

# CAPITAL STRUCTURE AND EARNINGS MANAGEMENT OF PRIVATE ENTERPRISES: EVIDENCE FROM THE TRANSITIONAL ECONOMY OF LAOS

A Thesis Submitted By

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### **Certification of Thesis**

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

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#### Abstract

A vast majority of prior empirical studies exclusively investigates the determinants of capital structure and earnings management of private and public firms in developed and developing economies, but there is a shortage of works related to private firms in least developed countries with transitional economy. This empirical study attempts to extend the existing literature and fill the gap by examining financing decision and earnings management activities of private enterprises in the transitional economy environment from a centrally-planned regime to a market-oriented economy of Laos.

This study uses previous empirical works and theoretical principles related to private and public companies in developed, developing and other transitional economies to uncover the financing decision and earnings management activities of Lao private enterprises. The works and principles are used as a fundamental framework to understand previous related works and to formulate six hypotheses of this investigation. This study relies on two capital structure theories, the Pecking-Order theory and Trade-Off theory to explain the financing decision of the firms. Agency theory is also applied to explain the earnings management activities in relation to financial leverage of the enterprises. The earnings management is measured by using the Modified Jones Model and the Performance-Augmented Model. In conjunction, this study employs multiple linear regression models to statistically test the six formulated hypotheses under three research questions. The statistical data used in this study are drawn from annual financial reports of 224 private enterprises in Laos, containing 674 observations for five-year period of 2009-2013. The financial reports were prepared under the Lao accounting manuals and instructions.

This study contributes to several findings that reflect an under-developed transitional nature of the Lao business environment to the existing knowledge. First, the modern Pecking-Order and Trade-Off theories as well as the firm-specific determinants and industry factors of capital structure derived from the developed and developing countries partially portable to financing decision of private enterprises in Laos. As in other countries, larger firms in Laos can easily access to external debt than smaller counterpart, whereas profitable firms are more likely to have less leverage and their retained earnings are primary source of investment. Empirically, the financing choices of Lao private firms seem to follow a limited Pecking-Order –

retained profit, and total-debt. In addition, in line with the Trade-Off theory, Lao private firms across industry sectors differently adjust their capital structure to seek for an optimum level of debt-equity ratio. Second, with regards to the main determinants of earnings management, larger enterprises in Laos are more likely to engage in earnings management than smaller firms, whereas enterprises with higher level of tangibility and profitability tend engage in less earnings management. In addition, this study finds that sole-traders enterprises with more operating cash flow engage more in earnings manipulation. Further, the influence of firm size, tangibility, profitability, total revenue, and trade receivables on earnings management vary across industry sectors. Finally, earnings manipulation has a positively significant impact on financial leverage of Lao private enterprises, implying that the firms use financial leverage as a governance mechanism to mitigate opportunistic behaviour of managers.

Keywords: capital structure, earnings management, private enterprise, transitional economy, least developed country

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# List of Abbreviations

| AEC     | ASEAN Economic Community                             |
|---------|--|
| ADB     | Asian Development Bank                               |
| AFTA    | ASEAN Free Trade Area                                |
| APTA    | Asia-Pacific Trade Agreement                         |
| ASEAN   | Association of Southeast Asian Nations               |
| BCEL    | Banque Pour Le Commerce Exterior Lao                 |
| BOL     | Bank of the Lao People's Democratic Republic         |
| CEE     | Central and Eastern European                         |
| CEO     | Chief Executive Officer                              |
| СРА     | Certified Public Accountant                          |
| DAC     | Discretionary Accruals                               |
| EBIT    | Earnings before Interest and Tax                     |
| EDL-Gen | Electricité du Laos-Generation                       |
| EM      | Earnings Management                                  |
| EU      | European Union                                       |
| FDI     | Foreign Direct Invest                                |
| GAAP    | Generally Accepted Accounting Principles             |
| GDP     | Gross Domestic Product                               |
| GICS    | Global Industry Classification Standard              |
| GoL     | Government of Laos                                   |
| IFRS    | International Financial Reporting Standards          |
| IAS     | International Accounting Standards                   |
| IMF     | International Monetary Fund                          |
| KPMG    | Klynveld Peat Marwick Goerdeler                      |
| LAK     | Lao Kip  |
| Lao PDR | Lao People's Democratic Republic                     |
| LAM     | Lao Accounting Manual                                |
| LAS     | Lao Accounting Standards                             |
| LC      | Limited Company                                      |
| LCPAA   | Lao Chamber of Professional Accountants and Auditors |
| LDebt   | Long-term Debt ratio                                 |
| LICPA   | Lao Institution of Certified Public Accountants      |

| LPRP   | Lao People's Revolutionary Party                     |
|--------|--|
| LSC    | Lao Securities Commission                            |
| LSX    | Lao Securities Exchange                              |
| LWPC   | Lao World Public Company                             |
| MIoC   | Mistry of Industry and Commerce                      |
| NA     | National Assembly                                    |
| NBFI   | Non-Bank Financial Institution                       |
| NYSE   | New York Stock Exchange                              |
| OLS    | Ordinary-Least Squares                               |
| РОТ    | Pecking-Order Theory                                 |
| PPE    | Property, Plant and Equipment                        |
| PTL    | Petroleum Trading Lao                                |
| ROA    | Return On Asset                                      |
| SD     | Standard Deviation                                   |
| SFCF   | Surplus Free Cash Flow                               |
| SMEs   | Small to Medium-sized Enterprises                    |
| SOEs   | State-Owned Enterprises                              |
| STATA  | Statistics and data                                  |
| STE    | Sole-Trader Enterprise                               |
| SVN    | Souvany Home Centre                                  |
| ТА     | Total Accrual  |
| TDebt  | Total Debt ratio                                     |
| USGAAP | United States Generally Accepted Auditing Principles |
| VIF    | Variance Inflation Factor                            |
| WTO    | World Trade Organization                             |

#### **1.1 Introduction**

The capital structure decision and earnings management activities of firms are frequently discussed issues in managerial finance. On the one hand, it is necessary to understand the important determinants that can influence financing decisions when firms seek for an optimum level of capital structure to maximise their profit and share value (Harris & Raviv, 1991). On the other hand, earnings management of firms can be harmful for users of financial information, such as regulators, analysts, academics and practitioners (Kothari, Leone, & Wasley, 2005). Understanding the driver forces of earnings management is beneficial to public users when misleading financial or untrue information are used in their decision. However, prior works extensively explore the contexts of listed firms in developed and developing countries. Therefore, this study attempts to uncover the determinants of capital structure and earnings management of private companies in different economic environments, such as Laos which is one of the least developed countries during the transitional economy. This study becomes an extended analysis which is relatively unexplored in the literature.

This chapter presents background, objectives, research questions, motivations, scope, delimitation, and the contributions of the study. It also provides an overview of subsequent chapters of this thesis. The rest of this chapter is organised as follows. Section 1.2 provides the background of the study by focusing on the related studies on determinants of capital structure and earnings management, as well as the relationship between financial leverage and earnings management. This section briefly reviews prior literature for the justification of this study. Section 1.3 presents the research objectives and questions. Section 1.4 provides a brief overview of research methodology. Section 1.5 explains the motivations for undertaking the study. Section 1.6 describes the contributions of the study to the literature, academics and practitioners. Section 1.7 illustrates the scope and delimitation of the study. Section 1.9 concludes this chapter with a summary.

#### **1.2 Background of the Study**

Laos has been changing from a central-planned regime to market-oriented

economy over the past two decades. Private enterprises are particularly recognised as a significant driving force to boost the success of the transitional economy of the country. Over the period, Lao government has introduced a number of strategic policies to promote economic activities of the private firms in an important private sector. According to the national statistics until the end of 2014, there were totally 98,962 registered private enterprises throughout the country (Ministry of Industry and Commerce, 2014). In 2011, the private sector contributed 16% of annual GDP, which was the significant contributor to the economic growth. Even though Laos is characterised as a bank-based economy, private commercial banks are still small in size and have limited services to provide financial support for the firms. Accordingly, Lao private enterprises still face the difficult issue of external financing for their business operation and future development. This raises a question as to what factors influence financing decision of the enterprises in the country. Further, there is always another concern, particularly the government and lenders, about earnings management among the private enterprises in Laos. Since earnings play a vital role in firms' financial performance, their financial managers commonly have incentives to manage in earnings to protect their private benefits (Charoenwong & Jiraporn, 2009). The plethora of this research interest on earnings management could lead to a mitigation of negative effect to stakeholders or lenders of the firms. Therefore, not just to seek evidence on earnings management of the firms in this study, understanding the underlying factors that motivate financial managers is also necessary for preventing future occurrences (Erickson, Hanlon, & Maydew, 2006).

Although there is a large number of previous literature on the factors influencing capital structure decision (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Degryse, de Goeij, & Kappert, 2012; Lemma & Negash, 2014). There is also a great amount of investigation on earnings management activities (Beuselinck & Deloof, 2014; Marques, Rodrigues, & Craig, 2011; J. N. Myers, Myers, & Skinner, 2007), earnings management's determinants (Erickson et al., 2006), as well as the association between leverage and earnings management (Anagnostopoulou & Tsekrekos, 2017; Carter, 2013; Jelinek, 2007). Those prior studies relate to only private or public firms in developed and developing countries. But there is a limited number of empirical studies on financing decision and earnings management activities of private firms in least developed countries with transitional economy. In comparison,

developed and developing countries are different from least developed countries in term of institutional structures, such as the immature and incomplete of legal and institutional framework. For example, Laos is one of the least-developed countries ruling by only one political party, called the Lao People's Revolutionary Party (LPRP). The party remains a typical communist party of the former Soviet model (Stuart-Fox, 2006). Lao economy is in the transitional period from the central-planned regime to a free-market oriented system. Laws and regulations in the country are being developed and often amended. The country's financial institutions are highly controlled by its central government, especially state-owned commercial banks (SOCBs) which are acting as key lenders providing financial support for local businesses. Collectively, loans of the SOCBs in 2010 accounted for 60.5% of total assets in the banking sector (Keovongvichith, 2012). The country has a gradual progress in macroeconomic stabilization, commercial banking, state-owned enterprise privatization, financial market development, subsidy reductions, and tax system effectiveness. Under such different political and economic condition, this study attempts to fill the gap by investigating not only the determinants of capital structure and earnings management but also the association of capital structure and earnings management of the private enterprises.

The following sub-sections present brief reviews to an important role of optimum capital structure decision and its determinants, prior practices on earnings management, determinants on earnings management, and the relationship between financial leverage and earnings management. The reviews in each sub-section will lead to this doctoral project as a case study of private enterprises in Laos.

#### **1.2.1** Capital Structure Decision

Capital structure is a contemporary issue considered as one of the essential parts of firm's financial management in a market-oriented economy since the development of irrelevance principle of Modigliani and Merton (1958). Decisions of financial manager on capital structure can affect public firms' liquidity (Morellec, 2001), cost of capital (Modigliani & Merton, 1958), profitability (Titman & Wessels, 1988) and their overall value (Masulis, 1983). There are also various factors that influence the value of a firm, such as industry-specific and institutional factors (Donald R Fraser & Chek, 2006; Li, Yue, & Zhao, 2009). If a firm relies on internal equity, growth is more likely limited through a lack of sufficient external funds to enhance

business activities and future growth. In contrast, if a firm relies on external financing, it may encounter debt covenant violation or higher risk of bankruptcy. As a result, firms have to make a correct decision on managing their capital structure. Public or private firms can choose different levels of financial leverage in their effort to maximise firm's value or net profit. Although empirical research suggests that an optimal level of capital structure is in existence, there is no specific level and successful methodology for managers to achieve their goals (Donald R Fraser & Chek, 2006). At best, financial theories provide guidance on deciding the financial mix to adjust financial leverage for the best value for a firm. One of the previous studies on financing decision of enterprises has suggested that firm-specific determinants are more important and contribute most the variation of capital structure (Balakrishnan & Fox, 1993). Industry sectors can also affect leverage level of firms. Degryse et al. (2012) document that not only firm-specific determinants contribute to the variance of capital structure, but also inter-industry effects. Consistently, Showalter (1999) reports that unobservable characteristics of a particular industry sector may influence the levels of leverage within that sector. For instance, service firms are less likely to meet the required criteria for bank loans, often due to a lack of tangible assets to be used as collateral (Hisrich, 1989). Correspondingly, transportation, construction, and manufacturing businesses are highly capital intensive, so that the companies are more likely to rely on external debts. In case of Laos during the time of economic transition, understanding the determinants of capital structure of private enterprises is essential and crucial for financial managers or business owners to settle their optimum financing decision.

#### **1.2.2 Earnings Management Activities**

Managers may employ earnings management by several approaches for some reasons such as the use of accounting methods, the use of discretionary accruals or the change in capital structure choices. For that reasons, earnings management has been attempted to define in various ways. However, there has been no consensus of agreement on earnings management definition. It depends on the purposes of using earnings management. Each of definition has been defined in their own way by academic practitioners and researchers as in following samples:

1) Earnings management is "an alternative tool relating to the use of

discretionary accounting accruals to influence reported income" (Jones, 1991).

- 2) Healy and Wahlen (1999, p. 368) define earnings management as "managers use judgment in financial reporting and in restructuring financial transactions to alter financial reports either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices".
- Earnings management is "a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain" (Schipper, 1989)

Generally, there are five aspects of discussion to the use of earnings management, including objective, motive, managed account, magnitude and frequency, and economic consequences of earnings management. The objectives of earnings management from the definitions above are different. The definition of earnings management of Jones (1991) is "to influence reported income" by reducing firms' earnings only before the year of import relief investigation, so that firms benefit from import protection, which is regarded as a motive provided by the government. Whereas the definition of earnings management of Healy and Wahlen (1999) is for the consequence of the changes in financial transactions to mislead stakeholders about the financial performance of firm. For instance, managers believe that some outside stakeholders are not accessible to all information that is available for insiders. The outsiders already expect a certain magnitude of earnings management in the financial report. Thus, earnings management is not transparent to the outside investors. The third definition defined by Schipper (1989) is for obtaining intended private gains of firm's managers, such as maximizing bonuses, by purposefully intervening in the external reporting process to oppose a neutral outcome. However, those three definitions of earnings management share two important similarities. First, managerial intends to manipulate earnings to obtain private benefits. Second, rational managers would not engage in earnings practices without personal expected benefits.

Literally, earnings management is commonly viewed as the use of accounting methods to disguise financial information of public listed firms in developed countries. It can be beneficial or harmful to users of the information. Alternatively, business managers employ earnings management strategies by using discretionary accounting accruals to influence reported earnings (Jones, 1991). Business managers may also alter earnings to communicate information for the benefit of shareholders and public (Subramanyam, 1996). Subramanyam (1996) contends that managers exercise discretionary accruals to enhance their earnings ability and to reflect the true fundamental value of shares. Further instance, earnings management has a relationship with corporate tax avoidance (Desai & Dharmapala, 2009; Lin, Lu, & Zhang, 2012). In case of Laos, for instance, as one of the least developed countries, enterprises' managers may use earnings management for their own benefit under tax incentives or other possible factors. If firms report their earnings upward, even though they are more accessible to external financing but have higher tax deduction to the government. On the contrary, if firm managers alter discretion accruals on earnings to decrease income or even to report losses, this lowers taxable income. Hence, the government bases income-tax collection from unreflected financial earnings. Reasonably, earnings management is anticipated to be employed by Lao private enterprises' financial managers or owners.

#### **1.2.3 Determinants of Earnings Management**

Financial managers (as insiders) of firms can manage their earnings in different dimensions in relation to accounting choices or real activities manipulations. Several different factors can motivate the managers. Understanding the driving forces of the earnings management is essential to prevent future occurrences (Erickson et al., 2006) due to earnings manipulation could have consequential effects on related stakeholders.

Prior literature considers firm and industry factors as important factors in determining accountings choices (Watts & Zimmerman, 1986). On the one hand, a number of studies attribute firm-specific factors, such as size, as a heterogeneity in earnings management activity (Burgstahler, Hail, & Leuz, 2006; Lemma, Negash, & Mlilo, 2013; Othman & Zeghal, 2006). The results regarding the relationship between firm size and earnings management are mixed, firm size may have a positive or negative impact on earnings management for several reasons. For example, larger firms have more budget to pay for better audit quality than smaller counterparts, which help to prevent earnings misrepresentation (Beasley, Carcello, Hermanson, & Lapides, 2000; Warfield, Wild, & Wild, 1995). In contrast, larger firms have greater bargaining power with auditors that the auditors are likely to waive earnings management attempts but require an adjustment in identified material with small clients (Nelson, Elliott, &

Tarpley, 2002). On the other hand, a particular industry has more incentive for the manager to manipulate earnings than the others. For instance, Guadalupe and Pérez-González (2006) suggest that aggressive earnings management is reduced due to competition among industries weakens managerial control over their private benefits through the enhanced flow of specific information from firms. Likewise, firms in more regulated industries tend to have lower agency costs than the others, and hence are less likely to manipulate their earnings (Warfield et al., 1995). Similarly, firms in more competitive industries are less likely to engage in earnings management and the industrial competition reduces agency problems (Markarian, 2014). Therefore, firm-specific and industry-specific factors are included in this study to see whether the factors influence earnings management activities of private enterprises in Laos.

#### **1.2.4 Capital Structure and Earnings Management**

Prior studies have documented that financial leverage is correlated with earnings management. Leveraged firms alter their earnings to satisfy and not to violate debt covenant (Beatty & Weber, 2003; DeFond & Jiambalvo, 1994). In the year preceding debt violation, DeFond and Jiambalvo (1994) find an evidence of altering abnormal working capital accruals after certification by an external auditor. Consistently, Jelinek (2007) reports that increased leverage is related to earnings management, and leverage changes and levels may affect differently on earnings management. Accordingly, this study also examines the linkage between financial leverage and earnings management of Lao enterprises.

#### **1.3 Research Objectives and Questions**

The general objective of this study is to provide an insight into the business financing decisions and earnings management activities of Lao private enterprises. More spectificly, this study breaks down the general aim into three sub-objectives. The first one is to explore the determinants of capital structure decision of private enterprises in Laos. The second purpose is to investigate the main determinants of earnings management of the firms. The last objective is to examine the association between financial leverage and earnings management. The three following research questions are formulated in according to the contexts of interest discussed in the previous section:

- 1. What are the firm-specific characteristics and industry sectors that influence capital structure decision of Lao private enterprises?
- 2. What are the main determinants of earnings management of Lao private enterprises?
- 3. What are the relationships between earnings management and leverage of Lao private enterprises?

#### 1.4 Brief overview of Research Methodology

In order to answer the above three research questions, this study employs quantitative methods and adopts multiple-linear regressions to statistically test formulated hypotheses on financial leverage and earnings management. Basically, dependents and independent variables in the study are regressed in a baseline empirical regression model for the determinants of capital structure and earnings management, and the relationship between financial leverage and earnings management. This study uses two proxies to measure earnings management of Lao private enterprises, comprising of the absolute value of the residuals from Modified Jones Model (Dechow, Sloan, & Sweeney, 1995) and the Performance-Augmented Discretionary Accrual Model (Kothari et al., 2005).

This study uses secondary data from the annual financial reports of 224 private enterprises for a five-year period from 2009 to 2013 to be able to empirically examine the capital structure decision and earnings management activities. The sample firms consist of 123 limited companies and 101 sole-trader enterprises operating in five different industry sectors. The sectors include consumer discretionary, consumer staples, industrials, materials, and utilities. The financial reports of the enterprises are randomly collected from taxation offices, tax division, and tax department in the capital city of Laos, Vientiane Capital.

#### **1.5** Motivations of the Study

This section discusses four main factors that motivate the research undertaken. Firstly, there is a dearth of study on corporate financing decision and earnings management activities of private firms in least developed countries with transitional economy, such as Laos which has a unique institutional environment. Although, many researchers have focused on this issue in developed and developing countries but it seems to be less common in the least developed countries during transitional period. Therefore, this study attempts to fill the gap. Secondly, this study investigates the financial data taken from annual reports of private firms that are commonly unavailable for external users because the reports are only used for taxation purpose by tax authorities. thirdly, there is a need to enhance the understanding of capital structure decision and earnings management activity of Lao enterprises. The results of this study will benefit potential users. Lastly, the financial reports investigated in this study are under Lao accounting standards which are not fully compatible to accounting standards in developed and developing countries, such as the International Financial Reporting Standards (IFRS) or Generally Accepted Accounting Principles (GAAP). Thus, the results of this study are based on accepted financial reports under the Lao accounting standard, which is known as Lao Accounting Manuals and Instructions.

#### **1.6** Contribution of the Thesis

This project contributes to the existing literature on corporate financial management of firms in transitional environments and provides an insight for corporate managers, academics, policy makers, and other potential users due to the following reasons:

This study is an early provision in response to a shortage of empirical evidence of corporate financing and earnings management in least developed countries. It is because most of prior studies on the capital structure decision and earnings management activities relate to private or public firms in developed and developing countries. Particularly, this study seeks an extended evidence of private firms in Laos, which has a least developed status during the time of transitional economy from a centrally-planned regime to one based on a market-oriented mechanism. The transition had generated high GDP growth of over 7.5% annually over the last ten years (Bank of the Lao PDR, 2007; National Economic Research Institute, 2014). However, the concerns on financing decision and earnings management activities of private firms in the country have never been empirically explored.

This study also contributes to the ongoing research in accounting or finance literature. It provides a quantitative insight knowledge of capital structure decision and earnings management for private firms' managers, policymakers and other stakeholders. The managers may want to know how firm-specific determinants and industry factors that can influence their firms' capital structure. As a result, they can seek for an optimum level between debt and equity for their maximum profit. For policymakers, it is beneficial to their future planning for improving business financing, preventing earnings management assurances of private firms so as to mitigate potential effects to the government. In addition, lenders may want to know how firm-specific charactoristics and industry sectors influence financing decision and earnings management behaviour of Lao private enterprises. On the one hand, important firm-specific factors and industry influence found in this study can help the creditors in their future lending considerations. On the other hand, an understanding of the factors that motivate earnings management and the existence of earnings management level across industry sectors to minimise credit risks.

#### **1.7** Scope and Delimitation of the Study

This study focuses on determinants of capital structure and earnings management, and the relationship between earnings management and financial leverage of private enterprises in Laos. The investigation of the capital structure of the enterprises is based on two theories of capital structure, consisting of the Pecking-Order theory (POT) and Trade-Off theory (TOT). An agency theory is also used to explain earnings management activities in relation to financial leverage of Lao private firms. The determinants of capital structure and earnings management are firm-specific characteristics and industry sectors. The sectors are classified in accordance with global industry classification standards (GICS), including five industry sectors: consumer discretionary, consumer staples, industrials, materials, and utilities.

The data used in this study are taken from the annual financial reports of private enterprises in Vientiane Capital of Laos. The financial reports are formulated under Lao Accounting Mannuals and Instructions, and the Accounting Law (National Assembly, 2007). The reported data in the reports is in the local currency of Laos or Lao Kip (LAK). The reports are annually submitted to tax authority for taxation purposes.

In relation to the sample, this study only covers non-financial private enterprises and excludes public listed companies on Lao Securities Exchange. This because the public firms are required to report their financial information under IFRS which is different from Lao accounting standard in some aspects. Financial firms (commercial banks, insurance companies, leasing firms, and microfinance institutions) are excluded from the sample due to balance sheets of financial service companies are different from those of non-financial enterprises, such as the differences in the profit and loss statement. Small to Medium-sized Enterprises (SMEs) are also excluded because SMEs in Laos pay income tax under the "presumptive" system; they are not required to submit income statement and balance sheet to taxation office like the private firms. The SMEs are defined in the Decree on the Promotion and Development of Small to Medium-Sized Enterprises (Prime Minister's Office, 2004). In addition, State-Owned Enterprises (SOEs) are omitted because state-owned firms behave differently from privately owned companies in term of overall benefit to the whole society during an economic circumstance. For example, SOEs may be more sluggish to reduce costs as a reaction to new demand during the time of economic crisis (Hart, Shleifer, & Vishny, 1997).

#### **1.8 Structure of the Thesis**

This thesis consists of six chapters, including Chapter: 1 Introduction, Chapter 2: Institutional background of Laos, Chapter 3: Theories and Literature review, Chapter 4: Research method, Chapter 5: Results and discussion, and Chapter 6: Conclusions and implications. The content of each chapter is briefly explained in Table 1.1 as follows.

