: the role of earnings persistence. *Journal of Accounting and Economics*, 25, 169–193
- Badertscher, B. A., Katz, S. P., P., Rego, S. O. (2013). The separation of ownership and control and corporate tax avoidance. *Journal of Accounting and Economics*, 56, 228–250
- Ball, R., Robin, A., Wu J. (2003). Incentives vs. standards: Properties of accounting numbers in four East Asian countries, and implications for acceptance of IAS. *Journal of Accounting and Economics*, 36 (1-3), 235-270

- Ball, R., Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, 39, 83–128
- Ball, R., Bushman, R. M., Vasvari, F. P. (2008). The Debt-Contracting Value of Accounting Information and Loan Syndicate Structure. *Journal of Accounting Research*, 46, 247-287
- Bar-Yosef, S., D'Augusta, C., Prencipe, A. (2019). Accounting Research on Private Firms: State of the Art and Future Directions. *The International Journal of Accounting*, 54 (2)
- Barth, M., Landsman, W., Lang, M. (2008). International accounting standards and accounting quality. *Journal of Accounting Research*, 46, 467–498
- Bassemir, M. (2018). Why do private firms adopt IFRS? *Accounting and Business Research*, 48, 237–263
- Bassemir, M., Novotny-Farkas, Z. (2018). IFRS adoption, reporting incentives, and financial reporting quality in private firms. *Journal of Business Finance & Accounting*, 45, 759–796
- Basu, S., 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, 24, 3–37
- Bernard, D., Burgstahler, D., Kaya, D. (2018). Size management by European private firms to minimize proprietary costs of disclosure. *Journal of Accounting and Economics*, 66, 94–122
- Bertrand, M., Schoar, A. (2006). The role of family in family firms. *The Journal of Economic Perspectives*, 20 (2), 73–96
- Berzins, J., Bøhren, Ø., Rydland, P. (2008). Corporate finance and governance in firms with limited liability: Basic characteristics. *Research Report No. 1*, Centre for Corporate Governance Research, Norwegian Business School
- Beuselinck, C., Deloof, M., Manigart, S. (2013). Financial Reporting, Disclosure, and Corporate Governance. *The Oxford handbook of Corporate Governance*, Oxford University Press, 2013, Chapter 13, 290-307

- Beuselinck, C., Deloof, M. (2014). Earnings management in business groups: Tax incentives or expropriation concealment? *The International Journal of Accounting*, 49 (1), 27–52
- Beuselinck, C., Cascino, S., Deloof, M., Vanstraelen, A. (2016). Earnings management within multinational corporations. *SSRN*
- Beuselinck, C., Elfers, F., Gassen, J., Pierk, J. (2019). Accounting by Private Firms: Empirical Evidence, Data, and Research Perspectives. *SSRN*
- Bianchi, M., Bianco, M. (2006). Italian corporate governance in the last 15 years: From pyramids to coalitions? *SSRN*
- Biddle, G., Hilary, G. (2006). Accounting quality and firm-level capital investment. *The Accounting Review*, 81, 963–982
- Bigus, J., Hillebrand, C. (2017). Bank relationships and private firms' financial reporting quality. *European Accounting Review*, 26, 379–409
- Bonacchi, M., Cipollini, F., Zarowin, P. (2018). Parents' Use of Subsidiaries to “Push Down” Earnings Management: Evidence from Italy. *Contemporary Accounting Research*, 35, 1332-1362
- Bonacchi, M., Marra, A., Zarowin, P. (2019). Organizational structure and earnings quality of private and public firms. *Review of Accounting Studies*, 24, 1066–1113
- Botosan, C. A., Ashbaugh-Skaife, H., Beatty, A. L., Davis-Friday, P. Y., Hopkins, P. E., Nelson, K. K., Ramesh, K., Uhl, R., Venkatachalam, M., Vrana, G. (2006). Financial accounting and reporting standards for private entities. *Accounting Horizons*, 20, 179–194
- Bowen, R., DuCharme, L., Shores, D. (1995). Stakeholders' implicit claims and accounting method choice. *Journal of Accounting and Economics*, 20, 255–295
- Bradshaw, M., Richardson, S., Sloan, R. (2001). Do analysts and auditors use information in accruals? *Journal of Accounting Research*, 39, 45–74

