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Research on the Effect of Top Management Team
Characteristics on Financial Reporting Comparability-
Findings from Chinese Listed Companies

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Doctoral Dissertation

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ABSTRACT

Financial reporting is a critical way for firms to communicate with stakeholders. The comparability of financial reporting is essential for investors and creditors. If comparative information is not available, they can hardly make rational investment and credit decisions. Concerning the significance of comparable information, investigating the determinants of firms' reporting choices is valuable. Moreover, top management team (TMT) members such as CEOs or CFOs are documented to have an impact on financial reporting quality. However, each manager works with other TMT members to make firm-level decisions. Thus, the characteristics of TMTs that shape firms' internal governance environment and decision-making will also influence financial reporting decisions.

Using panel data obtained from public firms in China, we first investigated the impact of TMT characteristics on financial reporting comparability. We employed the logit regression analysis and the fuzzy-set qualitative comparative analysis (fsQCA) to explore the potential relationship between TMT characteristics and financial reporting comparability. Moreover, we investigated the mediating mechanisms that explain the relationship. We found that salary, female member, functional experience, and tenure of a TMT have a linear association with comparable accounting information. Furthermore, these four characteristics drive firms by engaging in differing extents of tax avoidance and earnings management to influence financial reporting comparability. Applying the fsQCA, we identify distinct bundles of TMT and firm characteristics that are conducive to high- and low-comparable accounting information. Specifically, for highly comparable information, we found four configurations. The first recipe indicates a high-growth and low-leverage firm has the propensity to report more comparable accounting statements when its TMT is lowly paid and has fewer female members; a high-growth and low-leverage firm is more inclined to report more comparable accounting statements when its TMT is lowly paid and has fewer expert members; a high-growth and the low-leverage firm tends to report more comparable accounting statements when its TMT is lowly paid and its members possessing long tenure. Likewise, a high-growth and low-leverage firm may report more comparable information when its TMT has a long tenure and is lowly paid. In sum, leverage and growth are core firm-level conditions, and four substitute conditions are the different combinations of TMT characteristics.

Regarding configurations conducive to low comparability, three configurations are identified. One recipe indicates firms with fewer experts, short tenure, and more female members tend to report less comparable accounting information when their managers are highly paid. Similarly, a big firm, with a TMT comprised of short tenure, fewer female members, and more expert members, has the propensity to report less comparative accounting information. A high-leverage and low-growth firm, with a TMT comprised of more expert, highly paid, and long tenure members will provide less comparative financial reporting.

The main contributions are twofold. Firstly, we extend the boundary of upper echelons theory to determinants of financial reporting comparability. The extant literature documents the determinants of comparability at the country level, region level, and firm level, whereas the TMT level has been overlooked. Secondly, we introduce the fsQCA method to research related to upper echelons theory and accounting information disclosure. The accounting literature mainly applies the linear or the logit regression method in examining theories. Although regression analysis has its advantages, it also suffers from weaknesses. Thus, we use mixed methods to supplement the weaknesses of regression analysis and holistically illuminate the effect of TMT and firm characteristics on financial reporting comparability.

Regarding future research, there appear to be many interesting research questions to be answered. Firstly, we examine the homogeneity of TMT demographic characteristics using average TMT salary, tenure, female proportion, and

proportion of members with functional experience. However, team heterogeneity may also impact a firm's financial reporting preferences since that has been widely used to predict firm decisions. Secondly, the fsQCA method has been widely used in country-level and organizational-level research in the field of entrepreneurship, economics, business, and management. While its application in the fields of accounting and taxation is still under-explored. Thus, there will be many research opportunities. Researchers may use the fsQCA method to explore an innovative pattern for problem-solving.

This dissertation may serve as a starting point for introducing algorithms to investigate patterns and test theories in the fields of accounting and management. Moreover, to the best of our knowledge, this is the first study to link team-level characteristics to firm decisions using the fsQCA method, since the extant literature mostly focuses on the firm, industry, region, and country levels.

Keywords: Top management team, Demographic characteristics, Financial reporting comparability, Binary logit regression analysis, FsQCA method, Configuration

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Chapter 1 Introduction

1.1 Background of this dissertation

Financial statements are provided by firms for stakeholders to make better economic decisions. For instance, creditors use accounting information to assess whether a firm will repay its loans and interest. Investors use accounting reports in deciding whether to buy, hold, or sell stock. Non-executive employees and labor unions use financial statements to judge the fairness of wages, assess job prospects, and bargain for better wages. Regulars also require accounting reports in computing taxes. Thus, the quality of financial statements is valuable for all stakeholders to make appropriate decisions.

However, accounting statement fraud has been detected worldwide. To alleviate the accounting scandals in public companies, like those at Enron and WorldCom, the US Congress passed the Sarbanes-Oxley Act (SOX), to curb the abuses of accounting policies and methods at public companies. Compliance with SOX requires firms to strengthen internal control effectiveness. Any deviation from SOX will create a risk of financial penalties, stock market delisting, and lawsuit of CEOs. Top management is responsible for the effectiveness of a firm's internal controls. In most countries, financial accounting is governed by generally accepted accounting principles (GAAP). GAAP aims to make accounting information relevant, reliable, and comparable. Relevant information affects the decisions of users. Reliable information is trusted by users. Comparable information is beneficial for contrasting firms. In the United States, the Securities and Exchange Commission (SEC) has the legal authority to set GAAP. The SEC oversees the proper use of GAAP by firms that finance from the public through the securities exchange commission. When investors need to evaluate the financial performance of a business firm, they may rely on comparing the performance with that of other firms before making a decision. According to the FASB conceptual structure, comparability is one of the most valuable features in accounting information. Moreover, FASB emphasizes the importance of comparable information compared to the alternative opportunities for investors' and creditors' decisions.

Likewise, the global economy requires comparability in accounting reports. To resolve this concern, the International Accounting Standards Board (IASB) issues International Financial Reporting Standards (IFRS), which have been adopted by 166 jurisdictions worldwide (website accessed date: May 2nd 2022).

Comparability explicitly plays an important role in global markets. Investors, regulators, academics, and researchers all emphasize the importance of financial reporting comparability. China, as one of the most alive emerging markets, has attracted abundant international investors and trade partners' attention. Since joining the World Trade Organization (WTO), the Chinese Ministry of Finance has made a lot of efforts to converge accounting standards with IFRS. Previously, public firms in China apply national accounting standards, which means amounts reported in financial statements are calculated on a different basis to that in international firms. Since 2006, China has become one member of the countries that adopt IFRS. The adoption of IFRS

will surely exhibit accounting information transparency and strengthen the effective communication between Chinese public firms and overseas investors.

However, although the convergence in accounting principles enhances the accounting information comparability at the country-level, there is also evidence regarding other determinants of comparability at the firm-level. In the context of accounting standards, managers have the probability to affect a firm's comparability. For instance, a timeliness reporting of "good news" or "bad news" is associated with a firm's incentives (Ball et al., 2003) and will consequently influence comparability. Moreover, the IFRS also provide opportunities for management to influence information disclosure since accounting policies and estimations in IFRS are firm-dependent. Thus, research on determinants of financial reporting comparability, especially what top management team (TMT) characteristics impact a firm's comparability, is valuable.

1.2 Problem statement

Despite the significance of comparability in analyzing financial statements, extant studies on comparability are majorly quantitative, until De Franco et al. (2011) develop a measure of financial reporting comparability. Hereafter, academics pay much attention to the determinants of comparability. However, more issues related to comparability have to be considered.

First, we need to identify which TMT characteristics affect a firm's financial reporting comparability within a country. Moreover, what bundles of TMT characteristics are a necessity or sufficient for high- and low-level comparability? The existing literature emphasizes the external determinants that impact a firm's comparability (e.g., the implementation of IFRS, auditors, the supply chains), and few studies concentrate on internal governance derived from a firm's TMT. According to upper echelons theory, top management's cognitive base and values are influenced by their observable characteristics such as age, tenure in an organization, education level, etc. As a result, the background characteristics of TMTs may also affect a firm's financial reporting quality.

Second, we have to identify the mediator mechanisms of TMT characteristics on comparability. Because TMTs may not affect comparability directly, there may be actions and measures taken by the managers (e.g., tax avoidance or earnings management) and consequently a firm's comparability is influenced. Thus, it is important to identify the pathways by which comparability is affected.

Third, we have to find out whether a firm's internal and external monitoring environment effectively improves the effect of internal determinants on financial reporting comparability. Do they strengthen the positive impact or weaken the negative impact of TMT characteristics?

In sum, this dissertation focuses on issues related to upper echelons theory and financial information quality whereas all these important problems could be resolved.

1.3 Research objectives

The objective of this research is to explore the association between TMT characteristics and financial reporting comparability and the mediator mechanisms in the association.

The Sub-objectives include threefold:

First, to explore the potential relationship between TMT characteristics and financial reporting comparability. Upper echelons theory posits that organizational outcomes, strategic choices, and performance levels are partially predicted by managerial characteristics. A large body of literature documents that managers' education background, functional experiences, gender, age, size, compensation, and tenure impact corporate decisions. Likewise, financial reporting decisions are also affected by these traits. Furtherly, we also aim to investigate how internal and external governance mechanisms moderate these relations.

Second, to investigate the intermediary mechanisms in the relationship between TMT characteristics and financial reporting comparability. TMT may not be directly involved in accounting information disclosure, there would be intermediary pathways. Two probable ways might be tax avoidance and earnings management since studies have documented such opportunistic behavior is related to TMT characteristics. However, whether TMTs with different characteristics have a preference for opportunistic behavior choices? And whether the choices have an impact on the comparability, are two important issues to be solved.

Third, to explore potential combinations of TMT characteristics that are a necessity, or sufficient for high- and low-comparable accounting information, if exist. Apart from linear relationships between TMT characteristics and comparability, there may exist various pathways that lead to the same outcomes (e.g., high- and low-level comparability).

1.4 Research questions

To attain the above objectives, this dissertation answers two major questions and two subsidiary questions.

Major question one: Which TMT characteristics affect a firm's financial reporting comparability?

Major question two: What bundles of TMT and firm characteristics are the necessity or sufficient for high- or low-level comparability?

Subsidiary question one: By which mechanisms that TMT characteristics affect a firm's comparability? Is there any difference among various traits?

Subsidiary question two: Is the effect of TMT characteristics on comparability moderated by the internal or external monitoring environment?

1.5 Structure of this dissertation

The structure of this dissertation is outlined as follows. This dissertation consists of seven Chapters. The dissertation begins with an introduction in Chapter 1. Then, a literature review and related definitions are discussed in Chapter 2. Chapter 3 outlines the effect of TMT characteristics on financial reporting comparability, and furtherly indicates the monitoring role of internal and external governance environment. Chapters 4 and 5 concentrate on the mediator effect of tax avoidance and earnings management on the association between TMT characteristics and comparability. Chapter 6 includes a qualitative study on what combined characteristics of TMTs are

sufficient for high- and low- comparability. The third part, which includes Chapter 7, outlines the discussion, implications, and recommendations. The specific details are outlined below.

Chapter 1 introduces an overview of this dissertation, including the background of this study, problem statement, research motivation and objectives, research questions, and structure. This chapter briefly explains the problems, goals, and structure of this dissertation.

Chapter 2 provides the study's theoretical background based on a literature review, including a review of previous literature, a synthesis of research findings, and definitions of terms. The main purpose of the literature review is to inform the research topic, both in terms of theories and research findings.

Chapter 3 presents the impact of TMT characteristics on financial reporting comparability. The chapter includes an introduction, theoretical background and hypotheses development, methodology, empirical results, and conclusion and limitation. This chapter explores one important aspect of the determinants of comparability, namely TMT characteristics. This is valuable research that extends the existing literature by linking upper echelons theory with comparability.

Chapter 4 outlines the mediating role of tax avoidance on the effect of TMT characteristics on financial reporting comparability. The chapter includes an introduction, theoretical background and hypotheses development, methodology, empirical results, and conclusion and limitation. This chapter documents that TMTs engage in various levels of tax avoidance and consequently impact comparability. Specifically, we find that TMT functional experiences and tenure are associated with tax avoidance, then impact comparability.

Chapter 5 concentrates on the mediating role of earnings management on the effect of TMT characteristics on financial reporting comparability. The chapter includes an introduction, theoretical background and hypotheses development, methodology, empirical results, conclusions, and limitations. This chapter documents that TMTs engage in various levels of earnings management and consequently impact comparability. Figure 1-1 shows the conceptual framework of Chapters 3-5.

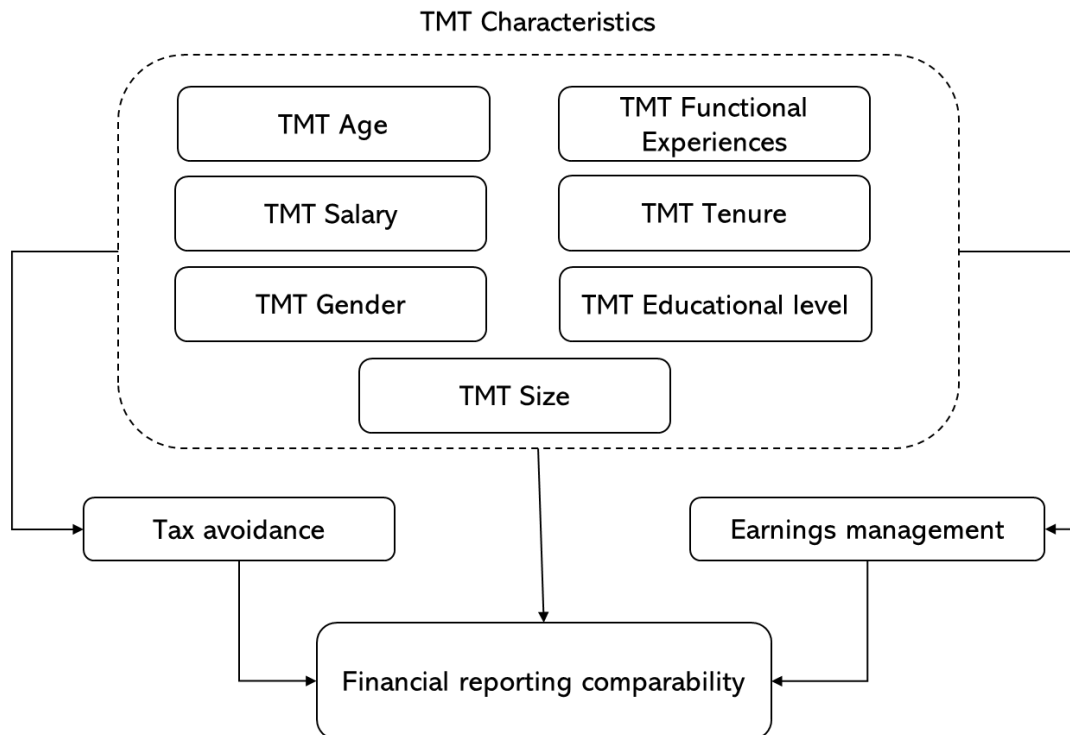


Figure 1-1 The conceptual framework of Chapters 3-5

Chapter 6 presents a supplemental study on the sufficient determinants of high- and low-level comparability. The Chapter includes an introduction, literature review and propositions, data collection and measures, fuzzy-set qualitative comparative approach, discussion, robustness analysis, conclusion, limitation, and implication. In this Chapter, we employ the fuzzy-set qualitative comparative method in identifying the bundles of TMT characteristics that are conducive to high- and low-level comparability.

Chapter 7 discusses findings from all studies and highlights original contributions to Knowledge Science, including both theoretical and practical implications. Limitations and research for future studies are also presented.

Chapter 2 Literature Review

This chapter reviews relevant literature on important concepts and definitions involved in this dissertation. The main purpose of the literature review is to explain what is known about the research topic, both in terms of research findings and theory. First, we introduce related theories, followed by the literature review; second, definitions of terms involved in this dissertation are given.

2.1 Review of literature

2.1.1 Related theories

2.1.1.1 Institutional theory

The institutional theory tries to answer such a major question: why do all organizations in a region often look and act similarly? The institutional theory states that an organization's institutional environment influences the organizations embedded in it. For instance, norms, cognition, and regulation will shape similar organizations in a region (Scott, 2014). At the beginning of an organizational life cycle, there will be great variances in organizational forms. Over time, the structure and practice of organizations show amazing homogeneity. The institutional theory assumes that institutions are a key component of the environment.

Meyer & Rowan (1977) and DiMaggio & Powell (1983) originally propose an institutional theory. They argue that organizations are strictly controlled in the context of a certain institution. Organizations are motivated by norm, cognition, and regulation, rather than efficiency. This is an alternative explanation for organizational decision-making. Organizations are forced to meet the criteria of formal (e.g. laws) and informal (e.g. corporate social responsibility) institutions.

Institutional theory has an impact on the practices of individuals, organizations and inter organizations: at an individual level, managers consciously and unconsciously follow normative habits, customs, and traditions; at an organizational level, political, social, cultural and belief systems support the tradition of institutionalized activities; at an inter-organization level, pressures from government, industry alliance and social expectation defines what organizational behavior is accepted and expected by the society, which makes organizations in a region look and act similar.

The practice of financial reporting must comply with the GAAP in a region, which is one part of the institution's environment. At a country level, firms generally adopt the accounting principles published by a nation or the GAAP (e.g., IFRS). It is theoretically predicted that the adoption of the IFRS will align the financial reporting comparability. However, the practices may be inconclusive. For instance, Beuselinck et al. (2007) document that the forced adoption of IFRS does not promote the comparability of the country-level sample. Cascino & Gassen (2010) use a forty-country sample to test whether the enforced adoption of IFRS promotes country-level financial reporting comparability. However, the results conflict. Specifically, the adoption of IFRS improves the comparability of intangible assets and reserve items in the balance sheet, while failing to improve the comparability of goodwill, prediction, sustainability, and conservatism. Furthermore, the authors collect an additional sample, finding that country, region, and firm-level characteristics

impact the results of financial reporting even constrained by alike reporting regulations. In conclusion, the authors indicate that the impact of forced adoption of IFRS is limited, and the practices of financial reporting are still influenced by disclosure motivations. These findings build up the foundation of our research. As the top tone of an organization, a TMT may serve as one determinant of a firm's comparability.

2.1.1.2 Upper echelons theory

Upper echelons theory is developed by Hambrick & Mason (1984), who view the organization as a reflection of its top managers. “Organizational outcomes, both strategies, and effectiveness are viewed as reflections of the values and cognitive bases of powerful actors in the organization”(p.193). Top managers' cognitions, values, and perceptions have significant influences on firms' performances and strategies. The observable characteristics of managers, such as tenure, education, functional background, compensation, and age are used by researchers as proxies for unobservable psychological structures that shape managers' interpretations and responses to complex situations. Henceforth, the literature has focused more on the impacts of top management characteristics on firm policy choices with convincing evidence (Bamber et al., 2010; Bertrand & Schoar, 2003; Graham et al., 2013). Research in top management has identified TMTs as the primary driver of a firm's strategic decision-making (Hambrick, 2007; Papadakis & Barwise, 2002). A large body of research studies the impact of these observable TMT characteristics on firm decisions, including production innovation, diversification of investment, acquisition, financial leverage, and capital structure. For instance, Bantel & Jackson (1989) document that TMT characteristics such as education level and age diversity impact product performance. TMT composition has been found to affect a firm's performance in the stock market (Pollock et al., 2010).

However, the impact of TMT characteristics is under-researched in the fields of accounting and tax. Although a few studies link the demographics of executives, such as age, gender, and religion, with financial reporting quality (Francis et al., 2015), these studies only focus on the role of CEOs and CFOs. As a supplement, Zhang (2019) explores the impact of the TMT characteristics, rather than individuals, on financial reporting quality. Moreover, Seifzadeh et al. (2020) link the psychological features of TMTs to a firm's comparability and find evidence of the associations between them. However, how the demographics of TMTs, such as age, gender, and salary affect comparability is still unexplored. Thus, investigating the role of TMT characteristics in firms' accounting and tax decisions is important in extending upper echelons theory.

2.1.1.3 Agent theory

A large body of studies has documented the application of agency theory in the fields of accounting, economics, finance, marketing, organizational behaviors, and sociology. Agency theory includes agency problems between partners who have conflicting goals. For instance, in a company, a CEO is the agent, and shareholders are the principal. Shareholders pursue the maximum firm value, while a CEO might pursue the maximization of self-interest. Thus, the agent problem occurs.

In reality, agency problems have prevailed in the fields of management, economic, and politic. Agency theory attempts to alleviate this conflict using a contract (Jensen & Meckling, 1976).

Agency theory aims to resolve two problems that occur in agency relationships. On one hand, the principal and agent have conflicting goals and it is costly for the principal to keep watch on the agents all the time. On the other hand, the two partners have different risk preferences. Thus, they may have conflicting decisions on this distinction.

Agency theory has developed to lines of positivist and principal-agent (Fama & Jensen, 1983). Positivism focuses on the prevention of an agent's self-serving behaviors in advance. The theory identifies situations under which the principal and agent are inclined to have conflicts. Furtherly, effective governance mechanisms are expected to be implemented to alleviate management's self-interest practices. Principal-agent researchers are concerned with theories regarding the relationship between the principal and the agent, these theories have been applied to the fields of employer-employee, lawyer-client, buyer-supplier, and other agency relationships (Harris & Raviv, 1978).

2.1.2 Review of research findings

2.1.2.1 TMT characteristics and financial reporting quality

Most studies are concerned with the impacts of managers on financial reporting quality. Prior literature has documented relationships between different aspects of reporting quality and management compensations (Bergstresser & Philippon, 2006; Healy, 1985). On the other hand, researchers also concentrate on implicit incentives, such as career concerns (Ali & Zhang, 2015). Apart from these incentives, the extant studies explore the background traits of top management. for instance, Barua et al. (2010) and Francis et al. (2014) link the financial reporting quality to the age and gender of the CEOs or CFOs. They find that females report higher accounting conservatism and higher accrual quality. Huang (2012) finds that older CEOs perform better in restatement and the incidence of just meeting analyst predictions.

Zhang (2019) examines the impacts of two top management team characteristics (e.g., team homogeneity and shared working experience) on financial reporting quality. The results show different relations between the team homogeneity and long-shared working experience, with financial reporting quality. Khanna et al. (2015) posit the association between the CEO and other top management affects corporate fraud. They find that internally appointed CEOs are positively related to corporate fraud. While do not find evidence that education or past employment influences corporate fraud.

Studies also explain the reporting preferences from the perspective of psychology. For instance, Seifzadeh et al. (2020) document how the CEO management entrenchment, narcissism, and overconfidence reduce real and accrual earnings management, furtherly improving the financial reporting comparability. the results show that the CEO's attributes influence a firm's financial reporting comparability.

The prior studies mostly focus on the individuals of a TMT. However, executives do not make decisions alone. Instead, TMT members cooperate to make firm strategies. In addition, Behavior theory indicates that managers' activities occur in the social context of their firm (Cyert & March,

1963). Consistent with this view, upper echelons theory views organizations as reflections of their top management (Hambrick & Mason, 1984). In this view, the prediction of organizations' outcomes is better relied on the whole TMT, rather than the individual (Hambrick, 1994). Thus, it is important to explore the impact of TMT characteristics on financial reporting quality, especially from the perspective of comparability because of its significance for stakeholders to make economic decisions.

2.1.2.2 TMT characteristics and tax avoidance

Firm outcomes (e.g., strategic choices and performances) may be predicted by top management characteristics such as age, gender, education, functional background, compensation, tenure, and size (Hambrick, 1984). Tax authorities entitle firms to arrange tax plans in many countries. When firms face tax planning choices, the demographic of the TMT may lead to different levels of tax planning.

Existing literature examines the association between firm-level characteristics and tax avoidance. Rego (2003) documents that the scale of international operations resulted in lower generally accepted accounting principles (GAAP) and effective tax rates (ETRs). Another perspective is that the agency problem has been introduced when analyzing corporate tax aggressiveness. For example, Slemrod (2004) examines corporate tax avoidance and finds an efficiency loss due to the separation of management and control. Crocker & Slemrod (2005) link the compensation contract of an executive with the right to determine tax strategies. Another stream of research focuses on self-interested managers. It is argued that top managers structure complex transactions to reduce corporate tax expenses (Desai & Dharmapala, 2006). On one hand, if tax avoidance is worthwhile (e.g., management's compensation is based on after-tax corporate income), such firms will engage in more tax aggressiveness. For instance, Phillips (2003) analyzes survey data and finds that compensation for managers of after-tax income led to lower GAAP ETRs. Likewise, Desai & Dharmapala (2006) document that incentive compensation and governance structures negatively affect tax aggressiveness. Moreover, the authors reported that this finding holds only for firms with weaker external monitoring mechanisms. Likewise, Wahab (2020) documents that TMT education and tenure explain tax planning.

In sum, it seems that TMTs may engage in various levels of tax avoidance, which consequently influence the comparability. In this way, tax avoidance may be a mediator in the effect of TMT characteristics and comparability.

2.1.2.3 Tax avoidance and financial reporting quality

Studies on financial reporting disclosure strategies are an influential domain of accounting research. Corporate tax avoidance negatively relates to the timing of annual earnings announcements (Crabtree & Kubick, 2014). Koubaa & Jarboui (2017) use book-tax differences to measure the level of tax avoidance and posit that book-tax differences affect accounting conservatism. Specifically, firms with abnormal book-tax differences and normal book-tax differences are negatively related to accounting conservatism. Likewise, Balakrishnan et al. (2019)

argue that aggressive tax avoidance causes transparency problems. Moreover, the authors also examine the effect of aggressive tax avoidance on earnings quality, finding similar conclusions.

Taxes potentially affect “real” firm decisions. Shackelford & Shevlin (2001) argue that firms trade off taxes for a higher level of accounting earnings when disclosing financial statements and choosing accounting methods. When firms fraudulently report accounting earnings, they also must at times pay taxes. On the other hand, firms' operating and structural decisions, which are “real” investments or financing activities, will certainly in turn change a firm's earnings outputs. This change explicitly improves or reduces comparability. Aggressive tax avoidance is positively associated with financial and organizational complexity. To the extent that the accounting implications of this greater complexity may influence the outcomes of the accounting process.

Overall, a firm's tax avoidance impacts the earnings announcement, accounting conservatism, and timeliness of financial statements. It is reasonable to predict that tax avoidance is also associated with comparability.

2.1.2.4 TMT characteristics and earnings management

TMT characteristics are documented to associate with earnings management. For instance, the extant literature suggests that women are more ethical in comparison to men. Women more emphasis on morally acceptable behavior and less engage in self-interest than men (Tyson, 1990). Female managers have a higher level of moral judgment than their counterparts. Krishnan (2008) documented that gender diversity in management positively influences the quality of reported earnings. Likewise, Barua (2010) argues that US firms with female CFOs have reported a higher quality of discretionary accruals than firms with male CFOs. Relatedly, Francis et al. (2015) find that female CFOs are more inclined to report conservative accounting information than male CFOs.