### **Table 1.1 Organisation of the thesis**

| Chapter 1 | This chapter is the foundation of this doctoral thesis. It begins with the introduction to the study, followed by the background to this study, and the importance of optimum capital structure decision and the effects of earnings management. It also provides a historical background of capital structure, earnings management, determinants of earnings management, and their impact of earnings management on financial |
|-----------|--|
|           | leverage. In addition, this chapter explains the objectives and the questions, an overview of the methodology, the motivation of the study, the contributions of the study, scope and delimitation, and the outlined structure of the thesis.  |
| Chapter 2 | This chapter mainly focuses on an insight institutional background of Laos. Specifically, the chapter presents the country background, the overview of politics and government, macroeconomic condition,   |

|           | capital market, portfolio investment, and private sector. It also provides<br>a brief overview of financial sector and business financing in the<br>country, including the banking sector, non-bank financial institutions,<br>and the stock market. In addition, accounting standard, financial<br>reporting, auditing and accounting professional are briefly explained.   |
|-----------|--|
| Chapter 3 | This chapter provides the theoretical principles of capital structure decision, consisting of the early capital structure theory, the POT and TOT. The two theories will be used to explain the financing decision and earnings management activity of Lao private enterprises. In addition, an agency theory in business for explaining the relationship between financial leverage and earnings management is presented. The chapter also reviews previous literature on capital structure decision, earnings management activities, determinants of earnings management, and the relation between financial leverage and earnings management. The prior literature help in identifying the shortage of prior studies and supporting the justification of this study. It is also the basis of hypothesis development.  |
| Chapter 4 | This chapter describes the research method of this empirical study. The conceptual framework is firstly presented in order to outline each individual research questions with capital structure and earnings management, followed by the formation of hypotheses basing on the literature review in previous chapters. Secondly, this chapter describes the data and collection process. Thirdly, it explains the measurement of related variables, both dependent and independent variables. The empirical methodology is explained in the later section. Specifically, the methodology on determinants of capital structure decision and earnings management's practices, as well as the relationship between leverage and earnings management are separately explained. Lastly, this chapter explains the employed techniques to mitigate bias issues from the data analysis. |

| Chapter 5 | This chapter presents the descriptive results and the test results of six   |
|-----------|---|
|           | hypotheses developed in Chapter 5. It starts with the explanation of  |
|           | descriptive statistics for dependent, independent, and control variables  |
|           | as well as a correlation matrix. This is followed by the presentation of  |
|           | the main results from the empirical tests of the hypotheses. The chapter  |
|           | also provides a discussion of robustness checks.  |
|           |   |
| Chapter 6 | This chapter summarises the results from a statistical test of the six  |
| Chapter 6 | This chapter summarises the results from a statistical test of the six<br>hypotheses under three research questions in Chapter 1. It also   |
| Chapter 6 | This chapter summarises the results from a statistical test of the six<br>hypotheses under three research questions in Chapter 1. It also<br>interprets and provides a discussion of the statistical tests on the   |
| Chapter 6 | This chapter summarises the results from a statistical test of the six<br>hypotheses under three research questions in Chapter 1. It also<br>interprets and provides a discussion of the statistical tests on the<br>implication of the results. In addition, contributions and limitations of  |
| Chapter 6 | This chapter summarises the results from a statistical test of the six<br>hypotheses under three research questions in Chapter 1. It also<br>interprets and provides a discussion of the statistical tests on the<br>implication of the results. In addition, contributions and limitations of<br>the study, and recommendation for future research are exlained. |

#### **1.9 Chapter Summary**

This chapter is the introductory chapter of this doctoral thesis. It presents the historical background of the study. It discusses the importance of optimum capital structure decision and the reasons behind the use of earnings management of firms that leads to the formation of research objectives and questions. Further, this chapters explains the research methodology and motivations as well as the contributions, scope and delimitation of the study. At the end of the chapter, there is an outline of the structure and provides a brief content in each chapter of the thesis.

This study is an early investigation of financing decision and earnings management's pratices of private enterprises in Laos, where the business environment is in a transitional period from the central-planned mechanism to a market-oriented economy. In realising the importance of financing decisions and the effects of earnings management, this study aims to increase the understandings of the determinants of capital structure and earnings management of the private firms the country. In doing so, this study adopts an empirical method to investigate the data taken from the financial reports of 224 private firms in Vientiane Capital of Laos.

This study is motivated by the apparent shortage of research on financial leverage and earnings management of private firms in the least developed countries during the transitional period. Most of the prior studies are those of public or private firms in developed and developing countries. Further, a better understanding of determinants of financial leverage and earnings management of private enterprises will be helpful for financial managers or owners to seek an optimum level of capital structure for maximum profit as well as to increase an awareness and the effects of earnings management for related stakeholders. Thus, this doctoral thesis does not only contribute to the existing literature on capital structure decision and earnings management activities but it is also beneficial to regulators, analysts, academics, practitioners, and other potential users.

#### **2.1 Introduction**

This chapter provides an overview of institutional environment of Laos for the investigation of the collected data in Chapter 5. The institutional factors are explained in this chapter because the factors can possibly impact on the results from the investigation of the financial data of private enterprises to be used in this study. Specifically, this chapter provides the geographic, politics, government, and macroeconomic information of the country. Capital markets, portfolio investment, financial sector, business financing, and private sector are also presented in this chapter. Further, it highlights accounting standard, financial reporting, and auditing underlining the financial reports of Lao private enterprises to be used for the analysis of empirical results in Chapter 5.

The detailed sections of this chapter are organised as follows. Section 2.2 presents the general overview of the country. Section 2.3 provides the background of politics and government. Section 2.4 presents macroeconomic condition with a particular focus on GDP growth of neighbouring countries and developing Asia in comparison to Laos. This section also presents the value of foreign direct investment, changes in GDP components, foreign trade of exports and imports, revenue from tourism and number of tourists, and credit growth. Section 2.5 explains briefly about capital market and portfolio investment. Sector and business financing, including the banking sector, non-bank financial institutions, insurance companies, the stock market, and credit protection. Section 2.8 describes accounting standards and financial reporting. Section 2.9 clarifies about auditing and accounting professional. And section 2.10 concludes this chapter with a summary.

#### 2.2 Country Overview

The Lao People's Democratic Republic (Lao PDR) or Laos has a total land area of 236,000 square kilometres, which is landlocked, mountainous and largely tropical forested. From north to south, Mekong River forms a large part of its western boundary with neighbouring Thailand. Laos locates at the centre of Indochina and is bordered by other four countries comprising of the People's Republic of China, Vietnam, Cambodia, and Myanmar. Compared to the neighbouring countries, Laos has a lower population of 6.76 million people (World Bank, 2016). The population are diverse among 49 officially recognised ethnic minorities with their traditional culture and indigenous knowledge. Young people cover over 70% of the total population but are potentially energetic and productive to economic development (National Statistic Centre, 2014). The country is traditionally seen as a Buddhist country, two third of the population described themselves as Buddhist (Morev, 2002).

Laos was an independent country before becoming a colony of France in the late nineteen century and later recovered its sovereignty again in 1955. The country had been in conflict during Indochina war for 20 years before it was in complete control of the Lao People's Revolutionary Party (LPRP) in 1975, which is an only political party in Laos. The country is divided into 18 provinces, roughly from north to south, namely Phongsali, Louang Namtha, Bokeo, Oudomxay, Louangphabang, Houaphan, Xaignabouri, Viengchan, Xiangkhuang, Bolikhamxay, Khammouan, Savannakhet, Saravan, Xekong, Champasak, Attapeu and the capital city at the central part of the country, called Vientiane Capital.

#### 2.3 Background of Politics and Government

Laos has been known as a country of colonisation with foreign occupations, civil wars, and political instability during the last two centuries. Until 1975, following the US withdrawal of military forces from Vietnam during the Vietnam War, Lao Communists consolidated the country under the assistance of Vietnamese Communists and brought the end of the monarchy in Laos, and established the Lao PDR on 2nd December 1975. Lao PDR remains one-party state under the LPRP following of nominally Marxist-Leninist regime. Lao government considers the country political stability as a paramount importance. The president, the head of the state, is elected by the parliament, known as the National Assembly of Laos, for a term of five years. The president also acts as the secretary-general or the head of the political party. The president internally and externally represents the state, supervises the implementation of the government's affairs, and preserves the soundness of the national legislative framework as well as protects the autonomy and regional honesty of the country. In supervising the members of the party, there is also a central committee of the LPRP, called Politburo Committee. Nine members drawn from the Politburo are the key body of making decisions. The powerful Politburo and 49-central committee determine

government policies under the supervision of the president. All-important government decisions are assessed by the Council of Ministers (ASEAN, 2014). The head of the government is the Prime Minister, appointed by the President and with the approval of the Lao national assembly. The assembly has three types of sessions, including the opening, ordinary, and extraordinary session (National Assembly, 2014). The opening session is convened no later than sixty days after the election of a new National Assembly. The ordinary session is convened twice a year; the first session at the end of each fiscal year between June and July, and the second session at the beginning of each fiscal year between November and December. The extraordinary meeting may be convened between the two ordinary sessions to consider and decide important or necessary issues. Members of the national assembly are those people from a list of candidates approved by the party and responsible for scrutinising and approving proposed legislation. The national assembly is the representative body of the rights, interests and powers of all ethnic peoples in the country. It has legislative right to judge fundamental issues and to monitor the activities and implementations of executive organs of the government. It has also the right to oversee the activities of the people's courts and the office of the public prosecutor.

Even though the country is divided into 17 provinces as well as the capital city but there are no representative institutions at the lower level of provincial governments. Each province is divided into a number of districts which are made up of numerous villages. Provincial governors and the heads of districts and villages are appointed by the central government (World Bank, 2010).

#### 2.4 Macroeconomic Condition

Over the last four decades, Laos has been committed to long-term development and set a national vision to progress from the status of being the least developed country to become a developing country by the year 2020. To achieve such ambitious vision, the Lao government has developed and implemented seven consecutive strategic plans for the future sustainable development of the country. The adoption of the New Economic Mechanism in 1986 is an important turning point of the country to encourage private-owned enterprises to global markets. Consequently, Laos has been gradually developing from a centrally-planned regime to a market-oriented economy (Bourdet, 2000). As a result of the decentralised government and encouragement of private enterprises, the country has experienced an economic transition with a dramatic increase in infrastructure projects, foreign tourists, trade and foreign direct investments (Phouxay, Malmberg, & Tollefsen, 2010). In 2011, the World Bank partially raised the status of Laos from a low-income economy to a lower-middle-income economy (World Bank, 2014). In 2016, a gross national income per capita was USD 2,150. Nevertheless, the World Bank still views Laos as a least developed country for several reasons, such as lack of infrastructure and human capacity. Lao macroeconomic performance was substantially high and relatively stable during the last decade. Lao GDP growth from 2008 to 2015 represents an average of 7.8% per annum which is considered as one of the fastest growing economies in East Asia and in comparison to other parts of the world (Figure 2.1). The continuous growth reflects a number of improvements in the monetary and fiscal discipline. The Lao government has also accelerated and integrated reforms across multiple areas, including public financial management, trade and private sector development, natural resources management, governance and anti-corruption throughout the country.





Source: International Monetary Fund (IMF), \*The Bank of Lao PDR

Even though, Laos is rich in natural resources such as timber, rattan, hydropower, copper, gold, tin and aluminum (Bhasin, Venkataramany, & Ng, 2016). Much of the resources remain untapped due to lack of financial capital and human capacity. Laos' population substantially depend more on agriculture. A large proportion of the population (80%) relies on subsistence agriculture, largely peasant farming (Australian Centre for International Research, 2014). The overall competitiveness of agricultural sector is relatively weak.

The economy of Laos is primarily driven by Foreign Direct Investment (FDI) to support its continued economic expansion (Figure 2.2). For the period of 2008-2015, the FDI reached an all-time high in 2015 with a total value of USD 1,421.17 million. The country has a strong potential of rapid economic development for a long term due to the wealth of natural resources and the combination of favourable geographic location as land-locked country. Over the period, investment projects in the areas of hydropower production and the exploitation of mining resources represented leading sectors of the accumulated value over the term. Transportation infrastructure, manufacturing, agriculture, tourism, hotel and restaurant are also highly attractive to new foreign investors. Among the foreign investors, Laos' neighbouring countries are the main sources of the FDI, including Vietnam, China and Thailand. Korea, Japan and France are also among the largest sources of FDI in recent years.



Figure 2.2 Value of foreign direct investment

Source: The Bank of Lao PDR, 2014

Service and manufacturing industries were the two major components of GDP growth from 2008 to 2015 (Figure 2.3). The service sector contributes to the GDP growth from 2.35% to 3.72% during the period, while manufacturing industry

contributed the growth from 2.20% in 2008 to its peak of 4.17% in 2010. Laos' annual household income per capita had been rising gradually every year from 2008 to 2015. Over the eight-year period, the income per capita had increased more than three times from USD 719 in 2018 to USD 2,408 in 2015.



Figure 2.3 Changes in GDP components and income per capita

Source: The Bank of Lao PDR, 2017

Laos has been continuously promoted and integrated its economy with international economic communities. The country is a member of the Association of Southeast Asian Nations (ASEAN) and the ASEAN Free Trade Area (AFTA) regional trade blocks in 1997, and a permanent member of World Trade Organization (WTO) on 2 February 2013 (World Trade Organization, 2014). Laos has additionally held free trade agreements with ASEAN dialogue nations in Asia, including Japan, Korea, China, India, Australia, and New Zealand. Moreover, Laos is also a party to other free trade agreements, including Lao-Vietnam Trade Agreement and the Asia-Pacific Trade Agreement (APTA) (Lao Trade Portal, 2014).

Laos currently gains benefits from being a member of ASEAN markets primarily to neighbouring country Thailand with total exports amount of USD 516 million in 2012 (Lao National Statistic Centre, 2012), followed by Vietnam and Singapore, amounting to USD 119 million and USD 44 million, respectively. Laos also exports to ASEAN dialogue partners including Australia, China, European Union, Japan and South Korea with exporting items such as agriculture produces, handicrafts, garments and non-timber forestry products. The Chinese market was the largest market for Laos, with the total amount of USD 337 million, and followed by the European Union as the second-largest importer, with a total value of USD 169 million.

As can be seen in Figure 2.4, the total value of exports from Laos to ASEAN and the rest of the world approximately increased from USD 1,053 million in 2009 to USD 2,769 million in 2015, except a slight decrease of the total exported value in 2013 when it is compared to previous year. The major components of the total exports are accounted from agricultural produce, garment, wood, prepared foodstuff, electricity, and extracted metal from the mining industry, such as copper and gold. On the other hand, the total value of imports was significantly higher than exports, accounted approximately for USD 1,461 million in 2013 to USD 5,233 million in 2015. The key components of the imported products are derived from raw materials and capital goods such as food and beverage, fuel, vehicle and mechanical equipment. In comparison, the trade balance recorded a common deficit to Laos in every year, accounted for between USD 311 million to USD 2,464 million during the same period.



#### Figure 2.4 Foreign trade of exports and imports

Source: The Bank of Lao PDR, 2017

The tourism industry in Laos has been booming since 1999 after the government opened the country to foreign visitors in 1986. Laos has stunning scenery from Limestone Mountains to dense forests and numerous spectacular waterfalls. Adventure and ecotourism are also attractive to the tourists to visit ethnic minorities and other best places which are difficult to reach. The number of foreign tourists from around the globe increased from approximately 1.74 million in the year 2008 to 4.36 million in 2015 (Figure 2.5), mainly the tourists from neighbouring countries. In 2015, for example, tourists from Thailand covered 51.6%, followed by Vietnam, China, and South Korea which accounted for 24.2%, 9.9% and 2.8% respectively. The revenue from the tourists made a significant contribution to the development throughout the country, which represented USD 275.52 million in 2008 and had steadily increased to reach USD 679.39 million in 2015.



Figure 2.5 Revenue from tourism and the number of tourists

Source: Ministry of Information, Culture and Tourism, 2017

Total credit provided by commercial banks to borrowers in Laos was increasing gradually in comparison to GDP growth during the six-year period from 2008 to 2015 (Figure 2.6). The credit demand accounted for about 10.2% in 2008 and reached the highest level of 48.1% in 2015. Trade and agriculture sectors were the two main borrowers during 2008 to 2010. Since 2010, commercial banks responded to government policy on developing infrastructure throughout the country by lending
more money to infrastructure projects. However, agriculture, manufacturing and handicraft remained in high demand for external credit.



Figure 2.6 Credit growth

Source: The Bank of Lao PDR, 2017

# 2.5 Capital Markets and Portfolio Investment

Realising that capital market plays an important role in mobilising financial resources to facilitate and promote economic activities and growth, the Lao government sets an ambitious vision to industrialise and modernise the country. To achieve such a goal, both public and private capital mobilisation are essential for long-term development. Currently, a well-developed capital market does not exist in Laos, although the government has legalised support policies for the information of capital and the free flow of the financial resources.

The rapid growth of the financial market in Laos during the last decade urged a large amount of capital to meet the demands of investment and business expansion. In respose, the Lao government has included and focused on the development of money market and capital market in their 6<sup>th</sup> Five-Year Development Plan (Government, 2006) for the fiscal years for 2006 to 2010 and 7<sup>th</sup> Five-Year Social Economic Development Plan for 2011 to 2015 (Government, 2011). The main sources of fund for businesses in Laos are drawn from commercial banks for only short-term borrowing (Songvilay L., 2011). This financial constraint limits the sustainable development over the long-run of the country. Therefore, financial sector reform is one of the country's priority initiatives (Asian Development Bank, 2012). The focus of the government is to reform the banking sector and the equity market. In the early stage, this change includes reinforcing the operation and oversight capacity of the central bank, the Bank of the Lao PDR (BOL), and restructuring state-owned commercial banks by enhancing managerial and financial performances on lending and formulating risk management systems.

The capital market structure in Laos is comprised of Lao Securities Commission (LSC), Lao Securities Exchange (LSX), listed companies, securities companies, and external auditors (Lao Securities Commission, 2015). The LSC supervises the securities activities in the LSX to ensure the effectiveness and continuous development. Shares of the listed firms are traded in the LSX through three of four existing securities companies, namely Lanxang Securities, BCEL-KT Securities, and Lao-China Securities. The mentioned securities intermediaries operate in full-function licensed by the LSC. Whilst the fourth securities firm, called APM Lao Securities, provides only financial advisory service to an unlisted firm to become listed company in the LSX. In any case, financial statement of a public firm is required to be audited and certified by an external auditor who has been widely accepted before disclosing the financial information to public users. Currently, there are four external audit firms, namely PricewaterhouseCoopers (Lao), KPMG Lao, Ernst and Young Lao, and Deloitte (Lao).

# 2.6 Private Sector

Private sector have become a key driving force of economic transition and engine of economic growth since Lao government adopted a market oriented policy in 1986. Although the government still controls the main industrial sectors through state-owned enterprises, domestic and foreign direct investments of private sector have been increasingly promoted to stimulate growth, employment, income generation, and poverty reduction. Favorable business environment is also created in the major provinces of Laos, such as special economic zones. Total investment in the private sector accounts for over 80 percent of the country's GDP (Asian Development Bank, 2011). In response to the promotion on domestic investment and foreign-direct investment (FDI), private sector growth has been concentraded in resource-based industries of mining and hydropower over the last decade. Mostly, foreign-owned companies hold a large share of total investment in the two industries (Asian Development Bank and the Government of Australia, 2016). This is because foreign companies can own 100% of a domestic company and no legal distinction is made between foreign and domestic ompanies (National Assembly, 2009). However, the foreign-owed firms provide a small share of total employment and few opportunities for small and medium-sized enterprises Meanwhile, investment of private companies in non-resource sector (SMEs). (services, agriculture, light manufacturing, and processing industries) is relatively small in term of value. Private domestic investment has been stagnant at reound 5% of gross domestic product, three times less than FDI (Asian Development Bank, 2011). Private exports outside the resource-based sectors have very low product diversification. Labor productivity has stagnated at low levels and is not competitive internationally. SMEs dominate economic activity and account for substantial employment. Totally, more than 98,962 enterprises of all types were registered (Ministry of Industry and Commerce, 2014). Official figures show that small firms (1-19 employees) account for 99 percent of the total registered enterprises. These small enterprises remain informal and struggle to grow into medium-sized and large companies with subtantial employment opportunities for Lao citizens.

# 2.7 Financial Sector and Business Financing in Laos

Lao government has adopted periodic strategies for the development of financial system after commencing economic reform in 1986. The primary focus of the strategies is to create favourable conditions for commercial banks and non-bank financial institutions to mobilise and allocate efficient resources through the use of varied-financial products and services with modern technology. In line with the financial demands, the periodic reforms are also set and implemented. Commercial banks, Non-Bank Financial Institutions (NBFI), and equity market have been established and regulated to stimulate economic expansion throughout the country. This section summarises banking system, NBFI, and equity market in conjunction with their financing services.

## 2.7.1 Banking Sector

Laos is considered as a bank-based economy. Its banking system consists of the Central Bank (known as the Bank of Lao PDR), state-owned banks, private banks, joint-stock banks, branches of foreign banks, and non-bank financial institutions (Keovongvichith, 2012). Commercial banks play a significant role in mobilising and allocating financial resources to local business enterprises. The number of commercial banks in Laos has rapidly increased over the past ten years because of the government policy to facilitate investment in the banking sector. The government allows foreign investors to play a role in the banking business as joint ventures and branches. Nevertheless, the service activities of the foreign banks are restricted in the capital city of Laos, Vientiane. By September 2017, the banking system comprises of 41 commercial banks with their head offices solely based in Vientiane. These banks can be characterised as policy-based banks, specialised banks, and general commercial banks. Among the banks, there are 7 private commercial banks, 4 state-owned commercial banks which two of them are specialised banks and policy-based banks, 3 joint state-commercial banks, 9 subsidiary banks, and 18 foreign branches (Figure 2.7). At the end of 2014, the total assets of the commercial banks were estimated to be worth USD 6.8 billion, representing 98% of total assets in the financial sector.

The state-owned banks act as key providers of credit loans and banking services to local businesses in the competitive banking sector. The policy-based bank, Nayoby Bank, operates as a poverty reduction bank for defined areas in accordance with the government policy. Specialised banks, such as the Agricultural Promotion Bank, were established to facilitate finance for specific sectors and individual business areas in case of the general banks cannot fully supply monetary demands. In the meantime, the general banks deal with deposits and provide short-term and long-term financial supports for business firms as well as the supply of working capital to production activities of private businesses.

The Lao banking sector is relatively in an early period of development and comparatively unsophisticated. The commercial banks can only provide basic financial services such as deposit-taking, lending, foreign currency exchange, payment, and clearing. Even though there are different types of commercial bank, the banking services of the specialised banks are recently similar to those of the general banks. Legally, most of the commercial banks in the system are required to maintain reserve funds at a specified rate set by the BOL. In addition, the banks are obliged to offer commercial loans for the agricultural sector at least 15% of their total deposits.



Figure 2.7 Structure of Lao banking system

Source: The Bank of Lao PDR, 2017

With the unavailability of the bond market for private enterprises, there are three possible options for business firms to finance their investment projects. The first one can be stock issuance through Lao Securities Exchange (LSX) which is only a single stock market in the country. This method has an advantage in providing a consistent and considerable amount of capital for the firm development in the longterm plan but it is limited for public listed companies in the LSX. The second possible way is to finance their business operations by taking a loan from the commercial banks or other non-bank financial institutions, which are accessible for all private companies. Although credit from the commercial banks is aimed to raise liquidity of businesses for both short and medium term, the cost of borrowing from the banks is relatively higher compared to the equity market. In response to interest rate policy of the Bank of Lao PDR, the average annual lending rate of Lao Kip had been cut significantly from 17.65% in 2008 to 10.94% in 2015 but slightly fluctuated from 2011 to 2014 (Figure 2.8)<sup>1</sup>. In 2015, a new interest rate policy was introduced for the commercial banks by determining the spread on a weighted average between loan and deposit rates within the range of 4%. As a result, annual lending rates dropped averagely from 12.99% in 2014 to 10.94% for Lao Kip. Unlike most other Southeast Asian countries, deposits and lending in foreign currencies, particularly Thai Baht and US Dollar, can be made with the commercial bank in Laos (National Assembly, 2008). Lending rates of US dollar and Thai Baht responded to the government policy in the same pattern with Lao Kip for the same period. The credit rate of US dollar decreased from 10% in 2008 to 7.82% per annum in 2015. Whilst Thai Baht lending rate in Laos dropped from 11.34% in 2008 to 9.12% in 2009 and then slightly swung over the period of 2010 to 2014 between 9.04% to 9.56% per annum but dropped to 8.37% in 2015. During the same period, taking a loan from microfinance institutions as the last resort had significantly higher cost compared to the lending rates of the commercial banks.

<sup>&</sup>lt;sup>1</sup> Although the Lao Kip is an official national currency, Thai Baht and US dollar are two foreign currencies used domestically for transactions.