- Brockbank, B. G., Hennes K. M. (2018). Strategic timing of 8-K filings by privately owned firms. *Accounting Horizons*, 32, 163–182
- Burgstahler, D. C., Dichev, I. D. (1997). Earnings Management to Avoid Earnings Decreases and Losses. *Journal of Accounting and Economics*, 24, 99-126
- Burgstahler, D. C., Hail, L., Leuz, C. (2006). The importance of reporting incentives: Earnings management in European private and public firms. *The Accounting Review*, 81, 983–1016
- Burgstahler, D., Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, 24, 99–126
- Burgstahler, D., Eames, M. (2003). Earnings management to avoid losses and earnings decrease: are analysts fooled? *Contemporary Accounting Research*, 20, 253–294
- Cameran, M., Campa, D., Pettinicchio, A. (2014). IFRS adoption among private companies: Impact on earnings quality. *Journal of Accounting, Auditing & Finance*, 29, 278–305
- Caramanis, C., Lennox, C. (2008). Audit effort and earnings management. *Journal of Accounting and Economics*, 45, 116–138
- Chang, S. J., Hong, J. (2000). Economic performance of group-affiliated companies in Korea: Intragroup resource sharing and internal business transactions. *Academy of Management Journal*, 43 (3), 429–448
- Chen, F., Hope, O. K., Li, Q., Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review*, 86, 1255–1288
- Cheng, Q., Farber, D. (2008). Earnings restatements, changes in CEO compensation, and firm performance. *The Accounting Review*, 83, 1217–1250
- Chi, W., Dhaliwal, D., Li, O. Z., Lin, T. H. (2013). Voluntary reporting incentives and reporting quality: Evidence from a reporting regime change for private firms in Taiwan. *Contemporary Accounting Research*, 30, 1462–1489

- Coase, R. H. (1937). The firm, the market and the law. *Chicago: University of Chicago Press*
- Collins, D., Kothari, S. (1989). An analysis of the cross-sectional and intertemporal determinants of earnings response coefficients. *Journal of Accounting and Economics*, 11, 143–181
- Connelly, B., Certo, T., Ireland, R., Reutzel, C. (2011). Signaling Theory: A Review and Assessment. *Journal of Management - J MANAGE*, 37, 39-67
- Corbella, S., Florio, C., Gotti, G., Mastrolia, S. A. (2015). Audit firm rotation, audit fees and audit quality: The experience of Italian public companies. *Journal of International Accounting, Auditing and Taxation*, 25, 46
- Das, S., Zhang, H. (2003). Rounding-up in reported EPS, behavioral thresholds, and earnings management. *Journal of Accounting and Economics*, 35, 31–50
- De Meyere, M., Vander Bauwhede, H., Van Cauwenberge, P. (2018). The impact of financial reporting quality on debt maturity: The case of private firms. *Accounting and Business Research*, 48, 759–781
- DeAngelo, H., DeAngelo, L., Skinner, D. J. (1994). Accounting choice in troubled companies. *Journal of Accounting and Economics*, 17, (1-2), 113-143
- DeAngelo, L. (1981). Auditor independence, ‘low balling’, and disclosure regulation. *Journal of Accounting and Economics*, 3, 113–127
- Dechow, P. M. (1994). Accounting earnings and cash flows as measures of firm performance: The role of accounting accruals, *Journal of Accounting and Economics*, 18 (1), 3-42
- Dechow, P., Sloan, R., Sweeney, A. (1995). Detecting earnings management. *The Accounting Review*, 70, 193–225
- Dechow, P., Dichev, I. (2002). The quality of accruals and earnings: the role of accrual estimation errors. *The Accounting Review*, 77, 35–59

Dechow, P., Richardson, S., Tuna, I. (2003). Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies*, 8, 355–384

Dechow, P., Myers, L., Shakespeare, C. (2009). Fair value accounting and gains from asset securitizations: a convenient earnings management tool with compensation side-benefits. *Working Paper*, University of Michigan, University of California, Berkeley, and University of Arkansas