Researchers also extend the effect of gender diversity on firm boards. Female directors improve earning quality, suggesting that female directors play a monitoring role in providing high-quality financial information (Srinidhi et al., 2011). Gender diversity also affects accounting transparency. Likewise, Cunning et al. (2015) find that women on boards restrain the possibilities of security fraud, which is in line with the argument that female directors significantly improve firm governance.

A large body of studies has focused on the effect of managerial incentives on corporate governance. Cheng et al. (2011) examine the relationship between equity incentives and earnings management in the banking industry; they find that managers who receive a high level of equity-based incentives are more likely to engage in earnings management, relative to managers with a low level of equity incentives. Bergstresser & Philippon (2006) argue that when managers' incentives are closely related to the price of the stocks, they tend to use more discretionary accruals, which means there is a positive linear relation between stock-based incentives and earnings management. Teoh et al. (1998) posit that share issues provide managers with an incentive to engage in earnings management, and they further revealed that issuers with abnormal accruals in the initial public offering year show poor stock returns in the following three years. Guidry et al. (1999) document the relationship between business-unit managers' earnings management behavior and short-term bonuses, showing how managers manipulate accruals to maximize their short-term

bonus plans. Abdel-Khalik (1985) argues that salary has a positive association with earnings management by comparing a treatment group with a control group over two years. Likewise, Bergstresser et al. (2004) document that the level of accrual-based earnings management is higher at firms where managers have stronger stock-based incentives. Watts & Zimmerman (1986) also report the salary contract as one of earnings management motivation. Fu (2013) argues that the salary incentives of managers lead to more manipulation of earnings management. Xiao (2013) finds that a stock-based incentive scheme failed to encourage managers to create value; managers exercise options through real activity-based earnings management manipulation to maximize their benefits, and the intensity and deviation of incentives are positively correlated to each other.

In sum, it seems that TMTs may manipulate earnings pursuing self-interest and consequently influence comparability, signifying that earnings management may be a mediator in the effect of TMT characteristics on comparability.

2.1.2.5 Earnings management and financial reporting quality

Firms' financial reporting processes are governed by GAAPs, which allow top managers to flexibly choose accounting policies to a certain extent. However, a lot of financial fraud scandals have attracted ongoing research into corporate misconduct (Harris et al. 2019). Empirical evidence supports that “short-termism” exists among managers, whereby managers take measures to maximize their current benefits by sacrificing the long-term growth of firms.

Earnings management activities are categorized into two types: “accrual-based earnings management” and “real earnings management”. Accrual-based earnings management refers to that manager manipulating financial performance under the freedom of accounting policies; while real earnings management occurs when managers generate real transactions (but not necessary for firms) to adjust earnings. In sum, these unnecessary changes in accounting recording directly harm comparability.

Conclusively, managers have distinct risk preferences in reporting comparable financial reporting. Moreover, two possible ways, namely tax avoidance and earnings management (accrual-based or real-based), might be related to this association.

2.1.2.6 Internal and external governance mechanisms

Efficient internal and external governance mechanisms alleviate principal-agent problems. For instance, existing empirical research provides evidence about the importance of independent directors on the board to monitor TMTs to provide accurate financial statements. Studies argue that board of director composition is associated with effectiveness at reducing agency costs (Lee, 1992; Brickley and James, 1987).

Beasley (1996) argues that board of directors' characteristics may affect the board's ability to monitor management to prevent firms from financial statement fraud. The author finds that the proportion of outsiders on the board of directors is lower in firms experiencing financial statement fraud than for no-fraud firms. The board of directors can minimize costs arising from the separation of ownership and decision control of modern firms (Fama & Jensen, 1983).

Independent directors enhance a firm's internal control mechanism because outside directors have the motivations to maintain their reputations in decision control. Most external directors are either top managers or important makers in other firms (Fama, 1980). The future value of their compensation depends on primarily their performance as internal decision managers in other firms. Therefore, independent directors who serve on a board are an important role in effectively monitoring management's actions. Specifically, the board's effectiveness in monitoring management is a function of the mix of insiders and outsiders who serve.

Similarly, analyst following is documented to be effective in shaping information environments outside of a firm (Bhushan, 1989). Firms report low levels of accruals earnings followed by more analysts (Lobo, 2012). Moreover, analyst following is associated with a greater disparity between cash flow and controlling power (Boubaker, 2008). Firms with greater analyst following have better information quality (Raheel, 2018). Analysts alleviate the information asymmetry, and the number of analysts and analyst reports are measures of a firm's information environment. A firm's information environment is more transparent if followed by more analysts.

In sum, independent directors and analyst following may moderate TMTs' preferences in disclosure of financial reporting. This prediction is examined in the additional analysis in Chapter 3.

2.2 Definitions of Terms

2.2.1 Financial reporting comparability

Despite its perceived significance, comparability remains an elusive concept. The term comparability in accounting textbooks, regulatory pronouncements, and academic research is broadly defined.

(1) According to FASB (2010), comparability is the quality of information that allows the users to assess and determine the differences and similarities between two sets of economic phenomena.

(2) A definition of comparability given by De Franco et al. (2011) is accounting system is a mapping of economic events to financial statements. For a given set of economic events, two firms have comparable accounting systems if they produce similar financial statements (p.896).

Sunder (2010) argues that comparability is intrinsically difficult to conceptualize because identifying like/different things is tricky given the multifaceted nature of business transactions. Based on our research purposes, we employ De Franco et al.'s definition (2011) in measuring financial reporting comparability across the whole study. Moreover, we use De Franco et al.'s (2011) measures of comparability.

2.2.2 Top management team characteristics

Upper echelons theory argues that strategic choices and performance levels are partially predicted by managerial background characteristics such as age, education, socioeconomic background, financial position, gender, and group heterogeneity. Henceforth, the literature has focused more on the impacts of top management characteristics on firm policy choices with

convincing evidence (e.g., Bamber et al., 2010; Bertrand & Schoar, 2003; Graham et al., 2013). Apart from demographic traits, researchers also focus on psychological characteristics, such as overconfidence and narcissism. Research in top management has identified TMT characteristics as the primary driver of a firm's strategic decision-making (Hambrick, 2007; Papadakis & Barwise, 2002). Referring to the existing quantitative and qualitative research, we include TMT education level, salary, gender, functional experiences, tenure, age, and size in this dissertation.

2.2.3 Earnings management

So far, no definition of earnings management has been agreed upon studies. Scholars measure and explain earnings management according to their understandings (Beneish, 2001). Overall, there have been three dominant definitions of earnings management given by Schipper (1989), Levitt (1998), and Healy & Wahlen (1999):

(1) Managing earnings is “the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about the desired level of reported earnings.” (Davidson et al., 1987, cited in Schipper, 1989, p.92).

(2) Managing earnings is “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process).”... “A minor extension of this definition would encompass “real” earnings management, accomplished by timing investment or financing decisions to alter reported earnings or some subset of it.” (Schipper, 1989, p.92).

(3) “Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.” Healy & Wahlen (1999, p.368).

Based on the research objectives in this study, we adopt this definition across the whole dissertation.

2.2.4 Accrual-based and real earnings management

Scholars also categorize earnings management according to its relationship with a firm's operations. Overall, there are two categorized earnings management: “accrual-based earnings management” and “real earnings management”. Using “accrual-based earnings management”, managers manipulate financial performance under the freedom of accounting policies. Roychowdhury (2006) suggests that the manipulation of accruals would not lead to direct cash flow consequences. Furthermore, managers also have incentives to conduct “real” but unnecessary transactions to meet fixed earnings targets, which eventually affect cash flow and accruals accordingly (Roychowdhury, 2006). In comparison, accrual-based earnings management is low-cost behavior, and managers can realize it by changing accounting policies, while real activity-based earnings management is more concealed, and managers manage earnings through real accounting transactions, such as the disposal of fixed assets. These measures occur during the fiscal year, so they are not easily detected by auditors, shareholders, or regulators (Bruns & Merchant, 1990).

2.2.5 Tax avoidance

A major issue in the empirical tax avoidance literature is the researcher's definition and measurement of tax avoidance. Various measures are used in the existing literature for different research purposes.

However, one of the most conflicting topics is the lack of universally accepted definitions of tax avoidance or tax aggressiveness (Dyreg et al., 2008). Dyreg et al. (2008) and Hanlon & Heitzman (2010) broadly define tax avoidance or tax aggressiveness “as the reduction of explicit taxes.” This definition does not “distinguish between real activities that are tax-favored, avoidance activities are specifically undertaken to reduce taxes, and targeted tax benefits from lobbying activities ” (p.137). Moreover, Hanlon & Heitzman (2010) posit that “a tax planning activity or a tax strategy could be anywhere along the continuum depending on how aggressive the activity is in reducing taxes” (p.137).

Blouin (2014) argues that only those tax planning arrangements beyond acceptable, legislated, or known tax deductions should be considered aggressive. This view stems from the observation that any innovative tax planning that capitalizes on uncertainty in the tax code could be deemed risky until it survives challenges by the tax authorities and/or the courts (Balakrishnan et al., 2019: p.48).

Balakrishnan et al. (2019) argue that tax planning that is unusual relative to a firm's peers is likely to create more significant opacity problems for financial statement users.

Integrated definitions from Dyreg et al. (2008) and Balakrishnan et al. (2019), this study broadly defines tax avoidance as a reduction of tax expense without differentiating types of tax avoidance activities. Moreover, the measure of tax avoidance should include a comparison with peer firms.

Chapter 3 The Impact of Top Management Team Characteristics on Financial reporting comparability

3.1 Introduction

Most studies focus on the impacts of managers on financial reporting quality. Prior literature has documented relationships between different aspects of reporting quality and management compensations (Bergstresser & Philippon, 2006; Healy, 1985). On the other hand, researchers also concentrate on implicit incentives, such as career concerns (Ali, 2015). Apart from these incentives, the extant studies explore the background traits of top management. For instance, Francis et al. (2015) link the financial reporting quality to the age and gender of CEOs or CFOs. They find that females report higher accounting conservatism and higher accrual quality. Huang (2012) finds that older CEOs perform better in restatement and the incidence of just meeting analyst predictions. Zhang (2019) examines the impacts of two top management team characteristics (e.g., team homogeneity and shared working experience) on financial reporting quality. The results show different relations between the team homogeneity and long-shared working experience, with financial reporting quality. Khanna et al. (2015) posit the association between the CEO and other top management affects corporate fraud. They find that internally appointed CEOs are positively related to corporate fraud. While do not find evidence that education or past employment influences corporate fraud.

Studies also explain the reporting preferences from the perspective of psychology. For instance, Seifzadeh et al. (2020) document how the CEOs' management entrenchment, narcissism, and overconfidence reduce real and accrual earnings management, furtherly improving the financial reporting comparability. The results show that an CEO' psychological attributes influence a firm's financial reporting comparability.

However, prior studies mostly focus on the individuals of a TMT. However, executives do not make decisions alone. Instead, TMT members cooperate to make firm strategies. Moreover, Behavior theory indicates that managers' activities occur in the social context of their firm (Cyert & March, 1963). Consistent with this view, upper echelons theory views organizations as reflections of their top management (Hambrick & Mason, 1984). Thus, the prediction of organizations' outcomes is better relied on the whole TMT, rather than the individual (Hambrick, 1994).

Financial reporting quality is a broad definition that may refer to different aspects of accounting information. This study focuses on the comparability of the financial statement. The comparability has been a long time paid attention to by regulators, scholars, analysts, investors, and creditors. However, little evidence is found until De Franco et al. (2011) develop a quantitative measurement of financial reporting comparability. Hereafter, a large body of studies concerned with the determinants of financial reporting comparability, as well as the economic outcomes of financial reporting comparability.

Worldwide, financial reporting comparability plays a valuable role in improving financial information quality. For instance, in the United States, the Securities and Exchange Commission (SEC) (2000) indicates that investors try to judge the financial performance of firms, they compare investments and make a judgment about the efficiency and performance of business firms. Similarly,

analysts also use financial statements to evaluate past performance and predict future performance. According to the Financial Accounting Standards Board (FASB), comparability is one of the useful features of information. In China, the GAAP also emphasizes the significance of comparability of financial statements, firms are required to provide comparable accounting information. However, the definition of financial statements' comparability is far from consensus. For instance, the FASB (2010) defines comparability as the quality of information that allows the users to assess the determine the differences and similarities between two sets of economic phenomena (<https://www.fasb.org/>). However, this definition is rather broad, therefore, De Franco et al. (2011) give a more precise definition of comparability: “accounting system is a mapping from economic events to accounting system. For a given set of economic events, two firms have comparable accounting systems if they produce similar financial statements”. (p.896)

The determinants of comparability are widely studied. For instance, Francis et al. (2014) document that two companies audited by the same Big4 auditor, subject to the same audit style, are more likely to have comparable earnings than two firms audited by two different Big 4 firms with different styles. The findings show that two firms in the same industry and year have more similar accruals and earnings structure, indicating that audit style increases the comparability of reported earnings within a Big 4 auditor's clients. Likewise, Barth et al. (2018) find that voluntary IFRS adoption is associated with increased comparability of accounting amounts and capital market benefits. When firms voluntarily adopt IFRS, their accounting amounts are more comparable to those of firms that previously adopted IFRS. Those Adopting firms exhibit increased liquidity, share turnover, and firm-specific information relative to adopted and firms else. Moreover, adopting firms with higher comparability with adopted firms have greater capital market benefits than other firms. These findings indicate the benefit of providing comparative financial statements in the capital market.

The comparability does bring positive outcomes. The analysts use another firm in the industry as a benchmark when analyzing a particular firm (De Franco et al., 2011). For sell-side analysts, the availability of information about comparable firms lowers the cost of acquiring information, so improves the quality of financial information available about a firm. Which will in turn result in more analysts covering. In addition, the improved financial information facilitates the analysts' abilities to forecast a firm's earnings, moreover, increases the accuracy of the forecast and decreases the forecast dispersion. Similarly, Sohn (2016) states that comparability decreases the cost of information collection for investors, creditors, and legal institutions, by comparing the financial information of a firm with other firms. This comparability enables the stakeholders and regulators to detect the potential accounting manipulation by ways of accruals. Kim et al. (2017) examine the impact of financial reporting comparability on ex-ante crash risk. Using the comparability measures of De Franco et al. (2011), they find that expected crash risk decreases with financial reporting comparability. They also find that comparability can mitigate the asymmetric market reaction to bad versus good news disclosures. Their results suggest that financial reporting comparability decreases the investors' perception of a firm's future crash risk.

This study contributes to the literature twofold. First, unlike the prior studies, the current study focused on the impacts of a whole TMT rather than individuals (e.g., CEOs or CFOs), which may

accurately reveal the processing of firm decisions. Second, to our best knowledge, this is the first study to investigate the impacts of background characteristics of TMTs on financial reporting comparability. The extant literature mostly studies the impacts of top management on real earnings management, accrual earnings management, and financial report restatement (Khanna et al., 2015; Maryam, 2020). Since comparability has attracted much attention from scholars, investors, creditors, analysts, and regulators to evaluate a firm's performance, this study may explore the boundary of TMT traits to another aspect of financial reporting quality.

3.2 Literature review and hypotheses development

The quality of a firm's financial statements is associated with data reported by each division within a firm, and decisions made by the firm accounting department when combining the accounting data (Healy & Wahlen, 1999). Thus, the TMT characteristics may shape the ways that division management communicates and make a decision. Then determine the quality of the company's financial information.

Upper echelons theory posits that strategic choices and performance levels are partially predicted by managerial background characteristics such as age, education, socioeconomic background, financial position, gender, and group heterogeneity. Henceforth, the literature has focused more on the impacts of top management characteristics on firm policy choices with convincing evidence (e.g., Bamber et al., 2010; Bertrand and Schoar, 2003; Graham et al., 2013). Research in top management has identified TMTs as the primary driver of a firm's strategic decision-making (Hambrick, 2007; Papadakis & Barwise, 2002). For example, Bantel & Jackson (1989) document that TMT characteristics such as education level and age diversity impact product performance. TMT composition has been found to affect a firm's performance in the stock market (Pollock et al., 2010). Likewise, investigating the characteristics of TMT as a driving factor in firms' financial statement disclosure is important in extending upper echelons theory and enriching research on the determinants of financial reporting quality.

As discussed above, corporate outcomes (e.g., strategic choices and performance levels) may be predicted by top management characteristics such as age, gender, education level, functional background, compensation, tenure, and size. However, research linking TMT characteristics with accounting financial statements is under-researched. Although some studies focus on the demographics of individual managers on financial reporting decisions, little evidence is provided regarding a TMT. This study extends this line of research by focusing on the level of comparability associated with TMT characteristics. Apart from the timeliness, and conservatism of financial reporting, TMT characteristics may also affect the comparability. Overall, all these characteristics are predicted to impact management's financial reporting disclosure preferences.

3.2.1 Top management team education level and financial reporting comparability

Education indicates knowledge and skills (Hambrick & Mason, 1984). Similar to work experience, education background has been identified as one of the key factors influencing how

TMTs make firm decisions (Hambrick & Mason, 1984; Hitt & Tyler, 1991; Wiersema & Bantel, 1992). Top management's education level is positively associated with innovation ((Becker, 1970; Kimberly & Evanisko, 1981). Kimberly & Evanisko (1981) posit that TMTs with members who have high formal education backgrounds are positively engaged in innovation in both management and technologies. Likewise, Bantel & Jackson (1989) conduct an empirical test on a sample derived from the banking industry and find that management with higher education levels embraces innovation to a greater extent. Lee et al. (2017) also suggest that TMT members' educational background affects a firm's proportion of exploratory research and development (R&D) activities. Additionally, TMT members' education is positively related to changes in strategies (Wiersema & Bantel, 1992).

In conclusion, a high formal education level may be a signal of management's ability to process information and this ability makes it easier to deal with complex situations within a firm. Given the above reasoning, the first hypothesis is defined as:

Hypothesis 3.1: There is a positive relation between TMT education level and comparability.

3.2.2 Top management team compensation and financial reporting comparability

Management incentive schemes have significantly increased to align managers' welfare with that of shareholders (Maug, 1997) via either compensation contingent on firm performance or executive stock ownership. Economists have studied the compensation of top management teams and corporate performance at length. Findings are mixed. Although inactive effects of management compensation have been found, positive conclusions have also been drawn. Hassen (2014) indicates that stock-based incentives are negatively related to the value of accruals. When given more shares, managers have stronger motivation to engage in value creation. This result confirmed the alignment effect. Similarly, managerial stock-based incentives have a positive relationship with R&D activities (Yang, 2012). Masson (1971) suggests that the proportion of top management ownership has a less inspired effect than that of top management income derived from the firm. A large body of research has focused on the effect of TMT compensation on corporate risk-taking activities. For example, Zhou et al. (2021) document that executives' salaries can effectively promote firms' investment in R&D, but they found limited evidence of a similar effect of equity compensation. Chu et al. (2020) suggest that management stock options alleviate corporate risk-taking using a difference-in-differences approach. Abrokwah et al. (2018) also examine the impact of executive salaries on firm risk-taking behavior, finding significant relationships across industries.

It seems that the conclusions on the relationship between TMT compensation and risk-taking are conflicting. Regarding financial statement disclosure, the relationship between equity compensation and tax planning seems equivocal. In the short term, the TMT salary is probably directly decided by current performance; therefore, managers are motivated to manage earnings, and consequently, the comparability is affected. Thus, we predict that comparability is negatively associated with TMT salary. Based on the foregoing analysis, the second hypothesis is proposed:

Hypothesis 3.2: There is a negative relation between TMT salary and comparability.

3.2.3 Top management team tenure and financial reporting comparability

TMT tenure is one of the most attractive attributes of TMT. Firms' decisions are not only impacted by top management's salary and education level. TMT members' tenure in the organization can also affect their decisions regarding operations and strategy choices (Bantel & Jackson, 1989; Chen et al., 2010; Hambrick & Mason, 1984). The longer the TMT members' average tenure, the similar their perceptions and decisions the TMT members hold. Additionally, TMT tenure can improve internal communication efficiency. Similarly, Katz & Allen (1982) posit that the comparatively long tenure of the TMT would generate stability in the team, as well as a degree of socialization.

Existing research links TMT tenure to firm performance, coordination, and social cohesion. For example, Sun et al. (2006) find a positive relationship between the average tenure of the TMT members and the firm performance; Eisenhardt (1989) concludes that long-term cooperation enables members to better understand how to communicate and cooperate with other members among a team. Likewise, Michel & Hambrick (1992) suggest that the long tenure of TMT members promotes integrity and opportunities for managerial value judgment.

It has been proven that a firm's R&D-related decisions are influenced by TMT tenure in the organization. In particular, when the TMT consists of members with relatively short tenures, it is less probable for the TMT to support large resource-consuming R&D projects, such as explorative R&D (Hambrick, 2007). Moreover, top management with a short tenure may feel stressed to exhibit their values and abilities in the short run in an organization (Chen et al., 2010; Kor, 2003). The members' average tenure influences a firm's level of engagement in explorative R&D.

Both qualitative and quantitative studies have focused more on the tenure of TMTs. The longer the team tenure, the easier it is for similar perceptions and decisions to be formed. A higher team tenure can lead to changes in corporate strategy (Wiersema & Bantel, 1992). High tenure is also related to stability (Katz & Allen, 1988). Likewise, team tenure has also been found to affect firm performance and team social cohesion. Based on these analyses, a TMT with a longer tenure might more focus on accounting comparability since users outside the firms can easily access a higher amount of information with lower costs, and more comparability also decrease revisions in financial statements (De Franco et al., 2011). The third hypothesis is proposed as follows:

Hypothesis 3.3: There is a positive relation between TMT tenure and comparability.

3.2.4 Top management team age and financial reporting comparability

Hambrick & Mason (1984) posit that firms with young managers are more inclined to pursue risky strategies than those with older managers. Risky strategies include unrelated diversification, product innovation, and financial leverage. Jiang (2009) posits that the average age of TMT members, education, and career experience impact firms' over-investment strategies. Kumar (2019) investigates the relationship between the age demographic of a TMT and a firm's environmental

management strategy, comprising compliance only and beyond-compliance initiatives. As expected, the author found that aging TMTs support beyond-compliance in comparison to compliance-only environmental management strategies. Tanikawa et al. (2017) reveal that the age diversity of the TMT attenuates firm performance.

Wiersema & Bantel (1992) argue that flexibility and risk-bearing capacity decrease with age. Similarly, Wayde et al. (2017) posit that older executives tend to make decisions following a familiar pattern. For example, an older executive may be more conservative in corporate decision-making. Plausible explanations include: first, older management's ability to integrate information in making decisions may be weaker than younger executives (Taylor, 1975); second, older executives may be near retirement, so they have shaped expectations about future lives; thus, they will intentionally avoid risky choices (Carlsson & Karlsson, 1970). We predict that older TMTs are risk-averse and they are less likely to violate GAAPs. In line with the extant research and the reasons outlined above, the following proposition is proposed:

Hypothesis 3.4: There is a positive relation between TMT age and comparability.

3.2.5 Top management team gender and financial reporting comparability

Female management teams have been found to report effective accounting information in improving corporate performance. For example, Kotiranta et al. (2007) document that firms with a female CEO earn higher profits than those with a male CEO. Francoeur et al. (2008) find that a high proportion of women in top management leads to positive abnormal returns in a complex context. Levi et al. (2008) find that firms with female CEOs bid for smaller price premiums in mergers and acquisitions. In addition, the positive impact of female management also exists on the board of directors (Campbell & Minguez Vera, 2010). The extant literature suggests that a well-balanced gender composition in the TMT will lead to high profits.

Peng & Wei (2007) find that female top managers are less inclined to be overconfident than male top managers. Women in leadership roles such as CEO or members of the board impact corporate social responsibility. Therefore, female directors are viewed as a key resource for enhancing a firm's strategic decisions. In summary, female management contributes significantly to firm sustainability, board inputs, and the board monitoring effect. In addition to contributing to firm performance, female management also plays a vital role on the board of directors. For example, gender composition positively influences sustainability (Evershed, 2011). Female directors behave differently from their male counterparts, significantly impacting board input.

From a psychological perspective, women are inclined to be less assertive and less aggressive. Hall (1990) states that women are more anxious than men. Similarly, Lundeberg et al. (1994) argue that women tend to be less overconfident in telling incorrect answers. Moreover, women are less engaged in risky behaviors. Both experimental studies and meta-analyses have concluded that women reported less risk preference (Byrnes & Miller, 1999; Powell & Ansic, 1997).

In addition, females are found to be less assertive in firm-level policies. Women feel less competent than men in financial issues, such as asset pricing, acquisition, and debt-issuance decisions (Barber & Odean, 2001; Hirshleifer, 2001; Huang & Kisgen, 2013). Similarly, business

and economic research also proved that female CEOs are typically risk-averse. Consistent with this finding, female CEOs are appointed to alleviate risk (Martin et al., 2009). Female CEOs have also been argued to be risk-averse in financing and investment activities. For example, firms with female CEOs have lower leverage, sustainable earnings, and a better chance of survival than firms with male CEOs (Faccio et al., 2016). Ho et al. (2015) find the relationship between CEO gender and accounting conservatism and find a positive association. Martin et al. (2009) observe a significant reduction in market risk-bearing by firms with female CEOs. Female executives are more risk-averse than male executives. For example, female executives have been found to have less overconfidence and tend to make investment decisions conservatively in comparison with male decision-makers. Extant studies suggest that female CEOs are conservative in tasks concerning accounting (Francis et al., 2013; Huang & Kisgen, 2013).

Based on the above conclusions, female management is less assertive, less overconfident, and less aggressive than male management, which is mainly reflected in the choice of low-risk strategies. Accordingly, the conservative mindset and ethical conceptions of female management could improve the internal control environment with stronger concerns on comparative and ethical financial reporting. Therefore, female management's conservative mind can be expected to enhance compliance with the GAAP and generate less opportunistic behaviors.

In line with these traits, female management will be conservative in choosing accounting processes, specifically, a TMT with a relatively high proportion of female members is expected to less engage in abuse of accruals. Thus, the following hypothesis is proposed:

Hypothesis 3.5: There is a positive relation between TMT female proportion and comparability.

3.2.6 Top management team functional experiences and financial reporting comparability

The observable demographic characteristics of management backgrounds have been favored in several areas of research. For example, career experiences differentially shape managers' strategic choices. Empirical research confirms that managers seek strategies that are in line with their work experience (Smith & White, 1987). Top managers with technical financial functions are conventional, orderly, and overcautious (Holland, 1973), suggesting that they may adopt conservative tax planning. Similarly, finance managers pursue administrative complexities. Managers with legal backgrounds are more sensitive to litigation risk.

Therefore, managers' accounting, financial, and legal career experiences affect their preferences (Hambrick & Mason 1984; Jensen & Zajac, 2004). Bamber et al. (2010) document that managers promoted from legal backgrounds hold greater sensitivity to litigation risk; managers with accounting and finance are inclined to more precise disclosure types, indicating a conservative upcoming earnings prediction.