Figure 2.8 One-year-nominal lending rates of commercial banks

Source: The Bank of Lao PDR, 2017

## 2.7.2 Non-Bank Financial Institutions

Non-Bank Financial Institutions (NBFIs) are under the supervision of the Bank of the Lao PDR (BOL). The NBFIs comprise of postal savings institution, deposittaking MicroFinance Institutions (MFIs), non-deposit taking microfinance institutions, saving and credit unions, and pawnshops (Asian Development Bank, 2010). Most of these financial institutions are located in the capital city of Laos and the populous cities where better economic conditions and infrastructure exists (Bank of the Lao PDR, 2014). As the end of 2016, there were 17 deposit-taking microfinance institutions, 59 non-deposit-taking MFIs, 28 savings and credit unions, 31 leasing companies, and 32 pawn shops. The total accumulated assets of the non-banks were LAK 2,646.53 billion, composing of LAK 204.46 billion and LAK 622.59 billion in total deposit and credit respectively (Bank of the Lao PDR, 2016).

The BOL promotes the MFIs countrywide so as to provide an access to diversified financial services for local businesses. Consequently, the microfinance industry has been growing over the last years. Although the total number of the MFIs reaches 123 in 2014, there is still a large unmet demand for financial services as the outreach of the existing providers is very limited and scattered because of low-density population. Moreover, the sector faces multiple challenges from their risky portfolio

investment, the low capacity and governance level of their staffs, and poor infrastructure which leads to higher transaction costs. Most of the MFIs are small in size and not profitable but rely on donor support. The lack of awareness of microfinance good practice combined with challenges in improving stakeholder cooperation and coordination are also hampering this sector development (Microfinance Association, 2017). However, the MFIs enjoyed their better operations in 2012 (Bank of the Lao PDR, 2014). Their savings and loans increased by 28% and LAK 10 billion over 2011's. The figures imply that saving and borrowing with the MFIs became more attractive to members and clients.



**Figure 2.9 Financial status of microfinance institutions** 

Source: The Bank of Lao PDR, 2014

### 2.7.3 Insurance Companies

Apart from the commercial banks, insurance sector also plays an important role in driving and sustaining continuous growth of the cross-border and domestic businesses in Laos. Legally, not only domestic but also foreign investors are allowed to invest in the insurance business. The sector is regulated by the Ministry of Finance. Although there are ten insurance companies currently operating in Laos under the Insurance Law (National Assembly, 2011) this industry is uncompetitive. Only a few of the existing companies are really active due to the insurance sector is relatively small. The existing companies comprise of Allianz General Laos, Lao-Viet Insurance, MSIG Insurance (Lao), BSH Lao Insurance, J&C Expat Services, Bangkok Insurance Lao, APA Insurance, Tokojaya Lao Assurance, Dhipaya Insurance Lao, and Lanexang Assurance. The companies provide both life and non-life insurance, such as health, life, car, property, and construction insurance. The demand for the insurance products remains relatively low for local residents but derives primarily from foreign residents and commercial enterprises throughout the country. Laos had one of the lowest overall per capita insurance premium in Asia (Lord, 2010) due to the insurance premium is relatively high compared to the local residents' incomes.

# 2.7.4 Stock Market

The development of equity market is another priority in the financial sector reform. Lao government implements various administrative changes to support the development of the financial sector, such as the law on commercial banks, the decree on foreign currency, securities law, and other regulations related to the roles and responsibilities of stockbrokers and market operations. Consequently, the stock market in Laos, called Lao Securities Exchange (LSX), had been established in collaboration with the Korea Exchange in 2010 and started its first trading in January 2011. This direct market aims to lower cost of capital for local business enterprises but also promotes sustainability, efficiency, fairness, transparency and growth of the LSX (Lao Securities Commission, 2015).

| Tieken  | Company                 | Industry     | IPO  | IPO price |
|---------|-------------------------|--------------|------|-----------|
| TICKET  |                         | muusury      | year | (LAK)     |
| BCEL    | Banque Pour le          | Banking      | 2011 | 5,500     |
|         | Commerce Exterieur Lao  |              |      |           |
| EDL-gen | EDL Generation          | Utilities    | 2011 | 4,300     |
| LWPC    | Lao World Public        | Property,    | 2013 | 10,200    |
|         | Company                 | Conglomerate |      |           |
| PTL     | Petroleum Trading Lao   | Petroleum    | 2014 | 4,000     |
| SVN     | Souvanny Home Center    | Hardware     | 2015 | 3,100     |
| PCD     | Phousy Construction and | Construction | 2017 | 1,200     |
|         | Development             |              |      |           |

Table 2.1 Listed companies in Lao Securities Exchange

*Note:* \*Lao Kip is the currency of Laos. It is coded as LAK and the currency symbol is K.

As of October 2017, six public companies from different industries have been listed in the LSX (Table 2.1), comprising of Banque Pour Le Commerce Exterieur Lao (BCEL), Electricite du Laos-Generation (EDL-Gen), Lao World Public Company (LWPC), Petroleum Trading Lao (PTL), Souvanny Home Center (SVN), and Phousy Construction and Development (PCD).

The BCEL and EDL-Gen were the first two listed companies in the Lao stock market. The initial public offerings of BCEL and EDL-Gen raised USD 140 million in combination in 2010. Trading shares in the LSX were substantially high during the first month of market establishment in comparison to a later stage (Figure 2.10). The average trading volume was higher than 400,000 shares per day (Songvilay L., 2011). In the first day of trading, the share price of EDL-Gen increased by 9.3% and BCEL surged by 45%. Over the four-year period after the establishment of the LSX, daily trading was dominated by the stocks of BCEL and EDL-Gen. EDL-Gen being the largest accounts for 78% of the market capitalisation and BCEL accounts for 12% of the market capitalisation during the first four years (Lao Securities Exchange, 2014). Nevertheless, the restrictions of capital flows and low domestic savings are the main concerns of low liquidity in the LSX. In 2015, the government projected to list more firms in the LSX up to 20 companies, and to establish a bond-trading platform in order to raise more funds for both public and private sectors but was partially able to meet the target number.



Figure 2.10 Lao securities composite index and share prices

Source: Lao Securities Exchange, 2017

Since the opening of the LSX in 2010 until 2015, all listed companies have totally raised their capital of LAK 7,584 billion (Figure 2.11). The total raised fund was over LAK 1,237 billion in every year, except in 2013. In 2015, the total amount of fund drawn from domestic and foreign investors had reached the recorded high of LAK 2,832 billion. Whilst market capitalisation of the LSX during the first month of trading accounts for 3.46% of GDP (Songvilay L., 2011). The market capitalisation increased from LAK 4,638 billion in 2011 to LAK 12,047 billion in 2015.



Figure 2.11 Raised capital of listed companies from Lao Securities Exchange

Source: Lao Securities Commission, 2017

# 2.7.5 Creditor Protection

The Bank of Lao PDR (BOL) has introduced a number of measures to monitor credit market and to protect creditor and borrower in case of payment defaults. In 2010, the BOL has officially opened a credit information bureau with a modern system that provides credit information service to commercial banks and other non-bank financial institutions. The credit-information bureau system acts as a crucial tool to gather and distribute reliable credit information for the financial institutions in order to improve creditor and borrower protection and enhance the competition in the Lao credit market as well as to increase the accessibility of credit for businesses. The system is helpful for the financial institutions in evaluating their customers' creditworthiness and minimising credit risks before releasing their loans. Law on bankruptcy is another legal tool aiming at solving an enterprise's financial failure situation (National Assembly,

1994). The law is designed to protect the creditor's interests and provides a process that enables the enterprise to sort out their financial affairs by providing a bankruptcy mechanism through which the firm's creditors can be paid. The law also allows the borrower the right to request for mediation in order to preserve the business operation.

# 2.8 Accounting Standard and Financial Reporting

The Lao PDR has its own accounting standards which apply to all types of businesses. The Ministry of Finance is only a public authority supervising and monitoring the business enterprises in maintaining accounting records and preparing financial reports. There has not yet been a comprehensive set of accounting standards. Lao Accounting Standards (LAS) is currently under the development of the Lao Institution of Certified Public Accountant (LICPA). The legal basis for business enterprises is the law on Enterprises Accounting issued on 17 July 2007 (No. 146/PO) for maintaining their economic transactions and preparing their financial reports. In addition, Lao business enterprises also apply Lao Accounting Manual (LAM) issued by the Ministry of Finance, as a set of instructions basing on an accrual basis of accounting to guide their financial records and reports for local taxation purpose. The standard set of instructions is partially consistent with internationally recognised standards or principles. On 13 July 2014, the new amended Accounting Law (No. 47/NA) has become into force and replaced the former law. The new law prescribes accounting formalities for international enterprises. This law aims to reform the old LAS and is a part of legislative reform process before the establishment of the ASEAN Economic Community (AEC) in 2015. The newly amended law is aligned with International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS). Since the adoption of the new accounting law, business enterprises in Laos are permitted to use IFRS in maintaining accounting records and preparing for the financial reports. Previously, many legal entities doing business internationally had to keep two sets of accounting records – one that conforms to the Lao Accounting Standards and another for the IFRS.

According to the Accounting Law (National Assembly, 2007)<sup>2</sup>, business enterprises must prepare accounting entries, books of accounts and financial

<sup>&</sup>lt;sup>2</sup> The Accounting Law which is a Presidential Decree issued in 2007 sets out principles, rules and measures of accounting for all private enterprises, state-owned enterprise, and not-for-profit bodies.

statements in the Lao language, dominated by Lao Kip. The financial statements are annually are required to submit to both the business registration's office and taxation authority. Practically, except for banks and insurance companies, taxation offices under the Ministry of Finance are responsible for the financial reports from the enterprises. The basis of Lao accounting is that records must be accurate and reasonable. All types of companies, as well as State-Owned Enterprises (SOEs), are required to report their financial statements. The standard financial reports are comprised of balance sheets, profit and loss statements, sources and uses of funds, tax returns, depreciation schedules for fixed assets, statement of changes in equity, cash flow statements, and explanatory notes of the accounting principles and methods used. The reporting period covers twelve months from 1<sup>st</sup> January to 31<sup>st</sup> December of the same calendar year. Business enterprises must prepare accounting records under double-entry bookkeeping. All recorded items must be evidenced by supporting documents which are obliged to retain for 10 years. Balances are recorded under historical cost. Assets must be revalued if the enterprise intends to decrease the scope of its business or to dissolve. The valuation basis must be consistent.

## 2.9 Auditing and Accounting Professional

Both local and foreign-owned firms operating in Laos are required to engage in a financial audit of their financial health. Accounting standards and regulations in Laos differ from International Financial Reporting Standards (IFRS) and the United States Generally Accepted Auditing Principles (USGAAP) in some extends. Public listed firms and private companies with registered capital at least LAK 100 million are legally required to have their financial accounts audited by an independent auditing firm (National Assembly, 2007). However, the requirement can be practically enforced due to the shortage of qualified certified public accountant (CPA) amongst local private-owned enterprises. For that reason, foreign companies and listed firms operating in the country prefer to have multinational auditing firms to perform their accounting audit. According to the regulation of Lao Securities Exchange, the external auditors must be approved by Ministry of Finance and legally licensed by Ministry of Industry and Commerce. They also need to be certified by the Lao Securities Commission (LSC) in order to provide their auditing service in the capital market.

Formal education of accountancy in local technical colleges and Universities is limited to fundamental bookkeeping and theoretical concepts of accounting, with little or no practical application. The Lao Chamber of Professional Accountants and Auditors (LCPAA) is only a public body that provides a nine-month training course to develop accounting professionals as one of the requirements for registration to become a public or private auditor (ASEAN Federation of Accountants, 2011). The intensive course mainly aims for accountants to conduct their auditing in compliance with accounting law and regulations. Unfortunately, the training course has been ceased since 2011. Alternatively, multinational accounting and auditing companies send their staff to head offices or overseas branches for further training.

### 2.10 Chapter Summary

This chapter has presented the overview of Laos, politics and government, macroeconomic condition, capital markets and portfolio investment, financial sectors and business financing in the country. It also described auditing standard, financial reporting, auditing and accounting professional.

Laos is a least developed country and one of the remaining communist states in the world. The country has a mixed market economy during the transitional period from a centrally-planned regime to a market-oriented mechanism. To stimulate economic growth, the Lao government introduced a number of strategic reforms designed to guide the economy towards capitalism. After liberalising the banking sector and the opening of a stock market, and financial resources were mobilised and allocated to private sectors for their investment projects throughout the country. Nonfinancial institutions had also been expanding and contributed to the development of the country. As a result, the Lao economy had been gradually developed with annual rates of GDP among the fastest growing economies in East Asia over the last decade.

Private firms in Laos record and report their financial transactions basing on accounting manuals and instructions provided by the government due to the lack of a comprehensive set of accounting standards. Whilst public listed and foreign companies are allowed to maintain their accounting records and preparing financial reports in compliance with IFRS. Legally, private or listed firms are required to have their financial reports audited by an independent auditor but practically financial reports of the public listed firms were audited by multinational companies operating in Laos.

After providing an overview of the institutional setting, the next chapter will present theories of capital structure decision and the agency theory for the literature review in Chapter 3.

#### **3.1 Introduction**

This chapter provides the theoretical principles and the literature reviews on capital structure decision, earnings management, and relationship between leverage and earninings management. It also present the agency theory in business, which will be used as a theoretical framework to describe financial leverage in relation to earnings management of Lao private enterprises in Chapter 5. In addition, the chapter explains the research gap of this study.

The principles of capital structure are widely used to explain capital structure decision of private and public firms in prior studies discussed in this chapter. The principles consist of two applicable theories of capital structure to the sample firms in this study, consisting of POT and TOT. The sample firms are private and and not publicly-listed on Lao Securities Exchange. Therefore, the two theories are viewed as theoretical principles that can explain financing behaviour of Lao private enterprises.

The literature reviews in each section of this chapter are used as the fundamental supports for the formation of several hypotheses in Chapter 4. The hypothesises will be formulated in according to the research questions developed in Chapter 1, including the hypotheses on the determinants of capital structure, determinants of earnings management, and the relationship between financial leverage and earnings management of the sample firms.

The remained detail sections of this chapter are structured as follows. Section 3.2 presents the theories used in this study. It includes the development of corporate finance theory in sub-section 3.2.1, the capital structure theories (the early capital structure theory, TOT, and POT) in sub-section 3.2.2, and the busisness' agency theory in sub-section 3.2.3. Section 3.3 provides literature reviews on capital structure decision, earning management, and relationship between leverage and earnings amagement. Sub-section 3.3.1, dicussed firm's specific factors and industry influences on capital structure decision. It also summarises the implications and empirical evidence on financing decision of firms in developed, develping countries as well as in developing countries with transitional economies. Sub-section 3.3.2 reviews on earnings management, including definitions of earnings management, motivations to

manage earnings, beneficial and harmful effects of earnings manipulations, methods of earnings management, empirical evidence on earnings management, determinant of earnings management, and the impact of leverage on earnings management. This subsection also provide a summary of empirical studies on earnings management. Subsection 3.3.3 presents the impact of financial leverage on earnings management. Section 3.4 provides research gap in the literature. Finally, section 3.5 summarises the main themes of this chapter.

# 3.2 Theories

## **3.2.1** Corporate Finance Theory

The theory of corporate finance has been developed for over a century. Jensen and Smith (1984) review about the development of the modern theory of corporate finance. They contend that corporate finance theory has been developed since the early period of the 20<sup>th</sup> century but was riddled and debated with logical inconsistencies. After the early 1950s, a large part of ad hoc theories has been systematically modernised. The three major areas of concerns in the modern corporate finance are capital budgeting, capital structure and dividend policy. The capital structure theory, as one of many hotly-debated issues, tries to explain the determinants of financial leverage or the factors that influence manager's decisions on choices between debt and equity financing for a real investment project of a firm.

# **3.2.2** Capital Structure Theories

Amongst competing theories, capital structure has no universally accepted definition in the prior literature, but has been variously measured according to its purpose of analysis. The theories have different implications for different measures of financial leverage that can produce different results (Lemma & Negash, 2013). Importantly, the general theory of capital structure is not in existence and several conditional theories are available (Harris & Raviv, 1991; S. C. Myers, 2001). Thus, important factors for an empirical study should be identified in various circumstances. Keeping in mind, this study applies existing capital structure theories in relation to financial data of private enterprises in Laos. The country has a unique economic environment, institutions, legal factors, politics, and cultures as examples that may influence on operating activities of the firms and can possibly impact the results predicted by the theories.

Capital markets provide a variety of financial instruments to meet financial demands of business companies. Firms can alternatively raise their external funds by borrowing from commercial banks, issuing equity, or other securities such as from corporate bonds. There are several motivations for firms to issue the various types of financial securities that are available. The type of securities impacts on leverage level of firms. Management can consider several trade-offs when choosing the type of securities available to them for debt-equity optimization. Since the 1950s, the theories clarifying capital structure decisions have been based on Pecking-Order, Trade-Off, agency costs, asymmetric information, signalling, tax-shield, and market timing. The existing theories of capital structure have different implications of different measures that can produce different results but the central objective tries to explain the determinants of corporate financial leverage or choice between debt and equity financing for real investment. This part discusses only the fundamental concepts from the theories of capital structure that can possibly explain the capital structure of Lao private enterprises which are private companies. The theories comprise of the early capital structure theory, POT, and TOT.

## **3.3.2.1 The Early Capital Structure Theory**

Capital structure has long been a central issue of discussion for over five decades since the most important foundations of capital structure theory with the famous irrelevance principle developed by (Modigliani & Merton, 1958). Modigliani and Merton (1958) propose that the capital structure of a firm in a perfect capital market is autonomous from its value, but dependent on the expected cash flows to receive in the future from the firm's operations. The market can discount the cash flows by using an appropriate rate from a perceived riskiness to value the firm. The restructuring of cash streams between debt and equity does not affect the value of the future cash flows. Unfortunately, no any capital market is perfect and choices between debt and equity obviously matter the firm's value in reality.

Modigliani and Miller's model is under very restricted assumptions including frictionless capital markets, firms issue only risk-free debt or risky equity, individuals can borrow and lend at a risk-free rate, there are no bankruptcy costs, taxes, information asymmetry and agency problems. In their model, investors increase the expected rate of return from equity as the firms add more debt to capital structure. Under these assumptions, investors identically value-levered and unlevered firms. The value of a firm will be affected only if investors violate at least one of the assumptions.

### **3.3.2.2 Trade-Off Theory**

Modigliani and Miller (1963) later relax their own irrelevance principle by adding corporate tax to their original assumptions because the tax deductibility of interest expenses creates a tax-shield or tax savings. All other thing being equal, if a firm obtains more debt to its capital structure, the tax-shield increases the value of the firm. Under the tax-shield or Trade-Off theory (TOT), firms are assumed to decide their financial leverage by comparing marginal benefits and the costs of external debts. The optimal capital structure in the TOT theory exists when a firm increases its debt to 100% or when the benefits and shortfalls of debt offset each other at an equilibrium. This does not imply that corporate tax is the only determinant of the optimal capital structure of a firm. The Modigliani and Miller's assumptions were later relaxed and clarified to the ideal capital structure in the following studies.

If personal taxes are added into account, the gain from debt is reduced. And, if bankruptcy costs are significant, there is a possibility to obtain an optimal capital structure as the trade-off between the tax-shield from debt and the likelihood of incurring bankruptcy costs (Miller, 1977). The optimal debt ratio to equity is at the equilibrium as the debt amounts increased until the marginal benefit from debt is equal to the marginal expected loss from bankruptcy costs. The optimal level of capital structure is the point that firm has maximum value and minimum cost of capital.

DeAngelo and Masulis (1980) extend Miller's by investigating the impact of non-debt tax-shields rather than interest expenses on debt, for example, non-cash expenses such as depreciation or amortization and investment tax credits. They anticipated that firms will choose a leverage level that is adverse to the level of taxshield substitute such as depreciation. Besides, if more debt is added to capital structure, profitability will decrease or negative earnings will increase, this causes the interest tax shield to decline. They further showed that if there are positive bankruptcy costs, marginal benefit from interest tax shield is traded-off to the marginal cost of bankruptcy.

Applying the TOT to Lao private enterprises raises two questions. The first question is how to define an optimum capital structure for maximum enterprise's profit (not firm's value) and for a minimum cost of capital. This is not easy to measure in the Lao enterprises or it may be the primary goals of the enterprises' owner or financial managers. The second question is how the advantage of debt or tax-shield be accessed in the case of private enterprises in Laos where enterprise income tax is taxed as personal income, including those companies in the form of sole-trader enterprises, which are legally owned by one person.

# **3.3.2.3 Pecking-Order Theory**

The Pecking-Order theory (POT) is regarded an influential concept in determining financing choices. S. C. Myers (1984) and S. C. Myers and Majluf (1984) originate the POT by basing on asymmetric information between internal managers and outside investors. According to the Pecking-Order perspective, firms have three alternative sources of available funding: retained earnings, debt, and equity. The firms prefer a lowest level of asymmetric information due to the cost of borrowing increases with lenders who receive insufficient information from borrowers. While retained earnings are subject to no adverse selection problem, debt has only a minor section problem, but equity has a serious selection problem. From the perspective of firm's managers, retained earnings are considered as the best source of internal funds, while debt is a better deal than equity financing. For that reason, the retained earnings are the first priority of source of funds followed by an issuance of external debt where equity is taken as a last resort. Hence, new investment projects will be firstly financed by the internal retained earnings, if more funding is needed, the debt will be used as the first external source of funding. In case that firms with normal operation, equity financing will never be used because the supply of fund from debt already meets the firms' demand. In the POT, an optimum level of capital structure is not well identified.

# 3.2.3 Agency Theory

The agency theory is a branch of financial economics that explains the conflict of interests between related parties with different desires of interest in the same assets, for example, the conflict between shareholders and company's manager. The main focus of the theory is on the agency relationship. Although, there are many predecessors such as Alchian and Demsetz (1972) and Ross (1973) who have discussed the agency theory to explain the agency problem emerging from the separation of shareholders' ownership and manager's control, but the credit for the development of the agency theory is given to Jensen and Meckling (1976). Jensen and Meckling (1976) define the agency relationship as "*a contract under which one or* 

more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent" (p. 308). The agency relationship is commonly referred as principal-agent relationship which depends on the assumption that when there is a separation of ownership and control, manager (the agent) may be driven by own self-interest and not have significant interest in the firm's stock ownership that could be unfavourable to the economic welfare of the principle (s), unless restricted from doing so (Deegan, 2006, p. 225). Such relationship may lead to the conflict of interest between the principle (s) and the agent as both may act in their own self-interest that may be unaligned. The result of the conflict is regarded as an agency problem.

In case of a public listed company, the general goal of the firm is to maximise the shareholders' wealth, but managers attempt to act for their own self-interest. The managers may not make decisions in line with the goal but attempt to benefit themselves, for instance, in terms of higher salary or other perquisites at the shareholders' expenses. This usually results in the potential conflict of interests arising from the separation of ownership and control, when the managers act on behalf of shareholders and the firm (Fama & Jensen, 1983b; Jensen & Meckling, 1976). Since managers engage in business activities on a daily basis, they know more than shareholders about the quality of the firm because they have more information than the investors. As a result, an information asymmetry exists between shareholders and managers, which leads to an agency conflict. Therefore, voluntary disclosure of the firms' information in the form of periodic or annual reports on websites is used to mitigate the agency problem between shareholders and managers. Shareholders have to incur the costs of restructuring, monitoring (in case of financial audit), plus residual loss incurred as an indirect cost to ensure that managers act in line with the shareholders' interest (Jensen, 2005; Jensen & Meckling, 1976). The internal restructuring and monitoring costs, as well as the indirect costs, are regarded as agency costs arising from the agency problem. In the agency relationship, any other potential loss emerging from under-performing or managerial misconduct are considered to be direct agency cost (Deegan, 2006, p. 218). The agency conflict is not only between shareholders and managers, but also classified on the basis of conflict between shareholders through managers and debtholders (Jensen & Meckling, 1976). The debtors may impose certain restrictions on the firm, which is known as an agency cost

of debt arising from the divergent of shareholders and managers' interests (Deegan, 2006, p. 86).

## 3.3 Literature Review

## 3.3.1 Capital Structure

The proportion of debt and equity in the financial structure of a firm is known as its capital structure. The capital structure can be affected by several factors, not only the firm's specific characteristics but also the industries which it operates, institutional and macroeconomic environment (Antoniou, Guney, & Paudyal, 2006; De Jong, Kabir, & Nguyen, 2008; Lemma & Negash, 2013; López-Iturriaga & Rodriguez-Sanz, 2008; Rajan & Zingales, 1995). In this section, only firm's characteristics and industry influences are reviewed. The institutional and macroeconomic factors are excluded from this study.