Dechow, P., Ge, W., Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences, *Journal of Accounting and Economics*, 50, 2–3, 344-401

DeFond, M. L., Park, C. W. (2001). The Reversal of Abnormal Accruals and the Market Valuation of Earnings Surprises. *The Accounting Review*, 76 (3), 375–404

Desai, H., Hogan, C., Wilkins, M. (2006). The reputational penalty for aggressive accounting: earnings restatements and management turnover. *The Accounting Review*, 81, 83–112

Dichev, I., & Skinner, D. (2002). Large-Sample Evidence on the Debt Covenant Hypothesis. *Journal of Accounting Research*, 40 (4), 1091-1123

Ding, S., Liu, M., Wu, Z. (2016). Financial reporting quality and external debt financing constraints: The case of privately held firms. *Abacus*, 52, 351–373

Doyle, J. T., Ge, W., McVay, S. E. (2007). Accruals Quality and Internal Control Over Financial Reporting. *The Accounting Review*, 82, 1141-1170

Dyck, A., Zingales, L. (2004). Private benefits of control: An international comparison. *Journal of Finance*, 59 (2), 537–600

Dyreng, S., Hanlon, M., Maydew, E. (2012). Where do firms manage earnings? *Review of Accounting Studies*, 17 (3), 649–87

- Engel, E., Hayes, R., Wang, X. (2003). CEO turnover and properties of accounting information. *Journal of Accounting and Economics*, 36, 197–226
- Esplin, A., Jamal, K., Sunder, S. (2018). Demand for and Assessment of Audit Quality in Private Companies. *Abacus*, 54, 319-352
- Faccio, M., Lang, L. H. P. (2002). The ultimate ownership of western European corporations. *Journal of Financial Economics*, 65, 365–395
- Fan, J. P. H., Goyal, V. K. (2006). On the patterns and wealth effects of vertical mergers. *Journal of Business*, 79 (2), 877–902
- Farre-Mensa, J. (2010). The Benefits of Selective Disclosure: Evidence from Private Firms. *Harvard Business School Working Papers*
- Fisman, R., Khanna, T. (2004). Facilitating development: The role of business groups. *World Development*, 32 (4), 609–628
- Francis, J., Krishnan, J. (1999). Accounting accruals and auditor reporting conservatism. *Contemporary Accounting Research*, 16, 135–165
- Francis, J. R., Khurana, I. K., Pereira, R. (2003). The Role of Accounting and Auditing in Corporate Governance and the Development of Financial Markets Around the World. *Asia Pacific Journal of Accounting and Economics*, 10 (1), 1-30
- Francis, J., LaFond, R., Olsson, P., Schipper, K. (2004). Costs of equity and earnings attributes. *The Accounting Review*, 79, 967–1010
- Francis, J., LaFond, R., Olsson, P., Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics*, 39, 295–327
- Francis, J. R., Khurana, I. K., Martin, X., Pereira, R. (2008). The role of firm-specific incentives and country factors in explaining voluntary IAS adoptions: Evidence from private firms. *The European Accounting Review*, 17, 331–360

- Francis, J., Wang, D. (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary Accounting Research*, 25, 157–191
- García Lara, J., García Osma, B., Penalva, F. (2009). Accounting conservatism and corporate governance. *Review of Accounting Studies*, 14, 161–201
- Gassen, J. (2017). The effect of IFRS for SMEs on the financial reporting environment of private firms: An exploratory interview study. *Accounting and Business Research*, 47, 540–563
- Geiger, M., North, D. (2006). Does hiring a new CFO change things? An investigation of changes in discretionary accruals. *The Accounting Review*, 81, 781–809
- Givoly, D., Hayn, C. K., Katz, S. P. (2010). Does public ownership of equity improve earnings quality? *The Accounting Review*, 85, 195–225
- Gong, G., Louis, H., Sun, A. (2008). Earnings management, lawsuits, and stock-for-stock acquirers' market performance. *Journal of Accounting and Economics*, 46, 62–77
- Gopalan, R., Jayaraman, S. (2012). Private control benefits and earnings management: Evidence from insider-controlled firms. *Journal of Accounting Research*, 50 (1), 117–57
- Graham, J., Li, S., Qiu, J. (2008). Corporate misreporting and bank loan contracting. *Journal of Financial Economics*, 88, 44–61
- Habib, A., Ranasinghe, D., Huang, H. J. (2018). A literature survey of financial reporting in private firms. *Research in Accounting Regulation*, 30, 31–37
- Hall, S., Stammerjohan, W. (1997). Damage awards and earnings management in the oil industry. *The Accounting Review*, 72, 47–65
- Haw, I. M., Lee, J. J., Lee, W. (2014). Debt financing and accounting conservatism in private firms. *Contemporary Accounting Research*, 31, 1220–1259
- Hayn, C. (1995). The Information Content of Losses. *Journal of Accounting and Economics*, 20, 125-153