Finkelstein (1992) finds that if a firm possesses a high proportion of powerful TMT members with financial backgrounds, it tends to adopt an acquisition strategy. Lee et al. (2017) state that TMT members with experience in R&D-related positions tend to focus on explorative R&D activities. In addition, top managers who possess experience working in R&D-related functions enhance their

technological competitiveness (Daellenbach & McCarthy, 1999). TMT members that have accounting, financial, and legal experiences have a greater understanding of accounting standards and laws. Therefore, we predict that functional experiences in the areas of accounting, financial, and legal might be associated with more comparability, and the sixth hypothesis is proposed:

Hypothesis 3.6: There is a positive relation between TMT functional experiences and comparability.

3.2.7 Top management team size and financial reporting comparability

TMT size affects the output of organizations (Smith et al., 1994). Halebian & Finkelstein (1993) argue that there are several advantages to large TMTs. Specifically, they revealed that large top management teams perform better and that this finding is significant in an environment where top managers are allowed high discretion in making strategies. Michel & Hambrick (1992) find that firms facing bankruptcy have smaller management teams than matched-paired firms. Two studies have also investigated the positive association between firm growth and team size (Cooper & Bruno, 1977). The extant literature argues that large groups are more advantageous than small ones because the capabilities and resources of large teams are the strength to solve complicated tasks (Shull et al., 1972). Such capabilities and resources are helpful for high-quality decision-making. These findings support Michel and Hambrick's argument that the number of people results in a team's resources being available to address problems.

However, large-sized groups also tend to face increasing coordination and communication problems. A large team performs well in complex decisions because it controls more resources. Small-sized groups have more cohesiveness, and their members' satisfaction is greater. In addition, small teams spend less time reaching a consensus (Shull et al., 1972). Therefore, small groups may be suitable for organizations in which problem-solving tasks are relatively easy.

A large TMT always performs better (Finkelstein, 1993). Thus, such TMTs may prefer to disclose more comparable information because the analysts can accurately understand the firms' performance and easily compare it with that of other firms. Hence, we hypothesize that a firm with a larger TMT may disclose more comparable financial statements, and test the following hypothesis:

Hypothesis 3.7: There is a positive relation between TMT size and comparability.

In summary, the upper echelon theorizes that a series of TMT characteristics affect organizations' strategies and performances. However, evidence on comparability is limited. Therefore, this study builds on the aforementioned research streams to reveal the impact of TMT characteristics on comparability.

3.3 Methodology

3.3.1 Sample selection

In the context of this study, TMT includes a firm’s CEO, CFO, COO, CTO, and heads of business units (Finkelstein & Hambrick, 1996). All raw data on TMT characteristics and financial statements are collected from China Stock Market & Accounting Research Database (CSMAR) and the study period runs from 2013 to 2019.

The sample in this study is comprised of Chinese A-share main public firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange, which were active for seven years, beginning in 2013. We obtain the sample by the following steps. First, listed companies under special treatment are omitted; second, companies in the financial industry are excluded, since these firms are governed by special legislation in the preparation of their financial statements. Third, observations with missing data are also omitted. Finally, an unbalanced dataset containing 3186 firm-year observations of 3186 firms over a 7-year timespan is obtained (2013–2019). All the variables are detailed in Table 3-1.

Table 3-1 Variable measurements

	Variable	Description	Measurement
Dependent variables	<i>COMP_Average</i>	Financial reporting comparability	By referring to De Franco et al. (2011), we measured a firm's comparability and selected the industry average value as its comparability. Furthermore, we compare this indicator with the industry median value. <i>COMP</i> is coded 1 if it is bigger than the median value, otherwise 0.
	<i>COMP_Median</i>	Financial reporting comparability	By referring to De Franco et al. (2011), we measured a firm's comparability and selected the industry median value as its comparability. Furthermore, we compare this indicator with an industry median value. <i>COMP</i> is coded 1 if it is bigger than the median value, otherwise 0.
Independent variables	<i>TMT_Edu</i>	Education of TMT members	Average TMT members' education level. The TMT members’ education degree is coded as follows: if a TMT member has a degree with special school or lower, 1 is coded; members with a degree of the institution are coded 2; members have a bachelor's degree are coded 3; members have a master's degree is coded 4; members have a Ph.D. degree is coded 5.
	<i>TMT_Sal</i>	Compensation of TMT members	Natural logarithm of the average salary of TMT members

	<i>TMT_Ten</i>	Tenure of TMT members	The average tenure of TMT members in months
	<i>TMT_Age</i>	Age of TMT members	The average age of TMT members in years
	<i>TMT_Fem</i>	Gender of TMT members	The proportion of female members in a TMT
	<i>TMT_Exp</i>	Expertise experience of TMT members	The proportion of members with financial, accounting, or legal experiences in a TMT. Each member of the TMT is coded with 1 if they have experience working in accounting, financial, or legal, and 0 otherwise. The variable is measured by the proportion of TMT members coded 1 for each firm and observation year.
	<i>TMT_Size</i>	Size of the TMT	Number of TMT members
Control Variables	<i>LEV</i>	Leverage	Long-term debt/Total assets
	<i>ROA</i>	Return on net assets	Return on average net assets
	<i>MB</i>	Market-to-Book ratio	Price divided by the book value
	<i>SIZE</i>	Firm size	Natural logarithm of total assets
	<i>CEO_Chair</i>	Power of CEOs	A dummy variable that equals 1 if the CEO also serves as chairman of the board, and 0 otherwise
	<i>BIG4</i>	Type of auditing firms	A dummy variable that equals to 1 if the firm is audited by Big4 firms, and 0 otherwise
	<i>INST_Per</i>	Institutional shareholding	The percentage of shares held by an institutional shareholder

3.3.2 Measurement of the independent variables

The measures of TMT characteristics mentioned in the theoretical development sections are listed in Table 3-1. We include *TMT_Edu*, *TMT_Ten*, *TMT_Age*, *TMT_Size*, *TMT_Fem*, *TMT_Exp*, and *TMT_Sal* in the regression analysis.

3.3.3 Measurement of the dependent variable

According to the FASB (1980, p.40), comparability “is the quality of information that enables users to identify similarities and differences between two sets of economic phenomena”. The measure of comparability in this study relies on the definition given by De Franco et al. (2011: p.896), “accounting system is a mapping from economic events to accounting system. For a given set of economic events, two firms have comparable accounting systems if they produce similar financial statements”. The construction of measurement is as follows:

$$financial\ statements_i = f_i(economic\ events_i)$$

Equation 3-1

Where $f_i(\cdot)$ represents the accounting system of firm i . Two firms have comparable accounting systems if their mappings are similar.

Equation 3-1 states that a firm's financial statements are a function of the economic events and the accounting of these events. That is, two firms, i and j , with comparable accounting should have similar mappings $f(\cdot)$, such that for a given a set of economic events X , firm j produces similar financial statements to firm i .

By referring to De Franco et al. (2011), this study uses stock return as a proxy for the net effect of economic events on the firm's financial statement and earnings as a proxy for financial statements. For each firm-year, we first estimate the following equation using the 16 previous quarters' data:

$$Earnings_{it} = \alpha_i + \beta_i Return_{it} + \varepsilon_{it}$$

Equation 3-2

Earning is the ratio of quarterly net income before extraordinary items to the beginning-of-period market value of equity, and Return is the stock price return during the quarter. Under the framework in equation (3.1), $\hat{\alpha}_i$ and $\hat{\beta}_i$ proxy for the accounting function $f(\cdot)$ for firm i . Similarly, the accounting function for firm j is proxied by $\hat{\alpha}_j$ and $\hat{\beta}_j$ (estimated using the earnings and return for firm j).

The “closeness” of the functions between two firms represents the comparability between the firms. If two firms have experienced the same set of economic events, the more comparable the accounting between the firms, the more similar their financial statements. The firm i ' and firm j 's estimated accounting functions are used to predict their earnings, assuming they had the same return. Specifically, we use the two estimated accounting functions for each firm with the economic events of a single firm.

$$E(Earnings)_{iit} = \hat{\alpha}_i + \hat{\beta}_i Return_{it}$$

Equation 3-3

$$E(Earnings)_{ijt} = \hat{\alpha}_j + \hat{\beta}_j Return_{it}$$

Equation 3-4

$E(Earnings)_{iit}$ is the predicted earnings of firm i given firm i 's function and firm i 's return in period t and $E(Earnings)_{ijt}$ is the predicted earnings of firm j given firm j 's function and firm i 's return in period t . By using firm i 's return in both predictions, we explicitly hold the economic events constant. We define accounting comparability between firms i and j ($CompAcct_{ijt}$) as the negative value of the average absolute difference between the predicted earnings using firm i 's and j 's functions:

$$CompAcct_{ijt} = -\frac{1}{16} \times \sum_{t-15}^t |E(Earnings_{iit}) - E(Earnings_{ijt})|$$

Equation 3-5

Greater values indicate greater accounting comparability. Specifically, after estimating accounting comparability for each firm, the authors rank all the J values of $CompAcct_{ijt}$ for each firm i from the highest to lowest. $CompAcctInd_{it}$ is the median for all firms j in the same industry as firm i during period t . Also $CompAcctInd_{it}$ is the median for all firms j in the same industry as firm i during period t .

3.3.4 Control variables

A wide variety of variables are controlled, including $SIZE$, LEV , ROA , MB , $BIG4$, CEO_Chair , and $INST_Per$ by referring to prior studies (Ball et al., 2003; Cascino & Gassen, 2015; Francis et al., 2014; Johnson, 2002; Zhang, 2019). Detailed definitions of these control variables are provided in Table 3-1.

Below, we discuss each definition of the control variables and their relationship with financial reporting comparability.

CEO_Chair indicates whether CEOs serve as the chairman of a firm. This variable explains a TMT's governance capacities in a firm. The variable equals 1 if a CEO serves as the chairman, and 0 otherwise. We predict that this indicator is positively associated with financial statements' comparability.

LEV is total liabilities in year t divided by total assets. A greater number of LEV indicates firms may face the possibility of violating debt covenants. Thus, management may be more concerned with their firms' financial reporting comparability since less comparative information is bad news for the credit market. Then there may be a positive association between LEV and comparability.

ROA is a return on assets measured as net income in year t divided by total assets in year t . The extant literature has documented that ROA is positively associated with financial reporting quality (Kim et al., 2017; Zhang, 2019). For instance, ROA is negatively related to analyst errors. However, ROA is also found negatively associated with accrual-based earnings management (Dechow & Dichev, 2002). Thus, we predict a positive association of ROA with comparability.

MB is the ratio of the market value of equity to book value in year t . Prior research documents that a firm's growth influences the discretionary accruals, and analyst errors (Menon & Williams, 2004). Thus, we predict that MB decreases a firm's comparability.

$SIZE$ is the natural logarithm of total assets (in RMB yuan) in year t . A larger firm tends to have high comparability than a small firm because the former always show stability in stability and prediction of business operations (Dechow & Dichev, 2002). Therefore, we predict a positive sign on firm $SIZE$.

$BIG4$ is a dummy variable, whereas 1 indicates that a firm is audited by the international $Big4$ auditing firms, and 0 otherwise. The styles of $Big4$ auditing firms enhance the quality of financial reporting. Moreover, $Big4$ auditing firms also exhibit a strong monitoring role in enhancing firms' financial reporting fraud. Thus, we predict a positive relationship to comparability.

INST_Per is the percentage of shares held by the institutional shareholder. Studies document the monitoring role of institutional shareholders since they are professional investors.

In sum, we include industry and year-fixed effects in the regression model to control for unobservable factors for comparability.

3.4 Empirical results

3.4.1 Descriptive statistics

Table 3-2 reports the descriptive statistics for the dependent variables (*COMP_Average*, *COMP_Median*), independent variables (*TMT_Edu*, *TMT_Sal*, *TMT_Ten*, *TMT_Age*, *TMT_Fem*, *TMT_Exp*, and *TMT_Size*), and control variables (*CEO_Chair*, *LEV*, *ROA*, *MB*, *SIZE*, *INST_Per*, and *BIG4*).

Table 3-2 Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
<i>COMP_Average</i>	3186	0.43	.276	0	1
<i>COMP_Median</i>	3186	0.46	.310	0	1
<i>TMT_Size</i>	3186	7.238	2.579	3	18
<i>TMT_Sal</i>	3186	13.313	.624	11.582	15.094
<i>TMT_Edu</i>	3186	3.43	.642	2	5.5
<i>TMT_Age</i>	3186	48.106	3.26	38.667	55.6
<i>TMT_Fem</i>	3186	0.14	.147	0	0.667
<i>TMT_Exp</i>	3186	.363	.18	0	1
<i>TMT_Ten</i>	3186	4.322	1.384	0.87	8.294
<i>CEO_Chair</i>	3186	.208	.406	0	1
<i>LEV</i>	3186	.466	.18	.072	.866
<i>ROA</i>	3186	.052	.04	0	.211
<i>MB</i>	3186	2.746	1.807	.555	14.764
<i>SIZE</i>	3186	22.947	1.236	20.217	26.602
<i>INST_Per</i>	3186	0.412	0.28	0	0.88
<i>BIG4</i>	3186	.101	.301	0	1

The dependent variable, *COMP_Average*, has a seven-year mean of 0.43. the mean value of *COMP_Median* is 0.46, slightly greater than that of *COMP_Average*; the mean education level is between the bachelor's and master's levels (mean=3.43); TMTs have an average annual salary of 605009 (unit: RMB); tenure on the TMT is around four years (mean=51.9 months), which can be up to a maximum of 8.31 years; the mean percentage of TMT members with financial, accounting, or legal experience is quite high at almost 36.3 percent; with a standard deviation of 0.18, the mean age of TMT members is nearly 48 (mean=48.1); the proportion of female members in a TMT is low at only 14 percent, suggesting that male management is the majority across TMTs; a TMT has a mean of nearly seven members (mean=7.2). Overall, an acceptable range of variation is observed for most variables presented in Table 3-2.

Looking at control variables, a CEO serves as the chairman in 20.8 percentage firms; *LEV* has a mean value of 0.47, signifying that on averagely, firms bear nearly half liabilities in their assets; the mean value of *ROA* is 0.052, whose maximum value is 0.21; *MB* has a mean value of 2.75, and

it ranges from 0.56 to 14.76; on average, the institutional shareholdings is 41.2 percentage; 10.1 percentage of firms are audited by the Big4 auditing firms in the sample.

3.4.2 Correlation results

The Pearson pairwise correlation results are presented in Table 3-3. A significant positive correlation is found between the dependent *COMP_Average* and *COMP_Median*, and the independent variables *TMT_Edu*, *TMT_Fem*, *TMT_Ten*, and *TMT_Exp*; *TMT_Edu*, *TMT_Age*, and *TMT_Size* are negatively correlated with *COMP_Average* and *COMP_Median*. Significant correlations are also found between the dependent variable and all control variables *CEO_Chair*, *LEV*, *ROA*, *MB*, *SIZE*, and *INST_Per*.

Table 3-3 Pearson correlation tests

	<i>COMP_Average</i>	<i>COMP_Median</i>	<i>TMT_Edu</i>	<i>TMT_Ten</i>	<i>TMT_Age</i>	<i>TMT_Fem</i>	<i>TMT_Exp</i>
<i>COMP_Average</i>	1						
<i>COMP_Median</i>	0.964***	1					
<i>TMT_Edu</i>	-0.010	-0.0551	1				
<i>TMT_Ten</i>	0.035***	0.131***	-0.0262	1			
<i>TMT_Age</i>	-0.128*	-0.192*	0.274**	0.173***	1		
<i>TMT_Fem</i>	0.045***	0.075***	-0.046**	-0.0160	-0.213***	1	
<i>TMT_Exp</i>	0.065***	0.063***	0.036**	-0.051***	-0.120***	0.161***	1
<i>TMT_Sal</i>	-0.057***	-0.048***	0.211***	0.116***	0.131***	0.039**	0.070***
<i>TMT_Size</i>	-0.240*	-0.463*	0.459***	0.3110	0.234***	-0.210***	-0.423***
<i>CEO_Chair</i>	0.130***	0.152***	0.0260	0.064***	-0.068***	0.135***	0.079***
<i>LEV</i>	-0.331***	-0.353***	0.088***	-0.071***	0.115***	-0.076***	0.065***
<i>ROA</i>	0.050**	-0.00400	-0.0120	0.117***	-0.046**	0.045**	-0.0230
<i>MB</i>	0.278***	0.284***	0.00600	0.0220	-0.182***	0.087***	-0.0100
<i>SIZE</i>	-0.337***	-0.495***	0.195***	-0.033*	0.292***	-0.106***	0.050***
<i>INST_Per</i>	-0.00800	-0.045**	0.103***	0.143***	0.0130	0.00700	-0.078***
<i>BIG4</i>	-0.132***	-0.153***	0.142***	-0.0130	0.150***	-0.0270	0.00700
	<i>TMT_Sal</i>	<i>TMT_Size</i>	<i>CEO_Chair</i>	<i>LEV</i>	<i>ROA</i>	<i>MB</i>	<i>SIZE</i>
<i>TMT_Sal</i>	1						
<i>TMT_Size</i>	0.133***	1					
<i>CEO_Chair</i>	0.0280	-0.056***	1				
<i>LEV</i>	0.151***	0.156***	-0.081***	1			
<i>ROA</i>	0.232***	-0.040**	0.059***	-0.452***	1		
<i>MB</i>	-0.060***	-0.084***	0.155***	-0.246***	0.333***	1	
<i>SIZE</i>	0.426***	0.280***	-0.141***	0.557***	-0.146***	-0.435***	1
<i>INST_Per</i>	0.365***	0.160***	0.037**	-0.0220	0.452***	0.161***	0.298***
<i>BIG4</i>	0.240***	0.207***	-0.073***	0.113***	0.0130	-0.096***	0.377***
	<i>INST_Per</i>	<i>BIG4</i>					
<i>INST_Per</i>	1						
<i>BIG4</i>	0.151***	1					

Note: N=3091 for all variables. The *p*-values are two-tailed. * denotes significance at the 0.10 level; ** denotes significance at the 0.05 level; *** denotes significance at the 0.01 level.

Table 3-3 also depicts that overall, only moderate levels of collinearity exist between explanatory variables. The highest correlation coefficient is 0.557. Furtherly, variance inflation factors (VIFs) were computed to estimate the regression model to test for signs of multi-collinearity in explanatory variables. The results (all VIFs are lower than 2.93) confirmed that there is no serious multicollinearity problem in the model. Table 4 shows the results of the Variance inflation factor test.

Table 3-4 The results of the Variance Inflation Factor test

Variables	VIF	1/VIF
<i>SIZE</i>	2.958	.338
<i>LEV</i>	1.936	.517
<i>ROA</i>	1.852	.54
<i>INST_Per</i>	1.706	.586
<i>MB</i>	1.503	.665
<i>TMT_Sal</i>	1.471	.68
<i>TMT_Size</i>	1.306	.766
<i>TMT_Exp</i>	1.246	.803
<i>BIG4</i>	1.219	.82
<i>TMT_Age</i>	1.215	.823
<i>TMT_Fem</i>	1.1	.909
<i>TMT_Ten</i>	1.093	.915
<i>TMT_Edu</i>	1.085	.922
<i>CEO_Chair</i>	1.061	.943
<i>Mean_VIF</i>	1.482	.943

3.4.3 Logit regression results

This study uses a binomial logit regression model (Equation 3-6) to investigate the association between firm TMT characteristics and financial reporting comparability. In particular, we code a firm's comparability (*COMP*) with 1 if it is higher than the average value of its industry, otherwise 0. Furthermore, we construct a binary logit equation to test the hypotheses.

$$\begin{aligned}
 COMP = \alpha_0 + \alpha_1 TMT_Edu + \alpha_2 TMT_Sal + \alpha_3 TMT_Ten + \alpha_4 TMT_Age + \alpha_5 TMT_Ten + \\
 \alpha_6 TMT_Exp + \alpha_7 TMT_Size + \alpha_8 CEO_Chair + \alpha_9 LEV + \alpha_{10} ROA + \alpha_{13} MB + \alpha_{14} SIZE + \\
 \alpha_{15} INST_Per + \alpha_{16} BIG4 + Industry + Year + \varepsilon
 \end{aligned}$$

Equation 3-6

The left item in the Equation 3-6 indicates the natural logarithm of probability that *COMP*=1 (e.g., a firm report comparative financial reporting) incurs. This variable is generated by the logit command in STATA 16. In the logit regression, the maximum likelihood is applied instead of the ordinary least squares (OLS). The regression results are reported in Table 3-5. Columns (1) and (3) report the regression using only the control variables. Columns (2) and (4) describe the entire model. The *p*-value of the likelihood chi-square test is significant at the 1% level, indicating the model has good fitness.

Table 3-5 Regression results of TMT characteristics and comparability

Variable	COMP_Average		COMP_Median	
	Column(1)	Column(2)	Column(3)	Column(4)
<i>TMT_Size</i>		-0.027 (-0.06)		0.025 (0.14)
<i>TMT_Sal</i>		-0.215*** (-3.17)		-0.257*** (-4.98)
<i>TMT_Edu</i>		0.041 (1.07)		0.042 (1.22)
<i>TMT_Age</i>		0.093 (1.28)		0.045 (1.63)
<i>TMT_Fem</i>		0.627** (2.43)		0.618*** (3.64)
<i>TMT_Exp</i>		0.716** (2.38)		0.712*** (2.98)
<i>TMT_Ten</i>		0.360* (1.85)		0.308** (2.17)
<i>CEO_Chair</i>	0.083 (0.64)	0.023 (0.75)	0.082 (0.46)	0.042 (0.83)
<i>LEV</i>	-1.132 *** (-4.59)	-1.127*** (-3.86)	-1.190*** (-4.28)	-1.139*** (-3.63)
<i>ROA</i>	-5.030*** (-8.53)	-5.027*** (-8.35)	-6.035*** (-9.86)	-6.032*** (-10.52)
<i>MB</i>	0.375*** (2.98)	0.074*** (2.87)	0.268*** (4.23)	0.272*** (3.42)
<i>SIZE</i>	-0.261 *** (-8.34)	-0.304*** (-6.18)	-0.361*** (-5.79)	-0.419*** (-4.92)
<i>INST_Per</i>	0.301*** (5.72)	0.351*** (5.87)	0.261*** (5.35)	0.217*** (5.46)
<i>BIG4</i>	-0.023 (-0.32)	-0.023 (-0.17)	-0.042 (-0.53)	-0.041 (0.52)
Constant	2.934*** (3.85)	3.200*** (4.75)	3.542*** (5.21)	3.643*** (6.15)
Observations	3,186	3,186	3,186	3,186
Pseudo R-squared	0.103	0.210	0.162	0.229
Model χ^2	283	376	232	332

Note: *denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level. The *p*-values are two-tailed. Z statistics are reported in brackets.

According to Table 3-5, *TMT_Sal* is negatively associated with *COMP_Average* (or *COMP_Median*); while *TMT_Fem*, *TMT_Exp*, and *TMT_Ten* are positively associated with *COMP_Average* (or *COMP_Median*). Moreover, limited evidence is found on the effects of *TMT_Size*, *TMT_edu*, and *TMT_Age* on *COMP_Average* (or *COMP_Median*).

Hypothesis 3.1 predicts that TMT education level is positively associated with comparability. Although the coefficient of *TMT_Edu* is positive, the *p*-value is not significant. The results in Table 5 do not support this prediction. Although we predict that a high level of TMT education may bring increased dysfunctional conflict, decrease psychological attachment to the team, and slower decision-making (Cannella et al., 2008; Chatman & Flynn, 2001), we do not find its relation to comparability. Moreover, the effect of TMT education background diversity on firm performance is not unilaterally positive or negative, and contextual variables should be considered to understand

the complex relationships between TMT educational and functional background diversity and firm performance (Cannella et al., 2008; Carpenter, 2002; Doz & Kosonen, 2007). The possible reason that TMTs' education level is not related to comparability is also inclusive, it depends on the complexity of their firms. Thus, the management's education level are key factors that influence firm innovation-related decisions, nevertheless, it has limited relation with financial reporting quality, at least in this study.

Hypothesis 3.2 proposes that the TMT salary incentive is negatively associated with comparability. The results in Table 3-5 support this prediction. Because a high level of incentive is practically an economic motivation for management to engage in opportunistic behaviors (Hambrick & Mason, 1984). By engaging in aggressive tax avoidance or earnings management, management obtains self-interests by sacrificing shareholders' wealth. We predict that TMT salary might be an incentive to manipulate earnings and that will hurt the comparability of financial statements. The results support this prediction, but further analysis is needed.

Hypothesis 3.3 predicts an average tenure of TMT members is positively associated with comparability. This prediction is proved by the results shown in Table 3-5. In terms of the average tenure of TMT members (*TMT_Ten*), *TMT_Ten* is found to be significant in explaining the variation in comparability. Specifically, TMTs with longer tenures are likely to provide more comparable financial reporting. TMT members with a longer tenure have sufficient opportunities to communicate and cooperate, and they have a profound overview of firms to trade off the benefits and costs of financial reporting quality. Therefore, they tend to provide comparative financial reporting since comparability reduces the cost of collecting and processing information for investors, creditors, and regulators.

The prior literature has documented that TMT tenure generates stability in a team, increases firm performance, and promotes firms' investment in R&D (Eisenhardt, 1989; Michel, 1992; Chen et al., 2010). We add evidence on the impacts of TMT tenure on financial reporting quality. Firms with a TMT having long average tenure tend to report more comparable financial statements.

Hypothesis 3.4 posits that TMT age is positively associated with comparability. However, the results in Table 3-5 do not support it because the coefficient of *TMT_Age* is not significant. Firms with younger managers are inclined to pursue risky strategies than those with older managers. Similarly, the average age of TMT members reduces firms' over-investment strategies; the average age of TMT also increases firms' performance (Hambrick & Mason, 1984; Kumar, 2019; Tanikawa et al., 2017). Although Barua (2010) and Francis et al. (2015) report the association between higher accounting conservatism and lower accrual quality with the age of the CEO or CFO, our results do not support this relation when considering the impacts of the average age of a TMT on the financial reporting quality. Moreover, Zhang (2019) examines the impacts of CEO age and CFO age on financial reporting quality using several analyst indicators, finding no profound conclusions. Consistent with Zhang's finding, we do not find the TMT average age influences comparability.

Hypothesis 3.5 predicts TMT female proportion has a positive impact on comparability. This prediction is proved by the results in Table 3-5. Firms with a high proportion of female members provide more comparable financial reporting. This finding is consistent with Ho et al. (2015)'s. Using data from COMPUSTAT, the authors find a positive association between CEO gender and

accounting conservatism. Female management generates less accrual-based earning management and real earnings management. Moreover, Zhang (2019) documents female CFOs improve financial reporting quality, proxied by analysts' errors and financial reporting restatements, respectively. We provide evidence that the proportion of females in a TMT also improves the comparability of financial information, suggesting that female managers in a TMT are more conservative and seek to obey the formal rules of the regulators.