## 3.3.1.1 Capital Structure and Firm-Specific Determinants

This part discusses two main theoretical approaches of financing decisions, which comprise of the POT and TOT. The approaches are used to identify the capital structure's determinants of private enterprises in Laos and formulate hypotheses related to firms' specific characteristics and industry sectors. The two theories become applicable to predict financing decision of the enterprises because the sample firms for this investigation are not publicly listed companies and their financial information is not publicly available. Previous theoretical and empirical studies have shown that the specific characteristics of firm influence its capital structure components, such as size, tangibility, profitability, tax, non-debt tax shields, growth opportunities, and volatility (Frank & Goyal, 2009; Harris & Raviv, 1991; Lemma & Negash, 2013; Wald, 1999). Harris and Raviv (1991), for example, summarise a number of empirical studies related to public firms in the US developed economy. They contend that debt level increases with firm size, asset tangibility, investment opportunities and non-debt tax shields, but decreases with probability of bankruptcy, research and development expenditures, advertising expenditures, volatility, and uniqueness of the product. This study uses only firm size, tangibility, and profitability as proxies for the determinants of the capital structure (J. J. Chen, 2004; Huang, 2006; Kayhan & Titman, 2007; Marsh, 1982; Rajan & Zingales, 1995). To test the POT and TOT, it is necessary to judge the connections between observable data with the theories. In the effort to empirically

verify the research objectives, the theories of capital structure are applied to Lao private enterprises in order to develop testable hypotheses that examine the determinants of capital structure from two different perspectives in terms of firm characteristics and industry sectors. Here, this study summarise the results of prior theoretical and empirical studies on the relationship between firm's specific characteristics and leverage.

# • Leverage and Size

Firm size is commonly considered as a potential explanatory determinant of capital structure. Firm size is very closely related to the risk of bankruptcy. Large firms are more diversified and thus bear less risk in comparison to smaller firms. For that reason, large firms have a lower risk of default. Furthermore, large firms are more attractive to creditors due to their higher diversification and large amounts of requested funds when compared to those for smaller firms. Large firms can also reduce transaction costs associated with long-term liability. As a consequence, lenders can issue long-term debt with a lower interest rate to the large firms.

The TOT predicts that large firms are more mature and tend to have more debt than small firms because large firms are more highly geared due to their higher diversification and stable cash flow. Thus, the large firms have a lower tendency to go bankrupt and also have lower transaction costs from long-term liabilities (Ang, Chua, & McConnell, 1982; Gruber & Warner, 1977). Generally, outside investors usually use size as a proxy for the information about the firm (Huang, 2006). Fama and Jensen (1983a) and Rajan and Zingales (1995) argue that large firms tend to provide more information to creditors than small firms. Marsh (1982) supports the TOT in his literature survey that large firms rely on long-term debts while small firms prefer shortterm debts. Large firms can benefit from taking advantage of economies of scale in issuing long-term debt, and also have greater bargaining power with lenders. Therefore, the cost of debt is negatively-related to the firm's size. Similarly, Rajan and Zingales (1995) contend that firm size is an important factor of capital structure in G-7 countries. In Japan and United States, firm size is positively correlated with leverage; as the standard deviation of size increases, the book value of leverage also increases. In the United Kingdom, large firms depend more on long-term liabilities, whereas small companies rely on short-term debts (Marsh, 1982). Accordingly, many prior studies including Harris and Raviv (1990), Wald (1999), Booth et al. (2001), and Huang (2006) also support that leverage increases with the value of the company.

On the other hand, the POT of capital structure choices is usually assumed that firm size has an opposite direction to the level of leverage; large firms are better known and have a less asymmetric information problem. In addition, large firms are old and have an opportunity to retain their earnings (Lemma & Negash, 2013). Thus, large firms tend to raise more equity rather than debt and thus have lower leverage.

In summary, the TOT predicts that firm size has a positive relationship with debt, while the POT is assumed that firm size has an inverse relation with leverage.

#### • Leverage and Tangibility

Tangible assets owned by a firm, such as property, plant and equipment, are easier for outsiders to evaluate their value than intangible assets, such as the value of goodwill from a company's acquisition. The collateral value of assets acts as the main component of the firm. If the firm has a high fraction of tangible assets, then the assets are usually used as debt collateral to minimise lender's risk. Jensen and Meckling (1976) suggest that collateral protects creditors from the moral hazard emerging the conflicts between shareholders and the creditors. Hence, a high level of the tangibility is expected to associate with a high fraction of debt. Most of the empirical studies in this area have confirmed that tangibility affects financing decision of firms (J. J. Chen, 2004; Drobetz, Gounopoulos, Merikas, & Schröder, 2013; Friend & Lang, 1988; Huang, 2006; Marsh, 1982; Rajan & Zingales, 1995).

On the other hand, the TOT contends that firms with high level of tangibility have lower costs of financial distress in case of bankruptcy. Further, outsiders can easily assess the value of tangible assets. This would lead to lower agency problem and information asymmetry. Thus, asset tangibility in the TOT is expected to have a positive relationship with debt capital as in case of shipping companies investigated by Drobetz et al. (2013). Rajan and Zingales (1995) and J. J. Chen (2004) also have the consensus finding that tangibility is positively related with long-term debt, and the long-term liability is expected to accumulate over time due to less severe information asymmetry.

Under the Pecking-Order perspective, firms use large amounts of tangible assets as a stable source of return on investments. These firms are more internally dependent and less likely to depend on external financing, as confirmed by Allen (1995), and Michaelas, Chittenden, and Poutziouris (1999). In case of firms with less level of tangible assets to be used as collateral, the firms face higher costs of information. Thus, the firms have to raise more equity instead of debts, as this scenario has been proven by V. A. Dang (2013), reporting that tangible asset is negatively related to leverage.

In summary, the POT recognises that lower tangibility has a negative relationship with leverage, while the TOT proposes that high holding of tangibility has a positive relationship with financial leverage.

### • Leverage and Profitability

Although a number of theoretical and empirical studies has been done since Modigliani and Merton (1958), but there is no consistent relationship between profitability and leverage of firms in emerging and developed economies (Booth et al., 2001; Chakraborty, 2010; Chang, 1999; Huang, 2006; Kayhan & Titman, 2007; Michaelas et al., 1999; Yazdanfar & Öhman, 2015).

The POT (S. C. Myers, 1984; S. C. Myers & Majluf, 1984) assumes that retained profit is regarded as the primary source of internal fund and then followed by debt and new equity respectively if necessary. Thus, profitable firms tend to have less financial leverage from external debt. The retained earnings are firstly used to finance the new project because to reduce the cost of the debt. External lenders often require higher interest rate from borrowers to compensate for the risks arising from information asymmetry between the firms' managers and lenders. For that reason, managers prefer internal sources of funds rather than external debts. Even if profitable firms have a higher potential to access to external debts than less profitable firms, they still meet their financial demands by avoiding higher cost for external liabilities. According to the POT, if investments and dividends are fixed, then more profitable firms will become less levered over time. Empirically, this prediction is confirmed by Chang (1992) and Michaelas et al. (1999), suggesting that leverage is negative related to profitability. Kayhan and Titman (2007) and Booth et al. (2001) also support the idea that leverage has a negative relationship with profitability because retained profits are passively accumulated over years. However, an optimal level between business insiders and outside investors can be interpreted as a proper combination of debt and equity, and more profitable firms tend to have lower leverage (Chang, 1999). Likewise, this is also confirmed by Huang (2006) in the case of transitional economy of China that leverage decreases with profitability.

On the contrary, the TOT predicts a positive relation between leverage and profitability because profitable firms have strong incentive to obtain more debt in order to benefit from tax-shield (Modigliani & Miller, 1963). Chakraborty (2010) confirms the Trade-Off perspective with the same evidence. Accordingly, debt is regarded as a discipline device to ensure that the firms' managers will pay out profit to shareholders rather built empires; firms with high profitability or free cash flow, high leverage can retain management discretion (Jensen, 1986).

In summary, the POT predicts a negative relationship between profit and debt, and the TOT predicts a positive correlation amongst the two factors.

# • Summary of Expected Signs from the Theoretical Predictions

| Determinant   | Theory        | Predicted sign | Sample empirical evidence          |
|---------------|---------------|----------------|------------------------------------|
| Firm size     | Pecking-Order | -              | Shyam-Sunder and Myers (1999),     |
|               |               |                | and Lemma and Negash (2013)        |
|               | Trade-Off     | +              | Harris and Raviv (1990), Wald      |
|               |               |                | (1999), Booth et al. (2001), Huang |
|               |               |                | (2006), Rajan and Zingales (1995), |
|               |               |                | and Marsh (1982)                   |
| Tangibility   | Pecking-Order | -              | Allen (1995), Michaelas et al.     |
|               |               |                | (1999), and V. A. Dang (2013)      |
|               | Trade-Off     | +              | Drobetz et al. (2013), Rajan and   |
|               |               |                | Zingales (1995) and J. J. Chen     |
|               |               |                | (2004)                             |
| Profitability | Pecking-Order | -              | Chang (1992), Michaelas et al.     |
|               |               |                | (1999), Kayhan and Titman (2007),  |
|               |               |                | Booth et al. (2001), and Huang     |
|               |               |                | (2006)                             |
|               | Trade-Off     | +              | Jensen (1986), Chakraborty (2010), |
|               |               |                | and Modigliani and Miller (1963)   |

 Table 3.1 Expected signs from the theoretical predictions

A larger number of prior empirical studies has attempted to test the explanatory

determinants of capital structure models on corporate finance behaviour in developed and developing countries. The main determinants, for example, include size, tangibility, profitability, growth opportunity, cost of financial distress, and tax-shields effects. The following table (Table 3.1) summarises the expected signs between capital structure (debt-equity ratio) and its determinants from the predictions of the POT and TOT. The determinants in the table are only three factors of firm-level to be statistically tested in the empirical model of this study.

## 3.3.1.2 Capital Structure and Industry Influence

Prior empirical studies on capital structure choices commonly use industry dummies to test the effect of different industries on financial leverage. Some of the formal tests have proven that leverage ratios vary significantly across industries (Hovakimian, Opler, & Titman, 2001; Lemmon, Roberts, & Zender, 2008; MacKay & Phillips, 2005). Different debt ratios can be interpreted in several possible meanings. One interpretation is that managers can use a leverage median of an industry as a benchmark of their firms' capital structure. Thus, the median is often used as a proxy for target debt ratio (Faccio & Masulis, 2005; Flannery & Rangan, 2006; Hovakimian et al., 2001). Hovakimian et al. (2001) provide support evidence that firms actively adjust their debt-equity ratios towards the industry leverage median over time. Another possible interpretation is that industry effects reflect a set of correlated, but otherwise omitted, factors (Frank & Goyal, 2009). Firms in an industry usually face common forces that affect their financing decision. The industry effect also reflects product market interactions or competition nature (Brander & Lewis, 1986; Chevalier, 1995). In addition, the effect could also reflect industry heterogeneity in business risk, firm's asset types, regulation or technology. Therefore, industry effects do not have a unique interpretation.

The TOT of industry influence predicts that firms restructure their debts and equities to seek an optimum level of capital structure, and these optimum debt-equity ratios vary across industries. Suto (2003) confirms the TOT that each industry has different capital structure due to levels of liquidity and fixed investments are diverse. Empirically, specific characteristics of a given industry may have more influence than other industries (Frank & Goyal, 2009). Consistently, Showalter (1999) reports that unobservable characteristics of a particular industry sector may influence the levels of leverage within that sector. There are a number of consensus-based sources of

evidence from previous studies that financial leverage of an industry may be different from other industries (Delcoure, 2007; Frank & Goyal, 2009; Suto, 2003). For example, manufacturing, telecommunication and heavy industry are likely to depend more on long-term liabilities due to their nature of the investment. On the contrary, the service sector is not substantially relying on tangible assets to be used as collateral when applying for debts, so this industry is less likely to have low leverage. Titman and Wessels (1988) support the idea that industry classification is significantly associated with leverage, particularly long-term debts.

## 3.3.1.3 Summary of the Empirical Studies on Capital Structure Decision

Appendix 5, Appendix 6, and Appendix 7 summarise the implications and empirical evidence of various capital structure theories on the relationship between each of the above determinants and the level of financial leverage of firms in developed, developing and transitional economies. The theoretical and empirical foundations in the prior studies on determinants of capital structure will help to identify a research gap and will be helpful in developing the research hypotheses on financing decision of this study.

### 3.3.2 Earnings Management

The causes and consequences of earnings management have been active research areas of financial accounting since the early 1950s (Dechow, Hutton, Kim, & Sloan, 2012; Fields, Lys, & Vincent, 2001). Prior empirical studies in recent years have witnessed a broad range of earnings management behaviour, including motivations, techniques, and economic consequences (Dechow et al., 2012). This part of the thesis reviews aspects of earnings management: definitions of earnings management, motivations to manage earnings, beneficial and harmful consequences, methods of detecting earnings management as well as major findings in earnings management.

# **3.3.2.1** Motivations to Manage Earnings

There is a large number of archival research that examines the motivations of managers to manage earnings (e.g., Beuselinck & Deloof, 2014; Coppens & Peek, 2005; Hepworth, 1953; Lin et al., 2012; Marques et al., 2011; Ronen & Sadan, 1981; Stockmans, Lybaert, & Voordeckers, 2010; Trueman & Titman, 1988; Watts & Zimmerman, 1978). Earnings management in firms has several different motivations,

such as income smoothing, bonus, equity issuing, taxation burden, debt covenant, and socio-emotional wealth, and political incentives. The followings factors are only some incentives for managers to engage in earnings management.

## • Smoothing Income

Smoothing income is an example of the motive to use earnings management (Ronen & Sadan, 1981). Hepworth (1953) also shows that a smooth income stream allows creditors and owners of the firm to feel more secure about the management performance. The objective of smoothing is to reduce the variability of the firm's earnings (Moses, 1987). By shifting income across time periods, firms can reduce the unpredictability of reported earnings thus appearing less risky and may have the capacity to obtain more debt with a lower cost of capital (Trueman & Titman, 1988). Firms can also be motivated to smooth earnings prior to security issues to lower the cost of capital and possibly in so doing, increase the firm's value. Trueman and Titman (1988) contend that firms have an incentive to smooth earnings prior to debt issues. Smoothing income leads management to reduce the fluctuation of reported earnings and. When the variance of reported earnings is reduced, debt holders lower their assessment of the variance of the true economic earnings for the firm. The probability of a firm for bankruptcy is directly related to this variance. A lower probability of bankruptcy leads to a potentially higher selling price for the firm's debt. Therefore, firms that manage earnings to present a smooth income stream might be able to lower the cost of newly issued debt and increase the value of the firm. The incentive to smooth earnings is not limited to firms issuing debt.

### • Bonus

Healy (1985) suggests that short-term bonus schemes create incentives for managers to use discretionary accruals and accounting procedures to maximise their bonus awards. Healy infers that the upper and lower threshold for bonus payments basing on the bonus plan in the proxy statements. Healy uses total accruals as a proxy for discretionary accruals. Healy reports that accrual policies of the managers are related to the income reporting incentives of their bonus contracts, meaning that when managers plan to have no bonus potential, they are more likely to make income-decreasing accruals. On the contrary, managers are more likely to have income-increasing accruals when those accruals contribute to higher current year bonuses.

## • Equity Issuing

Firms issuing equity also have the incentive to smooth earnings (Dye, 1988). The purchase price of equity is influenced by previous earnings announcements. Investors will look at the variance of reported earnings to determine the economic risk of the firm. Firms with a lower variance in reported earnings will have a lower perceived risk by the market, which leads to a higher price for the equity. Another type of earnings management that can increase the market price of equity is to increase the mean level of earnings prior to an equity issue. Firms can adjust the mean level of earnings prior to equity issuing through the use of accounting accruals. By inflating the level of earnings through accruals adjustments, the firms can lead investors to believe that inflated reported income is representative of the true level of earnings will pay at the over value for the new shares. Overpaying for the new equity causes a wealth transfer from the investors to the sellers. This is supported by Doukas, McKnight, and Pantzalis (2005) that firms manage their reported earnings upward before issuing new equity in order to obtain financing easily.

## • Taxation Burdens

Taxation burden is another motive of earnings management. Prior studies found significant evidence that taxation can motive managers to engage in earnings manipulation. In Belgium, business groups exercise their earnings in response to tax incentives because the holding companies have more opportunities and tools than those of independent firms (Beuselinck & Deloof, 2014). Precisely, discretionary accruals of the business groups are more relying on marginal tax than a stand-alone company. In line with the holding companies in Belgium, Lin et al. (2012) find that earnings management is significantly induced by the marginal tax rate in the transitional economy of China. The reduction of the corporate tax rate from 33% to 25% influences short and long-term behaviour of Chinese listed companies. Accordingly, Marques et al. (2011) contend that Portuguese private firms with higher income tax rates decrease their profit to almost zero and are more likely to manipulate their earnings than firms with lower income tax rates. Conversely, Coppens and Peek (2005) contend that taxation of some European private firms is not a motive to the use of earnings management but tax regulations strongly influence financial reporting.

## Debt Covenants

Creditors often place some restrictions over debt covenants to protect their interests. This results in limiting the management's ability to benefit shareholders at the expense of creditors. The restrictions would include interest coverage, dividend payouts, and debt-equity ratios. The restrictions on dividend payouts can be easily complied with since firms can simply cut back the dividend payouts when necessary. As such, there is some existing evidence of earnings management to comply with the restrictions of dividend payouts (DeAngelo, DeAngelo, & Skinner, 1996; Healy & Palepu, 1990). However, some other types of debt covenant are more difficult to violate. Heflin, Kwon, and Wild (2002) contend that managers are motivated to optimistically use of discretions in accounting choices to relax constraints on contractual obligations. DeFond and Jiambalvo (1994) find significant evidence of earnings management upward in the periods just prior to violating the debt covenants.

## Socio-Emotional Wealth

Publicly listed family firms behave differently from non-family firms. Prencipe, Markarian, and Pozza (2008) provide empirical evidence on the motivations for earnings management in publicly listed family firms, highlighting the differences from public non-family firms. They find that family firms are less sensitive to incomesmoothing motivations than are non-family firms, while firms are similarly motivated to manage earnings for debt covenant and leverage-related reasons. For private family firms, Stockmans et al. (2010) suggest that socio-emotional wealth may play a role as a motive for upward earnings management when firm encounters poor performance. Under this circumstance, first-generation and founder-led private family firms appear to have greater incentive to engage in upward earnings management due to the preservation of their socio-emotional wealth.

## • Political Incentives

Political factors for earnings management can also motivate managers to reduce costs to comply with regulations in order to gain benefits derived from complying with the regulations (Healy & Wahlen, 1999). Watts and Zimmerman (1978) develop a "political cost hypothesis" basically stating that firms have a strong incentive to manage earnings downward to avoid the cost of government agencies' intervention. Jones (1991) finds that firms manage earnings downward to reduce the

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impact of import relief investigations. In New Zealand, Navissi, Bowman, and Emanuel (1999) also provide evidence that managers of manufacturing firms manipulate their earnings to reduce the impact from two sets of price regulations issued in 1971 and 1972.

## 3.3.2.2 The Beneficial and Harmful Effect of Earnings Management

Earnings management typically relates to alternative accounting procedures to deter reported earnings for the purposes of firms' managers or stakeholders. Some information in financial reports may reflect or underestimate the true financial performance and future prospects of firms. Users of the report may have the possibility to get the benefit or make a wrong decision. For that reason, earnings management can be beneficial or harmful to users and it is crucial to ensure that the reported figures are the true financial information of firms.

Benefits from earnings management may be in existence for some reasons. Managers may exercise alternative discretion over earnings to disseminate their financial information for the benefit of both shareholders and public users to enhance share value (Healy & Palepu, 1993). Accordingly, Subramanyam (1996) empirically supported that managers exercise their discretions to enhance the earnings ability to reflect fundamental value. Dechow, Sloan, and Sweeney (1996) also contend that managers manipulate their earnings because firms are more attractive to external capital at low cost.

On the harmful consequence, Marques et al. (2011) find that Portuguese private firms with higher tax rate gain benefit from lower profit tax after using earnings decrease to nearly zero. Stockmans et al. (2010) suggest that the founder and the first generation of private family firms exercise their earnings to preserve their socioemotional riches. By contrast, several studies discover the incentives of firms' managers to manipulate earnings in relation to their compensation contracts. Healy (1985) finds evidence that executive managers use bonus schemes as incentives to select accounting procedures and accruals to increase their compensation awards. Holthausen, Larcker, and Sloan (1995) also suggest similar evidence that job security of top management is another motive to manipulate earnings.

Thus, earnings management is regarded as a financial reporting phenomenon in association with managers' intentions that can be either harmful or beneficial to users.

### **3.3.2.3** The 3 Methods of Detecting Earnings Management

There are a substantial number of studies that identify various techniques or methods used to manipulate earnings (Beaver, McNichols, & Nelson, 2003; Burgstahler & Dichev, 1997; Healy, 1985; Jones, 1991). Earnings management can be detected by three different methods through the use of discretionary accruals, specific accruals, and income distribution. Each of the methods has its own advantages and disadvantages as follows.

## • Discretionary Accruals

The first method is the use of discretionary accruals models, initially created by Jones (1991), which separate total accruals into discretionary accruals and nondiscretionary accruals. This method uses discretionary accruals to proxy for earnings management and used as a synonym for earnings. The advantage of the discretionary accruals models is that magnitude of earnings management in almost any scenarios can be estimated easily. However, the discretionary accruals models have no theoretical background and are criticised in producing biased estimates.

### • Specific Accruals

The second method is the use of specific accruals to detect earnings management. For example, Beaver et al. (2003) study earnings management in relation to discretionary loss reserves. The advantage of the model in their study is that researchers can better identify key factors influencing the accruals. The disadvantage is that it is only suitable for specific industries and requires researchers with a good institutional knowledge.

### • Income Distribution

The third method is the use of distribution in earnings management (Burgstahler & Dichev, 1997; Kasipillai & Mahenthiran, 2013). The advantage of this method is the criticised estimation of discretionary accruals can be avoided and the disadvantage of the model is unable to identify the magnitude of earnings management.

### 3.3.2.4 Empirical Evidence of Earnings Management

Previous research has shown that earnings management is a common practice of all firms. Managers of public listed firms inflate earnings through accruals manipulation prior to seasoned equity offerings (Teoh, Welch, & Wong, 1998b), stock-financed acquisitions (Erickson & Wang, 1999), and initial public offers (Teoh, Welch, & Wong, 1998a). Earnings are managed to meet analysts' forecasts (Burgstahler & Eames, 2006). Earnings management is used to prevent falling short of management earnings' forecasts (Kasznik, 1999).

Jones (1991) documents that import relief regulations provide an incentive for firms' managers to alter their earnings to increase the possibility of obtaining import relief or relief granted amounts. In the investigation of cable television industry, Key (1997) find that firms in the industry tend to reduce net income during congressional hearings to mitigate the effects of political scrutiny and potential industry reregulation. Cahan (1992) studies the effect of monopoly-related anti-trust investigations on discretionary accruals. He reports with evidence that firms vulnerable to anti-trust violations reported income-decreasing accruals during the years under investigation.

Debt covenants are often considered as an incentive to alter earnings management because lenders use accounting information to assess and monitor their debtors. Sweeney (1994) finds that managers of firms with high potential in debt default respond their lenders with a significant increase of income and impose the default costs to the lenders. Consistent evidence is also reported by DeFond and Jiambalvo (1994) to support the debt covenant violation by using earnings management. Collectively these studies of public companies show that earnings management is common behaviour around a variety of financing and informational events.

Earnings management is used beyond accruals and adjustable components to meet predetermined income. Phillips, Pincus, and Rego (2003) show that deferred tax-expense is a useful tool to manage earnings for firms in the US to avoid a reduction in earnings. Accordingly, Kasipillai and Mahenthiran (2013) find that Malaysian public listed companies, and use not only the accruals of revenue and expenses but also valuation adjustment components of deferred tax liabilities to avoid earnings decline. Chung, Firth, and Kim (2005) argue that low-growth companies with high free cash flow manage their discretionary accruals upward to offset negative or low earnings from their accompany projects that inevitably generate negative net present values.

Stockmans et al. (2010) examine the preserving of socio-emotional wealth as a motive for earnings management in specific types of private family firms by investigating at the generational stage, the management team, and the CEO position. Their results suggest that socio-emotional wealth may play a role as a motive for upward earnings management when firm performance is poor. Under this condition, first-generation and founder-led private family firms seem to have greater incentive to engage in upward earnings management because of the preservation of their socio-emotional wealth.