Hope, O. K., Thomas, W. B., Vyas, D., 2013. Financial reporting quality of U.S. private and public firms. *The Accounting Review*, 88, 1715–1742

Hope, O. K., Thomas, W. B., Vyas, D. (2017). Stakeholder demand for accounting quality and economic usefulness of accounting in U.S. private firms. *Journal of Accounting and Public Policy*, 36, 1–13

Hribar, P., Collins, D. (2002). Errors in estimating accruals: implications for empirical research. *Journal of Accounting Research*, 40, 105–134

Hribar, P., Jenkins, N. (2004). The effect of accounting restatements on earnings revisions and the estimated cost of capital. *Review of Accounting Studies*, 9, 337–356

Jensen, M., Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360

Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29, 193–228

Jung, K., Kwon, S. Y. (2002). Ownership structure and earnings informativeness: Evidence from Korea. *The International Journal of Accounting*, 37 (3), 301-325

Karpoff, J., Lee, D., Martin, G. (2008). The cost to firms of cooking the books. *Journal of Financial and Quantitative Analysis*, 43, 581–611

Katz, S. P. (2009). Earnings quality and ownership structure: The role of private equity sponsors. *The Accounting Review*, 84, 623–658

Khanna, T., Palepu, K. (1997). Why focused strategy may be wrong in emerging markets. *Harvard Business Review*, 75 (4), 41–51

Kim, J. B., Yi, C. H. (2006). Ownership structure, business group affiliation, listing status, and earnings management: Evidence from Korea. *Contemporary Accounting Research*, 23 (2), 427–64

- Kim, J., Chung, R., Firth, M. (2003). Auditor conservatism, asymmetric monitoring, and earnings management. *Contemporary Accounting Research*, 20, 323–359
- Kim, K., Schroeder, D. (1990). Analysts' use of managerial bonus incentives in forecasting earnings. *Journal of Accounting and Economics*, 13, 3–23
- Kim, M., Kross, W. (1998). The impact of the 1989 change in bank capital standards on loan loss provisions and loan write-offs. *Journal of Accounting and Economics*, 25, 69–99
- Kim, S. J. (2004). Bailout and conglomeration. *Journal of Financial Economics*, 71, 315–347
- Kothari, S., Leone, A., Wasley, C. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39, 163–197
- Kravet, T., Shevlin, T. (2010). Accounting restatements and information risk. *Review of Accounting Studies*, 15, 264–294
- Krishnan, G. (2003). Does Big 6 auditor industry expertise constrain earnings management? *Accounting Horizons*, 17, 1–16
- Larcker, D., Richardson, S. (2004). Fees paid to audit firms, accrual choices, and corporate governance. *Journal of Accounting Research*, 42, 625–658
- Lennox C. S., Pittman J. A. (2011). Voluntary Audits versus Mandatory Audits. *The Accounting Review*, 86 (5), 1655-1678
- Leuz, C., Nanda D., Wysocki, P. D. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 69 (3), 505-527
- Leuz, C. (2006). Cross Listing, Bonding and Firms' Reporting Incentives: A Discussion of Lang, Raedy and Wilson (2006). *Journal of Accounting and Economics*, 42 (1–2), 285–299
- Lev, B., Ryan, S., Wu, M. (2008). Rewriting earnings history. *Review of Accounting Studies*, 13, 1–33