Hypothesis 3.6 proposes that the functional experiences of TMT members are positively associated with comparability. In line with the prediction, the results in Table 3-5 show a positive connection. The proportion of TMT members with accounting, financial, and legal experiences enhances a firm's financial reporting comparability. This finding is consistent with the prior literature which suggests that managers promoted from a legal background, accounting, and finance are inclined to be more precise disclosure types (Bamber et al., 2010; Hambrick & Mason, 1984; M. Jensen & Zajac, 2004).

Specifically, managers promoted from legal backgrounds hold greater sensitivity to litigation risk; managers with accounting and finance are inclined to more precise disclosure types, indicating a conservative upcoming earnings prediction (Bamber et al., 2010). Likewise, we find that TMT members' accounting, financial, and legal career experiences enhance the quality of financial reporting. Since such TMTs are more sensitive to regulations (e.g., the GAAP), it is less possible for the expertise members to violate the principle of accounting transaction recording.

Hypothesis 3.7 predicts that *TMT_Size* is positively related to the financial reporting comparability. However, we do not find this association because the coefficient of *TMT_Size* is not significant. Unlike Tang (2017), who documents that a smaller TMT may be an outcome of CEO overconfidence, we do not find evidence that TMT size influences a firm's comparability.

In sum, TMT salary, female proportion, functional experiences, and tenure are significantly associated with a firm's comparability. While inconsistent with our predictions, TMT education level, age, and size might have limited influences on a firm's comparability.

3.5 Additional analysis

In this section, we examine whether board characteristics and analysts moderate the relation between TMT characteristics and the comparability of financial statements.

3.5.1 Independent directors

Existing empirical research provides evidence about the importance of independent directors on the board to monitor TMTs to provide accurate financial statements. Studies argue that board of director composition is associated with effectiveness at reducing agency costs (Brickley & James, 1987).

Beasley (1996) argues that board of directors characteristics may affect the board's ability to monitor management to prevent firms from financial statement fraud. The author finds that the proportion of outsiders on the board of directors is lower in firms experiencing financial statement

fraud than for no-fraud firms. The board of directors can minimize costs arising from the separation of ownership and decision control of modern firms (Fama, 1983).

Independent directors enhance a firm's internal control mechanism because outside directors have the motivations to maintain their reputations in decision control. Most external directors are either top managers or important makers in other firms (Fama, 1983). The future value of their compensation depends on primarily their performance as internal decision managers in other firms. Therefore, independent directors who serve on a board are an important role in effectively monitoring management's actions. Specifically, the board's effectiveness in monitoring management is a function of the mix of insiders and outsiders who serve. Thus, we predict independent directors may alleviate groupthink from a TMT. Moreover, independent directors decrease the likelihood of financial statement fraud (Beasley, 1996). We expect that increased board independence would alleviate the negative relation between TMT characteristics (e.g., salary) and accounting comparability while enhancing the positive relations between female proportion, functional experiences, age, and tenure with accounting comparability.

To test a possible moderating effect of independent directors, we rank the samples according to the number of independent directors and select the first quantile and the last quantile to construct a low- and a high-independent director sub-groups. We use maximum likelihood in the logit regress of Equation 3-7.

$$COMP = \sum_L^H (\alpha_0 + \alpha_1 TMT_Sal + \alpha_2 TMT_Ten + \alpha_3 TMT_Fem + \alpha_4 TMT_Exp + \alpha_5 CEO_Chair + \alpha_6 LEV + \alpha_7 ROA + \alpha_8 MB + \alpha_9 SIZE + \alpha_{10} INST_Per + \alpha_{11} BIG4) + Industry + Year + \varepsilon$$

Equation 3-7

Table 3-6 reports the estimation results, and Columns (1) and (2) report the coefficient estimate for firms with low and high independent director proportions, respectively. Consistent with expectation, TMT salary is less negatively associated with comparability for firms with a higher proportion of independent directors compared with firms with a low proportion of independent directors ($p < 0.05$ and $p < 0.01$ respectively). This result shows that having more independent directors alleviates the opportunistic impact of TMT salary compensation. Columns (1) and (2) report that the coefficient estimates for TMT gender, functional experience, and tenure. Consistent with expectation, *TMT_Fem* is more positively associated with comparability for firms with a higher proportion of independent directors compared with firms with a low proportion of independent directors ($p < 0.10$ and $p < 0.05$ respectively); TMT functional experience is more positively associated with comparability for firms with a higher proportion of independent directors compared with firms with a low proportion of independent directors ($p < 0.50$ and $p < 0.10$ respectively); TMT tenure is positively associated with comparability for firms with a higher proportion of independent directors and a low proportion of independent directors ($p < 0.05$ respectively), and the difference between the two groups is not statistically significant.

Table 3-6 Regression results of sub-groups divided by independent directors (*COMP_Average*)

<i>Variables</i>	<i>COMP Average</i>
------------------	---------------------

	High Independent Directors proportion	Low Independent Directors proportion
<i>TMT_Sal</i>	-0.173** (-1.99)	-0.373*** (-3.64)
<i>TMT_Fem</i>	0.713* (1.87)	0.366** (2.50)
<i>TMT_Exp</i>	0.531** (2.40)	0.373* (1.76)
<i>TMT_Ten</i>	0.321** (2.28)	0.326** (2.25)
<i>CEO_Chair</i>	0.063 (1.01)	0.054 (1.62)
<i>LEV</i>	-0.004*** (-3.51)	-0.003*** (-3.90)
<i>ROA</i>	-4.053*** (-8.93)	-3.0493*** (-5.93)
<i>MB</i>	0.054*** (6.94)	0.075 (1.57)
<i>SIZE</i>	-0.263*** (-5.38)	-0.304*** (-4.54)
<i>INST_Per</i>	0.302*** (5.29)	0.392** (5.74)
<i>BIG4</i>	-0.321 (-0.80)	-0.328 (-0.04)
Constant	1.072*** (4.38)	1.37*** (4.92)
Observations	796	796
Pseudo R-squared	0.142	0.186

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

Table 3-7 reports the results when we use *COMP_Median* as a proxy of comparability. The main conclusions keep unchanged.

Table 3-7 Regression results of sub-groups divided by independent directors (*COMP_Median*)

<i>Variables</i>	<i>COMP_Median</i>	
	High Independent Directors proportion	Low Independent Directors proportion
<i>TMT_Sal</i>	-0.191*** (-4.93)	-0.325*** (-3.91)
<i>TMT_Fem</i>	0.535*** (3.76)	0.401* (1.86)
<i>TMT_Exp</i>	0.628*** (3.29)	0.452 (1.48)
<i>TMT_Ten</i>	0.334** (2.35)	0.359* (1.74)
<i>CEO_Chair</i>	0.173 (0.91)	0.182 (1.47)
<i>LEV</i>	-0.031 (-0.85)	-0.043*** (-3.62)
<i>ROA</i>	-0.438*** (-5.38)	-0.482*** (-7.47)
<i>MB</i>	0.054**	0.058***

	(2.15)	(6.83)
<i>SIZE</i>	-0.294***	-0.382***
	(-5.19)	(-7.37)
<i>INST_Per</i>	0.301***	0.309***
	(4.93)	(9.04)
<i>BIG4</i>	-0.403	-0.503
	(-0.69)	(-0.83)
Constant	3.047***	3.827***
	(7.27)	(5.80)
Observations	796	796
Pseudo <i>R</i> -squared	0.169	0.212

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

In sum, the additional analysis indicates independent directors monitor the TMTs' choices in financial reporting quality. Specifically, independent directors positively moderate the relationship between functional experience, female proportion, and comparability, while independent directors negatively moderate the relation between salary and comparability. However, we found limited effect of TMT tenure on comparability.

3.5.2 Analyst following

Analyst following seems an important external information intermediary, which has been proven to be effective in shaping information environments outside of a firm. For instance, firms report low levels of accruals earnings followed by more analysts (Lobo et al., 2012). Analyst coverage is associated with a greater disparity between cash flow and controlling power (Boubaker & Labégorre, 2008). Firms with greater analyst following have better information quality (Safdar et al., 2019). Analysts alleviate the information asymmetry, and the number of analysts and analyst reports are measures of a firm's information environment. A firm's information environment is more transparent if followed by more analysts. Based on the foregoing analysis, the effect of TMT characteristics on accounting information comparability might be moderated by analysts following. Specifically, we predict that the increased analyst following intensifies the positive relation between TMT characteristics (e.g., salary) and accounting comparability while attenuating the negative relations between functional experiences, age, and tenure with accounting comparability.

Moreover, analysts' following of a firm enriches its information environment and potentially acts as a governance mechanism against the self-interested activities of controlling shareholders. A high level of analyst following can potentially work as the external governance mechanism to mitigate the relationship between agency conflict and financial information quality.

We use the number of analysts to measure analyst following that tracking a firm. The larger number of analysts may improve the transparency of the information environment (Balakrishnan et al., 2019). It is more costly to engage in earnings manipulations. Thus, analysts moderate the relationship between TMT characteristics and comparability. To test a possible moderating effect of analyst following, we select the first quantile and the fourth quantile observations sorting by analyst

following, and construct a low-analyst following sub-group and a high-analyst following sub-group. We use maximum likelihood in the logit regress of Equation 3-8.

$$COMP = \sum_L^H (\alpha_0 + \alpha_1 TMT_Sal + \alpha_2 TMT_Ten + \alpha_3 TMT_Fem + \alpha_4 TMT_Exp + \alpha_5 CEO_Chair + \alpha_6 LEV + \alpha_7 ROA + \alpha_8 MB + \alpha_9 SIZE + \alpha_{10} INST_Per + \alpha_{11} BIG4) + Industry + Year + \varepsilon$$

Equation 3-8

Tables 3-8 and 3-9 report the estimation results, In Table 3-8, Columns (1) and (2) report the coefficient estimate for firms with low and high analyst following, respectively. Consistent with expectation, TMT salary is less negatively associated with comparability for firms with a higher analyst following compared with firms with a low analyst following ($p < 0.05$ and $p < 0.1$ respectively). This result shows that having more analyst following alleviates the opportunistic impact of TMT salary compensation. TMT female proportion is more positively associated with comparability in firms with more analyst following compared with firms with fewer analyst following ($p < 0.10$ and $p < 0.05$ respectively); TMT functional experience doesn't show a significant difference between the two sub-groups. TMT tenure is more positively associated with comparability for firms with more analyst following ($p < 0.05$).

Table 3-8 Regression results of sub-groups divided by analyst following (*COMP_Average*)

VARIABLES	<i>COMP_Average</i>	
	High Analyst Following	Low Analyst Following
<i>TMT_Sal</i>	-0.137* (-1.68)	-0.281** (-2.33)
<i>TMT_Fem</i>	0.793** (2.02)	0.481* (1.84)
<i>TMT_Exp</i>	0.333*** (4.73)	0.312* (1.87)
<i>TMT_Ten</i>	0.582** (2.38)	0.293 (0.58)
<i>CEO_Chair</i>	0.073 (1.16)	0.093 (0.43)
<i>LEV</i>	-0.384** (-2.36)	-0.473*** (-4.63)
<i>ROA</i>	-0.421*** (-3.85)	-0.438*** (-6.38)
<i>MB</i>	0.042 (0.64)	0.035*** (4.75)
<i>SIZE</i>	-0.238*** (-3.56)	-0.253*** (-9.45)
<i>INST_Per</i>	0.293 (1.04)	0.438*** (5.21)
<i>BIG4</i>	-0.384* (-1.57)	-0.084 (-0.67)
Constant	3.726*** (3.75)	4.58*** (5.10)
Observations	796	796
Pseudo R-squared	0.183	0.219

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

Table 3-9 Regression results of sub-groups divided by analyst following (*COMP_Median*)

VARIABLES	<i>COMP_Median</i> High Analyst Following	<i>COMP_Median</i> Low Analyst Following
<i>TMT_Sal</i>	-0.165** (-1.99)	-0.351** (-3.64)
<i>TMT_Fem</i>	0.582** (2.50)	0.315* (1.87)
<i>TMT_Exp</i>	0.622*** (3.26)	0.384 (0.40)
<i>TMT_Ten</i>	0.632* (2.25)	0.028 (0.78)
<i>CEO_Chair</i>	0.063 (1.62)	-0.033 (-1.04)
<i>LEV</i>	-0.523*** (-2.90)	-0.614*** (-3.29)
<i>ROA</i>	-5.374*** (-5.52)	-5.335*** (-9.37)
<i>MB</i>	0.035 (1.20)	0.074*** (3.71)
<i>SIZE</i>	-0.301*** (-5.73)	-0.422*** (-8.38)
<i>INST_Per</i>	0.432** (2.06)	0.336*** (5.67)
<i>BIG4</i>	-0.209 (-0.04)	-0.293 (-0.80)
Constant	2.514*** (3.79)	3.035*** (6.36)
Observations	796	796
Pseudo R-squared	0.128	0.243

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

We also divided the sample into sub-groups depending on the value of analyst followings, then regress the independent variables on *COMP_Median*. The results are slightly different. We do not find significant differences in the coefficients of *TMT_Sal* and *TMT_Fem*. Moreover, the coefficients of *TMT_Exp* and *TMT_Ten* in a high group are not significant. Thus, *TMT_Exp* and *TMT_Ten* have substitute effects with analysts.

In sum, two additional analyses support the predictions that independent directors and analysts moderate the relation between TMT characteristics and financial reporting comparability. Intensive external and internal governance are effective in improving financial reporting comparability.

3.6 Robustness test

The results presented in Tables 3-5 are from panel regressions using year-and-industry fixed effects. To test the sensitivity of the results, the model is re-estimated with firm-fixed effects specification. The initial results of *TMT_Sal*, *TMT_Fem*, and *TMT_Ten* are robust upon the

specification. *TMT_Exp*, however, is no longer significant, suggesting that TMT functional experience before the appointment is sensitive when the sample is individually clustered.

Second, we substitute *COMP_Top4Average* and *COMP_Top10* for *COMP_Average*, respectively. *COMP_Top4Average* denotes *firm_i*'s comparability to the top 4 firms in the same industry; *COMP_Top10* is *firm_i*'s comparability to top 10 firms in the same industry. The regression results keep unchanged. Thus, the results presented in Table 3-5 are robust.

A potential concern with our analysis is that TMT characteristics may be correlated with determinants of comparability that are not controlled in our regression models. First, to address the concern that our results might be driven by omitted variables, we introduced an instrumental variable of the average salary of an industry-size peer group. The reason is that the literature has documented that the management pay-setting process may refer to the benchmark pay levels of peer groups. For instance, Xu and Tan (2014) posit that compensation peer groups exist in China context. Likewise, Faulkender and Yang (2010) argue that the peer groups significantly explain variations in CEO compensation. Thus, we presume that the salary of a TMT is more likely positively related to the benchmark of its industry-size peers. Since the compensation of the peers is influencing the management of labor market conditions. We use the median salary of firms that are in the firm's two-digit industry and fall within 50% and 200% of a firm's sales as an instrumental variable in the matching year. The benchmark is exogenous because it will not affect the firm's financial reporting quality. Specifically, we estimate a 2SLS model where the first stage is:

$$TMT_Sal = \alpha_0 + \alpha_1 Peer_Sal + \alpha_2 TMT_Ten + \alpha_3 TMT_Fem + \alpha_4 TMT_Exp + \alpha_5 CEO_Chair + \alpha_6 LEV + \alpha_7 ROA + \alpha_8 MB + \alpha_9 SIZE + \alpha_{10} INST_Per + \alpha_{11} BIG4 + Industry + Year + \varepsilon$$

Equation 3-9

Here, *Peer_sal* is the median salary of peer TMTs. *TMT_Ten*, *TMT_Fem*, *TMT_Exp*, and a series of firm-level characteristics are control variables included in Equation 3-9. The fitted value of the salary indicator variable from the first-stage regression is used in the second stage, which relates the effects of TMT salary to comparability.

Our results are consistent with that of Faulkender and Yang (2010). The coefficient on our instrumental variable in the first-stage regression is significant at the 5% level, suggesting a strong relationship between a TMT average salary and its peer-group median salary. Since the F-statistic of 10.313 from the first-stage regression is higher than the threshold of 10 implied by Stock and Yogo (2005), thus there is no concern about the weak instrument issues. The second-stage regression results in Table 3-14 show a significantly lower level of comparability in firms with highly paid management.

Table 3-10 Endogeneity test: instrumental variable approach

First stage of 2SLS variable	Column (1)
<i>TMT_Fem</i>	0.124*** (3.70)

<i>TMT_Exp</i>	0.183*** (3.41)
<i>TMT_Ten</i>	0.002*** (5.74)
<i>Peer_Sal</i>	0.023** (2.89)
<i>CEO_Chair</i>	0.083*** (3.49)
<i>LEV</i>	0.181** (2.51)
<i>ROA</i>	3.73*** (12.03)
<i>MB</i>	0.006 (0.91)
<i>SIZE</i>	0.197*** (16.33)
<i>INST_Per</i>	0.007 (1.34)
<i>BIG4</i>	0.156*** (4.57)
Observations	3,186
F-statistic	10.313
<i>p</i> value	0.04
Year fixed effects	Yes
Industry fixed effects	Yes
The second stage of 2SLS variable	Column (1)
<i>Instrumented TMT_Sal</i>	-0.264* (-1.91)
<i>TMT_Fem</i>	0.501** (2.49)
<i>TMT_Exp</i>	0.602* (1.69)
<i>TMT_Ten</i>	0.261* (1.68)
<i>CEO_Chair</i>	0.020 (0.03)
<i>LEV</i>	-0.905*** (-4.71)
<i>ROA</i>	-4.045*** (-13.08)
<i>MB</i>	0.051*** (6.22)
<i>SIZE</i>	-0.212*** (-10.86)
<i>INST_Per</i>	0.201*** (5.28)
<i>BIG4</i>	0.032 (1.25)
Constant	2.042*** (4.36)

Observations	3,186
R-squared	0.181
Mean VIF	2.781
Year fixed effects	Yes
Industry fixed effects	Yes

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

3.7 Conclusions and limitations

Using a sample of 3186 firm-year observations collected from Chinese listed firms, this study documents the significant impact of TMT characteristics on financial reporting quality. Result suggests that TMT salary, female proportion, career experience, and tenure are significantly associated with a firm's comparability; inconsistent with our predictions, TMT education, age, and size might have little influence on a firm's comparability. Higher incentives for TMT attenuates a firm's accounting comparability; an older TMT, a TMT with more expert members, or a TMT with a long tenure may improve a firm's accounting comparability. The evidence indicates that team-related features play an important role in predicting managers' financial reporting decisions.

Prior studies have documented TMT characteristics' impact on firm investment decisions, financing decisions, and firm performance. Others even examine the impacts on opportunistic behaviors, and accounting conservatism. Little evidence is provided regarding the associations with financial information quality. By filling in this gap, this study explores the impacts of TMT observable characteristics on financial reporting comparability. We extend the boundaries of upper echelons theory to another important aspect of financial reporting quality, namely comparability. Since comparability is a particularly important trait of financial information that makes it useful (FASB and GAAP in China). Our findings are valuable for investors, creditors, analysts, and even tax authorities to make appropriate decisions.

In closing, the results are subject to the following caveats. First, we focus only on firms listed in the context of China. The findings in this study may not be generalized to firms in other countries. Further research might investigate whether the finding in this study extends to firms in other countries, especially in developed countries.

Second, we do not identify the impacts of individual traits in a TMT on accounting comparability (e.g., CEOs and CFOs.), because it is beyond the scope of this study. We may conduct it in the future.

Chapter 4 The Mediating role of Tax Avoidance in the Effect of Top Management Team Characteristics on Financial Reporting Comparability

In light of the findings in Chapter 3, it is interesting to explore in which ways, TMT characteristics influence a firm's comparability. Because a TMT may not directly impact financial statements, there might be pathways taken by management, then as a result that a firm's comparability is affected. We predict that one possible way might be tax avoidance practice since tax-aggressive firms exhibit lower accruals quality and transparency (Balakrishnan et al., 2019). Tax avoidance often requires firms to increase organizational complexity (Drucker, 2010). Similarly, tax avoidance leads to a less timely annual earnings announcement. Specifically, the greater temporary and permanent book-tax differences are positively associated with the days needed for annual earnings announcements (Crabtree & Kubick, 2014). Koubaa & Jarboui (2017) also examine the extent to which regulatory and opportunistic information in book-tax differences affect accounting conservatism. The authors find that the book-tax differences are “bad news” for investors. Moreover, the greater book-tax differences significantly decrease the accounting conservatism. Thus we predict that tax avoidance (especially aggressive tax avoidance) affects a firm's accounting comparability.

Figure 4-1 shows the predicted mediator effect of tax avoidance on TMT characteristics and financial reporting comparability.

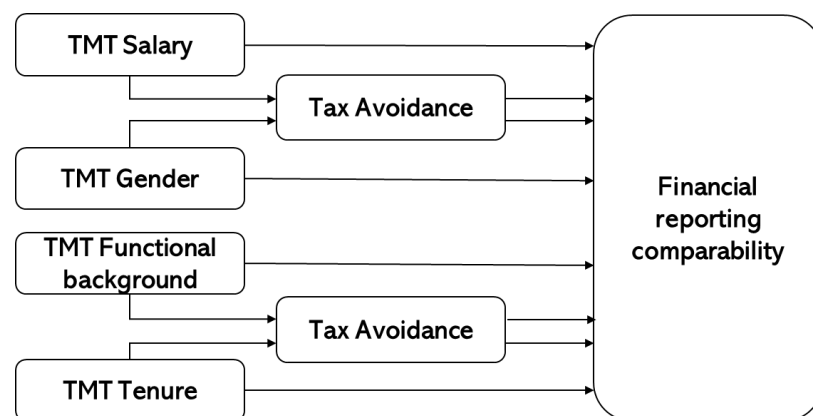


Figure 4-1 Prediction of the mediating role of tax avoidance

We predict that firms vary in tax planning strategies and the choice of tax strategies is associated with their TMT background characteristics. Furtherly, the tax planning strategies involve “real” transactions and impact a firm's complexity. That may influence a firm's comparability, at least partially. To test this prediction, tax avoidance is introduced as a mediator variable of the effect of TMT characteristics on accounting comparability.

4.1 Introduction

This chapter explores the extent to which TMT salary, tenure, female proportion, and functional experiences affect tax avoidance. Moreover, whether this difference matters in a firm's disclosure quality.

Firms engage in various tax planning strategies to reduce the tax burden, pursuing a direct increase in after-tax returns and cash flow. However, as decision-makers, TMTs face a conflict between tax planning and financial reporting. This is because low levels of after-tax income signal negative information to investors and creditors and tax planning is not costless. The extant literature has documented the costs of inappropriate tax planning, including labor, information system coordination among business units, corporate transparency, expected audit costs, and even penalties when tax planning strategies are found to be aggressive (Balakrishnan et al., 2019). Moreover, executives view reputation as an additional cost of aggressive tax strategies (Graham et al., 2014). Based on these findings, the extent to which a firm should engage in tax planning is a complex decision. Prior literature has shown that firm-level characteristics, such as the scale of international operations, compensation schemes, and ownership patterns, may impact firms' tax planning. Similarly, group-level characteristics may also drive tax-planning strategies.

According to upper echelons theory, the observable demographic characteristics of management background are predicted to affect an organization's strategies and performance (Hambrick & Mason, 1984). Hereafter, mainstream research focuses on the effects of the characteristics of individual executives and top management teams on firm strategies. Abundant evidence has been obtained in several research areas. For example, a TMT's career experience, age, tenure, gender composition, compensation, and education differentially shape managers' strategic choices. These observable characteristics may reflect the decision makers' preference for risk-taking and capabilities in handling complex affairs within a firm. Thus, it is reasonable to predict that these characteristics may also contribute to a firm's tax planning strategies.

Accordingly, this study aims to explore which TMT characteristics contribute to aggressive (or less) tax planning. More specifically, we examine whether TMT tenure, gender, career experiences, and salary are related to tax planning activities. Given this context, this study aims to extend upper echelons theory to the field of tax planning strategies by presenting more evidence.

The remainder of the study proceeds as follows. Section 4.2 presents the literature review, followed by the theoretical background and research hypotheses in Section 4.3. Section 4.4 presents the research methodology and the results. Finally, Section 4.5 presents the conclusions and implications.

4.2 Literature review and hypotheses development

4.2.1 Top management team characteristics and tax avoidance

In recent years, tax planning has become a widespread interest and concern. However, aggressive tax avoidance has attracted attention in the fields of theory and practice. Shackelford & Shevlin (2001) call for research on the determinants of tax aggressiveness. This is an important

theme that must be discussed. However, one of the most conflicting topics is the lack of universally accepted definitions of tax avoidance or tax aggressiveness (Hanlon & Heitzman, 2010). They broadly defined tax avoidance or tax aggressiveness as the reduction of explicit taxes without distinguishing between avoidance and evasion. Blouin (2014) argues that only those tax planning arrangements beyond acceptable, legislated, or known tax deductions should be considered aggressive. Consistent with Hanlon & Heitzman (2010), this study defines tax aggressiveness without differentiating between avoidance and evasion.

Existing literature examines the association between firm-level characteristics and aggressive tax avoidance. Rego (2003) documents that the scale of international operations resulted in lower GAAP and effective tax rates (ETRs). Another perspective is that the agency problem has been introduced when analyzing corporate tax aggressiveness. For example, Slemrod (2004) examines corporate tax avoidance and finds an efficiency loss due to the separation of management and control. Crocker & Slemrod (2005) link the compensation contract of an executive with the right to determine tax strategies. Another stream of research focuses on self-interested managers. It is argued that top managers structure complex transactions to reduce corporate tax expenses (Desai et al., 2007). On one hand, if tax avoidance is worthwhile (e.g., management's compensation is based on after-tax corporate income), such firms will engage in more tax aggressiveness. For instance, Phillips (2003) analyzes survey data and finds that compensation for managers of after-tax income led to lower GAAP ETRs. Likewise, Desai & Dharmapala (2006) document that incentive compensation and governance structures negatively affect tax aggressiveness. Moreover, the authors reported that this finding holds only for firms with weaker external monitoring mechanisms.

Ownership patterns may also be a determinant of tax aggressiveness. Desai et al. (2007) suggest that the ownership structure can influence tax aggressiveness. In firms with concentrated ownership, owners may benefit from less tax aggressiveness by trading off the gains and costs of aggressive tax planning. In addition, concentrated ownership firms may avoid fewer taxes because owners have a long-term concern with intangible costs (e.g., the firm's reputation).

In addition to firm-level characteristics, recent research has also examined the relationship between the tax department and aggressive tax planning, finding distinct outcomes by using various measures of tax aggressiveness (Robinson et al., 2010). Dyreng et al. (2010) found similar outcomes when linking tax director compensation to GAAP ETRs or Cash ETRs.