In comparison between public and private firms, Burgstahler et al. (2006) find that earnings management is more employed in private companies. Both European public and private firms exercise more earnings in countries where legal enforcement is weak. They also report that those private and public firms react differentially to different tax and accounting rules. Accordingly, Abdolmohammadi, Kvaal, and Langli (2010) compare earnings management priorities of private family and private nonfamily firms. They find that private family firms are likely to manage earnings downward than private non-family firms. They also report that CEOs representing controlling families promote earnings management, and independent board members somewhat mitigate it. By contrast, Beatty and Harris (1999) report the differences in their comparison of public and private banks on realizations of securities gains and losses. They find that provide banks consistently use more earnings management than private banks, and that the portion of securities gains and losses resulting from earnings management in the current period has a positive relation with next period's earnings before securities gains and losses.

However, Jiambalvo (1996) discusses the constraints on earnings management and lists six aspects: auditing, internal controls, governance structure, probability manipulation, costs imposed after revealed manipulation, and prior decisions. Klein (2002) shows evidence that the characteristics of the board of directors and the auditing committee are related to earnings management. Especially, large increases in abnormal accruals are accompanied by a small percentage of external directors in the board or audit committee. Becker, DeFond, Jiambalvo, and Subramanyam (1998) also present evidence that firms with higher audit quality or big-6 auditors have lower earnings management. Non-Big Six auditors report discretionary accruals higher than the discretionary accruals reported by firms of Big Six auditors. They also indicate that lower audit quality is associated with higher earnings changes. Rangan (1998) suggests that auditors may have a constraint effect on earnings management due to quarterly reports has an obvious earnings management than annual reports. Barton and Simko (2002) find that the previous and accumulated earnings management in balance sheets has limited the managers' impact on future earnings management. K. W. Lee, Lev, and Yeo (2007) suggest that managers of leveraged firms face difficulty to alter their earnings due to lenders try to control and monitor their management over time.

## 3.3.2.5 Determinant of Earnings Management

A number of growing research has determined the relationship between determinant and earnings management policy. Many of the prior studies use firm size as a proxy for information asymmetry in the market (Becker et al., 1998; Koh, 2003; Lobo & Zhou, 2001; Michelson, Jordan-Wagner, & Wootton, 1995; Moses, 1987; Siregar & Utama, 2008). Firm size is a determinant that could influence a firm's tendency to engage in earnings management because smaller firms are likely to manage earnings to avoid reporting losses and able to retain their private information more successfully than large firms (B. B. Lee & Choi, 2002). Relatedly, information on large firms is more publicly available and can be obtained at a lower cost in comparison to small firms' (Bhattacharya, 2001). But, Moses (1987) and Michelson et al. (1995) demonstrate a consensus evidence that large firms have a greater incentive to smooth earnings than small firms. However, the existing literature has predicted a mixed relationship between size and earnings management.

On the one hand, the size of the firm may have a negative influence on earnings management activities for some reasons. First, large firms are more likely to have more sophisticated and effective internal control systems by comparison with smaller firms, thereby reducing the likelihood for managers to manipulate their earnings (Beasley et al., 2000). Second, large firms have more advantages over smaller firms in term of their being larger budgets available for better audit services in comparison to smaller firms (Becker et al., 1998). Third, as large firms are likely to be under the closer scrutiny by a large number of investors and analysts, which potentially reduce the opportunities of managers to exercise their accounting discretion (Koh, 2003; Lobo & Zhou, 2001). Forth, large firms face stricter regulatory requirements which discourage them to manipulate their earnings and decrease information asymmetry (B. B. Lee & Choi, 2002).

On the other hand, some prior studies have reported that firm size is positively associated with earnings management for following possible reasons. First, due to high expectations from analysts and creditors, this pressure acts as an incentive for larger firms to adopt more aggressive accounting policies (Barton & Simko, 2002; Richardson, 2000). Second, larger firms have a wide range of accounting treatments to manoeuvre their accounting numbers (Subramanyam & Wild, 2009). Third, auditors are more likely to waive an attempt of earnings management practiced by larger firms due their larger clients having greater bargaining power in comparison to smaller firms (Nelson et al., 2002).

### 3.3.2.6 Summary of the Empirical Studies on Earnings Management

Appendix 8 summarises the empirical research on earnings management discussed above. The empirical foundations of the prior studies will help to identify a research gap on earnings management and will be helpful in developing the hypotheses of this study.

## 3.3.3 The Relationship between Leverage and Earnings Management

Debt generally acts as a motive for a firm's manager to employ earnings management. Much of prior empirical work has highlighted two views of the relationship between leverage and earnings management by using discretionary accruals because of firms' closeness to restrictive covenants of debt.

On the one hand, some of the previous studies generally find that leverage is positively associated with income-increasing discretionary accruals (An, Li, & Yu, 2016; DeFond & Jiambalvo, 1994; Klein, 2002; Othman & Zeghal, 2006; Rodríguez-Pérez & van Hemmen, 2010; Sweeney, 1994). DeFond and Jiambalvo (1994) examine abnormal accruals of firms known to have debt covenant violation by using both time series and cross-sectional models. They find that debt contracts have an influence on earnings management. Precisely, debt has a positive relationship with earnings upward because firms try to avoid the possibility of debt covenant violations and to improve their bargaining power to access to more loans during the time of debt negotiations. Othman and Zeghal (2006) find the same evidence for firms in France but not for firms in Canada. Klein (2002) and Sweeney (1994) also show positive relationships between debt and income-increasing earnings management with the same reason to ensure satisfaction in debt covenants. Accordingly, An et al. (2016) report in their cross-country analysis that firms with high financial leverage are associated with high earnings management activities. Similarly, Rodríguez-Pérez and van Hemmen (2010)
show a support of the positive relationship that marginal increases in debt level motivate managers to manipulate earnings.

On the other hand, some other works have shown a negative relationship between leverage and income-increasing accruals (Jelinek, 2007; Zhong, Gribbin, & Zheng, 2007). Jelinek (2007) documents that increased leverages are linked to a reduction in earnings management. Jensen (1986) suggest that the increase in debt level reduces the opportunistic earnings management for two reasons: (1) due to debt required repayment to creditor at a later date, this leads to lower cash flow available to management; (2) when firm acquires more debt, lenders put more restrictions on the firm' spending. Similarly, Zhong et al. (2007) argue that managers of leveraged firms may face control from outside debt-holders that make it difficult for them to engage in earnings management. They also find that debt is positively associated with discretionary accruals of firms with declining predetermined earnings.

Most empirical studies on earnings management in relation to leverage have conducted on listed firms, partially those firms in developing and developed countries. There is a limited number of studies on private firms in the least-developed countries. Private firms are more closely held and monitored by owners than listed companies. Owners are often managers or board members. Their lenders have direct access to inside information and an influence on decision making of the firms. In relation to public firms, private companies depend less on statutory of financial statements for information, thus they have fewer constraints on earnings management. For instance, Abdolmohammadi et al. (2010) find that private family firms with high debts make more income-increasing accounting choices than private non-family firms with high debts.

## 3.4 Research Gap in the Literature

From the review of prior empirical studies on capital structure decision and earnings management activities, this study can identify two main reasons underlining the research gap as follows.

Firstly, it is found that most of the previous studies on financing decision and earnings management are limited to private and public firms from developed and developing countries during transitional periods but not firms, particularly private companies, from least developed countries with transitional economies. For example, the prior research on financing decisions of firms from developed and developing countries are: Marsh (1982), Michaelas et al. (1999) and V. A. Dang (2013) on the UK; Antoniou et al. (2006) on France, Germany and the UK; Drobetz et al. (2013) on G7 countries; Friend and Lang (1988) and Frank and Goyal (2009) on the US; Chakraborty (2010) on India; Wald (1999) on France, Germany, UK, Japan and US; Suto (2003) on Malaysia; Huang (2006) and J. J. Chen (2004) on China; Delcoure (2007) on Czech Republic, Poland, Russia and Slovakia; and Nguyen and Ramachandran (2006) on Vietnam. The examples of the existing literature on earnings management of firms in developed and developing countries include: Kasipillai and Mahenthiran (2013) on Malaysia; Burgstahler et al. (2006) on EU countries; Klein (2002), Becker et al. (1998), Burgstahler and Eames (2006), and Zhong et al. (2007) on the US; Koh (2003) on Australia; An et al. (2016) on countries worldwide; Othman and Zeghal (2006) on Canada and France; and Rodríguez-Pérez and van Hemmen (2010) on Spain.

Secondly, institutional factors across countries have some differences and can differently affect corporate financing decision and earnings management of firms. A number of prior studies have confirmed the influence of institutional and regulatory factors on capital structure decision (Antoniou et al., 2006; Booth et al., 2001; De Jong et al., 2008; Lemma & Negash, 2013; Li et al., 2009; López-Iturriaga & Rodriguez-Sanz, 2008; Nguyen & Ramachandran, 2006) and on earnings management (DeAngelo et al., 1996; DeFond & Jiambalvo, 1994; Healy & Wahlen, 1999; Jones, 1991; Navissi et al., 1999; Watts & Zimmerman, 1978). In case of Laos, financial institutions and regulatory are in the early stages of development during the transitional period. The level of development of financial institutions and regulatory are important factors that can affect capital structure decision and earnings management of Lao enterprises. Laws and regulations exist while their enforcement in the market are not effective as practiced in the developed and developing world.

## 3.5 Chapter Summary

This chapter provided a theoretical background of capital structure decision, including the early capital structure theory, TOT, and POT. The two theories will be used to explain capital structure decision of the sample firms in this study. In addition, it also presented the agency theory in business that will be used as a theoretical principle to explain earnings management activities of Lao firms in Chapter 5. This chapter also provided a comprehensive review of capital structure decisions, earnings management activities, earnings management's determinants, and the relationship between corporate financial leverage and earnings management.

The early capital structure theory stated that the capital structure of a firm in a perfect capital market is independent from its value, but is dependent on future cash flows from the firm's operation. The TOT suggested that optimal level of capital structure exists when firm balances the combination of debt and equity at the point that the firm has maximum value and minimum cost of capital. The POT posits that the cost of firm's financing increases or decreases with the level of asymmetric information. According to the POT, retained earnings of a firm is the first priority source of fund, following by debt and then equity. The Agency Theory is а supposition that explains the relationship between principals and agents who act on behalf of the principals in business. The theory is concerned with resolving potential agency problems arising from the agency relationship due to the agents' attempt to benefit themselves and recognising that the goal of the agents may be unaligned with the principals' interests. To reduce the agency problem, the principals have to incur the agency costs of monitoring the agents.

The literature reviews of this chapter help to identify the research gap and build a theoretical and empirical foundation of the hypotheses that underpin this study. To do so, it firstly reviews related prior studies on the determinants of capital structure, including firm-level determinants and industry influence. Secondly, there is a review on previous empirical evidence on earnings management. This section also provided the definitions, motivations, beneficial and harmful effects of earnings management, details three methods used to detect earnings manipulation, explained the determinants of earnings management, and the linkage between financial leverage and earnings management. In addition, it presented a summary of prior research on earnings management. Finally, this chapter concluded the research gap from the comprehensive review.

### 4.1 Introduction

This chapter explains research methods employed to test six formulated hypotheses for the investigation of the factors that determine capital structure decision and earnings management practices, as well as the exploration of the impact of earnings management on financial leverage of Lao private enterprises.

This chapter outlines the conceptual framework, dataset, variable measurement, methodology, and bias issues of the study. The chapter is organised as follows. Firstly, section 4.2 explains the conceptual framework that outlines the relationship between each research question with determinants of capital structure and earnings management. Secondly, section 4.3 develops six testable hypotheses for the proposed research questions in Chapter 1. Thirdly, section 4.4 explains the data collection process and the description of the statistical data and sample. This section also highlights the difficulties in collecting the data for this empirical study. Fourthly, section 4.5 defines all the dependent and independent variables used in developing models of this study. It also provides the measurement of the variables related to capital structure and earnings management. Fifthly, section 4.6 describes the research methodology for main empirical tests. The models and details for statistical analysis are also outlined in this section. Sixthly, section 4.7 deals with estimation of bias issues that would incur from the statistical tests. Finally, section 4.8 closes this chapter with the summary of its contents.

### 4.2 Conceptual Framework

The conceptual framework (Figure 4.1) outlines the relationship of each individual research question such as the determinants of capital structure and earnings management of private enterprises in Laos. The research question (Q1) examines the influence of firm-specific characteristics and industry sectors on capital structures by employing two capital structure theories; including the TOT and POT. The factors at firm level comprise of size, tangibility and profitability. Research Question Two (Q2) investigates the main determinants of earnings management by testing the Modified-Jones Model (Dechow et al., 1995) and Performance-Augmented Model (Kothari et al., 2005). Research Question Three (Q3) explores the relationship between leverage

and earnings management of the enterprises. The relationship is explained by using an agency theory in business. This study uses firm size as the main proxy for earnings management (Booth et al., 2001; Fama & French, 2002; Huang, 2006). The study controls all years and industry sectors while examining the above three research questions. The main industry sectors comprise of consumer discretionary, consumer staples, industrials, materials, and utilities.

# Figure 4.1 Conceptual framework of capital structure and earnings management for Lao private enterprises



## 4.3 Research Hypotheses

This study aims at examining the main determinants of capital structure and earnings management, as well as the relationship between financial leverage and earnings management of private enterprises in Laos. It particularly examines firmlevel determinants and industry sectors in relation to capital structure. It also measures earnings management by using discretionary accruals and examine the main determinants of earnings management of the enterprises. Finally, this thesis explores the relationship between the residual coefficients from discretionary accruals and the leverage. The research questions developed in Chapter 1 are gradually formulated into testable hypotheses in accordance with the capital structure theories along with the empirical literature discussed in Chapter 3. The following subsections will help in formulating the hypotheses of this empirical study.

## 4.3.1 Capital Structure Decision

The first Research Question (Q1) developed in Chapter 1 is: "What are the firm-specific characteristics and industry sectors that influence capital structure decision of Lao private enterprises?" As discussed in Chapter 3, financial leverage of a firm can be affected by firm-level determinants and industry sectors. This section provides a summary of predictions on how firm-level characteristics and industry factors influence financing decision of Lao enterprises. Based on the existing theoretical and empirical studies and the availability of data (J. J. Chen, 2004; Frank & Goyal, 2009; Huang, 2006; Michaelas, Chittenden, & Poutziouris, 1998; Nguyen & Ramachandran, 2006), this study considers four independent variables for firmspecific determinants and industry factors, including firm size, asset tangibility, profitability, and industry affiliation. The definition and measurement of the variables as well as references are presented in section 4.5. The other control variables, comprising of total revenue, trade receivables, and operating cash flow from operation, are not included to test for the determinants of financing decision of the enterprises. This is because the three variables have no significant influence on the results from preliminary tests. The following subsections explain the development of the hypotheses' formation.

### • Leverage and Firm Size

Based on the TOT, firm size has a tendency to be positively associated with debt capacity (Booth et al., 2001; Fama & French, 2002; Huang, 2006; Rajan & Zingales, 1995), though the nature of this association has been controversial. On the one hand, large firms experience fewer problems related to moral hazard, information asymmetry, financial distress and bankruptcy risk (Fama & French, 2002; S. C. Myers, 1984; Rajan & Zingales, 1995). This may motivate larger firms to rely more on long-term liabilities because lenders lower their monitoring and reduce residual costs related to the financing for the firms. On the contrary, smaller firms have a tendency to use

short-term debt as a substitute for long-term debt to minimise the impact of the problem from information asymmetry (Hall, Hutchinson, & Michaelas, 2000; Michaelas et al., 1998). Therefore, the financing pattern of small and large firms are relatively different. The expected effect of size is to be negative to short-term debt and positive to long-term liability for large firms. Accordingly, the hypothesis about the size and financial leverage is formulated as follows:

### *Hypothesis* 1<sub>*a*</sub>: *Firm size is positively related to long-term debt* (*H*1<sub>*a*</sub>)

### • Leverage and Tangibility

Based on the TOT, asset tangibility is expected to have a positive relationship with external debt due to the tangibility is related to moral hazard, agency costs and information asymmetry (J. J. Chen, 2004; Drobetz et al., 2013; Hall, Hutchinson, & Michaelas, 2004). Firms with a higher level of tangible assets are more likely to increase their debts from banks and other financial institutions because their tangibility can be used as collateral (Jensen & Meckling, 1976; Rajan & Zingales, 1995; Titman & Wessels, 1988). However, the level of collateral-based assets is not connected with short-term liabilities but, instead, in line with the POT (Hall et al., 2000; Jordan, Lowe, & Taylor, 1998). Accordingly, firms with less level of tangibility as collateral are more likely to rely on equity instead of debt financing (V. A. Dang, 2013). Therefore, the tangibility of Lao private enterprises is assumed as follow:

### *Hypothesis* 1<sub>b</sub>: Asset tangibility is positively related to long-term debt (H1<sub>b</sub>)

## • Leverage and Profitability

According to the POT (S. C. Myers, 1984; S. C. Myers & Majluf, 1984), retained earnings is expected to be the main financial resource for new projects instead of using external debt or new equity. The assumption has been supported by a number of prior empirical studies (Booth et al., 2001; Chittenden, Hall, & Hutchinson, 1996; Hall et al., 2004; Huang, 2006; S. C. Myers, 2001). For that theoretical and empirical reason, profitable firms tend to lower their agency costs of debt by reducing their leverage ratio. Therefore, profitability is assumed to be in opposite direction with financial leverage. Accordingly, the historical profitability of Lao private firms is formulated as follow:

*Hypothesis* 1<sub>c</sub>: *Profitability is negatively related to long-term debt* (*H*1<sub>c</sub>)

## • Capital Structure and Industry Influence

A number of previous studies often employ dummy variables to control industry effect on firm's financial leverage (Hovakimian et al., 2001; Huang, 2006; Lemmon et al., 2008; MacKay & Phillips, 2005). The industry dummy variables are employed to capture the impact of industry-specific effect on leverage across different industry sectors. Based on the TOT, firms restructure their debts and equity ratios to seek an optimum level of capital structure, and the ratios vary across different industry sectors due to several factors, for example, the demand of labour and capital, type of technology (Chittenden et al., 1996; Frank & Goyal, 2009; Jõeveer, 2013; Jordan et al., 1998). Besides, firms in the same industry sector with identical environment conditions experience the same variance of financial leverage. Based on the TOT and the prior works, this study, therefore, sets hypothesis for the relationship between capital structure and industry classification as follows:

*Hypothesis*  $1_d$ : Lao private enterprises' capital structure has a diverse relationship with industry sectors (H1<sub>d</sub>)

### **4.3.2** Determinants of Earnings Management

The second research question (Q2) is "What are the main determinants of earnings management of Lao private enterprises?" Conforming to prior studies (B. B. Lee & Choi, 2002; Michelson et al., 1995; Moses, 1987; Siregar & Utama, 2008), this thesis only uses firm size as an important determinant of earnings management of the enterprises in Laos. Other control variables, comprising of tangibility, profitability, total revenue, trade receivables, and operating cash flow from operation, are also included in the additional tests for main determinants of earnings management in Chapter 5. As discussed in Chapter 4, firm size is an important factor that could have a negative or positive relationship with earnings management for several reasons. Based on Barton and Simko (2002), Subramanyam and Wild (2009) and Nelson et al. (2002), large firms are likely to manage earnings upward because large firms have a wide range of accounting choices to manoeuvre, a greater bargaining power with auditors, and high expectations from analysts and creditors. Therefore, to answer Research Question Two, this study sets the hypothesis for the influence of firm size on

earnings management of the firms in Laos as follows:

*Hypothesis 2:* Large private firms are more likely to engage in earnings management than small firms (H2)

### 4.3.3 Relationship between Capital Structure and Earnings Management

The third research question (Q3) is "What are the relationship between capital structure and earnings management of Lao private enterprises?" To predict the effects of earnings management on financial leverage of the enterprises, this study set a hypothesis on the relationship by following prior studies. As argued in Chapter 4, there are some direct and indirect studies on the impact of earnings management on corporate financial leverage. For instance, Haw, Hu, Hwang, and Wu (2004) argue that firms with high financial leverage tend to engage in more income-increasing management in order to alleviate accounting constraints in debt contracts, and have more income-decreasing behaviour during the time of financial distress to facilitate debt renegotiations. Similarly, Beatty and Weber (2003) find that debt contracts with banks influence firms to manipulate their accounting choices. The firms change their accounting methods to make more income-increasing changes when the accounting changes affect their contract calculations. The likelihood of the income-increasing activities depends on the expected costs of a technical violation. The firms' accounting change is lower when the costs of violation are also lower. DeFond and Jiambalvo (1994) support the relationship between the two variables that leverage level increases the tendency of using earnings management due to levered firms have an incentive to meet debt-covenants satisfaction. In summary, a higher demand for debt relates to the possibility of the income-increasing behaviour of firms as external lenders have the control power for the costs of financial leverage. Therefore, in line with the previous findings, this study sets the hypothesis of the relationship between capital structure and earnings management of Lao private enterprises as in the following:

*Hypothesis 3*: Lao private firms with higher financial leverage are expected to have higher earnings management (H3)

## 4.3.4 Summary of the Hypotheses

The six hypotheses developed above can be summarised in Table 4.1 below.

The hypotheses will be tested by using statistical analysis in conjunction with the statistical software, called STATA, in Chapter 5.

| Relationship   | Hypothesis  | Sign |
|--|---|------|
| Leverage and firm size   | H1 <sub>a</sub> : Firm size is positively related to long-<br>term debt                                       | +    |
| Leverage and tangibility   | H1 <sub>b</sub> : Tangibility is positively related to long-term debt   | +    |
| Leverage and profitability   | H1 <sub>c</sub> : Profitability is negatively related to long-term debt                                       | -    |
| Capital structure and industry influence                             | H1 <sub>d</sub> : Lao private enterprises' capital structure has a diverse relationship with industry sectors | +/-  |
| Firm size and earnings management                                    | H2: Large firms are more likely to engage in earnings management than small firms                             | +    |
| Relationship between<br>capital structure and<br>earnings management | H3: Lao private firms with higher financial leverage are expected to have higher earnings management          | +    |

 Table 4.1 Summary of hypotheses

## 4.4 Data

In order to achieve the main objectives of this study, this section provides an explanation of the data set used in the statistical analysis as well as the description of the dataset. It also explains the process of data collection.

## 4.4.1 Data Description

Based on the availability of the secondary data, this study uses the data set from annual reports of 240 private enterprises in Laos for the period from the year 2009 to 2013. The data are collected from firms in different industries. After dropping missing observations, the final data-set consists of time series of 224 companies over the period of five years (Appendix 3). Although, an attempt has been made to consider the data for a ten-year period of 2004-2013 the data is insufficient and unavailable for some enterprises from 2004 to 2008. Therefore, this study observes only a five-year period of 2009-2013. During the fieldwork, the financial reports of the firms were randomly collected from Tax Department, Vientiane Tax Division, and Tax offices at the district level. The reports were submitted to the tax offices, division and department for taxation purpose. The sample firms are in two forms of enterprises, including sole-trader enterprise and limited company which are defined by the Law on Enterprises (Government, 2005). In Laos, there are 4 forms of business entities comprising of sole-trader enterprise, an ordinary partnership, limited partnership and limited company.

A business enterprise traditionally runs activities in providing goods or services, which involve financial, commercial or industrial aspects. In the Law on Enterprises in Laos (Government, 2005), a business enterprise refers to "a business unit or organisation of private individuals or legal entities that operate business activities ranging from production to services by using their own name, capital, office, and management for the purpose of seeking profit" (Abell, 1980). A private individual or collective people can own the enterprise. Under the law in Laos, enterprises are classified into five forms of establishing the business entities:

- *Sole-trader enterprise* is a firm registered under one person. This enterprise operates under the name of its owner who has responsibility for unlimited liability incurred.
- *An ordinary partnership* where business is conducted jointly by partners and all partners have unlimited responsibility for any liability of the enterprise.
- A *limited partnership* is formed under an agreement between two or more parties to operate the business under a joint name. Designed partners or "general partners" have unlimited responsibility for the enterprise's liability, while other partners or "limited partners" are designated for limited responsibility for liability.
- *A limited company* is formed by at least two shareholders but not exceeding 30 shareholders. This type of company is not allowed to sell shares freely to public investors. Each share of the firm has equal value.
- A public company is required a minimum of nine founding shareholders. The

company has a free right to transfer shares and entitles to openly sell shares to the public.

The collected data for statistical analysis is in the form of time-series data. This study is based on historical financial information of the private enterprises in Laos for five consecutive years in the timeframe of 2009 to 2013. Balance Sheets and Income Statements were collected from tax offices under the hierarchy of Ministry of Finance in the capital city of Laos, Vientiane.<sup>3</sup> The financial reports are formulated under Lao Accounting Standards (LAS) and the Law on Enterprises Accounting (National Assembly, 2007). The reported data is in the local currency of Laos – the Lao Kip (LAK).