- Lins, K. V., Volpin, P., Wagner, H. F. (2013). Does family control matter? International evidence from the 2008–2009 financial crisis. *Review of Financial Studies*, 26 (10), 2583–619
- Marchini, P.L., Mazza, T., Medioli, A. (2018). The impact of related party transactions on earnings management: some insights from the Italian context. *Journal of Management and Governance*, 22, 981–1014
- McNichols M. F., Stubben S. R. (2008). Does Earnings Management Affect Firms' Investment Decisions? *The Accounting Review*, 83 (6), 1571–1603
- McVay, S. (2006). Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review*, 81, 501–531
- Morsfield, S., Tan, C. (2006). Do venture capitalists influence the decision to manage earnings in initial public offerings? *The Accounting Review*, 81, 1119–1150
- Myers, J., Myers, L., Skinner, D. (2007). Earnings momentum and earnings management. *Journal of Accounting, Auditing, and Finance*, 22, 249–284
- Peek, E., Cuijpers, R., Buijink, W. (2010). Creditors' and shareholders' reporting demands in public versus private firms: Evidence from Europe. *Contemporary Accounting Research*, 27, 49–91
- Penman, S., Zhang, X. (2002). Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review*, 77, 237–264
- Pizzo, M. (2013). Related party transactions under a contingency perspective. *Journal of Management and Governance*, 17 (2), 309–330
- Prencipe, A., Markarian, G., Pozza, L. (2008). Earnings Management in Family Firms: Evidence From R&D Cost Capitalization in Italy. *Family Business Review*, 21, 71-88
- Prencipe, A. (2012). Earnings management in domestic versus multinational firms: discussion of “Where do firms manage earnings?”. *Review of Accounting Studies*, 17, 688–699

- Richardson, S., Sloan, R., Soliman, M., Tuna, I. (2005). Accrual reliability, earnings persistence and stock prices. *Journal of Accounting and Economics*, 39, 437–485
- Rosner, R. (2003). Earnings manipulation in failing firms. *Contemporary Accounting Research*, 20, 361–408
- Shin, H. H., Park, Y. S. (1999). Financing constraints and internal capital markets: Evidence from Korean chaebols. *Journal of Corporate Finance*, 5 (2), 169–194
- Shroff, N., Corporate Investment and Changes in GAAP (2017). *Review of Accounting Studies*, 22 (1), 1–63
- Shuto, A. (2009). Earnings management to exceed the threshold: A comparative analysis of consolidated and parent-only earnings. *Journal of International Financial Management & Accounting* 20 (3), 199–239
- Thomas, W. B., Herrmann, D. R., Inoue, T. (2004). Earnings management through affiliated transactions. *Journal of International Accounting Research*, 3 (2), 1–25
- Thomas, W. B., Herrmann, D. R., Inoue, T. (2004). Earnings management through affiliated transactions. *Journal of International Accounting Research*, 3 (2), 1–25
- Vafeas, N. (2005). Audit committees, boards, and the quality of reported earnings. *Contemporary Accounting Research*, 22, 1093–1122
- Van Caneghem, T., Van Campenhout, G. (2012). Quantity and quality of information and SME financial structure. *Small Business Economics*, 39 (2), 341-358
- Van Tendeloo, B., Vanstraelen, A. (2008). Earnings management and audit quality in Europe: Evidence from the private client segment market. *European Accounting Review*, 17, 447–469
- Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, 5, 179-194

Watts, R. L., Zimmerman, J. L. (1986). *Positive Accounting Theory*. Prentice-Hall Inc.

Weiss, D. (2014). Internal Controls in Family-Owned Firms. *European Accounting Review*, 23 (3), 463-482

Xie, H. (2001). The mispricing of abnormal accruals. *The Accounting Review*, 76, 357–373

Web sources

Bloomberg View, 2014 (<https://www.bloomberg.com/opinion/articles/2014-10-14/private-companies-are-driving-china-s-growth>)

Public Disclosure Requirements for Private Companies: U.S. vs. Europe (https://www.jonesday.com/en/insights/2012/10/public-disclosure-requirements-for-private-companies-us-vs-europe#_edn11)