Overall, although strides have been made in linking firm-level characteristics, management effects, ownership structures, and compensation structures to aggressive tax strategies, the variation in tax planning have yet to be explained completely. One plausible explanation may be that the related theories on corporate tax planning strategies in the agency framework are not well developed, and the empirical evidence is insufficient (Hanlon & Heitzman, 2010). Specifically, there may be other factors driving firms' tax planning strategies, such as TMT characteristics. Most extant literature has examined firm-level determinants without much consideration of top management and their incentives (Hanlon & Heitzman, 2010).

Upper echelons theory argues that strategic choices and performance levels are partially predicted by managerial background characteristics such as age, education, socioeconomic background, financial position, gender, and group heterogeneity. Henceforth, the literature has

focused more on the impacts of top management characteristics on firm policy choices with convincing evidence (e.g., Bamber et al., 2010; Bertrand & Schoar, 2003; Graham et al., 2013). Research in top management has identified TMTs as the primary driver of a firm's strategic decision-making (Hambrick, 2007; Papadakis & Barwise, 2002). For example, Bantel & Jackson (1989) document that TMT characteristics such as education level and age diversity impact product performance. TMT composition has been found to affect a firm's performance in the stock market (Pollock et al., 2010). Likewise, investigating the characteristics of TMT as a driving factor in firms' tax planning choices is important in extending upper echelons theory and enriching research on the determinants of tax planning choices.

As discussed above, corporate outcomes (e.g., strategic choices and performance levels) may be predicted by top management characteristics such as salary, tenure, gender, and functional background. This study extends this line of research by focusing on the choice of tax policies associated with TMT characteristics. Tax authorities entitle corporates to arrange tax plans in many countries. When firms face tax planning choices, the background of the TMT may lead to different levels of tax planning. Specifically, all these characteristics are predicted to impact top management's tax oversight.

4.2.1.1 Top management team compensation and tax avoidance

Management incentive schemes have significantly increased to align managers' welfare with that of shareholders (Maug, 1997) via either compensation contingent on firm performance or executive stock ownership. Economists have studied the compensation of top management teams and corporate performance at length. Findings are mixed. Although inactive effects of management compensation have been found, positive conclusions have also been drawn. Hassen (2014) indicates that stock-based incentives are negatively related to the value of accruals. When given more shares, managers have stronger motivation to engage in value creation. This result confirmed the alignment effect. Similarly, managerial stock-based incentives have a positive relationship with R&D activities (Yang, 2012). Masson (1971) suggests that the proportion of top management ownership has a less inspired effect than that of top management income derived from the firm. A large body of research has focused on the effect of TMT compensation on corporate risk-taking activities. For example, Zhou et al. (2021) document that executives' salaries can effectively promote firms' investment in R&D, but they found limited evidence of a similar effect of equity compensation. Chu et al. (2020) suggest that management stock options alleviate corporate risk-taking using a difference-in-differences approach. Abrokwah et al., (2018) also examine the impact of executive salaries on firm risk-taking behavior, finding significant relationships across industries.

It seems that the conclusions on the relationship between TMT compensation and risk-taking are conflicting. Regarding tax planning choices, the relationship between equity compensation and tax planning seems equivocal. In the short term, the TMT salary is probably directly decided by current performance; therefore, it is predicted that aggressive tax planning is positively associated with TMT salary. Based on the foregoing analysis, the second hypothesis is proposed:

Hypothesis 4.1: Firms with a highly paid TMT tend to be tax aggressive.

4.2.1.2 Top management team tenure and tax avoidance

TMT tenure is one of the most attractive attributes of TMT. A Firm's decisions are not only impacted by top management's work experience and education. TMT members' tenure in the organization can also affect their decisions regarding operations and strategy choices (Bantel & Jackson, 1989; Chen et al., 2010; Hambrick & Mason, 1984). The longer the TMT members' average tenure, the more similar their perceptions and decisions they hold. Additionally, TMT tenure can improve internal communication efficiency. Similarly, Katz & Allen (1988) posit that the comparatively long tenure of the TMT would generate stability in the team, as well as a degree of socialization.

Existing research links TMT tenure to firm performance, coordination, and social cohesion. For example, Sun et al. (2006) find a positive relationship between the average tenure of the TMT members and the firm performance; Eisenhardt & Schoonhoven (1989) conclude that long-term cooperation enables members to better understand how to communicate and cooperate with other members among a team. Likewise, Michel & Hambrick (1992) suggest that the long tenure of TMT members promotes integrity and opportunities for managerial value judgment.

It has been proven that a firm's R&D-related decisions are influenced by TMT tenure in an organization. In particular, when the TMT consists of members with relatively short tenures, it is less probable for the TMT to support large resource-consuming R&D projects, such as explorative R&D (Hambrick, 2007). In addition, top management with a short tenure may feel stressed to exhibit their values and abilities in the short run in an organization (Chen et al., 2010; Kor, 2006). The members' average tenure influences a firm's level of engagement in explorative R&D.

Both qualitative and quantitative studies have focused more on the tenure of TMTs. The longer the team tenure, the easier it is for similar perceptions and decisions to be formed. A higher team tenure can lead to changes in corporate strategy (Wiersema & Bantel, 1992). Katz & Allen (1988) argue that high tenure enhances stability. Likewise, team tenure has also been found to affect firm performance and team social cohesion. Based on these analyses, a TMT with a longer tenure might control tax risk well by engaging less in tax planning. The third hypothesis is proposed as follows:

Hypothesis 4.2: Firms with a long tenure TMT tend to be less tax aggressive.

4.2.1.3 Top management team gender and tax avoidance

Female management teams have been found effective in improving corporate performance. For example, Kotiranta et al. (2007) document that firms with a female CEO earn higher profits than those with a male CEO. Francoeur et al. (2008) find that a high proportion of women in top management leads to positive abnormal returns in a complex context. Levi et al. (2008) find that firms with female CEOs bid for smaller price premiums in mergers and acquisitions. In addition, the positive impact of female management also exists on the board of directors (Campbell & Minguez, 2010). The extant literature suggests that a well-balanced gender composition in TMT will lead to high profits.

Female top managers are less inclined to be overconfident than male top managers. Women in leadership roles such as CEO or members of the board of directors impact corporate social responsibility. Therefore, female directors are viewed as a key resource for enhancing a firm's strategic decisions. In summary, female management contributes significantly to firm sustainability, board inputs, and the board monitoring effect. In addition to contributing to firm performance, female management also plays a vital role on the board of directors. For example, gender composition positively influences sustainability (Evershed, 2011). Female directors behave differently from their male counterparts, significantly impacting board input.

From a psychological perspective, women are inclined to be less assertive and less aggressive. Hall (1990) states that women are more anxious than men. Similarly, Lundeberg et al. (1994) argue that women tend to be less overconfident in telling incorrect answers. Moreover, women are less engaged in risky behaviors (Levin et al., 1988). Both experimental studies and meta-analyses have concluded that women reported less risk preference (Byrnes et al., 1999; Powell & Ansic, 1997).

In addition, females are found to be less assertive in firm-level policies. Women feel less competent than men in financial issues, such as asset pricing, acquisition, and debt-issuance decisions (Barber & Odean, 2001; Huang & Kisgen, 2013; Hirshleifer, 2001). Similarly, business and economic research also proved that female CEOs are typically risk-averse. Consistent with this finding, female CEOs are appointed to alleviate risk (Martin et al., 2009). Female CEOs have also been argued to be risk-averse in financing and investment activities. For example, firms with female CEOs have lower leverage, sustainable earnings, and a better chance of survival than firms with male CEOs (Faccio et al., 2012). Ho et al. (2015) examine the relationship between CEO gender and accounting conservatism, and the authors find a positive association. Martin et al. (2009) observe a significant reduction in market risk-bearing by firms with female CEOs. Female executives are more risk-averse than male executives. For example, female executives have been found to have less overconfidence and tend to make investment decisions conservatively in comparison with male decision-makers. Extant studies suggest that female CEOs are conservative in tasks concerning accounting (Francis et al., 2013; Huang & Kisgen, 2013).

Based on the above conclusions, female management is less assertive, less overconfident, and less aggressive than male management, which is mainly reflected in the choice of low-risk strategies. In line with these traits, female management will be conservative in choosing a tax policy; therefore, a TMT with a relatively high proportion of female members may behave less aggressively because tax planning is not costless or risk-free. Thus, the following hypothesis is tested:

Hypothesis 4.3: Firms with a TMT with more female members tend to be less tax-aggressive.

4.2.1.4 Top management team functional experience and tax avoidance

The observable demographic characteristics of management backgrounds have been favored in several areas of research. For example, career experiences differentially shape managers' strategic choices. Empirical research confirms that managers seek strategies that are in line with their work experience (Smith & White, 1987; Thomas et al., 1991). Top managers with technical financial functions are conventional, orderly, and overcautious (Holland, 1973), suggesting that they may

adopt conservative tax planning. Similarly, finance managers pursue administrative complexities. Managers with legal backgrounds are more sensitive to litigation risk.

Therefore, managers' accounting, financial, and legal career experiences affect their preferences (Hambrick & Mason 1984; Jensen & Zajac, 2004). Bamber et al. (2010) document that managers promoted from legal backgrounds hold greater sensitivity to litigation risk; managers with accounting and finance are inclined to more precise disclosure types, indicating a conservative upcoming earnings prediction.

Finkelstein (1992) finds that if a firm possesses a high proportion of powerful TMT members with financial backgrounds, it tends to adopt an acquisition strategy. Lee et al. (2017) state that TMT members with experience in R&D-related positions tend to focus on explorative R&D activities. In addition, top managers who possess experience working in R&D-related functions enhance their technological competitiveness (Daellenbach et al., 1999). Considering the purpose of this study, career experiences in the areas of accounting, financial, and legal might be associated with less tax planning, and the sixth hypothesis is proposed:

Hypothesis 4.4: Firms with a TMT comprised of a high proportion of expert members are inclined to be less tax-aggressive.

In summary, upper echelons theorize that a series of TMT characteristics affect organizations' strategies and performances. However, evidence of tax planning is limited. Therefore, this study builds on the aforementioned research streams to reveal the impact of TMT characteristics on tax avoidance.

4.2.2 The mediating role of tax avoidance

Studies on financial reporting disclosure strategies are an influential domain of accounting research. Corporate tax avoidance negatively relates to the timing of annual earnings announcements (Crabtree & Kubick, 2014). Rakia (2017) uses book-tax differences to measure the level of tax avoidance and posits that book-tax differences affect accounting conservatism. Specifically, firms with abnormal book-tax differences and normal book-tax differences are negatively related to accounting conservatism. Balakrishnan et al. (2019) argue that aggressive tax avoidance causes transparency problems. Moreover, the authors also examine the effect of aggressive tax avoidance on earnings quality, finding similar conclusions.

Taxes potentially affect “real” firm decisions. Shackelford & Shevlin, (2001) argue that firms trade off taxes for a higher level of accounting earnings when disclosing financial statements and choosing accounting methods. When firms fraudulently report accounting earnings, they also must at times pay taxes (Erickson et al., 2004). On the other hand, firms' operating and structural decisions, which are “real” investments or financing activities, will certainly in turn change a firm's earnings outputs. This change explicitly improves or reduces comparability. Aggressive tax avoidance is positively associated with financial and organizational complexity. To the extent that the accounting implications of this greater complexity may influence the outcomes of the accounting process. Based on the foregoing analysis, we propose hypothesis 4.5:

Hypothesis 4.5: Tax avoidance plays a mediating role in the relation between TMT characteristics and financial reporting comparability.

4.3. Methodology

4.3.1 Sample

The sample in this study is comprised of Chinese A-share main public firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange, which were active for seven years beginning in 2013. The sample is constrained to firms for which earnings management measures can be calculated. The final unbalanced dataset contains 3091 firm-year observations over a 7-year timespan (2013–2019).

The sample is collected as follows: first, we omit observations under special treatment; second, we omit observations in the financial industry because of the different regulatory modes. Third, observations with missing data are excluded. Fourthly, we omit observations whose pre-tax income is negative to avoid an error in the measure of tax avoidance. Finally, 3091 firm-year observations are obtained. All the variables are defined in Table 3-1.

4.3.2 Models

We refer to Baron & Kennys' approach (1986) to test a mediating role of tax avoidance. The coefficient α_1 test a total effect of each TMT characteristics on comparability. We use Equations 4-1 to 4-4 to estimate the association between firm tax avoidance and TMT characteristics; we regress Equations 4-5 and 4-8 to test the mediating role of tax avoidance in the relationship between earnings management and comparability.

We employ a stepwise regression approach to test a mediator mechanism. Specifically, three steps are processed:

In step 1, we test the total effect of each independent variable on comparability. The models are:

$$COMP = \alpha_0 + \alpha_1 TMT_Sal + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-1

$$COMP = \alpha_0 + \alpha_1 TMT_Fem + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-2

$$COMP = \alpha_0 + \alpha_1 TMT_Exp + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-3

$$COMP = \alpha_0 + \alpha_1 TMT_Ten + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-4

In step 2, we test the relationship between tax avoidance and each independent variable:

$$BTDS = \alpha_0 + \alpha_1 TMT_Sal + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-5

$$BTDS = \alpha_0 + \alpha_1 TMT_Fem + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 M + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-6

$$BTDS = \alpha_0 + \alpha_1 TMT_Exp + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-7

$$BTDS = \alpha_0 + \alpha_1 TMT_Ten + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 SIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 4-8

In step 3, we include tax avoidance in the Equations in step 1.

$$COMP = \alpha_0 + \alpha_1 TMT_Sal + \alpha_2 BTDS + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 SIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 4-9

$$COMP = \alpha_0 + \alpha_1 TMT_Fem + \alpha_2 BTDS + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 SIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 4-10

$$COMP = \alpha_0 + \alpha_1 TMT_Exp + \alpha_2 BTDS + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 SIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 4-11

$$COMP = \alpha_0 + \alpha_1 TMT_Ten + \alpha_2 BTDS + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 SIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 4-12

4.3.3 Measure of tax avoidance

Tax authorities in many countries recognize that taxpayers are entitled to arrange their affairs to reduce tax liability. However, Blouin (2014) argues that only those tax planning arrangements beyond acceptable, legislated, or observed tax deductions should constitute aggressive tax strategies. Therefore, the aggressiveness of a specific firm's tax planning is best measured in comparison to the located industry. GAAP and cash ETRs are often used in extant literature to capture firms' tax

aggressiveness (e.g., Dyreng et al., 2008). Prior studies also use measures based on firms' likelihood of entering a tax shelter, tax haven activity (Dyreng & Lindsey, 2009), and discretionary permanent book-tax differences (Frank et al., 2009; Xu, 2021). However, these measures might be limited because, for some measures, specific conditions are needed for firms. However, there is no benchmark for a “normal” level. Although Balakrishnan et al. (2019) take the innovative method a step further, this method is not suitable for the sample in this study. As corporates are entitled to many tax reductions according to tax policies in China, errors may exist when measuring tax aggressiveness by ETRs (Xu, 2021). Therefore, in this study, we consider the differences between each firm and industry mean. Specifically, we develop a tax avoidance measure that (1) measures cross-sectional book-tax differences for each firm, and (2) calculates the industry differences in the mean value of *BTDs*. We expect that a particular firm's tax avoidance is best assessed by comparison to other firms' tax avoidance.

The calculation of the *BTDs* is presented in Table 4-1.

Table 4-1 Variable measurements

Variable	Description	Measurement
<i>COMP_Average</i>	Financial reporting comparability	By referring to De Franco et al. (2011), we measured a firm's comparability and selected the industry average value as its comparability. Furthermore, we compare this indicator with the industry median value. <i>COMP</i> is coded 1 if it is bigger than the median value, otherwise 0.
<i>COMP_Median</i>	Financial reporting comparability	By referring to De Franco et al. (2011), we measured a firm's comparability and selected the industry median value as its comparability. Furthermore, we compare this indicator with an industry median value. <i>COMP</i> is coded 1 if it is bigger than the median value, otherwise 0.
<i>BTDs</i>	Tax avoidance	We calculate a firm's book-tax difference using this formula: book-tax difference= [pre-tax profit-(Income tax expense-deferred tax expense)/Nominal corporate tax rate]/beginning assets. Furthermore, we measure a firm's tax avoidance by deducting an industry-level median value from its book-tax difference.
<i>TMT_Sal</i>	Compensation of TMT members	Natural logarithm of the average salary of TMT members
<i>TMT_Ten</i>	Tenure of TMT members	The average tenure of TMT members in months
<i>TMT_Fem</i>	Gender of TMT members	The proportion of female members in a TMT
<i>TMT_Exp</i>	Expertise experience of TMT members	The proportion of members with financial, accounting, or legal experiences in a TMT. Each member of a TMT is coded with 1 if they have experience working in accounting, finance, or law, and 0 otherwise. The variable is measured by the proportion of TMT members coded 1 for each firm and observation year.

<i>CEO_Chair</i>	Power of CEOs	A dummy variable that equals 1 if the CEO also serves as chairman of the board
<i>LEV</i>	Leverage	Long-term debt/Total assets
<i>ROA</i>	Return on net assets	Return on average net assets
<i>MB</i>	Market-to-Book ratio	Price divided by the book value
<i>SIZE</i>	Firm size	Natural logarithm of total assets
<i>BIG4</i>	Type of auditing firms	A dummy variable that equals to 1 if the firm is audited by Big4 firms, and 0 otherwise.
<i>INST_Per</i>	Institutional shareholding	The percentage of shares held by the institutional shareholder

4.3.4 Measures of variables

In Equations 4-1, 4-2, 4-3, and 4-4, independent variables include *TMT_Sal*, *TMT_Ten*, *TMT_Fem*, and *TMT_Exp*, respectively; In Equations 4-5, 4-6, 4-7, and 4-8, we include *BTDs* in Equation 3-1 to test the mediating role of tax avoidance for each TMT characteristic. The measures of *TMT_Sal*, *TMT_Ten*, *TMT_Fem*, *TMT_Exp*, and *BTDs* in the theoretical development sections are listed in Table 4-1. All raw data of TMT characteristics and financial data are obtained from the CSMAR database.

4.3.5 Control variables

We include seven control variables in Equations, by referring to previous studies (Chen et al., 2010; Dubar et al., 2010; Dyreng et al., 2008; Lanis and Richardson, 2012). Firm-level characteristics related to tax planning are controlled, including firm size (*SIZE*), profitability (*ROA*), leverage (*LEV*), institutional shareholdings (*INST_Per*), CEO power (*CEO_Chair*), Big4 auditing firms (*BIG4*), and growth opportunities (*MB*).

CEO power (*CEO_Chair*) affects firm decision efficiency; Firm size influences the type and level of tax aggressiveness. Large firms (*SIZE*) hold sufficient resources to arrange tax planning (Siegfried, 1972, cited in Gupta and Newberry, 1997); highly profitable firms (*ROA*) may face external pressure to profitability stability, then they would be more engaged in tax planning to obtain a greater after-tax income; management in indebted firms (*LEV*) has incentives to make aggressive tax choices to avoid violated debt agreements; The styles of Big 4 auditing firms enhance the quality of financial reporting. Moreover, Big4 auditing firms (*BIG4*) also exhibit a strong monitoring role in opportunistic behaviors. Institutional shareholdings (*INST_Per*) have a monitoring role in aggressive tax planning.

4.4. Empirical Results

4.4.1 Descriptive statistics

Table 4-2 reports the results of the descriptive statistics, including the variables *BTDs*, *COMP_Average*, *COMP_Median*, *TMT_Sal*, *TMT_Ten*, *TMT_Fem*, and *TMT_Exp*, and control variables (*CEO_Chair*, *LEV*, *ROA*, *MB*, *SIZE*, *BIG4*, and *INST_Per*).

The variable *BTDS* has a seven-year mean of 0.016; TMTs have an average annual salary of 548000 (unit: RMB); tenure on the TMT is around four years (mean=51.8), which can be up to a maximum of 8.3 years; the mean percentage of TMT members with financial, accounting, or legal experience is quite high at almost 36.3 percent, with a standard deviation of 0.18; the proportion of female members in a TMT is low at 14 percent, suggesting that male management is the majority across the TMTs. The mean value of *COMP_Average* and *COMP_Median* is 0.43 and 0.46, respectively.

Overall, an acceptable range of variation is observed for most variables presented in Table 4-2.

Table 4-2 Descriptive statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
<i>COMP_Average</i>	3091	0.43	.276	0	1
<i>COMP_Median</i>	3091	0.46	.310	0	1
<i>TMT_Exp</i>	3091	.363	.18	0	1
<i>TMT_Ten</i>	3091	4.32	1.384	0.871	8.272
<i>TMT_Sal</i>	3091	13.313	.624	11.582	15.094
<i>TMT_Fem</i>	3091	.14	.147	0	.667
<i>BTDS</i>	3091	.018	.03	-.218	.120
<i>CEO_Chair</i>	3091	.208	.406	0	1
<i>LEV</i>	3091	.466	.18	.072	.866
<i>ROA</i>	3091	.052	.04	0	.211
<i>MB</i>	3091	2.745	1.807	.555	14.764
<i>SIZE</i>	3091	22.95	1.236	20.217	26.602
<i>INST_Per</i>	3091	0.412	0.28	0	0.87
<i>BIG4</i>	3091	.101	.301	0	1

4.4.2 Correlation results

The Pearson pairwise correlation results are presented in Table 4-3. A significant positive correlation is found between the dependent *BTDS* and the independent variable *TMT_Sal*; a negative correlation exists between *BTDS* and *TMT_Exp*, *TMT_Fem*, and *TMT_Ten*. These results indicate that the compensation of the TMT significantly exacerbates aggressive tax planning, while TMT female proportion, tenure, financial, accounting, and legal experiences suppress tax aggressiveness. Significant correlations are also found between the dependent variable and most control variables.

Table 4-3 Pearson correlation test

Variable	<i>COMP_Average</i>	<i>COMP_Median</i>	<i>BTDS</i>	<i>TMT_Sal</i>	<i>TMT_Fem</i>	<i>TMT_Exp</i>	<i>TMT_Ten</i>
<i>COMP_Average</i>	1						
<i>COMP_Median</i>	0.964***	1					
<i>BTDS</i>	-0.144***	-0.170***	1				
<i>TMT_Sal</i>	-0.190***	-0.212***	0.078***	1			
<i>TMT_Fem</i>	0.287***	0.152***	-0.00400	-0.039**	1		
<i>TMT_Exp</i>	0.108***	0.271***	-0.044**	0.070***	-0.161***	1	
<i>TMT_Ten</i>	0.261***	0.321***	-0.042**	0.116***	0.0160	-0.051***	1
<i>CEO_Chair</i>	0.264***	0.213***	0.072***	0.0280	-0.135***	0.079***	0.064***
<i>LEV</i>	-0.342***	-0.318***	-0.250***	0.151***	0.076***	0.065***	-0.071***
<i>ROA</i>	0.145**	-0.00400	0.464***	0.232***	-0.045**	-0.0230	0.117***
<i>MB</i>	0.324***	0.284***	0.198***	-0.060***	-0.087***	-0.0100	0.0220
<i>SIZE</i>	-0.361***	-0.445***	-0.097***	0.426***	0.106***	0.050***	-0.033*
<i>INST_Per</i>	-0.03**	-0.045**	0.237***	0.365***	-0.00700	-0.078***	0.143***
<i>BIG4</i>	-0.147***	-0.153***	-0.032*	0.240***	0.0270	0.00700	-0.0130
	<i>CEO_Chair</i>	<i>LEV</i>	<i>ROA</i>	<i>MB</i>	<i>SIZE</i>	<i>INST_Per</i>	<i>BIG4</i>

<i>CEO_Chair</i>	1						
<i>LEV</i>	-0.081***	1					
<i>ROA</i>	0.059***	-0.452***	1				
<i>MB</i>	0.155***	-0.246***	0.333***	1			
<i>SIZE</i>	-0.141***	0.557***	-0.146***	-0.435***	1		
<i>INST_Per</i>	0.037**	-0.0220	0.452***	0.161***	0.298***	1	
<i>BIG4</i>	-0.096***	0.023***	0.0130	-0.096***	0.377***	0.151***	1

Note: N=3091 for all variables. The *p*-values are two-tailed. *denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

Table 4-3 also depicts that, overall, only moderate levels of collinearity exist between explanatory variables. The highest correlation coefficient is 0.436. Furtherly, variance inflation factors (VIFs) were computed to estimate the regression model to test for signs of multi-collinearity in explanatory variables. The results (all VIFs are lower than 2.6) confirmed that there is no serious multicollinearity problem in the model in Table 4-4.

Table 4-4 The results of the Variance Inflation Factor test

VARIABLES	VIF	1/VIF
<i>SIZE</i>	2.717	.368
<i>LEV</i>	1.941	.515
<i>ROA</i>	1.825	.548
<i>INST_Per</i>	1.673	.598
<i>MB</i>	1.517	.659
<i>TMT_Sal</i>	1.482	.675
<i>BIG4</i>	1.217	.822
<i>TMT_Fem</i>	1.065	.939
<i>TMT_Exp</i>	1.058	.945
<i>TMT_Ten</i>	1.049	.953
<i>CEO_Chair</i>	1.03	.971
<i>Mean_VIF</i>	1.474	.971

4.4.3 Logit regression results

The regression results are reported in Tables 4-5 to 4-7. Table 4-5 reports the total effect of each characteristic on comparability. The directions of coefficients are consistent with that of our previous findings in Equation 3-1. Table 4-5 shows the total effect of each characteristic on comparability; Table 4-6 shows the association between individual independent with a mediator; Table 4-7 presents regression results of the model that includes all explanatory variables and the mediator.

Table 4-5 Total effect of each TMT characteristic on comparability

variables	<i>COMP</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Exp</i>	1.372** (2.38)			
<i>TMT_Ten</i>		0.468** (2.53)		
<i>TMT_Sal</i>			-0.736***	

			(-2.75)	
<i>TMT_Fem</i>				0.687*
				(1.94)
<i>CEO_Chair</i>	0.063	0.053	0.035	0.064
	(0.93)	(0.93)	(0.85)	(0.94)
<i>LEV</i>	-1.652**	-1.463**	-1.384**	-1.235**
	(-2.23)	(-2.42)	(-2.52)	(-2.43)
<i>ROA</i>	-5.284***	-5.252***	-4.738***	-4.835***
	(-4.73)	(-4.25)	(-3.73)	(-3.95)
<i>MB</i>	0.026	0.032	0.035	0.024
	(0.93)	(0.86)	(0.86)	(0.91)
<i>SIZE</i>	-0.251***	-0.198***	-0.275***	-0.261***
	(2.64)	(-6.08)	(-3.53)	(-7.54)
<i>INST_Per</i>	0.372	0.274	0.382	0.365
	(1.89)	(1.83)	(1.91)	(1.86)
<i>BIG4</i>	-0.051	-0.048	-0.039	-0.063
	(-0.43)	(-0.44)	(-0.18)	(-0.40)
Constant	2.747***	3.284***	3.627***	2.923***
	(3.57)	(3.34)	(3.42)	(2.94)
Observations	3091	3091	3091	3091
Pseudo R-squared	0.193	0.173	0.171	0.186

Note: *denote significance at the 0.10 level; **denote significance at the 0.05 level; *** denote significance at the 0.01 level.