## **4.4.2** Description of the Sample

| Firm       | Number  | Industry Sector |          |             |           |           |  |
|------------|---------|-----------------|----------|-------------|-----------|-----------|--|
| type       | of firm | Consumer        | Consumer | Industrials | Materials | Utilities |  |
|            |         | discretionary   | staples  |             |           |           |  |
| Limited    |         |                 |          |             |           |           |  |
| company    | 123     | 57              | 10       | 46          | 33        | 5         |  |
| Sole-      |         |                 |          |             |           |           |  |
| trader     | 101     | 30              | 1        | 36          | 6         | 0         |  |
| enterprise |         |                 |          |             |           |           |  |
| Total      | 224     | 84              | 11       | 80          | 39        | 5         |  |

 Table 4.2 Distribution of firm type in different industry sectors

The financial reports of 224 sample firms collected above are from different industries and firm type (Table 4.2). In the sample, there are 123 limited companies and 101 sole-trader enterprises. This study does not attempt to make the selected sample as a representative of all 98,962 registered enterprises (Ministry of Industry and Commerce, 2014) in Laos due to the data is only collected in the capital city of Laos. Even though, enterprises from all the different industry sectors are randomly collected to ensure that those firms from each industry sector are representative of the

<sup>&</sup>lt;sup>3</sup>Before collecting the data, a Letter of Permission for data collection was first received by the Head of Tax Department under the Ministry of Finance, and then a separated copy was handed over to each tax offices at district and municipal level for a consideration of data release.

real size of each sector. The classification of the industry sectors used in the study is based on Global Industry Classification Standard (GICS). Thus, this research is considered as a case study in Laos.

### 4.4.3 Fieldwork for the Data Collection

This study uses only secondary data which are taken from the annual financial reports of private enterprises in Laos. The data are the reported accounting information collected by taxation offices in Vientiane Capital of Laos. The data collection was conducted during the fieldwork for three months from June to August of 2016.

To collect the reported data, a huge effort and time had been spent during unpredictable and painful processes from document stage until the searching stage of getting data from district tax offices, tax division and tax department in the capital city of Laos. A Letter of Request for Data Collection (Appendix 1) signed by the Dean of the Faculty of Economics and Business Management, National University of Laos, was proposed to target tax offices, Tax Division and Tax Department before getting permission for the use of data (Appendix 2). The tax office normally brought the letter to their general meetings for consideration at least one week or longer before getting approval or disapproval. All financial reports of private enterprises in the tax offices are not stored electronically but in the form hard-copy format and unsystematically classified in a convenient way to collect for five consecutive years from 2009 to 2013. Not all taxation offices allowed to release data and the offices' staff were busy with their assigned jobs and did not allow external people to get into the storage room to search for the financial reports. Only the recruited staffs were permitted to get into the storage rooms. They spent several days to get only a small set of the five-consecutiveyear sample. When the financial reports of any Lao private enterprises were found for a period of five years, the reports were scanned in order to converse to PDF file by the researcher for future analysis before returning the reports to the storage rooms.

### 4.5 Measurement of Variables

This study examines the determinants of capital structure and earnings management activities of private enterprises in the least-developed country during the transitional period from the central-planned mechanism to a market-oriented economy by considering Laos as a case of study. According to the research objectives and questions mentioned in Chapter 1, this study uses dependent, independent, control variables and their measurements largely adopted by existing literature on capital structure and earnings management. This allows the researcher to highlight the differences and similarities of the variables used in previous studies. The definitions and measurements of each variable are explained below.

## 4.5.1 Variables on Capital Structure

### a. Dependent Variables

The dependent variable in this study is the financial leverage or debt ratio or capital structure of a firm. Previous researchers define financial leverage in various alternative ways. Most of them consider some form of a debt ratio in according to the use of book measure or market value. Empirically, Bowman (1980) reports that the use of book value delivers similar results to market value because two measures are interrelated. The leverage can be differently classified total debt and long-term debt. Alternatively, one can also consider the interest coverage ratio as a measure of financial leverage of the firm (Welch, 2004).<sup>4</sup> This study uses book-based value as the main measure of capital structure, namely total debt and long-term debt ratio as defined in Table 4.3. Short-term debt is not used as a proxy for leverage since the short-term debt has a very tiny portion compared to long-term debt in Lao private enterprises.

| Variable             | Definition                       | Sample reference          |
|----------------------|----------------------------------|---------------------------|
| Total debt ratio     | The ratio of book value of total | S. C. Myers (1984), J. J. |
| (TDebt)              | debt to total assets             | Chen (2004), Artikis,     |
|                      |                                  | Eriotis, Vasiliou, and    |
|                      |                                  | Ventoura-Neokosmidi       |
|                      |                                  | (2007)                    |
| Long-term debt ratio | The ratio of book value of debt  | S. C. Myers (1984),       |
| (LDebt)              | repayable beyond one year        | Hall et al. (2000),       |
|                      | divided by total assets          | Öhman and Yazdanfar       |
|                      |                                  | (2017)                    |

| Table 4.3 Measurement of dependent variable | Та | abl | e 4 | .3 | Measuremen | nt of | de | pendent | varial | ble | S |
|---|----|-----|-----|----|------------|-------|----|---------|--------|-----|---|
|---|----|-----|-----|----|------------|-------|----|---------|--------|-----|---|

<sup>&</sup>lt;sup>4</sup> The interest coverage ratio is measured as operating income before depreciation divided by interest expenses.

### 4.5.2 Variables on Earnings Management

This study uses the absolute value of residual coefficient of discretionary accruals from the Modified Jones Model ( $DAC1^+$ ) and the Performance-Augmented Model ( $DAC2^+$ ) as measures of earnings management of Lao private firms. The study adopts accrual-based earnings management proxies instead of real earnings management or cash flows because accrual-basedearnings management is relatively easier and less visible to stakeholders than cash flows (Choi & Pae, 2011). The Modified Jones Model and the Performance-Augmented Discretionary Accrual Model are two methods that are used in this study.

## a. The Modified Jones Model

This study employs the absolute value of residuals from modified Jones' abnormal accruals model (Dechow et al., 1995) as a first proxy for earnings management. In this model, total accruals are estimated as follows:

$$TA_{i,t} = NPAT_{i,t} - NOCF_{i,t}$$

Where

 $TA_{i,t}$  = total accruals of firm *i* in year *t* 

 $NPAT_{i,t}$  = net profit after tax of firm *i* in year *t* 

 $NOCF_{i,t}$  = net operating cash flows of firm *i* in year *t* 

The following regression model is used to residuals.

$$\frac{TA_{i,t}}{A_{t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{t-1}}\right) + \alpha_2 \left(\frac{\Delta REV_{i,t} - \Delta TR_{i,t}}{A_{t-1}}\right) + \alpha_3 \left(\frac{Tan_{i,t}}{A_{t-1}}\right) + \varepsilon_{i,t}$$

Where

 $A_{t-1}$  = asset of firm *i* in year t-1

 $\Delta REV_{i,t}$  = change in revenue of firm *i* in year *t* 

 $\Delta TR_{i,t}$  = change in trade receivables of firm *i* in year *t* 

 $Tan_{i,t}$  = gross value of plant, property, and equipment of firm *i* in year *t* 

 $\varepsilon_{i,t}$  = residual of firm *i* in year *t* 

Credit sales may be a source of earnings management. Therefore, a change in trade receivables ( $\Delta TR_{i,t}$ ) is needed to incorporate in the above regression model.

This study estimates the above model cross-sectionally by each industry and

financial year using at least 10 observations. Global Industry Classification Standard (GICS) is used to form an industry. The residual from this estimation is the discretionary accruals (*DAC1*). Positive and negative residuals indicate incomeincreasing and income-decreasing manipulations respectively. This study adopts the absolutes value of the residual coefficients ( $\varepsilon_{i,t}$ ) from the Modified Jones Model as a measure of earnings management (*DAC1*<sup>+</sup>).

## b. Performance-Augmented Model

Performance-augmented discretionary accruals model (Kothari et al., 2005) is the second measure of earnings management. The reason for adopting this method because of the reliable estimation as it is confirmed by Sun and Rath (2011). They report that the Performance-Augmented Model tends to have a more reliable estimation of discretionary accruals in comparison to other methods. In the model, return on assets is included to control performance of the firms. The earnings management's coefficient or abnormal accrual for firm *i* in year *t* is the residual  $\varepsilon_{i,t}$ from the following regression model:

$$\frac{TA_{i,t}}{A_{t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{t-1}}\right) + \alpha_2 \left(\frac{\Delta REV_{i,t} - \Delta TR_{i,t}}{A_{t-1}}\right) + \alpha_3 \left(\frac{Tan_{i,t}}{A_{t-1}}\right) + ROA_{i,t-1} + \varepsilon_{i,t}$$

The independent variable in the Performance-Augmented Model is defined as in the previous section in addition to *ROA*.  $ROA_{i,t-1}$  is the return on asset of firm in year t - 1. It is calculated as the earnings before interest and taxed (*EBIT*) scaled by the book value of total assets. The residual from this estimation is the discretionary accruals (*DAC2*). This study adopts the absolute value of the residual coefficients  $\varepsilon_{i,t}$ from the Performance-Augmented Model as a measure of earnings management (*DAC2*<sup>+</sup>).

Table 4.4 provides the summary of two variables used to measure earnings management of Lao enterprises in this study.  $DAC1^+$  is the absolute value of winsorised residual coefficients from the Modified Jones Model.  $DAC2^+$  is the absolute value of winsorised residual coefficients from the Performance-Augmented Model.

| Variable          | Definition   | Reference             |
|-------------------|--|-----------------------|
| DAC1 <sup>+</sup> | The absolute value of the residual from the<br>Modified Jones Model    | Dechow et al. (1995)  |
| DAC2 <sup>+</sup> | The absolute value of residual from the<br>Performance-Augmented Model | Kothari et al. (2005) |

Table 4.4 Variables on earnings management

## 4.5.3 Independent Variables

Independent variables are factors that influence the dependent variable such as long-term debt and total debt ratio. Independent variables in this study are considered to be the variables on firm-level determinants, industry sectors, and earnings management. The independent variables at the firm level are comprised of firm size, tangibility and profitability (Table 4.5). The industry sectors are classified in accordance with the Global Industry Classification Standard (GICS) which includes consumer discretionary (1), consumer staples (2), industrials (3), materials (4) and utilities (5). The variable of measuring earnings management is the residual from the discretionary accruals from the Modified-Jones Model and the Performance-Augmented Model.

| Variable                   | Definition   | Sample reference   |
|----------------------------|--|--|
| Firm size (Size)           | The natural logarithm of total assets                                      | Heshmati (2001), J. J.<br>Chen (2004), Nguyen and<br>Ramachandran (2006)                             |
| Tangibility ( <i>Tan</i> ) | The ratio of the total property,<br>plant and equipment to total<br>assets | Chittenden et al. (1996),<br>Fama and French (2002),<br>J. J. Chen (2004), Frank<br>and Goyal (2009) |

| Variable                                 | Definition  | Sample reference  |
|--|---|---|
| Profitability (Pro)                      | The ratio of earnings before interest and tax to total assets | Huang (2006)  |
| Industry affiliation<br>( <i>Ind</i> )   | This study creates a dummy<br>variable for each industry      | Chittenden et al. (1996),<br>Frank and Goyal (2009),<br>Mac An Bhaird and Lucey<br>(2010) |
| Discretionary<br>accruals ( <i>DAC</i> ) | The residuals from<br>discretionary accruals                  | Dechow et al. (1995),<br>Kothari et al. (2005)  |

## 4.6 Empirical Methodology

In order to do statistical analyses, ordinary-least-squares (OLS) regressions are employed to test the formulated hypotheses and answer the research questions. All the regression equations are estimated by using STATA which is an integrated statistical software that allows the computation of time-series data. The data for analysis are drawn from Balance Sheets and Income Statements of private enterprises in Laos for five-consecutive yearly observations.

## 4.6.1 Relationship between Capital Structure and Other Factors

## a. Estimation of Dependent and Independent Variables

This study employs two different proxies for analysing capital structure of Lao private enterprises in the next chapter. The proxies consist of long-term and total debt ratios which are considered as dependent variables. Debt in this study is measured only by the firms' book value as none of the sample firms are listed on the Lao Securities Exchange. Thus, enterprises' managers have to base their financial decisions on book value.

This thesis includes firm characteristics as independent variables comprising of firm size, tangibility and profitability. The industry classification variables are also added to the empirical model to examine their effects on Lao private enterprises' capital structure decision and earnings management activities.

### b. Model and Method of Analysis

To test the hypotheses  $H1_a$ ,  $H1_b$ ,  $H1_c$ ,  $H1_d$ , H2, and H3 formulated in Chapter 5, time-series data and multiple regression analysis are utilised to empirically examine the hypotheses over the tested five-year period of 2009-2013. Financial leverage of an enterprise, measured by the ratio of total debt and long-term debt, is regressed against independent variables using the OLS. The results of the regression model will reveal whether firm characteristics and enterprises belong to a particular industry sector have a persisting effect on capital structure. To do this, the OLS regression model is basically formed as follows:

Leverage = f(Firm characteritics, and Industry dummies)

$$LEV_{i,t} = \alpha + \beta_i DET_{i,t}$$

Where

i = vector of observation

t = time dimension

 $\alpha$  = constant

 $\beta$  = corresponding coefficient firm *i* at time *t* 

 $LEV_{i,t}$  = debt ratio of firm *i* at time *t* 

 $DET_{i,t}$  = determinants of capital structure (firm characteristics, and industry

classification) of firm i at time t

The regression model employed for this study is in line with the models used by Cassar and Holmes (2003), and Hall et al. (2004) with some modifications for the statistical analyses to test the hypotheses as in the following form:

$$LEV_{i,t} = \alpha + \beta_1 Size_{i,t} + \beta_2 Tan_{i,t} + \beta_3 Pro_{i,t} + \beta_4 \sum Ind_{i,t} + \beta_5 \sum Year_t + \sigma_{i,t}$$

Where

 $Size_{i,t}$  = size of firm *i* at time *t* 

 $Tan_{i,t}$  = tangibility of firm *i* at time *t* 

 $Pro_{i,t}$  = profitability of firm *i* at time *t* 

 $Ind_{i,t}$  = industry classification of firm *i* at time *t* 

 $\sigma_{i,t}$  = residual of firm *i* in year *t* 

The leverage of firm (*LEV*) includes total debt (*TDebt*) and long-term debt (*LDebt*), which are dependent variables. Independent variables are firm-specific characteristics, industry sectors and year dummies.

The analysis process for the determinants of capital structure is divided into three stages. The first stage is the regression analysis of all determinants of Lao private enterprises' capital structure. In the second stage, the study focuses on analysing the differences in the capital structure across different industry sectors. Firm-specific characteristics across the various industries are also examined in this stage. The last stage is to investigate year effects on the private enterprises' capital structure by using the same model.

### 4.6.2 Relationship between Capital Structure and Earnings Management

The following model is developed to examine the linearity of the relationship between capital structure and earnings management. This model is a modification of An et al. (2016), Cassar and Holmes (2003), and Hall et al. (2004).

$$\begin{split} LEV_{i,t} &= \beta_0 + \beta_1 DAC_{i,t} + \beta_2 Size_{i,t} + \beta_3 Tan_{i,t} + \beta_4 Pro_{i,t} + \beta_5 \sum Ind_{i,t} \\ &+ \beta_6 \sum Year_t + \sigma_{i,t} \end{split}$$

Where

 $\beta$  = coefficients

 $LEV_{i,t}$  = debt ratio of firm *i* in year *t* 

 $DAC_{i,t}$  = discretionary accruals of firm *i* in year *t* 

 $Size_{i,t}$  = size of firm *i* in year *t* 

 $Tan_{i,t}$  = tangibility of firm *i* in year *t* 

 $Pro_{i,t}$  = profitability of firm *i* in year *t* 

 $Ind_{i,t}$  = industry sector

 $Year_t$  = year dummy

 $\sigma_{i,t}$  = residual of firm *i* in year *t* 

In the above model, dependent variables consisting of discretionary accruals (DAC), firm size (Size), tangibility (Tan), profitability (Pro), industry sectors (Ind), and year dummy (Year) are tested for earnings management and the relationship with leverage (LEV) which is an independent variable. Additionally, total revenue (REV), trade receivables (TR), and operating cash flow from operation (OCF) are also

included in the additional tests for the main determinants of earnings management, and the relationship between leverage and earnings management of Lao private firms.

## 4.6.3 Summary of Hypotheses with Related Variables

The statistical analyses are conducted by employing the OLS in conjunction with the software called "Statistics and Data" (STATA) version 14. The summary of related dependent and independent variables are presented in Table 4.6 as follows:

|                 | <b>TT</b> (1 ·                                | Dependent | Independent |
|-----------------|---|-----------|-------------|
|                 | Hypothesis                                    | variable  | variable    |
| H1 <sub>a</sub> | Firm size is positively related to financial  | TDebt     | Size        |
|                 | leverage of Lao private enterprises           | LDebt     |             |
| H1 <sub>b</sub> | Tangibility is positively related capital     | TDebt     | Tang        |
|                 | structure of Lao private enterprises          | LDebt     |             |
| H1 <sub>c</sub> | Profitability is negatively related to        | TDebt     | Pro         |
|                 | financial leverage of Lao private enterprises | LDebt     |             |
| H1 <sub>d</sub> | Lao private enterprises' capital structure    | TDebt     | Ind         |
|                 | has a diverse relationship with industry      | LDebt     |             |
|                 | sectors                                       |           |             |
| H2              | Large private firms are more likely to        |           | Size,       |
|                 | engage in earnings management than small      |           | $DAC1^+,$   |
|                 | firms   |           | $DCA2^+$    |
| H3              | Lao private firms with higher financial       | TDebt     | Size, Tang, |
|                 | leverage are expected to have higher          | LDebt     | Pro, Ind,   |
|                 | earnings management                           |           | $DA1C^+,$   |
|                 |   |           | $DAC2^+$    |

**Table 4.6 Hypotheses and related variables** 

## 4.7 Bias Issues

Data screening is an important stage in research process before conducting data analysis. This is to ensure that collected data for this study have an appropriate quality because data quality problem potentially leads to a bias of results from the analysis. For that reason, this study avoids bias issues from endogeneity problem, multicollinearity, and outlier as follows:

## 4.7.1 Endogeneity

Potential endogeneity may mask an actual relationship amongst financial leverage, capital structure's determinants, and earnings management. Roberts and Whited (2012) define endogeneity as "*a correlation between the explanatory variables and the error term in a regression*". Endogeneity occurs from the consequence of omitted of variables, simultaneity or measurement error. This study adopts year and industries dummies and uses a variety of control variables to minimise a possibility of endogeneity problem and selection bias.

## a. Year and Industry Dummies

Endogeneity issues can be minimised by controlling year and industry fixed effects. Industry sector in this study is defined in accordance with the GICS industry classifications. Some prior studies, for example, uses year and industry dummies to control possible time and industry effects (Hazarika, Karpoff, & Nahata, 2012; Kim, Kim, & Zhou, 2017).

### b. Variety of Control Variables

Another possible solution to address endogeneity is to use a variety of control variables to minimise the omitted variable problem (Y. Chen, Chen, & Shiau-Lan, 2010; J. N. Myers et al., 2007). In parallel with Huang (2006), De Jong et al. (2008) and Drobetz et al. (2013), this study uses firm size, tangibility, and profitability as control variables.

## 4.7.2 Multicollinearity

Multicollinearity is the condition of independent variables being correlated to each other which is not demanding in a regression model. The multicollinearity becomes a problem once the correlation among the independent variables (explanatory variables) is high or over 0.8 (Gujarati, 2009). Whereas Goodhue, Lewis, and Thompson (2011) and Hair Jnr, Black, Babin, and Anderson (2010) contend that multicollinearity becomes a serious concern where variance inflation factor (VIF) in extreme cases exceeds a value of 10, which is a common cut-ff threshold. In order to detect the multicollinearity problem whether it is existence, the mechanism of Pearson's correlation coefficients is used.

### 4.7.3 Outliers

In the population, observation values should have a normal distribution with some observations that are different from remainders or overall trend of the data. The outliers of the observations can be defined in different ways. He, Xu, and Deng (2003) define an outlier as an observation is a different value from remainders. In other words, the outlier is any value being significantly different from the overall trend of the data (Field, 2009). In this study, the observation values are winsorised at 0.50% level in both tails of the observation distribution. This served to replace outliers and the most extremely misreported data from the financial reports of Lao enterprises.

## 4.8 Chapter Summary

This chapter described the method used in this study. It started with explaining the conceptual framework of the study. The research questions developed in Chapter 1 are formulated into the several testable hypotheses in this chapter. Later it explained the details of statistical data, description of the sample and data collection process. The data used in this study is the financial information taken from annual reports of 224 unlisted firms, which are collected from tax offices in the capital city of Laos, Vientiane Capital. The chapter also described the measurement of dependent and independent variables on capital structure and earnings management. Dependent variables consist of total debts and long-term debt. Independent (control) variables include size, tangibility and profitability. The absolute value of residual coefficients from the Modified Jones Model  $(DAC1^+)$  and from the Performance-Augmented Model  $(DAC2^+)$  are only two independent variables used to measure earnings management of Lao enterprises in this study. In addition, this chapter clarified the empirical methodologies used to investigate determinants of capital structure, earnings management's practice, and the relationship between leverage and earnings management. This study employs a baseline empirical regression model to investigate the relationship between the dependent and independent variables. The investigation uses two existing models to measure earnings management of Lao enterprises: the Modified Jones Model and the Performance-Augmented Discretionary Accrual Model. Finally, the chapter dealt with the controls of potential endogeneity. Year and industry dummies as well as various additional controled variables are applied to minimise endogeneity bias.

### 5.1 Introduction

This study aims to examine the determinants of capital structure and earnings management and the relationship between leverage and earnings management of private enterprises in Laos. To achieve the objective, this study employs empirical tests in conjunction with theoretical principles and prior studies on corporate financing decision and earnings management's practices.

This chapter provides a summary of descriptive statistics and discusses the results of the statistical tests of the hypotheses developed in Chapter 4. The remainder of this chapter is organised as follows. Section 5.2 presents the descriptive statistics of dependent and independent variables. Section 5.3 shows and discusses the results of the empirical tests on determinants of capital structure and earnings management, and the relationship between leverage and earnings management. It also presents robustness check on alternative earnings management proxy. Section 5.4 provides the summary of the statistical analysis for the formulated hypotheses. Finally, section 5.5 summarises the contents of this chapter.

### **5.2 Descriptive Statistics**

This section quantitatively summarises the main descriptive statistics for all variables used in this study. The descriptive features are the mean, standard deviation (SD), minimum (Min), maximum (Max) for the full sample of 647 firm-year observations (Obs) for the years of 2009-2013. The observations are drawn from the annual reports of 224 private enterprises in Laos. This section also shows the correlation analysis of all variables. The descriptive features are simplified in a reasonable way as in the following subsections.

### 5.2.1 Descriptive Statistics

The capital structure and earnings management of Lao private enterprises can be described in an entire sample of observations as well as classified into five industry sectors, comprising of consumer discretionary, consumer staples, industrials, materials and utilities. This study excludes financial sector because the financial companies are required to report their financial information under IFRS or/and presumptive system set by the central bank of Laos, while non-financial enterprises are entitled to pay tax under the "presumptive" system set by the government. To explain the capital structure, two proxies of capital structure are employed in this study namely, the totaldebt ratio (*TDebt*) and long-term debt ratio (*LDebt*). Dummy variables of debt are also used to distinguish the firms with debt and without debt. The *TDebt* is used as the main measure of leverage while the *LDebt* is employed for robustness check. This study regards the *TDebt* as a more appropriate measure for financial leverage because of following three reasons. First, creditors consider not only long-term debt but also current and total liabilities of borrowers. Thus, the portion of other liabilities in addition to the long-term debt can affect the debt capacity of the borrowers. Second, current liabilities is a quite steady portion of total assets (Gibson, 2001). Third, Lao enterprises generally use trade credit as a mean of short-term financing. Therefore, account payables are included in the measure of the leverage.

Table 5.1 (Panel A) presents the descriptive statistics of the capital structure or leverage for the overall sample with total observations of 674 over the period 2009-2013. When this study classifies the sample firms to firm with debt and without debt (*Debt-dummy*), the majority of Lao private enterprises (81.31%) did not utilise long-term debt financing, only 18.69% of the sample firms held external debts from banks. The evidence can be seen in the table that the average *TDebt* is 8.15%, which has a very slightly different in comparison to *LDebt* of 7.71%. This result clearly indicates that most of the debt on the balance sheet for leveraged enterprises is, therefore, long-term liability. The short-term debt covers very low percentage of only 0.44% from the total debt (the difference between total and long-term debt ratio). The reason behind of the tiny percentage is because Lao private firms only report the remaining of short-term liabilities at the end of each fiscal year but the firms typically use the short-term debt financing on a regular basis.