In Table 4-6, Columns (1) to (4) report the results of Equations 4-5, 4-6, 4-7, and 4-8. In Columns (1) and (2), We find that *TMT_Exp* and *TMT_Ten* are negatively related to *BTDs*. However, *TMT_Sal* and *TMT_Fem* do not show nexus with *BTDs*.

In Table 4-7, Columns (1) to (4) report the results of Equations 4-9, 4-10, 4-11, and 4-12. In Columns (1), the coefficients of *TMT_Exp* are less positively associated with the comparability, and the coefficient of *BTDs* is significantly related to the comparability, suggesting a partially mediating role of *BTDs* in the effect of *TMT_Exp* on *COMP*; in Colum (2), the coefficients of *TMT_Ten* is less positively associated with the comparability, the coefficient of *BTDs* is significantly related to the comparability, suggesting that a partially mediating role of *BTDs* in the effect of *TMT_Ten* on *COMP*. In Columns (3) and (4), the coefficients of *TMT_Sal* and *TMT_Fem* are not significant. Furthermore, we do not find the mediating role of *BTDs* when conducting the Sobel test.

Table 4-6 Mediating role test (tax avoidance)

Variables	<i>BTDs</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Exp</i>	-0.128*			
	(-1.89)			
<i>TMT_Ten</i>		-0.041**		
		(-2.12)		
<i>TMT_Sal</i>			0.0027	
			(0.68)	

<i>TMT_Fem</i>				-0.0016 (-0.51)
<i>CEO_Chair</i>	0.021 (0.77)	0.023 (0.66)	0.025 (0.59)	0.028 (0.72)
<i>LEV</i>	-0.103 (-0.65)	-0.103 (-0.74)	-0.103 (-0.75)	-0.103 (-0.73)
<i>ROA</i>	0.326*** (20.20)	0.318*** (20.11)	0.318*** (20.05)	0.319*** (20.16)
<i>MB</i>	-0.432 (-0.59)	-0.328 (-0.60)	-0.521 (-0.62)	-0.287 (-0.68)
<i>SIZE</i>	0.053 (0.64)	-0.032 (-0.47)	-0.052 (-0.62)	-0.038 (-0.54)
<i>INST_Per</i>	0.032*** (4.18)	0.042*** (3.93)	0.031*** (3.98)	0.036*** (4.07)
<i>BIG4</i>	-0.004** (-2.18)	-0.004** (-2.45)	-0.004** (-2.46)	-0.004** (-2.46)
Constant	0.013 (0.43)	-0.005 (-0.18)	-0.006 (-0.19)	-0.003 (-0.10)
Observations	3,091	3,091	3, 91	3,091
<i>R-squared</i>	0.247	0.252	0.223	0.211

Note: *denote significance at the 0.10 level; **denote significance at the 0.05 level; *** denote significance at the 0.01 level.

Table 4-7 The mediating role of tax avoidance

variables	<i>COMP</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Exp</i>	0.865** (2.38)			
<i>TMT_Ten</i>		0.311** (2.53)		
<i>TMT_Sal</i>			-0.636*** (-2.75)	
<i>TMT_Fem</i>				0.593* (1.67)
<i>BTDS</i>	-3.955** (-2.48)	-3.836** (-2.38)	-3.746** (-2.53)	-3.942** (-2.37)
<i>CEO_Chair</i>	0.075 (0.104)	0.053 (0.92)	0.063 (0.95)	0.059 (0.87)
<i>LEV</i>	-1.726** (-2.42)	-1.536** (-2.24)	-1.644** (-2.31)	-1.732** (-2.43)
<i>ROA</i>	-5.254*** (-4.32)	-5.634*** (-5.63)	-4.246*** (-4.43)	-4.745*** (-4.97)
<i>MB</i>	0.025 (0.73)	0.028 (0.74)	0.036 (0.86)	0.028 (0.75)
<i>SIZE</i>	-0.252*** (-3.04)	-0.213*** (-3.01)	-0.234*** (-3.25)	-0.253*** (-3.54)
<i>INST_Per</i>	0.315	0.274	0.376	0.294

	(1.76)	(1.53)	(1.93)	(1.85)
<i>BIG4</i>	-0.043	-0.031	-0.064	-0.043
	(0.67)	(0.73)	(-0.63)	(0.63)
Constant	2.634***	3.373***	3.537***	2.734***
	(3.42)	(3.23)	(3.53)	(2.43)
Observations	3091	3091	3091	3091
Pseudo <i>R</i> -squared	0.193	0.173	0.171	0.186

Note: *denote significance at the 0.10 level; **denote significance at the 0.05 level; *** denote significance at the 0.01 level.

Hypothesis 4.1 posits that TMT salary is positively related to tax avoidance. While hypotheses 4.2, 4.3, and 4.4 predict that TMT tenure, female proportion, and functional experiences adversely affect tax avoidance. The regression results support hypotheses 2 and 4. Specifically, the average tenure of TMT members (*TMT_Ten*) is found to be significant in explaining the variation in tax planning, suggesting that TMTs with longer tenures are likely to engage in less tax planning. TMT members with a longer tenure have sufficient opportunities to communicate and cooperate, and they have a profound overview of firms to trade off the benefits and costs of tax planning. Therefore, they hesitate to engage in tax-planning activities. This result supports hypothesis 4.2.

Concerning functional experience, a proportion of TMT members with financial, accounting, or legal working experiences is negatively associated with tax planning. This finding is consistent with prior research, the regression result depicts that TMT members' expertise experience works in the same way towards the choice of tax strategies. TMT members possessing financial, accounting, or legal experiences are conservative and risk-averse in trading off the benefits and costs of risk-taking tax policies. By engaging in less tax avoidance, they seem to report more comparable accounting information.

Unlike tenure and functional experience, this study finds limited evidence of significant relationships between TMT members' average salary and the percentage of female members with *BTDs*. Therefore, Hypotheses 4.1 and 4.3 are not supported. In particular, a TMT's average salary does not seem to increase tax aggressiveness. This result might be explained by Hambrick & Mason's (1984) argument that when managers have ample income alternatives, they are inclined toward non-economic objectives. Practically, corporations' incentive schemes may not be designed to be linearly correlated to after-tax income; this phenomenon has also been documented by extant research. Similarly, gender diversity in the TMT does not seem effective in controlling tax aggressiveness. The reason for this might be the small number of female managers in the TMTs (mean=14.1%, median=14.3%). Post et al. (2011) find a positive relationship between female directors and environmental reporting only in a board with three or more female members. In addition, this result might also be explained by small differences in female and male preferences towards financial risk (Croson & Gneezy, 2009).

As discussed above, we conclude that except for TMT salary and gender, other TMT characteristics (e.g., tenure and functional experiences) can partially explain tax planning. In terms of the control variables, *BIG4* is negatively related to *BTDs*. Conversely, *ROA* and *INST_Per* have

a significantly positive relationship with *BTDs*. *CEO_Chair*, *LEV*, *MB*, and *SIZE* do not have a significant relationship with *BTDs*.

The results indicate that *BTDs* is negatively related to both *COMP_Average* and *COMP_Median*. The coefficient of *BTDs* indicates a significant negative relation ($p < 0.05$). The results show that engaging in more tax avoidance alleviates the accounting information quality. This finding is similar to Aaron's (2014) argument that tax avoidance reduces the quality of accounting information by reporting less timely annual earnings announcements. Moreover, our findings are consistent with Balakrishnan et al.'s statement (2019) that tax avoidance brings out information asymmetry, and analysts' forecast errors, in other words, tax avoidance is associated with lower firm transparency.

In sum, we use a causal stepwise regression to test the mediating role of tax avoidance. The findings indicate TMT members with expert experience or long tenure tend to exhibit less aggressive tax planning, which consequently, improves a firm's financial reporting comparability.

4.5 Sensitivity and robustness analyses

The robustness of the results was examined in several ways. First, the results presented in Table 4-6 are from panel regressions using industry-year fixed effects. To address the concern that the results might be driven by omitted variables, industry-fixed effects are replaced by firm-fixed effects in a separate test, we find the results in Tables 4-6 are robust.

Second, some key variables are changed to test the robustness of the results. As discussed in this section, prior literature has considered measures of tax aggressiveness based on the GAAP effective tax rate (*GAAP_ETR*) and cash effective tax rate (*CASH_ETR*). In a sensitivity analysis, *GAAP_ETR* and *CASH_ETR* were used as alternative measures of tax aggressiveness. *GAAP_ETR* is calculated as the sum of the firm's current tax expenses scaled by pre-tax income and *CASH_ETR* is obtained using the sum of cash paid on corporate tax scaled by pre-tax income. In terms of control variables, *ROA* was replaced by return on equity (*ROE*); *LEV* was alternatively measured as total debt scaled by total equity (D/E). There are no substantial differences between the results of the further regressions and those of the original models.

4.6 Conclusions and limitations

Tax planning directly affects profitability and market value. However, tax planning is not costless. Aggressive tax policies cause firms to face significant reputational and litigation risks. TMT backgrounds are related to corporate strategies and performance (Hambrick & Mason, 1984). To extend these boundaries, this study demonstrates that the extent to which a firm pursues aggressive tax planning is explained by TMT characteristics. Specifically, TMT members' tenure and functional experience are documented to have significant associations with tax planning. Regardless of the measure of tax aggressiveness, we find that the average tenure and percentage of members with functional experiences (e.g., work experiences in financial, accounting, or legal) of TMTs alleviate aggressive tax planning engagement. Inconsistent with the hypotheses, TMT salary and female proportion are not found to drive a firm's tax planning.

In line with our predictions, we also find a negative relationship between tax avoidance and accounting information comparability, suggesting the mediating role of tax avoidance in the effect of TMT characteristics and comparability.

The findings in the current study provide further evidence on upper echelons theory, as well as in the taxation area. Practically, this study is valuable to investors, creditors, analysts, auditors, and tax regulators, as it serves as a reminder that TMT characteristics need to be considered when making decisions. For example, when analyzing financial statements, they should keep in mind that TMTs with a higher proportion of expertise backgrounds or having members with longer tenures are inclined to behave more conservatively when disclosing after-tax income. These findings also provide useful insights for board committees to appoint TMT members.

This study is related to Abdul Wahab's (2020) work. Consistent with Abdul Wahab's findings, this study finds limited evidence of the impacts of TMT gender composition on tax planning. It has also been consistently found that TMT tenure has a negative association with book-tax differences. Moreover, other observable characteristics such as TMT salary, and functional experience were examined in this study, which extends prior research. This study finds similar evidence to Balakrishnan et al. (2011) that aggressive tax planning reduces the quality of financial reporting.

This study has some limitations. First, we only included the salary, tenure, gender, and functional experience of TMTs in the regression model restrained by the purpose of this study. However, TMT heterogeneity may also relate to the extent of tax avoidance, as extant studies have revealed the association between TMT heterogeneity and organizational outcomes and strategy choices. Second, the question of whether investors, creditors, analysts, auditors, and tax authorities value the characteristics of TMTs in their decisions remains to be answered in future research.

Chapter 5 The Mediating role of Earnings Management in The Effect of TMT Characteristics on Financial Reporting Comparability

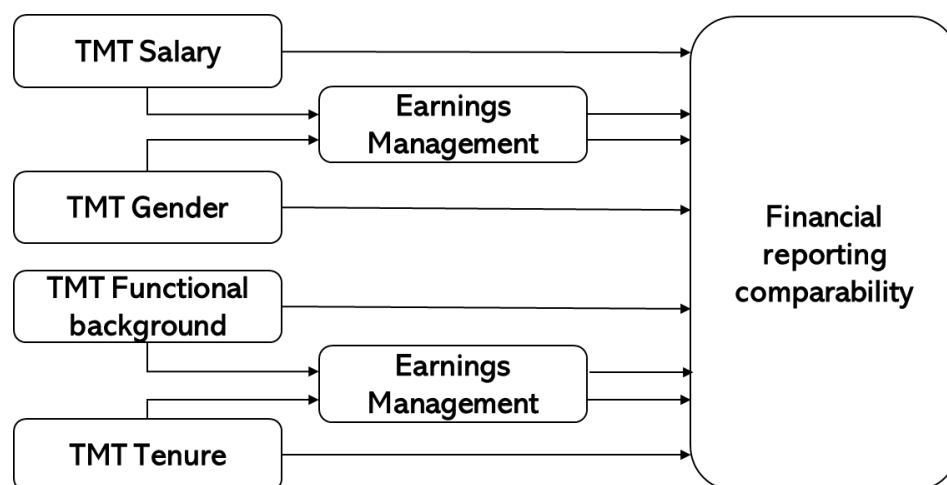
5.1 Introduction

As discussed in Chapter 4, tax avoidance plays a mediating role in the relationship between TMT tenure or functional experiences and financial reporting comparability. However, we still could not explain in which way that salary and female proportion affect financial information quality. Moreover, there may be other pathways by which TMT characteristics affect firms' comparability. In this chapter, we explore another probable way, namely earnings management.

Managers have preferences in whether or to the extent engaging in earnings management. Prior literature documents the association between earnings management and comparability. Moreover, studies also report the impact of TMT characteristics on earnings management. Thus, it is reasonable to predict the mediating role of earnings management in the effect of TMT characteristics on comparability.

In this chapter, we introduce both accrual-based and real earnings management, to explore the role of which in the relationship between TMT characteristics and comparability. Using multivariate regression models, we find that highly paid TMTs generate more real earnings management. While TMTs comprising more female members engage in less real earnings management. However, we do not provide evidence on the relationship between female members and accrual-based earnings management. Moreover.

The remainder of the study proceeds as follows. Section 5.2 presents the literature review and research hypotheses. Section 5.3 presents the research methodology and section 5.4 reports the results. Section 5.5 outlines the robustness test. Section 5.6 presents the conclusions and implications.



5.2 Literature review and hypotheses development

In this section, we review related literature and develop hypotheses based on the research purpose.

5.2.1 Top management team characteristics and earnings management

A large body of literature has documented the relationship between TMT characteristics and earnings management. based on the findings in chapter 3, we include salary, female proportion, functional experiences, and tenure in our research.

5.2.1.1 Top management team compensation and earnings management

Performance-based managerial incentive schemes have significantly increased in number over the past decades. These schemes intend to align managers' and shareholders' wealth and reduce agency costs. There are two common types of managerial incentives: one is cash incentives, including salaries and bonuses, and the other is stock-based incentives, including stocks and stock options, both of which are granted based on either the past or forecasted future performance of a company.

In developed countries, many firms have cash bonus plans in which funds are allocated to a bonus pool based on actual performance relative to the target performance. Moreover, managers' salaries are also partly determined by accounting performance in the future. Healy (1985) posits the “short-termism” behavior in cash bonus plans, managers choose accounting policies that are in favor of their returns. He further explained how the upper and lower bounds of bonus pools influence managers' decisions in terms of the manipulation of accrual earnings management. They make discretionary accounting accruals to adjust their cash bonuses by judging the location of actual performance. He found that bonuses have a positive adjusted effect on accrual earnings management, and, in particular, managers manage more earnings downward than upward. Guidry & Rock (1999) extended Healy's study by examining business-unit managers' manipulation of earnings management by using Healy's proxy for discretionary accruals, as well as the modified Jones model; consequently, they investigated consistent evidence with Healy.

There are several ways for a board of directors to grant managers stock-based incentives, such as restricted stocks, stock options, or long-term incentive plans, and the board of directors has the right to decide on the types and amounts, as well as the timing. Contrary to cash incentives, these types of rewards are mainly focused on future performance. The value of restricted stocks and stock options ultimately depends on stock prices when shares and options are fully sold or exercised, as referring to by Hall & Murphy (2003). Many studies have offered evidence that the association between the value of stock-based incentives and stock prices leads to managers' earnings management behavior, and that is why Goldman & Slezak (2006) posit stock-based incentives to be a double-edged sword. They concluded that, on one hand, stock-based incentives induce managers to use their power to operate corporations, and on the other hand, they also lead to the

misrepresentation of financial performance. Indeed, a substantial amount of empirical research has shown that the effect is sometimes contrary to shareholders' expectations.

In sum, concerning the effect of equity-based earnings management is far from conclusive. However, the effect of salary incentives seems explicit, that is salary incentives are mostly associated with earnings management activities. In line with Abdel-Khalik (1985), Hypothesis 5.1 is predicted:

Hypothesis 5.1: The association between TMT average salary and earnings management is positive.

5.2.1.2 Top management team female proportion and earnings management

The extant literature suggests that women are more ethical in comparison with men. Women more emphasis on morally acceptable behavior and less engage in self-interest than men (Tyson, 1990). Female managers have a higher level of moral judgment than their counterparts. Krishnan (2008) documented that gender diversity in management positively influences the quality of reported earnings. Likewise, Barua (2010) argues that US firms with female CFOs have reported a higher quality of discretionary accruals than firms with male CFOs. Relatedly, Francis et al. (2015) find that female CFOs are more inclined to report conservative accounting information than male CFOs.

Researchers also extend the effect of gender diversity on firm boards. Female directors improve earning quality, suggesting that female directors play a monitoring role in providing high-quality financial information (Srinidhi et al., 2011). Gender diversity also affects accounting transparency. Likewise, Cumming et al. (2015) find that women on boards restrain the possibilities of security fraud, which is in line with the argument that female directors significantly improve firm governance.

Arun (2015) documents that firm with a higher number of female and independent female directors are engaging in fewer earnings management practices in the UK. Their finding indicates that the gender diversity of boards reduces accounting discretion in financial reporting. Kim et al. (2017) find that female presence in a top management team reduces discretionary accruals, suggesting that gender diversity in senior management inhibition opportunistic activities even in a highly male-dominant corporate environment. Based on this evidence, Hypothesis 5.2 is proposed:

Hypothesis 5.2: The association between the female proportion of a TMT and earnings management is negative.

5.2.1.3 Top management team functional experience and earnings management

Management functional experiences differentially shape firms' strategic choices. Empirical research confirms that managers seek strategies that are in line with their work experience (Smith & White, 1987; Thomas et al., 1991). Top managers with technical financial functions are conventional, orderly, and overcautious (Holland, 1973), suggesting that they may adopt

conservative tax planning. Similarly, finance managers pursue administrative complexities. Managers with legal backgrounds are more sensitive to litigation risk. Hereby, we predict a negative relationship between TMT functional experiences and earnings management:

Hypothesis 5.3: The association between TMT functional experiences and earnings management is negative.

5.2.1.4 Top management team tenure and earnings management

TMT tenure is one of the most attractive attributes of TMT. Like salary and female members, TMT members' tenure in the organization can also affect their decisions regarding operations and strategy choices (Bantel & Jackson, 1989; Chen et al., 2010; Hambrick & Mason, 1984). The longer the TMT members' average tenure, the more similar their perceptions and decisions they hold. Additionally, TMT tenure can improve internal communication efficiency. Likewise, Michel & Hambrick (1992) suggest that the long tenure of TMT members promotes integrity and opportunities for managerial value judgment. Thus, the fourth hypothesis is proposed:

Hypothesis 5.4: The association between TMT tenure and earnings management is negative.

5.2.2 The mediating role of earnings management in the relationship between TMT characteristics and financial reporting comparability

Firms' financial reporting processes are governed by the GAAP, which allows top managers to flexibly choose accounting policies and estimations to a certain extent. Subsequently, this makes it possible for managers to manipulate financial performance according to their expectations. A lot of financial fraud scandals have attracted ongoing research into corporate misconduct (Harris et al., 2019). When managers harbor the motivation to manipulate financial performance, they tend to judge and weigh up the benefits and costs of financial information manipulation. Empirical evidence supports that “short-termism” exists among managers, whereby managers take measures to maximize their current benefits by sacrificing the long-term growth of the corporation. Managers' “short-termism” harms the benefits of shareholders because the real accounting transactions performed in the current period to adjust earnings can harm cash flow in the future. As a result, managers' opportunistic activities are a growing concern for regulators and researchers. Earnings management activities, as a common opportunistic activity, have been categorized into two types: “accrual-based earnings management” and “real activity-based earnings management”. Regarding accrual-based earnings management, managers manipulate financial performance under the freedom of accounting policies. Roychowdhury (2006) suggests that the manipulation of accruals would not lead to direct cash flow consequences. Furthermore, managers also have incentives to conduct real but unnecessary transactions to meet fixed earnings targets, which eventually affect cash flow and accruals accordingly. In comparison, accrual-based earnings management is low-cost behavior, and managers can realize it by changing accounting policies, while real activity-based earnings management is more concealed, and managers manage earnings through real accounting

transactions, such as the disposal of fixed assets. These measures occur during the fiscal year, so they are not easily detected by auditors, shareholders, or regulators (Bruns & Merchant, 1990).

In recent years, studies have reported that in response to the Sarbanes-Oxley Act, managers utilize more real activity-based earnings management than accrual-based earnings management in the United States. In China, researchers also contend that managers rely more on real activity-based earnings management to manipulate financial performance than before (Liu, 2014; Xie, 2011).

To summarize, certain theories and evidence suggest if managers engage in accrual earning management, then earnings reported by such firms may have less comparability. since comparability refers to when given a set of economic events, two firms have comparable accounting systems if they produce similar financial statements. If a firm engages in more accrual-based earnings management, then its reported earnings may show greater differences compared with other firms. While if a firm engages in real earnings management, that may also affect financial reporting comparability because of these “unnecessary” transactions. Thus, we predict a mediating role of both accrual-based and real earnings management in the association between TMT traits and the comparability:

Hypothesis 5.5: Earnings management plays a mediating role in the relation between TMT characteristics and financial reporting comparability.

5.3 Methodology

5.3.1 Sample

Using the data sample in Chapter 3, we measure the earnings management values and combine these values with each firm-year observation. Restraining from the measurement, 102 observations are deleted. We obtain 3084 firm-year observation panel data to test Hypotheses 5.1-5.5.

5.3.2 Models

We construct Equations 5-1, 5-2, 5-3, and 5-4 to estimate Hypotheses 5.1 to 5.4; we use Equations 5-5, 5-4, 5-7, and 5-8 to examine Hypothesis 5.5. Specifically, we employ Equations 5-1 to 5-4 to test whether TMT salary, female proportion, functional experiences, and tenure are related to accrual-base (*AEM*) and real earnings management (*REM*), respectively; we use Equations 5-5 to 5-8 to estimate the mediating role of *AEM* and *REM* in the relation between TMT characteristics and financial reporting comparability, respectively.

$$AEM/REM = \alpha_0 + \alpha_1 TMT_Sal + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 FSIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 5-1

$$AEM/REM = \alpha_0 + \alpha_1 TMT_Fem + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 FSIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 5-2

$$AEM/REM = \alpha_0 + \alpha_1 TMT_Exp + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 FSIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 5-3

$$AEM/REM = \alpha_0 + \alpha_1 TMT_Ten + \alpha_2 CEO_Chair + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 MB + \alpha_6 FSIZE + \alpha_7 INST_Per + \alpha_8 BIG4 + Industry + Year + \varepsilon$$

Equation 5-4

$$COMP = \alpha_0 + \alpha_1 TMT_Sal + \alpha_2 AEM/REM + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 FSIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 5-5

$$COMP = \alpha_0 + \alpha_1 TMT_Fem + \alpha_2 AEM/REM + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 FSIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 5-6

$$COMP = \alpha_0 + \alpha_1 TMT_Exp + \alpha_2 AEM/REM + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 FSIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 5-7

$$COMP = \alpha_0 + \alpha_1 TMT_Ten + \alpha_2 AEM/REM + \alpha_3 CEO_Chair + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 FSIZE + \alpha_8 INST_Per + \alpha_9 BIG4 + Industry + Year + \varepsilon$$

Equation 5-8

5.3.3 Measurement of earnings management

We measure both accrual-based and real earnings management by referring to Jones Model (Jones, 1991) and the model given by Dechow (1998) and Roychowdhury (2006), respectively.

5.3.3.1 Accrual-based earnings management

Following Jones (1991), we calculate discretionary accruals. Regarding the measure of accruals-based earnings management, total accruals are the results of the subtraction of cash flow from operations from earnings before extraordinary items. Specifically, we use Equations 5-9, 5-10, and 5-11 to capture a firm's accruals-based earnings management.

$$TA_{i,t} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t}$$

Equation 5-9

$$NDA_{i,t} = \beta_0 \frac{1}{A_{i,t-1}} + \beta_1 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{A_{i,t-1}}$$

Equation 5-10

$$DA_{i,t} = \frac{TA_{i,t}}{A_{i,t-1}} - NDA_{i,t}$$

Equation 5-11

Where i and t indicate firm and year, respectively; TA is total accruals; A is total assets; ΔREV is change in sales revenues; ΔREC is change in accounts receivables; PPE denotes the value of the gross property, plant and equipment; and ROA is the return on assets defined as net income divided by total assets; NDA is nondiscretionary accruals; DA denotes the discretionary accruals, the absolute value of DA indicates a greater deviation from the expected accruals given conditions. Thus, a higher DA means a lower level of accruals quality, which may result from management's potential engagement in opportunistic earnings management (Jones, 1991). First, we regress the equation to obtain the regression coefficients, then use the coefficients to estimate non-accruals by Equation 5-8. Finally, the discretionary accruals are calculated using Equation 5-9.

5.3.3.2 Real earnings management

We follow Roychowdhury' (2006) pattern of measuring real earnings management, which is based on three aspects: sales manipulation (accelerating the timing of sales and/or generating additional unsustainable sales through increased price discounts or more lenient credit terms); the reduction of discretionary expenditures; and overproduction (to reduce the costs of production). In addition, we used Li's (2009) equation to estimate operating cash flow by considering the impact of fixed costs on operating cash flow.

Firstly, normal operating cash flow, product costs, and expenditures were estimated through firm-year regressions.

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \partial_1 \frac{1}{A_{i,t-1}} + \partial_2 \frac{S_{i,t}}{A_{i,t-1}} + \partial_3 \frac{\Delta S_{i,t}}{A_{i,t-1}} + \partial_4 \frac{S_{i,t-1}}{A_{i,t-1}} + \partial_5 \frac{TC_{i,t}}{A_{i,t-1}} + \partial_6 \frac{EC_{i,t}}{A_{i,t-1}} + \partial_7 \frac{OC_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t}$$

Equation 5-12

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \partial_1 \frac{1}{A_{i,t-1}} + \partial_2 \frac{S_{i,t}}{A_{i,t-1}} + \partial_3 \frac{\Delta S_{i,t}}{A_{i,t-1}} + \partial_4 \frac{\Delta S_{i,t-1}}{A_{i,t-1}} + \varepsilon_{i,t}$$

Equation 5-13

$$\frac{DISX_{i,t}}{A_{i,t-1}} = \partial_1 \frac{1}{A_{i,t-1}} + \partial_2 \frac{S_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t}$$

Equation 5-14

In Equations 5-12, 5-13, and 5-14, CFO denotes net operational cash flow; A is total assets; S is sales; ΔS is the change in sales; TC is taxes and administrative expenditures; EC denotes cash paid to staff members; OC is other cash flow-related to the operating activities; $DISX$ is the total of the selling expenses and administration expenses, and $PROD$ is production costs. In the second step,

the difference between the real data and the estimated data was computed. In the third step, *REM* is computed using Li's (2011) formula: $REM = R_{PROD} - R_{CFO} - R_{DISX}$. The absolute value of the real activity-based earnings management was used to focus on the extent of the earnings management rather than the direction. A higher $|REM|$ means a higher level of real earnings management.

5.3.4 Control variables

A wide variety of variables are controlled. The equation includes *SIZE*, *LEV*, *ROA*, *MB*, *BIG4*, *CEO_Chair*, and *INST_Per* by referring to the prior studies (Francis,1999; Johnson,2002; Zhang, 2019). Detailed definitions of these control variables are provided in Table 3-1.

5.4 Empirical results

5.4.1 Descriptive statistics

Table 5-1 reports the descriptive statistics for the dependent variable (*AEM*, *REM*), independent variables (*TMT_Exp*, *TMT_Tenure*, *TMT_Sal*, *TMT_Fem*), and control variables (*CEO_Chair*, *LEV*, *ROA*, *MB*, *SIZE*, *INST_Per*, and *BIG4*).

Table 5-1 Descriptive statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
<i>COMP_Average</i>	3084	0.43	.276	0	1
<i>COMP_Median</i>	3084	0.46	.310	0	1
<i>TMT_Exp</i>	3084	.363	.18	0	1
<i>TMT_Ten</i>	3084	4.322	1.384	0.87	8.294
<i>TMT_Sal</i>	3084	13.313	.624	11.582	15.094
<i>TMT_Fem</i>	3084	.14	.147	0	.667
<i>AEM</i>	3084	.063	.11	0	2.24
<i>REM</i>	3084	.135	.139	0	2.196
<i>CEO_Chair</i>	3084	.208	.406	0	1
<i>LEV</i>	3084	.466	.18	.072	.866
<i>ROA</i>	3084	.052	.04	0	.211
<i>MB</i>	3084	2.745	1.807	.555	14.764
<i>SIZE</i>	3084	22.95	1.236	20.217	26.602
<i>INST_Per</i>	3084	0.412	0.28	0	0.88
<i>BIG4</i>	3084	.101	.301	0	1

Table 5-1 shows the descriptive statistics of the regression variables. The mean value of accrual-based earnings management is 0.063, ranging from 0 to 2.24; the mean value of real earnings management is 0.135, and the minimum value is 0, with a maximum value of 2.196. The dependent variable, *AEM*, has a seven-year mean of 0.063. TMTs have an average annual salary of 605600 (unit: RMB); the proportion of female members in a TMT is low at 14 percent, suggesting that male management is the majority across the TMTs.

5.4.2 Correlation results

The Pearson pairwise correlation results are presented in Table 5-2. A significant positive correlation is found between the dependent *ARM* and the independent variable *TMT_Sal*; *TMT_Fem* is negatively correlated with *ARM*. Significant correlations are also found between the dependent variable and all control variables *CEO_Chair*, *LEV*, *INST_Per*, *ROA*, *MB*, *SIZE*, and *BIG4*.

Table 5-2 Pearson test results

	<i>COMP_Average</i>	<i>COMP_Median</i>	<i>AEM</i>	<i>REM</i>	<i>TMT_Sal</i>	<i>TMT_Fem</i>	<i>TMT_Ten</i>
<i>COMP_Average</i>	1						
<i>COMP_Median</i>	0.973***	1					
<i>AEM</i>	-0.04300	-0.00100	1				
<i>REM</i>	-0.3160*	-0.030*	0.100***	1			
<i>TMT_Sal</i>	-0.192***	-0.212***	0.032*	0.138***	1		
<i>TMT_Fem</i>	0.321***	0.235***	-0.00200	-0.108***	-0.039**	1	
<i>TMT_Exp</i>	0.173***	0.271***	-0.0230	-0.030*	0.070***	-0.161***	1
<i>TMT_Ten</i>	0.791***	0.321***	-0.0240	-0.0230	0.116***	0.0160	-0.051***
<i>CEO_Chair</i>	0.264***	0.213***	0.0260	0.072***	0.0280	-0.135***	0.079***
<i>LEV</i>	-0.342***	-0.318***	0.00200	-0.036**	0.151***	0.076***	0.065***
<i>ROA</i>	0.145**	-0.00400	0.034*	0.250***	0.232***	-0.045**	-0.0230
<i>MB</i>	0.276***	0.284***	0.059***	0.216***	-0.060***	-0.087***	-0.0100
<i>SIZE</i>	-0.361***	-0.445***	-0.046**	-0.086***	0.426***	0.106***	0.050***
<i>INST_Per</i>	-0.03	-0.045**	0.00600	0.153***	0.365***	-0.00700	-0.078***
<i>BIG4</i>	-0.147***	-0.153***	-0.031*	0.0150	0.240***	0.0270	0.00700
	<i>TMT_Ten</i>	<i>CEO_Chair</i>	<i>LEV</i>	<i>ROA</i>	<i>MB</i>	<i>SIZE</i>	<i>INST_Per</i>
<i>TMT_Ten</i>	1						
<i>CEO_Chair</i>	0.064***	1					
<i>LEV</i>	-0.071***	-0.081***	1				
<i>ROA</i>	0.117***	0.059***	-0.452***	1			
<i>MB</i>	0.0220	0.155***	-0.246***	0.333***	1		
<i>SIZE</i>	-0.033*	-0.141***	0.557***	-0.146***	-0.435***	1	
<i>INST_Per</i>	0.143***	0.037**	-0.0220	0.452***	0.161***	0.298***	1
<i>BIG4</i>	-0.0130	-0.073***	0.113***	0.0130	-0.096***	0.377***	0.151***
	<i>BIG4</i>						
<i>BIG4</i>	1						

Note: N=3084 for all variables. The *p*-values are two-tailed. *denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

In terms of *REM*, A significant positive correlation is found between the dependent *REM* and the independent variable *TMT_Sal*; *TMT_Fem* is negatively correlated with *REM*. Significant correlations are also found between the dependent variable and all control variables *CEO_Chair*, *INST_Per*, *ROA*, *MB*, *SIZE*, and *BIG4*. We do not find a correlation between *LEV* and *REM*.

Regarding *AEM*, *TMT_Sal* positively correlates to *AEM*, while *TMT_Fem*, *TMT_Exp*, and *TMT_Ten* insignificantly negatively correlate to *AEM*. Both *AEM* and *REM* are negatively related to comparability, but the former shows no significance.

Table 5-3 also depicts that, overall, only a moderate level of collinearity exists among explanatory variables. The highest correlation coefficient is 0.557. Furtherly, variance inflation factors (VIFs) were computed to estimate the regression model to test for signs of multi-collinearity in explanatory variables. The results (all VIFs are lower than 2.69) confirmed that there is no serious multicollinearity problem in the model. Table 5-3 shows the results of the variance inflation factor test.

Table 5-3 The results of the Variance Inflation factor test

Variables	VIF	1/VIF
<i>SIZE</i>	2.69	.372
<i>LEV</i>	1.926	.519
<i>ROA</i>	1.83	.546
<i>INST_Per</i>	1.625	.615
<i>MB</i>	1.517	.659
<i>TMT_Sal</i>	1.461	.684
<i>BIG4</i>	1.219	.82
<i>TMT_Exp</i>	1.117	.895
<i>TMT_Ten</i>	1.116	.896
<i>TMT_Fem</i>	1.035	.966
<i>CEO_Chair</i>	1.025	.976
<i>Mean_VIF</i>	1.544	.976

5.4.3 Logit regression results

5.4.3.1 Regression results of the mediating role of accrual-based management

Tables 5-4, 5-5 show the stepwise regression results of Equations 5-1 to 5-8 regarding the mediation effect of accrual-based earnings management.

In Table 5-4, Columns (1) to (4) report the results of Equations 4-1, 4-2, 4-3, and 4-4. We do not find evidence that such TMT traits relate to *AEM*, which is inconsistent with our predictions.

Table 5-4 Mediating role test (accrual-based earnings management)

Variables	<i>AEM</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Sal</i>	-0.006 (-1.46)			
<i>TMT_Fem</i>		-0.003 (-0.19)		
<i>TMT_Exp</i>			0.015 (1.27)	
<i>TMT_Ten</i>				-0.000 (-1.30)
<i>CEO_Chair</i>	0.004 (0.74)	0.003 (0.68)	0.003 (0.55)	0.004 (0.72)
<i>LEV</i>	0.036** (2.09)	0.035** (2.02)	0.034** (2.00)	0.035** (2.04)
<i>ROA</i>	0.225*** (3.27)	0.204*** (3.03)	0.199*** (2.95)	0.207*** (3.07)
<i>MB</i>	0.001 (0.46)	0.001 (0.46)	0.001 (0.42)	0.001 (0.39)
<i>SIZE</i>	-0.003 (-1.05)	-0.004 (-1.50)	-0.004 (-1.52)	-0.004 (-1.52)
<i>INST_Per</i>	0.000 (0.69)	0.000 (0.53)	0.000 (0.66)	0.000 (0.65)
<i>BIG4</i>	-0.002 (-0.27)	-0.003 (-0.43)	-0.003 (-0.45)	-0.003 (-0.45)

Constant	0.118 (0.92)	0.071 (0.57)	0.068 (0.55)	0.079 (0.64)
Observations	3,084	3,084	3,084	3,084
R-squared	0.114	0.107	0.104	0.106

t-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

In Table 5-5, *AEM* does not show a relation with comparability which is inconsistent with our prediction that accrual-based earnings management plays a mediating role in the effect of TMT traits on comparability.

Table 5-5 The mediating role of accrual-based earnings management

Variables	<i>COMP</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Exp</i>	0.365** (2.38)			
<i>TMT_Ten</i>		0.717** (2.53)		
<i>TMT_Sal</i>			-0.636*** (-2.75)	
<i>TMT_Fem</i>				0.683** (2.34)
<i>AEM</i>	-0.031 (-0.90)	-0.033 (-0.91)	-0.041 (-0.95)	-0.045 (-1.03)
<i>CEO_Chair</i>	0.042 (0.93)	0.054 (0.93)	0.067 (0.85)	0.023 (0.94)
<i>LEV</i>	-1.536** (-2.47)	-1.343** (-2.35)	-1.735** (-2.52)	-1.275** (-2.13)
<i>ROA</i>	-5.547*** (-4.86)	-5.742*** (-4.25)	-4.657*** (-4.73)	-4.658*** (-3.95)
<i>MB</i>	0.054 (0.93)	0.030 (0.86)	0.035 (0.84)	0.024 (0.91)
<i>SIZE</i>	-0.352*** (-2.64)	-0.387*** (-6.08)	-0.363*** (-3.53)	-0.364*** (-7.54)
<i>INST_Per</i>	0.392* (1.75)	0.286* (1.69)	0.182 (1.18)	0.204 (1.27)
<i>BIG4</i>	-0.051 (-0.43)	-0.028 (-0.44)	-0.039 (-0.18)	-0.063 (-1.40)
Constant	3.837*** (3.57)	3.829*** (3.34)	3.190*** (3.42)	2.988*** (2.94)
Intercept	3091	3091	3091	3091
Pseudo <i>R</i> -squared	0.113	0.158	0.169	0.163

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

5.4.3.2 Regression results of the mediating role of real earnings management

In Table 5-6, Columns (1)-(4) report the results of Equations 5-1 to 5-4. Looking at the role of *REM*, in Table 5-6, Column (1) indicates that *TMT_Sal* positively relates to *REM*; Column (2) shows *TMT_Fem* is negatively related to *REM*, but not significant; Column (3) also indicates a negative nexus with significance; Column (4) reports a significant association between *TMT_Ten* and *REM*.

Table 5-6 Mediating role test (real earnings management)

VARIABLES	<i>REM</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Sal</i>	0.086*** (3.41)			
<i>TMT_Fem</i>		-0.122 (-1.11)		
<i>TMT_Exp</i>			-0.013 (-0.96)	
<i>TMT_Ten</i>				-0.151*** (-4.34)
<i>CEO_CHAIR</i>	0.011* (1.85)	0.011* (1.87)	0.011* (1.92)	0.013** (2.21)
<i>LEV</i>	0.116*** (5.77)	0.120*** (5.95)	0.118*** (5.85)	0.119*** (5.92)
<i>ROA</i>	0.843*** (10.39)	0.901*** (11.34)	0.896*** (11.24)	0.911*** (11.48)
<i>MB</i>	0.008*** (4.45)	0.008*** (4.43)	0.008*** (4.45)	0.008*** (4.28)
<i>SIZE</i>	-0.019*** (-2.67)	-0.016* (-1.79)	-0.016* (-1.85)	-0.017* (-1.94)
<i>ANALYST</i>	0.000 (0.51)	0.000 (0.88)	0.000 (0.98)	0.000 (1.30)
<i>BIG4</i>	0.017* (1.96)	0.020** (2.31)	0.020** (2.33)	0.020** (2.31)
Constant	0.052 (0.34)	0.177 (1.21)	0.180 (1.23)	0.216 (1.47)
Observations	3,084	3,084	3,084	3,084
Pseudo <i>R</i> -squared	0.133	0.141	0.125	0.146

t-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

Table 5-7 reports the results when the mediator was included in the total effect model. Looking at the mediating role of *REM*, in Table 5-6, Columns (1)-(4) report the results of Equations 5-5 to 5-8. In particular, Column (1) indicates that *TMT_Sal* does not negatively relate to *COMP* when introducing *REM*, the result indicates a full mediation effect; Column (2) shows the coefficient of *TMT_Fem* is less related to *COMP*, the result may indicate a partial mediation effect, but the further test is needed; in Columns (3) and (4), the coefficients of *TMT_Tenure* and *TMT_Exp* are significantly positively associated with *COMP*. Thus, we conduct the Sobel test to furtherly test the

potential mediator effect of *REM* on *TMT_Fem* and *TMT_Exp*. The Sobel test reports a Z-value=2.56, $p < 0.05$ for Equation 5-6, indicating the mediating role of *REM*. However, Equation 5-7 does not pass the Sobel test (Z-value=1.42, $p < 0.15$).

Table 5-7 The mediating role of real earnings management

Variables	<i>COMP</i>			
	Column (1)	Column (2)	Column (3)	Column (4)
<i>TMT_Sal</i>	-0.519** (-1.97)			
<i>TMT_Fem</i>		0.417** (2.09)		
<i>TMT_Exp</i>			0.336*** (3.82)	
<i>TMT_Ten</i>				0.347* (1.78)
<i>REM</i>	-2.524** (-2.38)	-2.381** (-2.45)	-2.747** (-2.51)	-2.372** (-2.10)
<i>CEO_Chair</i>	0.063 (0.93)	0.053 (0.93)	0.035 (0.85)	0.064 (0.94)
<i>LEV</i>	-1.652** (-2.23)	-1.463** (-2.42)	-1.384** (-2.52)	-1.235** (-2.43)
<i>ROA</i>	-5.284*** (-4.73)	-5.252*** (-4.25)	-4.738*** (-5.73)	-4.835*** (-4.95)
<i>MB</i>	0.026 (0.93)	0.032 (0.86)	0.035 (0.86)	0.024 (0.91)
<i>SIZE</i>	-0.251*** (2.64)	-0.198*** (-6.08)	-0.275*** (-3.53)	-0.261*** (-7.54)
<i>INST_Per</i>	0.372 (1.89)	0.274 (1.83)	0.382 (1.91)	0.365 (1.86)
<i>BIG4</i>	-0.049 (0.41)	-0.145 (1.44)	-0.081 (-1.18)	-0.063 (0.42)
Intercept	2.747*** (3.57)	3.284*** (3.34)	3.627*** (3.42)	2.923*** (2.94)
Observations	3091	3091	3091	3091
Pseudo R-squared	0.118	0.094	0.138	0.143

z-statistics in parentheses

*denote significance at the 0.10 level; **denote significance at the 0.05 level; ***denote significance at the 0.01 level.

In sum, *REM* plays a mediating role in TMT traits and comparability. However, when linking these two features to *AEM*, we don't find significant evidence that supports the predicted associations. The reason might be that managers more focus on real earnings management, which is not easy to be detected compared with accrual-based earnings management.

In sum, a high salary could motivate managers to engage in more real earnings management, while tenure can suppress a TMT's engagement in opportunistic practices. *REM*. Moreover, an increased (decreased) earnings management may decrease (increase) the financial reporting

comparability. Real earnings management has a mediating role in relationships between *TMT_Sal*, *TMT_Fem*, *TMT_Ten* and comparability.

5.5 Robustness test

As a robustness test, we re-estimate accrual-based earnings management using Dechow's (2002) model for Equations 5-1 to 5-8. The measurement Equation is as follows:

$$\frac{WCA_{i,t}}{A_{i,t}} = \beta_0 + \beta_1 \frac{CFO_{i,t-1}}{A_{i,t}} + \beta_2 \frac{CFO_{i,t}}{A_{i,t}} + \beta_3 \frac{CFO_{i,t+1}}{A_{i,t}} + \varepsilon_{i,t}$$

Equation 5-15

Where *WCA* denotes the change in working capital; *CFO* is the net operating cash flow; *A_{i,t}* is total assets; $\varepsilon_{i,t}$ denotes the regression residual, a greater absolute value which means a higher level of accrual-based earnings management. when we use the measures proxy for the variables in Equations 5-1 to 5-8, the conclusions keep unchanged.

5.6 Conclusions, implications, and limitations

Although prior studies of the effects of TMT traits on earnings management are inconclusive, our results indicate that TMT salary and tenure relate to real earnings management. Moreover, TMT members comprised of females play an important role in ethical financial information disclosures. The results indicate that such TMTs are inclined to report more comparable accounting numbers. This improvement in the quality of financial information is realized by restraining real earnings management. Likewise, a TMT with more expert members also exhibits more comparable accounting information, by engaging in less real earnings management. On the contrary, highly paid TMTs tend to provide less comparative accounting numbers, and one probable way might be they engage in greater real earnings management.

This study has practical implications. First, appointing female members, or members with accounting, financing, or legal experience in a TMT is an effective way to improve accounting information quality to reduce the cost of equity, cost of debt, and stock crash risks. Second, the board of a firm should be cautious when setting TMT salary incentive schemes since a higher level of salary may reduce the comparability of accounting earnings. As a result, a firm may suffer from more costs in various aspects of a market.

This study has limitations. First, we only examine the mediating role of earnings management in the effect of TMT traits on accounting information comparability, there may be other pathways or factors that relate to TMT traits and comparability. Second, apart from salary, gender, career experience, and tenure, other characteristics of TMTs may also explain earnings management practices, but this issue is out of our research purpose.

Chapter 6 The Effect of Top Management Team and Firm Characteristics on Financial Reporting Comparability: Findings from the FsQCA Method

6.1 Introduction

In Chapters 3-5, we document what TMT characteristics are associated with a firm's financial reporting comparability. Specifically, TMT salary, functional experience, tenure, and gender proportion are related to a firm's financial reporting comparability. For instance, TMT salary exhibits less comparable accounting information. While functional experience, tenure, and gender proportion improve a firm's comparability. Moreover, tax avoidance and earnings management are mediator factors in such relationships. However, the effect of TMT traits on the comparability is a “net effect” because symmetric methods (e.g., regression model) include the asymmetry of data relationships, and provide a net effect model of causality depending on whichever sign of the association is dominant (Douglas et al., 2020). Thus, although the “net effect” exists in the relationship between an independent and dependent variable within a sample, there may be only a minority of cases that fit the relationship, and in other cases, the independent variable does not affect the dependent variable. Thus, further explanations will advance understanding of TMT's disclosure preference in accounting information because the TMT characteristics are interdependent.

In Chapter 3, we use the logit regression method to test relationships between each characteristic and dependent variable to explain the linear additive impact on focal outcomes. The data for each variable is assumed to be normally distributed around the sample means. Symmetric methods estimate the average relationship between independent variables and dependent variables (Douglas et al., 2020). Specifically, each independent variable is considered discretely, that is, holding constant the impact of all other independent variables on the dependent variable. However, salary, gender, functional experiences, and tenure are four dimensions to describe a TMT, how these traits interact with firm-level characteristics to shape a TMT's perception of firm decisions and disclosure of financial reporting, is a critical issue to resolve. Moreover, we expect that some special bundles of TMT- and firm-level characteristics may exist to be conducive to high- and low-level financial reporting comparability. To answer this question, we utilize the fsQCA to explore the combinations of independent variables (or conditions) that are sufficient to achieve high- and low-comparable accounting information, if exist.

This study focuses on the causal recipes, by examining with-case relationships among TMT- and firm-level characteristics that associate with the financial reporting comparability. To the best of our knowledge, this is the first study that applies the fsQCA to address issues relate to upper echelons theory and accounting information disclosure.

This study contributes to the literature in three ways. First, the extant studies focus on the impact of TMT backgrounds individually on the firms' outcomes (Dyreg et al., 2010). This study contributes to the strand of accounting literature identifying combinations of characteristics as determinants of financial reporting quality. The finding is different from prior literature in accounting which is concerned with the single determinants and rarely discusses the value of

synthetic characteristics. Second, the traditional symmetric (e.g., regression or structural equation modeling) methods test relationships between each characteristic and dependent variable to explain the linear additive impact on focal outcomes.

This study uses data collected in Chapter 3, by adopting the fsQCA method to identify the bundles of conditions that are necessary or sufficient to achieve high-level (*High_COMP*) or low-level financial reporting comparability (*Low_COMP*).

6.2 Research design

Previous studies have identified that TMT salary, tenure, functional experiences, and gender are related to comparability. Moreover, our regression model includes seven control variables. Thus, there are $2^{11}=2048$ possible combinations of the conditions, which render a very complex solution with relatively low consistency and coverage. The fsQCA aims to maximize consistency and coverage while minimizing the complexity of the recipes (Douglas et al., 2020). Therefore, we built up a simpler model by including salary, tenure, functional experiences, gender, firm growth, leverage, and size.

Figure 6-1 shows a conceptual framework for how the traits may affect comparability, where a firm's comparability results from the complex interactions between these characteristics. In the conceptual framework in Fig. 6-1, each condition has the potential to drive the comparability either by itself or in combination with other conditions (or single condition). There is likely to be more than one causal combination explaining a firm's disclosure quality of financial statements. The rest sections examine how these features combine to result in high-level or low-level comparability.

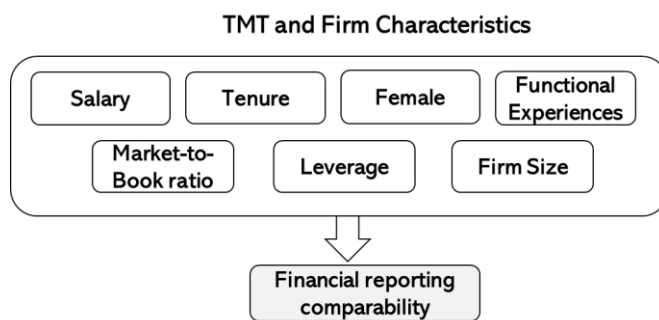


Figure 6-1 The conceptual framework of chapter 6

6.3 Data collection and measures

6.3.1 Data collection

The sample in this study is comprised of Chinese A-share main public firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange, which were active for seven years, beginning in 2013. In the context of this study, TMT includes a firm's CEO, CFO, COO, CTO, and heads of business units (Hambrick & Finkelstein, 1995). The data were collected from the China Stock Market and CSMAR. The study period runs from 2013 to 2019.

The sample was collected as follows: first, listed companies under special treatment were excluded. Second, companies in the financial industry were excluded to control for bias in reporting regulation. Third, observations with missing data were excluded. Finally, an unbalanced dataset containing 3186 firm-year observations of 77 industries over a 7-year timespan (2013–2019) was obtained. All the variables are defined in Table 3-1.

6.3.2 Measures

6.3.2.1 Outcome: financial reporting comparability

The measure of comparability relies on the definition given by De Franco et al. (2011): “accounting system is a mapping from economic events to accounting system. For a given set of economic events, two firms have comparable accounting systems if they produce similar financial statements” (p.896). The calculation process refers to Chapter 3.4.3.

6.3.2.2 Conditions

As discussed in the prior section, we include salary, tenure, functional experience, gender, firm growth, leverage, and size as conditions of the comparability. The measures of all conditions mentioned are listed in Table 3-1. All raw TMT characteristics and accounting data were obtained from the CSMAR database. In the next sections, this study looks at the influence of synthetic characteristics on High-comparable (*High-COMP*) and Low-comparable information (*Low-COMP*).

6.4 Fuzzy-set Qualitative Comparative Analysis

The FsQCA method is based on complexity theory and uses an inductive research method based on the principles of conjunction and causal asymmetry (Misangyi & Acharya, 2014). FsQCA builds on the idea that configurations or recipes of constructs are better understood from the perspective of set-theoretic relations rather than correlation (Fiss, 2007). The objective of qualitative comparative analysis is to identify the different configurations of conditions linked to focal outcomes (Ragin & Strand, 2008). The fsQCA provides a systematic analysis of data, revealing sufficient configurations of conditions to reach a focal outcome. In brief, the fsQCA has the perspective that cases are composed of combinations of theoretically related attributes (Misangyi & Acharya, 2014), that the relations between these attributes the focal outcome can be explained by subsets (Ragin & Strand, 2008).

Although the fsQCA initially is developed for small-sample research (Ragin, 2000), now it is applied across a range of recent studies that have shown its potential for large-sample organization studies (Beynon et al., 2020; Guedes et al., 2016). It is an especially effective method for social science research because, unlike traditional statistical analyses, fsQCA does not identify the independent effect of a variable on the likelihood of a focal outcome (Fiss, 2011). Thus, fsQCA has been widely used by public policy researchers for comparisons of outcomes in countries (Beynon et al., 2020; Rihoux, 2013). Usually, fsQCA studies use cross-sectional data without incorporating temporal effects, but there also exists literature that incorporates the time effect and conducts panel

data analysis using fsQCA. Referring to García-Castro & Arino (2013), this study reveals the combinations of TMT characteristics that contribute toward high and low comparability by using panel data.

6.4.1 Calibration of set membership

As part of the preparation for fsQCA, the calibration of the conditions and outcome is required. This calibration transforms the original data (all continuous variables here) to fuzzy membership scores ranging from 0 to 1 to construct a continuous fuzzy set for each attribute (Ragin, 2008). The calibration applied here follows the direct method given by Ragin (2008) and a more detailed description outlined by Andrews et al. (2016).