Table 5.1 (Panel B) reports the descriptive statistics of earnings management's coefficients of the entire sample of 224 enterprises with 674 observations for the years of 2009-2013. After testing the Modified Jones Model and the Performance-Augmented Model to find the coefficients of the residual *DAC1* and *DAC2* respectively, this study is unable to detect enough support evidence on earnings management activities of Lao private enterprises. Thus, the absolute values of the residual coefficients from the two models are employed to measure earnings

management of the private firms. The results show that there are slightly different between the absolute values of residuals from the Modified Jones Model ( $DAC1^+$ ) and Performance-Augmented Model ( $DAC2^+$ ) of 20% and 21% respectively. The evidence strongly indicates that Lao private enterprises manipulate their earnings by using discretionary accruals.

| Variable                     | Obs | Mean  | SD             | Min  | Max    |  |  |  |
|------------------------------|-----|-------|----------------|------|--------|--|--|--|
| Panel A: Capital structure   |     |       |                |      |        |  |  |  |
| TDebt                        | 674 | 8.15  | 21.04          | 0.00 | 98.52  |  |  |  |
| LDebt                        | 674 | 7.71  | 20.43          | 0.00 | 98.52  |  |  |  |
| Debt-dummy                   | 674 | 18.69 | .69 39.02 0.00 |      | 100.00 |  |  |  |
| Panel B: Earnings management |     |       |                |      |        |  |  |  |
| DAC1 <sup>+</sup>            | 674 | 0.20  | 0.19           | 0.00 | 0.68   |  |  |  |
| DAC2 <sup>+</sup>            | 674 | 0.21  | 0.23           | 0.01 | 0.84   |  |  |  |

 Table 5.1 Descriptive statistics

*Note:* The measures of financial leverage are as follows. *TDebt* is total debt divided by total assets (book value). *LDebt* is debt repayable beyond one year divided by total assets (book value).

Table 5.2 reports the descriptive statistics for *TDebt* and *LDebt* of Lao enterprises by classifying industry vice from the period of 2009-2013. The mean percentage of the *TDebt* is 4.89, 2.55, 6.19, 17.18 and 27.87 in consumer discretionary, consumer staples, industrials, materials and utilities respectively. When this study compares the financial leverage among the five different sectors, the enterprises belong to utilities have the highest average level of total debt (27.87%) and long-term debt (26.22%) while consumer discretionary have the least average *TDebt* and *LDebt* of the same percentage (2.55%), meaning that firms in the consumer discretionary do not report short-term liabilities on their balance sheets for the study period. Whereas the firms in consumer discretionary also have an equal level of *TDebt* and *LDebt* (4.89%). Firms in material sector use more debt than consumer discretionary, consumer staples and industrials for their operation, with approximately 17.18% debt to total assets.

Table 5.2 also presents the descriptive statistics of earnings management in according to industry classifications. When measuring earnings management by using the absolute value of the residual coefficients from the Modified Jones Model ( $DAC1^+$ ) and Performance-Augmented Model ( $DAC2^+$ ), this study finds that earnings

management is a common practice in all industry sectors of Lao private firms. The levels of earnings management across different industry sectors are diverse. The material sector employs the highest level of accounting manipulation with  $DAC1^+$  and  $DAC2^+$  of 0.27 and 0.28 respectively, while consumer discretionary represents the second level with the  $DAC1^+$  and  $DAC2^+$  of 0.20 and 0.24 respectively, industrials manage lesser accounting figures with the same value of  $DAC1^+$  and  $DAC2^+$  (0.19). Consumer staples and utilities exercise the least of earnings management at most of 0.11, but there is a big difference in the value of the  $DAC1^+$  and  $DAC2^+$  (0.10).

 Table 5.2 Descriptive statistics of leverage and earnings management by industry sectors

| Variable          | Obs | Mean        | SD        | Min  | Max   |
|-------------------|-----|-------------|-----------|------|-------|
|                   | Cor | sumer discr | retionary |      |       |
| TDebt             |     | 4.89        | 18.57     | 0.00 | 98.52 |
| LDebt             | 249 | 4.89        | 18.57     | 0.00 | 98.52 |
| DAC1 <sup>+</sup> |     | 0.20        | 0.19      | 0.00 | 0.68  |
| $DAC2^+$          |     | 0.22        | 0.24      | 0.01 | 2.83  |
|                   |     | Consumer st | aples     |      |       |
| TDebt             |     | 2.55        | 7.50      | 0.00 | 28.83 |
| LDebt             | 37  | 2.55        | 7.50      | 0.00 | 28.83 |
| DAC1 <sup>+</sup> |     | 0.11        | 0.11      | 0.00 | 0.45  |
| $DAC2^+$          |     | 0.09        | 0.08      | 0.01 | 0.30  |
|                   |     | Industria   | ls        |      |       |
| TDebt             |     | 6.19        | 19.75     | 0.00 | 98.52 |
| LDebt             | 241 | 6.05        | 19.72     | 0.00 | 98.52 |
| DAC1 <sup>+</sup> |     | 0.19        | 0.19      | 0.00 | 0.68  |
| $DAC2^+$          |     | 0.19        | 0.22      | 0.01 | 0.84  |
|                   |     | Material    | ls        |      |       |
| TDebt             |     | 17.18       | 25.19     | 0.00 | 87.43 |
| LDebt             | 132 | 15.40       | 23.51     | 0.00 | 78.87 |
| DAC1 <sup>+</sup> |     | 0.27        | 0.19      | 0.00 | 0.68  |
| DAC2 <sup>+</sup> |     | 0.28        | 0.22      | 0.01 | 0.84  |

| Variable          | Obs | Mean  | SD    | Min  | Max   |  |  |
|-------------------|-----|-------|-------|------|-------|--|--|
| Utilities         |     |       |       |      |       |  |  |
| TDebt             |     | 27.87 | 29.65 | 0.00 | 70.74 |  |  |
| LDebt             | 15  | 26.22 | 27.91 | 0.00 | 70.74 |  |  |
| DAC1 <sup>+</sup> |     | 0.11  | 0.17  | 0.00 | 0.41  |  |  |
| DAC2 <sup>+</sup> |     | 0.01  | 0.00  | 0.01 | 0.01  |  |  |

Figure 5.1 shows the average percentage of total-debt ratio for limited companies and sole-trader enterprises from 2010 to 2013. In overall, it appears that limited companies have more financial leverage from debt than the sole-trader enterprises'. The difference of the total-debt ratio between the two types of firms increased from around 0.91% in 2010 to larger gap of 2.87% in 2013. The average total-debt ratio of the limited companies was 8.22% in 2010, then slightly increased to 8.27% in 2011 and declined to 8.12% in 2012, and dropped significantly to 6.38% in 2013. The average debt level of sole-trader enterprises decreased gradually from 7.31% in 2010 and continued to decrease in 2011 and 2012 but more steeply to 3.52% in 2013.



Figure 5.1 Average percentage of total-debt ratio by firm types

Figure 5.2 illustrates the average percentage of total-debt ratio in five different industry sectors including consumer discretionary, consumer staples, industrials, materials and utilities. It appears that utilities have more leverage than other sectors' with the highest level of 27.87%. By contrast, consumer staples have the lowest-debt level of 2.55%. Whereas material sector has approximately three-time higher debt (17.18%) in comparison to industrials (6.19%) and consumer discretionary (4.89%) over the same period of study.



Figure 5.2 Average percentage of total-debt ratio by industry sectors

Figure 5.3 illustrates the absolute residuals from the Modified Jones Model  $(DAC1^+)$  and the absolute residuals from the Performance-Augmented Model  $(DAC2^+)$  of private firms in Laos for the years of 2010-2013. From the results of  $DAC1^+$ , Lao private enterprises managed their earnings severely through the use of discretionary accruals for the year 2010, 2012 and 2013 of 0.21, 0.21 and 0.22 respectively. Comparing all years during the studied period, the year 2011 was reported the least earnings management at the average value of 0.17 for both  $DAC1^+$  and  $DAC2^+$ . In comparison between  $DAC1^+$  and  $DAC2^+$  for the four-year observations from 2010 to 2013, both models produce the consistent results in 2011 and 2013 with coefficients of 0.17 and 0.22 respectively, and slightly different values of 0.02 in 2012 to the maximum different value of 0.03 in 2010. The consistent results for all years from the two measures of earnings manipulation confirm that private enterprises in Laos use discretionary accruals to manage their earnings. There are probably some underlining incentives for the private firms under the least developed economic

environment in Laos to manipulate their earnings, such as unstandardised accounting rules, weak legal enforcement, poor audit quality, and income-tax avoidance. Under similar business environment, the empirical results are in line with the empirical evidence of private firms in European countries (Burgstahler et al., 2006), suggesting that managers exercise more earnings manipulation in the countries with weak legal enforcement, and react differently to different tax and accounting rules. Due to part of the sample firms used in this study are family firms, the results are also consistent with the finding of Abdolmohammadi et al. (2010), reported that private and family enterprises have tendencies to manipulate their earnings downward.





### 5.2.2 Descriptive Statistics of Independent Variables

This section presents the descriptive statistics of the independent variables mentioned in the literature for their potential influence on dependent variables of this study. The variables comprise of *Size* (total assets), *Tan* (tangible assets) and *Pro* (earnings before interest and taxes). The three specific factors of capital structure and earnings management are also used as control variables in the analysis of the impact of earnings management on financial leverage.

Table 5.3 reports the descriptive statistics of three independent variables for an entire sample containing 674 observations. From 2009 to 2013, an average tangible asset ratio (*Tan*) of Lao private enterprises represents around 36% of total assets. As far as profitability is a source of refinancing firm's operations, the earnings before interest and tax (*Pro*) are negatively 10% on average, but some of the most profitable

firms have a better operating performance up to 33% of their total assets.

| Variable | Obs | Mean  | SD   | Min   | Max   |  |
|----------|-----|-------|------|-------|-------|--|
| Size     | 674 | 9.55  | 1.00 | 6.65  | 12.34 |  |
| Tan      | 674 | 0.36  | 0.31 | 0.00  | 1.00  |  |
| Pro      | 674 | -0.06 | 0.16 | -0.51 | 0.33  |  |

Table 5.3 Descriptive statistics of independent variables for the entire sample

Table 5.4 shows the descriptive statistics for the three independent variables in according to industry classification. On average, Lao private enterprises in all sectors were not profitable from their business operation over the period of 2009-2013. Their average losses range from 3% in consumer discretionary and materials to 10% in utilities. Considering maximum profitability, consumer discretionary and materials are the most profitable sectors which have the highest average profit of 33%. Interestingly, materials are not only the most profitable sector but also the least risk sector with the lowest standard deviation of 14% among the others, while consumer staples and industrials perform slightly lower at 25% and 28% respectively. The utility sector is the least profitable and riskiest sector among the five sectors, which perform the maximum profitability of 6% with the highest standard deviation of 22%.

The average ratios of tangibility are 38%, 43%, 38%, 28% and 35% in consumer discretionary, consumer staples, industrials, materials and utilities respectively (Table 5.4). Consumer staples held the highest level of tangibility while materials have the least portion of tangible assets.

| Variable               | Obs | Mean  | SD   | Min   | Max   |  |  |  |  |
|------------------------|-----|-------|------|-------|-------|--|--|--|--|
| Consumer Discretionary |     |       |      |       |       |  |  |  |  |
| Size                   | 249 | 9.44  | 1.03 | 7.16  | 11.70 |  |  |  |  |
| Tan                    | 249 | 0.38  | 0.33 | 0.00  | 1.00  |  |  |  |  |
| Pro                    | 249 | -0.03 | 0.14 | -0.51 | 0.33  |  |  |  |  |
| Consumer Staples       |     |       |      |       |       |  |  |  |  |
| Size                   | 37  | 9.37  | 0.81 | 8.04  | 10.45 |  |  |  |  |
| Tan                    | 37  | 0.43  | 0.37 | 0.00  | 1.00  |  |  |  |  |

 Table 5.4 Descriptive statistics of independent variables by industry sectors

| Variable    | Variable Obs |       | SD   | Min   | Max   |  |  |  |
|-------------|--------------|-------|------|-------|-------|--|--|--|
| Pro         | 37           | -0.07 | 0.19 | -0.47 | 0.25  |  |  |  |
| Industrials |              |       |      |       |       |  |  |  |
| Size        | 241          | 9.26  | 0.77 | 6.65  | 11.24 |  |  |  |
| Tan         | 241          | 0.38  | 0.28 | 0.00  | 1.00  |  |  |  |
| Pro         | 241          | -0.09 | 0.18 | -0.51 | 0.28  |  |  |  |
| Materials   |              |       |      |       |       |  |  |  |
| Size        | 132          | 10.28 | 0.85 | 8.34  | 12.30 |  |  |  |
| Tan         | 132          | 0.28  | 0.25 | 0.00  | 0.98  |  |  |  |
| Pro         | 132          | -0.03 | 0.15 | -0.51 | 0.33  |  |  |  |
| Utilities   |              |       |      |       |       |  |  |  |
| Size        | 15           | 10.20 | 1.79 | 8.26  | 12.34 |  |  |  |
| Tan         | 15           | 0.35  | 0.39 | 0.00  | 0.95  |  |  |  |
| Pro         | 15           | -0.10 | 0.22 | -0.51 | 0.06  |  |  |  |

Figure 5.4 shows the comparisons between total-debt and long-term debt ratio during the studied period from 2010 to 2013. The average total-debt ratios are 8.05%, 8.91%, 8.53% and 6.86% for the years of 2010, 2011, 2012 and 2013 respectively. The long-term debt ratios during the period are reported the similar pattern with slightly lower in comparison to the total debt ratios in every year. Both total-debt and long-term debt ratio reached their peak in 2011 and trough in 213.

Figure 5.4 Total-debt and long-term debt ratio by years



Table 5.5 provides the comparison of the descriptive statistics between soletrader enterprises (STE) and limited companies (LC). The average percentage of totaldebt ratio between STE and LC is 3.79% and 10.23% respectively. The parametric ttest and non-parametric Mann-Whitney (MW) test statistics indicate that the differences are statistically significant at the 1% level. The above two tests suggest that the limited companies in Laos have capacities to raise more debt than sole-trader enterprises. The long-term debt between STE and LC are 3.79% and 9.59% respectively and the parametric and non-parametric MW test statistics indicate that the differences are statistically significant at the 1% level.

Turning to earnings management, the absolute value of residual coefficients from the Modified Jones Model ( $DAC1^+$ ) of STE and LC are 0.16 and 0.22 respectively, which mean that the LC engages in more earnings management than the STE. The parametric t-test and non-parametric MW test of statistics confirm that the differences are statistically significant at the 1% level. The mean signed earnings management proxy (DAC1) of STE and LC are the same value of 0.03, which indicates significant differences between these two types of enterprise. This result is only confirmed by the parametric t-test but not non-parametric MW test.

Another measure of earnings management from the Performance-Augmented Model ( $DAC2^+$ ) also confirms the same result, suggesting that LC engages in more earnings management than STE. On the other hand, the non-absolute value of earnings management measures from the Performance-Augmented Model (DAC2) indicates significant differences between these two groups. This result is only confirmed by the parametric t-test but not non-parametric MW test.

Regarding explanatory variables consisting of firm size, tangibility and profitability for STE and LC; the parametric t-test and non-parametric MW test of statistics indicate that all the variables have statistically significant at the 1% level. The firm size measured as the natural logarithm of total assets between STE and LC is 9.19 and 9.73 respectively, indicating that the limited companies in Laos are bigger than sole-trader enterprises on average. In comparison, the STE and LC have an average value of tangibility of 0.43 and 0.33 respectively, which mean that the STE has a higher proportion of tangible assets than the LC. The STE and LC in Laos have an average value of profitability of -7% and -5% respectively, suggesting that both were making a loss during the studied period. The LC was making a lesser loss than the STE.

| Variable          | Sole-trader enterprise |       |       |       | I     | Limited company |       |       | t-test   | MW      |
|-------------------|------------------------|-------|-------|-------|-------|-----------------|-------|-------|----------|---------|
|                   | Mean                   | SD    | Min   | Max   | Mean  | SD              | Min   | Max   |          | lest    |
| TDebt             | 3.79                   | 14.74 | 0.00  | 98.52 | 10.23 | 23.19           | 0.00  | 98.52 | 50.33*** | 4.73*** |
| LDebt             | 3.79                   | 14.74 | 0.00  | 98.52 | 9.59  | 22.42           | 0.00  | 98.52 | 42.81*** | 4.46*** |
| DAC1              | 0.03                   | 0.24  | -0.68 | 0.50  | 0.03  | 0.29            | -0.68 | 0.50  | 12.84*** | 0.86    |
| DAC1 <sup>+</sup> | 0.16                   | 0.18  | 0.00  | 0.68  | 0.22  | 0.19            | 0.00  | 0.68  | 8.00***  | 4.18*** |
| DAC2              | 0.02                   | 0.23  | -0.68 | 0.47  | 0.02  | 0.28            | -0.68 | 0.47  | 13.96*** | 0.80    |
| $DAC2^+$          | 0.17                   | 0.22  | 0.01  | 0.84  | 0.23  | 0.23            | 0.01  | 0.84  | 5.25**   | 4.19*** |
| Size              | 9.19                   | 0.82  | 6.65  | 12.30 | 9.73  | 1.03            | 6.83  | 12.34 | 18.05*** | 7.37*** |
| Tan               | 0.43                   | 0.32  | 0.00  | 1.00  | 0.33  | 0.29            | 0.00  | 1.00  | 8.97***  | 3.82*** |
| Pro               | -0.07                  | 0.13  | -0.51 | 0.25  | -0.05 | 0.18            | -0.51 | 0.33  | 9.77***  | 3.77*** |

Table 5.5 Comparison between sole-trader enterprise and limited company

*Note:* \*\*\*, \*\*, and \* represent the level of significance at 1%, 5%, and 10% respectively, based on two-tailed test.

## 5.2.3 Correlation Analysis

Table 5.6 reports the correlation between dependent (*TDebt* and *LDebt*), independent (*DAC1*<sup>+</sup> and *DAC2*<sup>+</sup>) and control (*Size, Tan* and *Pro*) variables based on 674 observations for the years of 2009-2013. All the correlation coefficients in the table are significantly different from the 1% to 5% level. In order to detect multicollinearity problem whether it is in existence among the independent and control repressors, the mechanism of Pearson's pairwise correlation coefficients is used (Gujarati, 2009). Gujarati (2009) suggests that the multicollinearity becomes a problem once the correlation among the independent variables is over 0.8. As can be seen in the table, there is no severe correlation among any three of the control variables, and none of the correlation coefficients go beyond -0.27 or 0.33. Hence, the multicollinearity problem does not exist among the independent variables included in the multiple linear regression models of this study.

In relation to the independent variables, the leverage measures (*TDebt* and *LDebt*) are negatively associated with tangibility and profitability, but positively related to firm size and earnings management variables. The total-debt ratio is highly correlated with long-term debt ratio (0.98). The relationship between financial leverage and earnings management shows positive association at a low level. The correlation coefficient (0.13) is found between total debt ratio and *DAC1*<sup>+</sup>. Whereas,

the correlation coefficient between long-term debt ratio and  $DAC1^+$  also indicates a positive relationship (0.12). This preliminary result indicates that Lao enterprises with higher financial leverage engage in higher earnings manipulation. The correlation coefficient between financial leverage and firm size is found a positive relationship, suggesting that the larger firms have higher leverage level. The firm size and the measures of earnings management variables ( $DAC1^+$  and  $DAC2^+$ ) have positive-correlation coefficients. The coefficients between size and  $DAC1^+$  and  $DAC2^+$  are 0.19 and 0.15 respectively. This result confirms that larger firms in Laos engage in higher earnings management activities due to their higher visibility. Among the control variables, firm size is positively correlated to profitability (0.33), suggesting that the larger the firms, the greater profitable is the firms, but the size is negatively related to tangibility (-0.16). Whilst tangibility is negatively correlated to profitability at -0.27, meaning that the greater the tangible assets, the less profitable is the firm.

| Variable          | TDebt        | LDebt        | DAC1 <sup>+</sup> | $DAC2^+$ | Size     | Tan      | Pro  |
|-------------------|--------------|--------------|-------------------|----------|----------|----------|------|
| TDebt             | 1.00         |              |                   |          |          |          |      |
| LDebt             | 0.98***      | 1.00         |                   |          |          |          |      |
| DAC1 <sup>+</sup> | 0.13**       | 0.13**       | 1.00              |          |          |          |      |
| $DAC2^+$          | 0.12**       | 0.12**       | 0.89***           | 1.00     |          |          |      |
| Size              | $0.20^{***}$ | $0.20^{***}$ | 0.19***           | 0.15***  | 1.00     |          |      |
| Tan               | -0.05        | -0.04        | -0.17***          | -0.16*** | -0.16*** | 1.00     |      |
| Pro               | -0.10***     | -0.09***     | -0.02             | -0.03**  | 0.33***  | -0.27*** | 1.00 |

 Table 5.6 Correlation matrix of leverage and independent variables

*Note:* \*\*\*, \*\*, and \* represent the level of significance at 1%, 5%, and 10% respectively, based on twotailed test.  $DAC1^+$  is the absolute value of winsorised residual coefficient from the Modified Jones Model.  $DAC2^+$  is the absolute value of winsorised residual coefficient from the Performance-Augmented Model. The observation values are winsorised at 0.50% level in both tails of the observation distribution.

### **5.3 Empirical Results and Discussion**

This section reports the results and discussions of the empirical analysis on the determinants of capital structure and earnings management, and the relationship between leverage and earnings management of Lao private enterprises. It also provides the robustness check of the impact of the earnings management on financial leverage. This study separately regresses dependent variables against independent variables using the estimation models in Section 4.6 of Chapter 4, where each model represents

a different proxy for capital structure and earnings management. The results from the statistical tests in each subsection below are interpreted and discussed in according to each hypothesis formulated in Chapter 4.

### **5.3.1** Determinants of Capital Structure

This section reports the statistical tests of the formulated hypotheses on capital structure's determinants, including H1<sub>a</sub>, H1<sub>b</sub>, H1<sub>c</sub> and H1<sub>d</sub>. The determinants of capital structure in the empirical model of this investigation comprise of firm size, tangibility, profitability, and industry sectors. The sectors consist of consumer discretionary, consumer staples, materials, industrials and utilities. In this study, consumer discretionary is used as a benchmark for the empirical analysis of other industry sectors. This study also regresses year dummies against financial leverage of Lao private enterprises. The year 2010 is used as a benchmark for other years of this study due to missing data for 2009. Table 5.7, Table 5.8, and Table 5.9 report the results of the statistical tests of firm-specific characteristics and industry sectors are controlled in Model 2, 4, and 6 for the entire sample, limited companies, and sole-trader enterprises in Table 5.7, Table 5.8, and Table 5.9 respectively. The following subsections interpret the results of the statistical tests of each determinant in relation to the capital structure of Lao private enterprises.

### • Impact of Firm Size on Capital Structure

The results from Model 1 and 2 in Table 5.7, and Model 3 and 4 in Table 5.8 indicate that firm size is positively associated with both *TDebt* and *LDebt* for the overall sample and limited companies at the same level of 1% significance. For sole-trader enterprises, firm size is also positively significant to both *TDebt* and *LDebt* at the 1% level from Model 5 but there is a lower level of significance at the 5% level from Model 6 after controlling the industry dummies (Table 5.9). In the overall sample, these results indicate that larger firms in Laos have the ability and reputation to attract the external bodies to borrow more debts than small firms (Huang, 2006). The empirical evidence would also imply that the bankruptcy costs associated with financial leverage tend to decline as Lao private firms become larger (Ang et al., 1982; Gruber & Warner, 1977). Therefore, larger firms can easily access to the leverage. This relationship supports the TOT and the hypothesis H1<sub>a</sub>, which proposes that "firm
size is positively related to financial leverage of Lao private enterprises." Considering the relationship between firm size and *LDebt*, this study finds that larger firms prefer to have higher long-term liabilities. In overall, the result indicates that firm size plays a significant impact in explaining the capital structure decision of private enterprises in Laos. Thus, this line of reasoning is consistent with the TOT and in line with the findings of Booth et al. (2001) and Huang (2006), who suggest that leverage increases with the size of the firm. Accordingly, the result is also in line with prior studies of firms in Japan and the United States (Rajan & Zingales, 1995) and in the transitional economy of China (Huang, 2006), reported firm size is positively associated with leverage. However, the result of this study contradicts the capital structure of the firms in transitional economies of emerging Central and Eastern European (CEE) countries, where firm size is negatively associated with long-term debt (Delcoure, 2007).