Firstly, following Greckhamer et al. (2013), the “lowest,” “highest,” and “surrounding 50th percentile” pairs of cases were identified and considered against the anchors in terms of the threshold for fully-out membership, the threshold for fully-in membership, and the crossover point, respectively. Then these anchors were used to construct the continuous fuzzy membership score ranging from 0 to 1. The established threshold values were then checked by the authors (see Andrew et al., 2016). Table 6-1 summarizes the fuzzy sets, including the calibration anchors and descriptive statistics for each fuzzy set.

Table 6-1 Calibration values and statistics

	N	Statistics				Calibration values at			Fuzzy values descriptive			
		Mean	Std.Dev	Min.	Max.	95%	50%	5%	Mean	Std.Dev	Min.	Max.
Outcomes												
<i>COMP</i>	3186	-0.011	0.006	-0.102	-.0018	-.0047	-.0095	-.215	0.461	0.290	0.01	1
Conditions												
<i>TMT_Sal</i>	3186	13.313	0.624	11.581	15.094	14.418	13.296	12.323	0.509	0.312	0.01	0.99
<i>TMT_Ten</i>	3186	51.874	16.608	10.45	99.526	80.316	46.333	22.556	0.509	0.298	0.01	0.99
<i>TMT_Fem</i>	3186	0.140	0.146	0	0.667	0	0.125	0.428	0.508	0.339	0.01	0.95
<i>TMT_Exp</i>	3186	.362	0.179	0	1	0.667	0.333	0.125	0.510	0.312	0	0.99
<i>MB</i>	3186	2.745	1.807	0.555	14.76	6.107	2.263	0.860	0.534	0.303	0	0.97
<i>LEV</i>	3186	0.466	0.180	0.072	0.866	0.759	0.465	0.169	0.497	0.313	0.02	0.98
<i>SIZE</i>	3186	22.949	1.236	20.217	26.602	25.367	22.767	21.237	0.519	0.301	0.01	0.99

6.4.2 Necessity analyses for financial reporting comparability

The analysis of necessary conditions in fsQCA is an independent procedure to examine whether individual conditions (or one condition) may be necessary for the outcome to occur (Ragin, 2008). For the necessity to hold for a firm-year observation, the membership score on the outcome must be consistently lower than the membership score of the condition under consideration. A condition (or combination of conditions) is necessary if “it is present in all instances of an outcome” (Ragin, 2000, p.203); a condition is necessary if the outcome occurs whenever that condition occurs, though the outcome may occur at the presence of other conditions (Ragin, 2008).

Given the asymmetry of fsQCA, results for the two outcomes (e.g., *High_COMP* and *Low_COMP*) are presented in Table 6-2 and Table 6-3. According to Ragin (2008), a condition

could be deemed as a necessity only if it exceeds the 0.90 consistency threshold and has non-trivial coverage. The necessity analyses on all the conditions demonstrated that no condition meets the criteria, so no necessary conditions exist.

Table 6-2 Overview of necessary conditions for high-level comparability

Conditions	Cons	Cov
<i>TMT_Sal</i>	0.721	0.541
$\sim TMT_Sal$	0.618	0.519
<i>TMT_Ten</i>	0.685	0.691
$\sim TMT_Ten$	0.729	0.490
<i>TMT_Fem</i>	0.611	0.459
$\sim TMT_Fem$	0.719	0.441
<i>TMT_Exp</i>	0.629	0.621
$\sim TMT_Exp$	0.652	0.630
<i>SIZE</i>	0.656	0.585
$\sim SIZE$	0.529	0.669
<i>MB</i>	0.423	0.375
$\sim MB$	0.523	0.584
<i>LEV</i>	0.498	0.691
$\sim LEV$	0.638	0.528

Note: \sim represents the absence of a condition.

Table 6-3 Overview of necessary conditions for low-level comparability

Conditions	Cons	Cov
<i>TMT_Sal</i>	0.621	0.636
$\sim TMT_Sal$	0.718	0.569
<i>TMT_Ten</i>	0.751	0.609
$\sim TMT_Ten$	0.784	0.638
<i>TMT_Fem</i>	0.588	0.419
$\sim TMT_Fem$	0.652	0.645
<i>TMT_Exp</i>	0.659	0.598
$\sim TMT_Exp$	0.686	0.655
<i>SIZE</i>	0.662	0.465
$\sim SIZE$	0.645	0.539
<i>MB</i>	0.651	0.625
$\sim MB$	0.596	0.753
<i>LEV</i>	0.665	0.498
$\sim LEV$	0.712	0.517

Note: \sim represents the absence of a condition.

6.4.3 Sufficiency analyses

The role of configurations of conditions in understanding *High_COMP* and *Low_COMP* is considered in conducting sufficiency analysis. Sufficiency analysis seeks to find distinct recipes of attributes that meet certain criteria of sufficiency for the outcome to occur. For sufficiency to hold for a firm-year observation, the membership score of the outcome must be consistently higher than the membership score of the combination of conditions.

Sufficiency analyses begin with the usage of a truth table algorithm, aiming to map the logically possible and empirically occurring combinations of fuzzy sets, and the outcome (either *High_COMP* or *Low_COMP*). In this study, seven conditions are considered, there are $2^7 = 128$ logically possible configurations to consider. The configurations are characterized by 0 and 1 values

across the five conditions. Where 0 indicates the absence and 1 denotes the presence of each condition. Each reported configuration is described by several relevant values, including the number of firms belonging to each configuration in strong membership, the level of consistency measured as the degree to which it can be shown that membership in the outcome is consistently less than equal or equal to membership in the cause (Ragin, 2008). Then further consideration is given to those assured configurations which have an association with either *High_COMP* or *Low_COMP*. Two more thresholds must be set: frequency and consistency. Frequency is the minimum number of firm-year observations for each configuration; consistency is the minimum consistency level for each recipe (Ragin, 2008). The prior minimum thresholds for consistency and the frequency of cases per configuration is 0.88 and 20. The threshold values were the same for *High_COMP* and *Low_COMP*. Next, we conduct sufficiency analyses to identify combinations of TMT- and firm-level characteristics. These combinations, termed causal recipes, will lead to the occurrence of focal outcomes.

Tables 6-4 and 6-5 depict the results of the sufficiency analysis. Four and three causal recipes were identified separately to explain each outcome (e.g., *High_COMP* or *Low_COMP*). The findings in Table 6-4 show that the solution is informative with a consistency value of 0.841 and coverage of 0.536. Table 6-5 reports a consistency value of 0.886 and coverage of 0.488. These values are higher than the minimum acceptable thresholds (e.g., 0.8 for consistency), following the recommendation of Ragin (2008) and Woodside (2013).

Table 6-4 Results of both the parsimonious and intermediate solution of high-level comparability

Casual configuration	Raw coverage	Unique coverage	consistency
1 $\sim TMT_Sal * TMT_Fem * TMT_Ten * \sim LEV * MB$	0.321	0.013	0.870
2 $\sim TMT_Sal * \sim TMT_Exp * \sim LEV * MB$	0.400	0.028	0.876
3 $\sim TMT_Exp * TMT_Ten * \sim LEV * MB$	0.389	0.058	0.866
4 $\sim TMT_Sal * TMT_Ten * \sim LEV * MB$	0.394	0.033	0.868
Solution coverage: 0.536			
Solution consistency: 0.841			

Note: \sim represents the absence of a condition.

Table 6-5 Results of both the parsimonious and intermediate solution of low-level comparability

Casual configuration	Raw coverage	Unique coverage	consistency
1 $TMT_Sal * \sim TMT_Exp * \sim TMT_Ten * TMT_Fem$	0.291	0.091	0.884
2 $TMT_Exp * \sim TMT_Ten * \sim TMT_Fem * SIZE$	0.277	0.073	0.925
3 $TMT_Sal * \sim TMT_Exp * \sim TMT_Ten * LEV * \sim MB$	0.295	0.078	0.951
Solution coverage: 0.488			
Solution consistency: 0.886			

Note: \sim represents the absence of a condition.

Considering *High-COMP* first, there are four pathways conducive to *High-COMP*, as shown in Table 6-4. Interestingly, the absence of *LEV* and *SIZE*, combined with the presence of *MB*, exists in all configurations. Moreover, the combinations of *TMT* characteristics show differences.

Configuration 1 (*HCOMP1*) has a moderate coverage (0.304) and good consistency (0.888) is the absence of *TMT_Sal*, *TMT_Fem*, or *LEV*, combined with the presence of *MB*. The second configuration (*HCOMP2*) indicates the absence of *TMT_Sal* or *TMT_Exp* is a substitute combination for that in configuration 1. In configuration 3 (*HCOMP3*), *TMT* characteristic combination is the absence of *TMT_Exp* and the presence of *TMT_Ten*. In the fourth configuration (*HCOMP4*), the absence of *TMT_Sal* and the presence of *TMT_Exp* are conducive to comparable accounting information combined with the firm characteristics mentioned above.

Regarding the low level of comparability, three configurations are also found conducive to *Low-COMP*, as shown in Table 6-5. The configuration (*LCOMP1*) with the highest coverage (0.295) and good consistency (0.951) is the presence of *TMT_Sal*, *TMT_Exp*, and *TMT_Ten*, combined with the presence of *LEV* and the absence of *MB*. The second configuration (*LCOMP2*) shows that the presence of *TMT_Sal* and *TMT_Fem* is sufficient for less comparable accounting information when combined with the absence of *TMT_Ten* or *TMT_Exp*. The last configuration indicates that the presence of *TMT_Sal*, *TMT_Exp*, and *TMT_Ten* leads to less comparable information when combined with the absence of *MB* and the presence of *LEV*.

In sum, *TMT_Sal* is included in both *High-COMP* configurations in form of absence, while they are included in *Low-COMP* configurations in form of presence, indicating that *TMT_Sal* affects the comparability symmetrically. Moreover, *TMT_Ten* is included in *HCOMP* combinations in form of presence, but it exists in *Low-COMP* configurations in both forms; *TMT_Fem* has an asymmetric effect on *Low-COMP* since it exists in *Low-COMP* configurations in both forms. Similarly, *TMT_Exp* also has an asymmetric impact on *Low-COMP*.

Looking at firm characteristics, a combination of the absence of *LEV* and the presence of *MB* is included in all *High-COMP* configurations. It seems that a firm's size does not matter in predicting a firm's high-level comparable financial reporting. On the contrary, firm size exists in one configuration that is conducive to *Low-COMP*.

Additionally, firm characteristics (e.g. *LEV* and *MB*) have a limited nexus with low-level comparability, since they are just included in one configuration (in *LCOMP3*).

The results of sufficiency analysis indicate that the relationships between most of *TMT*- and firm-level characteristics, and financial reporting comparability, are asymmetric, we find conflicting evidence with that in traditional multiple regression (or logit regression) analysis.

Overall, when taking into account the interdependencies and asymmetries of the conditions, we find four and three distinct combinations of conditions for high- and three for low-level comparability, respectively. As we predicted, the fsQCA method offers a more fine-grained explanation of a firm's financial reporting preferences.

6.5 Discussion

In sum, the fsQCA results reveal details of the heterogeneity with a sample, identifying the different configurations that lead to the same outcome, for both *High-COMP* and *Low-COMP*.

Specifically, the present study explores how different combinations of top management and firm characteristics explain a firm's financial reporting comparability. First, the results indicate that none of the causal conditions is either a necessary or a sufficient condition, but that when combined with other characteristics, we find four and three different paths that are conducive to each disclosure preference (e.g., high-comparable financial reporting and low-comparable financial reporting).

For *High_COMP*, four configurations are found. Overall, a high-growth and low-leverage firm leads to more comparable financial reporting, when combined with distinct combinations of TMT characteristics. The first recipe indicates a high-growth and low-leverage firm have the propensity to report more comparable accounting statements when its TMT is lowly paid and has fewer female members; a high-growth and low-leverage firm has the propensity to report more comparable accounting statements when its TMT is lowly paid and has fewer expert members; a high-growth and the low-leverage firm have the propensity to report more comparable accounting statements when its TMT is lowly paid and its members possessing long tenure. Likewise, a high-growth and low-leverage firm may report more comparable information when its TMT has a long tenure and is lowly paid. In sum, the *LEV* and *MB* are core firm-level conditions, and four substitute conditions are the different combinations of TMT characteristics.

Looking at *Low_COMP*, three configurations are identified. One recipe indicates firms with fewer experts, short tenure, and more female members tend to report less comparable accounting information when they are highly paid. Similarly, a big firm, with a TMT comprised of short tenure, fewer female members, and more expert members, has the propensity to report less comparative accounting information. A high-leverage and low-growth firm, with a TMT comprised of more expert, highly paid, and long tenure members will provide less comparative financial reporting.

Using the fsQCA, we find the effect of the four TMT traits and three firm characteristics on financial reporting comparability. One interesting phenomenon is that firm characteristic majorly play a role in high-quality information disclosure. However, the combinations of TMT traits are prevailing in all configurations.

Overall, the results show that the consistency is significant for the panel taken as a whole, the coverages, in general, indicate that the explanatory power of configurations of TMT characteristics concerning tax planning is acceptable.

6.6 Robustness analysis

This study conducts several robustness tests to check the validity of the results. First, the study uses alternative calibration values: 0.90, 0.50, and 0.10. The results of both the parsimonious and the intermediate solution exhibit the same configurations with a slight increase in consistency and coverage. On the other hand, we also measure the comparability using the *COMP_Top4Average* and *COMP_Top10Average* (as measured in Chapter 3), and the conclusions keep unchanged.

6.7 Conclusions, limitations, and implications

6.7.1 Conclusions

A great majority of upper echelons theory has been conceptualized to be tested using symmetric quantitative methods, such as multiple regression analysis and structural equation modeling. These traditional symmetric methods test relationships between explanatory variables and independent variables to explain the strategies of top management teams. However, symmetric methods require the data to conform to restrictive assumptions, including distributed data, symmetric data relationships, and independence of the variables, and these restrictions limit the ability of these approaches to explain complex management strategies. Using a single trait of TMTs or firm characteristics to explain firm outcomes might be incomplete, and synthetic characteristics would better explain a firm's choice of financial reporting disclosure.

As an echo to Woodside's (2013) calling that moving beyond relying on the dominant logic of multiple regression analysis, this study uses the fsQCA in testing the issues related to upper echelons theory and accounting information disclosure choices. This study presents a novel method to understand the disclosure choices of top management teams. It answers which configurations of situational determinants impact financial reporting comparability. Specifically, the findings indicate that the characteristics of both a TMT and a firm matter in financial reporting choices. TMT Salary, tenure, female proportion, expert experience, and the growth, leverage, and size of a firm affect accounting information quality when combined.

The study explores the research in the fields of upper echelons theory and financial reporting quality by finding four and three different paths for focal outcomes (e.g., *High_COMP* and *Low_COMP*). Distinct bundles of TMT and firm characteristics associated with financial reporting disclosure are identified.

Theoretically, these findings provide further evidence of upper echelons theory and financial reporting quality. Practically, the study provides useful insights for a board committee to appoint TMT members pursuing informative accounting reporting. The configurations conducive to high-level comparability also indicate a way of improving the information environment and reducing the cost of equity, cost of debt, stock price crash risk, and analyst forecast accuracy (Nguyen, 2021).

Finally, this study is valuable to investors, creditors, analysts, and auditors, as it serves as a reminder that the combinations of the TMT's traits and firm characteristics need to be considered when making decisions based on financial reporting.

6.7.2 Limitations

Surely, fsQCA has limitations. It is an inductive method based on specified samples. It could not explain how and why those combinations lead to focal outcomes.

Second, the results are cases dependent because most steps in fsQCA rely on the researchers' judgments. For example, the choices of a representative sample and the conditions, the setting of three anchors for independent and dependent variables, and the chosen thresholds of consistency and coverage.

Third, the results of fsQCA are sample-dependent, configurations derived from a different sample may be distinct. Therefore, the reproducibility and validity of fsQCA results might be a question to be resolved.

Fourth, a warning has to do with the issue of causality. Although conceptually the arguments in the current study assume causality. (e.g., that characteristics of a TMT lead to comparable accounting information), the investigation on cross-sectional, and configurational approaches generally do not allow for the claims of the causal relation. Therefore, users should be cautious.

Lastly, as this study focuses only on large listed firms, extending the findings to other categories of firms could be limited.

Chapter 7 Conclusions, Implications, and Future Research

7.1 Conclusions

Using a sample of 3186 firm-year observations of A-share firms listed in China, this study documents the significant impact of TMT characteristics on financial reporting comparability. Results in Chapter 3 suggest that TMT salary is negatively associated with the likelihood of comparable financial reporting. While TMT female proportion, functional experience, and tenure are positively related to comparable financial reporting.

High salary exhibits less compliance with GAAP which leads to less comparable accounting information. Moreover, a TMT that is highly paid tends to engage more real earnings management and the quality of financial reporting decreases with such opportunistic practice.

Regarding accounting information disclosure, females are conservative and risk-averse in compliance with the GAAP. A TMT comprised of more female members less engages in real earnings management and its company's financial reporting comparability increases. The quality of financial reporting decreases with such opportunistic practice.

TMT tenure promotes a firm's compliance with the GAAP. A TMT with long tenure members are stable. Moreover, they are good at communication with each other and taking advantages of a firm's limited resources. A longer tenure also results in less opportunistic practices (e.g., tax avoidance or earnings management) and more comparable financial reporting.

Functional experience represents the abilities of managers' understanding and enforcement of the GAAP. Firms that have managers with background of accounting, finance, and law show more compliance with the GAAP. Furthermore, such firms less focus on tax avoidance.

Moreover, a higher portion of independent directors reduces the negative relation between TMT salary and the comparability and strengthens the positive relationship between the female proportion, functional experiences, and comparable information. Likewise, analysts' following shows a similar moderating role in the effect of TMT characteristics and comparability.

In chapter 6, we employ the fsQCA to identify the interdependence of TMT traits and firm characteristics to reveal the probable bundles related to comparability. The results indicate four pathways leading to more comparative financial reporting, and three pathways to less comparative financial reporting, as discussed in Chapter 6. Inconsistent with logit regression analysis, we find an asymmetric influence of female proportion, functional experience, and tenure on the comparability. The finding provides an incremental explanation of TMT and firm characteristics bundles on firms' accounting information comparability. First, high-growth and low-leverage are critical conditions for comparable accounting information when combined with distinct combinations of TMT traits. The reason might be such firms have less incentives to manipulate earnings or cash flow through tax avoidance. Thus, these firms will report high-quality financial information. Second, firm level characteristics seem less important in predicting low-comparable information. Since they only appear once in three configurations conducive to low comparability. In sum, a high-leverage and low-growth firm, or a big firm shows less compliance with GAAP.

7.2 Implications

7.2.1 Theoretical implications

First, this study is valuable to extend the boundaries of upper echelons theory to firms' financial reporting choices. A large body of literature documents TMT demographic characteristics that could be effectively used to predict a firm's outcome and strategy choices. However, little has been done concerning their impact on financial reporting quality, especially from a perspective of comparability. Moreover, independent directors and analysts are two effective governance mechanisms in restraining a TMT's opportunistic behaviors, and consequently promoting comparability.

Second, although prior studies document that TMT characteristics could be used to predict their opportunities behaviors (e.g., earnings management), little literature focuses on how TMT characteristics influence tax avoidance, as well as the mediating role in the comparability. This study explores two mediating mechanisms in the association between TMT characteristics and comparability, which indicate the specific pathways by which TMTs affect their firms' comparability. Overall, TMT salary, functional experience, and female proportion impact the comparability by the engagement in the extent of earnings management. While tenure and functional experiences affect a firm's comparability in the way of tax avoidance.

Third, apart from the linear additive effect of TMT characteristics on comparability, this study identifies bundles of TMT and firm characteristics that are conducive to high- and low-level comparability using the fsQCA method. The findings signify that the fsQCA could be used in analyzing issues in the fields of accounting and tax research.

7.2.2 Practical implications

Since comparability is a particularly important trait of financial information that makes it useful. Our findings are valuable for investors, creditors, analysts, and even tax authorities to make appropriate decisions.

First, this study is valuable to investors, creditors, analysts, auditors, and tax regulators, as it serves as a reminder that TMT and firm characteristics need to be considered when making financial statement-related decisions. For example, when analyzing financial statements, they should keep in mind that TMTs with a higher proportion of functional background or having members with longer tenures are inclined to behave more conservatively when disclosing after-tax income. On the contrary, a firm whose TMT is highly paid may report less comparable accounting information. While a TMT comprised of more female members tends to report high-quality financial statements. Our findings indicate that a firm's financial reporting comparability could be predicted by TMT demographic and firm characteristics. For firms that report low comparable accounting information, additional information is necessary for stakeholders to make rational decisions (e.g., media disclosure and voluntary disclosure).

Second, these findings also provide useful insights for board committees to appoint TMT members. Our findings signify that differing bundles of TMT characteristics can lead to similarly

comparable accounting information. Thus, board committees may consider these trait configurations when appointing TMT members, in pursuing high comparable information. Moreover, board committees should also avoid appointing a TMT that will lead to low comparable accounting information.

Third, this study also shed light on the governance role of independent directors and analyst following. The mandatory of IFRS does not guarantee financial reporting comparability. External mechanisms effectively alleviate managers' opportunistic behavior, which consequently enhances a firm's financial reporting quality. Thus, increasing the number of independent directors would be an effective internal governing mechanism to improve a firm's financial reporting quality.

7.3 Original contribution to knowledge science

7.3.1 Application of the fsQCA method in accounting research

The concept of knowledge innovation is known to be the process of obtaining knowledge of new basic science and technical science through scientific research, including basic research and applied research. Using logit regression analysis, this study investigates pathways by which TMT characteristics influence a firm's financial reporting comparability. Moreover, this study utilizes the fsQCA to better understand in terms of set-theoretic relations between characteristics and financial reporting comparability. To the best of our knowledge, it is the first study that introduces the fsQCA method to research in the fields of upper echelons theory and accounting.

The focus on net effects is misleading for some reasons. Because not all cases (or observations) support a linear relationship between the independent variables and dependent variables (as discussed in Chapter 6). Using the fsQCA, researchers can increase the contribution of their studies by showing the combined conditions which have a positive influence on the focal outcomes as well as the combined conditions conducive to low focal outcomes.

Practically, there is more than one pathway that led to high levels of financial reporting comparability. logit regression analysis tests the symmetric relationships between independent variables and dependent variables. In symmetrical relationships, low values of independent variables are associated with low values (or low probability) of dependent variables and high values of independent variables are associated with high values (or high probability) of dependent variables. Otherwise, low values of independent variables are associated with high values of dependent variables, and high values of independent variables are associated with low values of dependent variables. Asymmetric relationships indicate additional “casual recipes”. Thus, using an algorithm in advancing and testing theory in accounting, taxation, and management may engender new theories.

7.3.2 Optimized measurement of book-tax differences

Inconsistent with the extant measure of book-tax differences, we improve tax avoidance measures in two steps: first, we measure cross-sectional book-tax differences for each firm. Second, we calculate the differences between each company's data and the industry median value of book-

tax differences. The reason is that a particular firm's level of tax avoidance is best assessed by comparison to that of other firms. Eliminating industry variation will accurately measure the degree of tax avoidance of a company.

7.3.3 Identification of firm characteristics bundles by applying upper echelons theory

This study contributes to research related to upper echelons theory. Prior literature mostly links a single demographic TMT trait (or individual) or firm characteristic with firm strategies or outcomes and makes conflicting conclusions. However, these conditions are better integrated, when predicting firm performances or strategy choices. For instance, as discussed in Chapter 6, a high-growth and low-leverage firm prefers more comparable financial reporting, when combined with distinct combinations of TMT characteristics. Similarly, a high-growth and low-leverage firm has the propensity to report more comparable accounting statements, when its TMT is lowly paid and with fewer female members; a high-growth and low-leverage firm has the propensity to report more comparable accounting statements when its TMT is lowly paid and has fewer expert members; a high-growth and low-leverage firm have the propensity to report more comparable accounting statements when its TMT is lowly paid and with members possessing long tenure. In conclusion, by identifying bundles of TMT characteristics, researchers can holistically predict a firm's decisions.

7.4 Limitations

The study is subject to the following caveats. First, we focus only on firms listed in a developing country. The findings in this study may not be generalized to firms in other countries (e.g., developed countries). Further research might investigate whether the findings in this study extend to firms in other countries, especially in developed countries. On the other hand, we only focus on public firms, extending the findings in this study to SMEs should be cautious.

Second, we do not identify the impacts of individual traits in a TMT on accounting comparability (e.g., CEOs and CFOs.), because it is beyond the scope of this study. We may conduct it in the future.

Third, we only include education level, age, salary, tenure, gender, size, and functional experience of a TMT in the logit regression models. However, TMT heterogeneity can be examined with financial reporting comparability, as extant studies have revealed the association between TMT heterogeneity and organizational outcomes.

Finally, the fsQCA method has an intrinsic flaw as presented in Chapter 6. Users should be cautious when making decisions depending on the conclusions of this study.

7.5 Future research

Using the logit regression and the fsQCA methods, the current study concentrates on the TMT demographic traits on financial reporting comparability. However, there appear to be many interesting research questions to be answered in the future.

First, it would be interesting to consider institution factors in the future. For instance, whether firms located in under-developed and developed regions show any differences in compliance with the GAAP. Moreover, whether supervision intensity moderates a firm's comparability.

Second, the fsQCA method has been widely used in country-level and organizational-level research in the field of entrepreneurship, economics, business, and management. while its application in the field of accounting and taxation is still under-explored. Thus, there will be many research opportunities. Researchers may use the fsQCA method to explore an innovative pattern for problem-solving.

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Journal Publications:

- [1] H. Jiang and E. Kim, “Which Top Management Team Characteristics Drive a Firm’s Tax Aggressiveness?”, *Asian Review of Accounting*, revision submitted, 2022.6, peer review.
- [2] H. Jiang and E. Kim, “Characteristics of Top Management Team and Chinese Tax Planning nexus: Findings from A Fuzzy-Set Qualitative Comparative Analysis”, *Frontiers in Psychology: organization psychology*, 13:964278. doi: 10.3389/fpsyg.2022.964278, peer review.

Conference Presentations and proceedings:

- [1] H. Jiang, E. Kim, and X. Sun, “Design and Implementation of “SPOC Teaching Mode” for fostering creativity”, in Proceedings of the IAFOR International Conference on Education-Hawaii (ICEHawaii2020), pp. 377-386. 2020, poster presentation, peer review.
- [2] H. Jiang, E. Kim, and X. Sun, “The Computer-mediated Communication-based Blended Course is Preferred among the University Students”, in Proceedings of 2020 12th International Conference on Education Technology and Computers, ACM, pp. 88-92. 2020, oral presentation, peer review.