The estimated positive relationship between firm size and long-term debt for private enterprises in Laos is not surprising. Despite some progress in the transition from a centrally-planned regime to a market-oriented economy, the Lao government has periodically directed a number of credit programs to support the financial demands to preferred sectors. This may have a significant impact on financing patterns of the private firms in the country.

## • Impact of Tangibility on Capital Structure

The empirical evidence from all models in Table 5.7, Table 5.8, and Table 5.9 are mixed with positive and negative relationships between tangibility (*Tan*) and the financial leverage. For the entire sample, the tangibility's coefficient from Model 1 and Model 2 has a negative relationship with both *TDebt* and *LDebt* but it is not significant with the leverage (Table 5.7). On the contrary, the asset tangibility of limited companies from Model 2 and 3 has a positive association with the two leverage ratios but it is also insignificant (Table 5.8). The coefficients of tangible asset holding in the sole-trader enterprises are negatively significant at the 1% level for Model 5 and at the 5% level for Model 6 (Table 5.9). The results imply that the sole-trader firms with more tangible assets have less financial leverage. Thus, these results for all types of enterprises do not support the TOT and are not fully consistent with the formulated hypothesis H1<sub>b</sub>, which proposes that "*tangibility is positively related capital structure of Lao private enterprises*," but partially supports the POT which recognises that lower tangibility has a negative relationship with financial leverage. The results of the sole-

trader firms and overall sample are in line with V. A. Dang (2013) who reports that tangible asset of firms in the UK, France and Germany is negatively related to leverage, but contradict to firms in the transitional economy of China (Huang, 2006), who argues that leverage increases with fixed assets. Therefore, Lao private firms are more internally dependent and less likely to depend on external financing, as documented the same evidence by Allen (1995), and Michaelas et al. (1999).

## • Impact of Profitability on Capital Structure

The estimation results in Table 5.7 and Table 5.8 show a negative and significant correlation between profitability and both total debt and long-term debt at the 1% level from all models for the entire sample and limited companies, suggesting that financially well-established firms in Laos are less likely to seek the external debt and use their internal sources of funds. Differently, the profitability of sole-trader enterprises has a negative significance with both *TDebt* and *LDebt* at the 5% level from Model 5 but there is an insignificant relationship after controlling industry sectors in Model 6 (Table 5.9). In overall, the relationship indicates that Lao private enterprises with more profitability tend to have lower leverage due to their retained profits accumulate overtime and there are more retained earnings available to finance their investments. Consequently, the firms are more likely to use internal funds as their primary source for investments rather than through accruing external debts. The empirical results confirm hypothesis H1<sub>c</sub>, proposing that "*profitability is negatively* related to financial leverage of Lao private enterprises." Thus, the empirical evidence supports the POT, assuming that retained profit is regarded as the primary source of internal fund and then followed by debt and new equity respectively if necessary. The negative impact of profitability on leverage in developed and developing countries, for example, is confirmed by Kayhan and Titman (2007) and Booth et al. (2001), who report that leverage has a negative relationship with profitability because retained profits are passively accumulated over the years. The results are also parallel with the relationship between profitability and leverage of public firms in the transitional economies of China and CEE countries (Delcoure, 2007; Huang, 2006). However, the financing choices of private firms in the transitional economy of Laos seem to be more limited when compared to those public firms in developed and developing countries due to Lao private firms were not able to issue shares in Lao Securities Exchange. In addition, bond markets are only restricted to government financing during the period

of this study. For that reason, managers of the private firms may perceive retained earnings as a first choice of financing and then go for bank borrowing. Therefore, their capital structure decisions appear to follow the order–retained earnings, and debt.

## • Impact of Industry Sectors on Capital Structure

Regarding the influence of industry sectors on *TDebt* and *LDebt*, there are mixed in results of no significant association between the leverage levels of Lao private firms operating in consumer staples and industrials for the entire sample as well as the other two subsamples (Model 2 in Table 5.7, Model 4 in Table 5.8, and Model 6 in Table 5.9). In the overall sample, the coefficient of Lao private firms operating in the materials and utilities are positively significant to both TDebt and *LDebt*, implying that the firms operating in these two sectors are more likely to have leverage (Model 2). In addition, the enterprises belong to utilities are also more likely to have external funds than internal financing. This is more relevant for the limited companies operating in utilities (Table 5.8) but not for the sole-trader enterprises in the same sector (Table 5.9). Interestingly, the sole-trader enterprises operating in the material sector are more likely to have long-term debt than the limited companies. The findings also indicate that firms in an industry sector relying more on fixed tangible assets, such as the utilities, tend to adjust their capital structure faster than firms in other sectors with lower tangible assets. The results confirm the hypothesis H1<sub>d</sub>, which proposes that "Lao private enterprises' capital structure has a diverse relationship with industry sectors." The empirical findings are in line with the consensus evidence from a number of the previous studies (Delcoure, 2007; Frank & Goyal, 2009; Hovakimian et al., 2001; Lemmon et al., 2008; MacKay & Phillips, 2005), proved that leverage level varies across industries. By comparison, the capital structure of private firms in Laos has the same patterns of those firms in the transitional economy of China. (Huang, 2006), documented that companies in different industries tend to have diverse leverage levels. Correspondingly, the estimated results of this study support the TOT, stating that firms restructure their debts and equities to seek an optimum level of capital structure, and these optimum debt-equity ratios vary across industries. Therefore, Lao private enterprises across different industry sectors have diverse capital structures. There are some possible reasons behind the various leverage level of the private enterprises in different sectors, such as the diverse levels of liquidity and fixed investments (Suto, 2003), and the different level of influence from specific

characteristics of a given sector (Frank & Goyal, 2009).

|                    | Mo<br>Entire          | del 1<br>sample                 | Model 2<br>Entire sample |                       |  |
|--------------------|-----------------------|---------------------------------|--------------------------|-----------------------|--|
|                    | TDebt                 | LDebt                           | TDebt                    | LDebt                 |  |
| Constant           | -0.4331<br>(-5.22)*** | -0.4057<br>(-5.02)***           | -0.3084<br>(-3.57)***    | -0.3019<br>(-3.57)*** |  |
| Size               | 0.0541<br>(6.49)***   | 0.0509<br>(6.27) <sup>***</sup> | 0.0382<br>(4.32)***      | 0.0376<br>(4.35)***   |  |
| Tan                | -0.0434<br>(-1.62)    | -0.0323<br>(-1.24)              | -0.0327<br>(-1.24)       | -0.0233<br>(-0.90)    |  |
| Pro                | -0.2549<br>(-4.88)*** | -0.2309<br>(-4.54)***           | -0.2286<br>(-4.39)***    | -0.2077<br>(-4.07)*** |  |
| Consumer staples   | No                    | No                              | -0.0270<br>(-0.77)       | -0.0265<br>(-0.77)    |  |
| Materials          | No                    | No                              | 0.0895<br>(3.93)***      | 0.0729<br>(3.27)***   |  |
| Industrials        | No                    | No                              | 0.0061<br>(0.34)         | 0.0060<br>(0.33)      |  |
| Utilities          | No                    | No                              | 0.1823<br>(3.38)***      | 0.1668<br>(3.16)***   |  |
| Y2011              | 0.0071<br>(0.32)      | 0.0049<br>(0.23)                | 0.0090<br>(0.42)         | 0.0065<br>(0.31)      |  |
| Y2012              | -0.0005<br>(-0.02)    | -0.0063<br>(-0.30)              | 0.0022<br>(0.10)         | -0.0040<br>(-0.19)    |  |
| Y2013              | -0.0143<br>(-0.62)    | -0.0209<br>(-0.93)              | -0.0072<br>(-0.32)       | -0.0145<br>(-0.65)    |  |
| Adjusted R-squared | 0.0672                | 0.0608                          | 0.0986                   | 0.0840                |  |
| F-Statistics       | 9.08                  | 8.26                            | 8.36                     | 7.18                  |  |
| Probability        | 0.0000                | 0.0000                          | 0.0000                   | 0.0000                |  |
| Ν                  | 6                     | 74                              | 674                      |                       |  |

| Table 5.7 Determinants of capital structure for the entite sample | Ta | able | 5.7 | Det | ermi | nants | s of | ca | pital | stru | cture | for | the | entire | sample |
|---|----|------|-----|-----|------|-------|------|----|-------|------|-------|-----|-----|--------|--------|
|---|----|------|-----|-----|------|-------|------|----|-------|------|-------|-----|-----|--------|--------|

|                    | Mod<br>Limited c         | lel 3<br>company                  | Model 4<br>Limited company        |                                   |  |
|--------------------|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
|                    | TDebt                    | LDebt                             | TDebt                             | LDebt                             |  |
| Constant           | -0.3959<br>(-3.60)***    | -0.3702<br>(-3.74)***             | -0.3119<br>(-2.72)***             | -0.3092<br>(-2.77)***             |  |
| Size               | $0.0495 \\ (4.45)^{***}$ | 0.0464<br>$(4.41)^{***}$          | 0.0379<br>(3.30) <sup>***</sup>   | 0.0378<br>(3.37) <sup>***</sup>   |  |
| Tan                | 0.0019<br>(0.05)         | 0.0128<br>(0.35)                  | 0.0025<br>(0.07)                  | 0.0155<br>(0.42)                  |  |
| Pro                | -0.2656<br>(-4.10)***    | -0.2372<br>(-3.78) <sup>***</sup> | -0.2448<br>(-3.77) <sup>***</sup> | -0.2188<br>(-3.47) <sup>***</sup> |  |
| Consumer staples   | No                       | No                                | -0.0144<br>(-0.25)                | -0.0140<br>(-0.25)                |  |
| Materials          | No                       | No                                | 0.0723<br>(2.45)**                | $0.0500 \\ (1.79)^*$              |  |
| Industrials        | No                       | No                                | 0.0159<br>(0.62)                  | 0.0148<br>(0.59)                  |  |
| Utilities          | No                       | No                                | $0.1709 \\ (2.79)^{***}$          | $0.1547 \\ (2.59)^{***}$          |  |
| Y2011              | 0.0114<br>(0.39)         | 0.0084<br>(0.30)                  | 0.0122<br>(0.42)                  | 0.0090<br>(0.32)                  |  |
| Y2012              | 0.0105<br>(0.36)         | 0.0016<br>(0.06)                  | 0.0105<br>(0.36)                  | 0.0015<br>(0.05)                  |  |
| Y2013              | -0.0124<br>(-0.40)       | -0.0226<br>(-0.75)                | -0.0063<br>(-0.20)                | -0.0167<br>(-0.55)                |  |
| Adjusted R-squared | 0.0517                   | 0.0468                            | 0.0692                            | 0.0573                            |  |
| F-Statistics       | 5.13                     | 4.73                              | 4.38                              | 3.76                              |  |
| Probability        | 0.0000                   | 0.0001                            | 0.0000                            | 0.0000                            |  |
| N                  | 45                       | 6                                 | 456                               |                                   |  |

 Table 5.8 Determinants of capital structure for limited company

|                    | Mod<br>Sole-trader    | lel 5<br>enterprise                         | Moo<br>Sole-trade   | del 6<br>r enterprise   |  |
|--------------------|-----------------------|---|---------------------|-------------------------|--|
|                    | TDebt                 | LDebt                                       | TDebt               | LDebt                   |  |
| Constant           | -0.4193<br>(-3.44)*** | -0.4193<br>(-3.44)***                       | -0.2101<br>(-1.76)* | -0.2101<br>(-1.76)*     |  |
| Size               | 0.0530<br>(4.06)***   | 0.0530<br>(4.06)***                         | 0.0276<br>(2.12)**  | 0.0276<br>(2.12)**      |  |
| Tan                | -0.0887<br>(-2.79)*** | -0.0887<br>(-2.79)*** -0.0887<br>(-2.79)*** |                     | -0.0707<br>(-2.34)**    |  |
| Pro                | -0.1692<br>(-2.00)**  | -0.1692<br>(-2.00)**                        | -0.1017<br>(-1.24)  | -0.1017<br>(-1.24)      |  |
| Consumer staples   | No                    | No  | -0.0198<br>(-0.59)  | -0.0198<br>(-0.59)      |  |
| Materials          | No                    | No  | 0.1837<br>(5.26)*** | $0.1837 \ (5.26)^{***}$ |  |
| Industrials        | No                    | No  | -0.0044<br>(-0.21)  | -0.0044<br>(-0.21)      |  |
| Utilities          | No                    | No  | -                   | -                       |  |
| Y2011              | 0.0042 (0.15)         | 0.0042<br>(0.15)                            | 0.0086<br>(0.32)    | 0.0086<br>(0.32)        |  |
| Y2012              | -0.0102<br>(-0.36)    | -0.0101<br>(-0.36)                          | -0.0013<br>(-0.05)  | -0.0013<br>(-0.05)      |  |
| Y2013              | -0.0073<br>(-0.25)    | -0.0073<br>(-0.25)                          | 0.0061<br>(0.22)    | 0.0061<br>(0.22)        |  |
| Adjusted R-squared | 0.0690                | 0.0690                                      | 0.1872              | 0.1872                  |  |
| F-Statistics       | 3.68                  | 3.68  | 6.55                | 6.55                    |  |
| Probability        | 0.0017                | 0.0017                                      | 0.0000              | 0.0000                  |  |
| Ν                  | 21                    | 8   | 218                 |                         |  |

Table 5.9 Determinants of capital structure for sole-trader enterprise

In addition, this study can identify firm-level determinants of capital structure that firm size, tangibility, and profitability vary across different industry sectors (Table 5.10). For example, firm size has a positive significant relationship with both *TDebt* and *LDebt* of Lao enterprises belonging to consumer staples and materials, implying that larger firms in the two sectors can easily access to the leverage. Thus, size is considered as an important factor determining their financing decision, but it is not for

firms operating in consumer discretionary, industrials, and utilities. Asset structure (*Tan*) also varies significantly across industry sectors. Whereas firms belong to materials and utilities do not take tangible asset as an important determinant for their debt financing, the tangibility exhibits a positive significant association with leverage of Lao enterprises in consumer discretionary at the 5% level, but it is negatively related to both *TDebt* and *LDebt* of the firms in consumer staples and industrials at the 5% and 1% level of significance respectively. This suggests that firms belonging to consumer staples and industrials with more tangibility have less leverage. Meanwhile, profitability has a negative relationship with the leverage of Lao firms in all sectors, except the utilities. The coefficients of profitability in consumer discretionary, consumer staples, and industrials exhibit negative significant correlations at the 1% level with both *TDebt* and *LDebt*, implying that the sectors with higher profitability in other two sectors has an insignificant association with the leverage levels.

|                       | Consumer<br>discretionary |                       | Consumer<br>staples             |                                 | Materials             |                                  | Industrials           |                       | Utilities          |                    |
|-----------------------|---------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------|----------------------------------|-----------------------|-----------------------|--------------------|--------------------|
|                       | TDebt                     | LDebt                 | TDebt                           | LDebt                           | TDebt                 | LDebt                            | TDebt                 | LDebt                 | TDebt              | LDebt              |
| Constant              | -0.1162<br>(-1.06)        | -0.1162<br>(-1.06)    | -0.6132<br>(-3.09)***           | -0.6132<br>(-3.09)***           | -0.9744<br>(-3.82)*** | -0.9679<br>(-4.03)***            | -0.1934<br>(-1.08)    | -0.1937<br>(-1.09)    | 0.3608<br>(0.66)   | 0.1488<br>(0.29)   |
| Size                  | 0.0150<br>(1.33)          | 0.0150<br>(1.33)      | 0.0707<br>(3.49) <sup>***</sup> | 0.0707<br>(3.49) <sup>***</sup> | 0.1094<br>(4.49)****  | 0.1066<br>(4.65) <sup>****</sup> | 0.0303<br>(1.62)      | 0.0301<br>(1.62)      | 0.0012<br>(0.02)   | 0.0210<br>(0.41)   |
| Tan                   | 0.0715<br>(2.06)**        | 0.0715<br>(2.06)**    | -0.0789<br>(-2.10)**            | -0.0789<br>(-2.10)**            | -0.1148<br>(-1.29)    | -0.0288<br>(-0.34)               | -0.0804<br>(-1.72)*   | -0.0843<br>(-1.81)*   | -0.3698<br>(-1.41) | -0.3700<br>(-1.49) |
| Pro                   | -0.3113<br>(-3.62)***     | -0.3113<br>(-3.62)*** | -0.2749<br>(-2.80)***           | -0.2748<br>(-2.80)***           | -0.2346<br>(-1.56)    | -0.0556<br>(-0.39)               | -0.2671<br>(-3.26)*** | -0.2768<br>(-3.39)*** | 0.2829<br>(0.52)   | 0.1499<br>(0.29)   |
| Y2011                 | -0.0041<br>(-0.13)        | -0.0041<br>(-0.13)    | -0.0056<br>(-0.18)              | -0.0056<br>(-0.18)              | 0.0307<br>(054)       | 0.0212<br>(0.40)                 | -0.0053<br>(-0.15)    | -0.0032<br>(-0.09)    | 0.1050<br>(0.58)   | 0.0841<br>(0.49)   |
| Y2012                 | -0.0256<br>(-0.79)        | -0.0256<br>(-0.79)    | -0.0161<br>(-0.52)              | -0.0161<br>(-0.52)              | 0.0720<br>(1.26)      | 0.0525<br>(0.98)                 | -0.0250<br>(-0.71)    | -0.0266<br>(-0.76)    | 0.0859<br>(0.47)   | 0.0486<br>(0.28)   |
| Y2013                 | -0.0300<br>(-0.91)        | -0.0300<br>(-0.91)    | -0.0153<br>(-0.47)              | -0.153<br>(-0.47)               | 0.0926<br>(155)       | 0.0598<br>(1.07)                 | -0.0516<br>(-1.37)    | -0.0497<br>(-1.32)    | -                  | -                  |
| Adjusted<br>R-squared | 0.0570                    | 0.0570                | 0.2725                          | 0.2725                          | 0.1428                | 0.1269                           | 0.0305                | 0.0342                | 0.1818             | 0.1674             |
| F-Statistics          | 3.50                      | 3.50                  | 3.25                            | 3.25                            | 4.46                  | 4.17                             | 2.26                  | 2.42                  | 1.62               | 1.56               |
| Probability           | 0.0025                    | 0.0025                | 0.0140                          | 0.0140                          | 0.0003                | 0.0007                           | 0.0388                | 0.0277                | 0.2487             | 0.2638             |
| N                     | 249 37                    |                       | 7                               | 132                             |                       | 24                               | 41                    | 1                     | 5                  |                    |

 Table 5.10 Determinants of capital structure across industry sectors

### 5.3.2 Determinants of Earnings Management

This section reports the statistical testing of the formulated hypothesis H2 for the main determinants of earnings management at the firm-specific level as well as industry influence. The hypothesis H2 is predicted that "Large private firms are more likely to engage in earnings management than small firms." In addition to firm size (Size), this study includes tangibility (Tan), profitability (Pro), total revenue (REV), trade receivables (TR), and operating cash flow from operation (OCF) in the additional tests for the main determinants of earnings management in this section. The industry and year dummies are used as controlled variables. Table 5.11, Table 5.12, and Table 5.13 show the empirical results on the determinants of earnings management for the entire sample and sub-samples of the limited companies and sole-trader enterprises. This study uses the winsorised-residual coefficients from the Modified Jones Model  $(DAC1^+)$  and the Performance-Augmented Model  $(DAC2^+)$  as the earnings management proxies. To test the hypothesis H2, this study compares the coefficients of firm characteristics and industry sectors in relation to  $DAC1^+$  and  $DAC2^+$  from Model 1, Model 2, and Model 3 with the coefficients from Model 2, 4, and 6 under industry controls of the entire sample, limited companies and sole-trader enterprises respectively. After adding the three new variables into the data set of this study, the total remaining number reduces from 674 to 610 observations due to some missing data for particular years. The following subsections present the results of each determinant in relation to earnings management of Lao private enterprises.

## • Firm Size and Earnings Management

The coefficient of firm size (*Size*) is positively significant to both  $DAC1^+$  and  $DAC2^+$  for all models with and without industry controls, suggesting that, in overall, larger private firms in Laos are likely to manage their earnings (Table 5.11). When the sample firms are split into limited companies and sole-trader enterprises, the results also suggest a positively significant association for all models between firm size and  $DAC1^+$  as well as  $DAC2^+$  for the limited companies (Table 5.12). This would mean that the limited firms with larger size manage their discretionary accruals upward in order to access to more external debts. Meanwhile, size of the sole-trader enterprises is positively associated with  $DAC1^+$  at the 10% level of significance (Model 5), but it is insignificant with  $DAC2^+$  under the same model (Table 5.13). This size is positively

related with  $DAC1^+$  and negatively associated with  $DAC2^+$  after controlling industry sectors, but the results are insignificant (Model 6). In overall, the results of firm size support the hypothesis H2. Therefore, this study confirms the similar findings of Moses (1987) and Michelson et al. (1995), documented that large firms have a bigger incentive than small firms in manipulating their earnings.

## • Tangibility and Earnings Management

The coefficients of tangibility (*Tan*) are in the opposite direction to the firm size for the entire sample and subsamples. The tangibility is strongly negatively associated with  $DAC1^+$  and  $DAC2^+$  at the 1% level for all models, reflecting that the entire sample, as well as the subsamples with more tangible assets, is less likely to engage in earnings manipulation (Table 5.11, Table 5.12, and Table 5.13). In overall, Lao private enterprises with more visible tangibility manage their discretionary accruals downward.

### • Profitability and Earnings Management

The profitability (*Pro*) follows the same pattern of the tangibility. It has a negatively significant relationship with  $DAC1^+$  and  $DAC2^+$  at the 1% level for the entire sample and the limited enterprises (Table 5.11 and Table 5.12). Whereas the profitability is negatively significant with  $DAC1^+$  at the 5% and 1% level from Model 5 and 6 respectively, but it has no enough evidence with  $DAC2^+$  for the sole-trader enterprises Table 5.13). In overall, Lao private enterprises with more profitability tend to have less earnings management.

### Revenue and Earnings Management

The total revenue (*REV*) of Lao private firms has a mixed relationship with  $DAC1^+$  and  $DAC2^+$  in all models (Table 5.11, Table 5.12, Table 5.13). However, the association has no significant level with the measures of earnings management for the entire sample and limited enterprises (Table 5.11 and Table 5.12). With regards to sole-traders, it is positively and significantly associated with both  $DAC1^+$  and  $DAC2^+$  at the 5% level without industry control (Model 5), and at the 1% level under industry control (Model 6) for the sole-trader enterprises Table 5.13). This suggests that the sole-trader firms with more revenue engage in more earnings manipulation.

#### • Trade Receivables and Earnings Management

The coefficient between trade receivables (*TR*) and the earnings management's measures (*DAC1*<sup>+</sup> and *DAC2*<sup>+</sup>) exhibits a negative and insignificant relationship from all models for the entire sample shown in Table 5.11, whereas the trade receivables have a mixed and insignificant result from all models with and without industry control for limited companies and sole-trader enterprises (Table 5.12 and Table 5.13). In summary, the trade receivables have no influence on earnings management of Lao private enterprises.

## • Operating Cash Flow and Earnings Management

The operating cash flow (*OCF*) has a mixed relationship with *DAC1*<sup>+</sup> and *DAC2*<sup>+</sup> in all models for the entire sample and limited companies (Table 5.11 and Table 5.12), whereas the *OCF* of sole-trader enterprises is positively and significantly related at the 1% level to both *DAC1*<sup>+</sup> and *DAC2*<sup>+</sup> from Model 5, and the relationship is more robust at the 5% level of significance when industry sectors are controlled in Model 6 (Table 5.13), suggesting that the sole-trader firms engage in more earnings management when they have more cash flow from operation. In summary, this study is unable to find a convincing evidence to satisfy the association between the operating cash flow and earnings management for the entire sample and limited companies, but the *OCF* activates earnings manipulation of the sole-trader enterprises in Laos.

|                    | Mod                             | el 1                | Model 2                          |                                   |  |  |
|--------------------|---------------------------------|---------------------|----------------------------------|-----------------------------------|--|--|
|                    | Entire s                        | sample              | Entire sample                    |                                   |  |  |
|                    | DAC1+                           | DAC2+               | DAC1+                            | DAC2+                             |  |  |
| Constant           | -0.0990                         | -0.0258             | -0.0414                          | 0.0415                            |  |  |
|                    | (-1.23)                         | (-0.27)             | (-0.49)                          | (0.41)                            |  |  |
| Size               | 0.0363<br>(4.46) <sup>***</sup> | 0.0327<br>(3.35)*** | 0.0301<br>(3.48) <sup>***</sup>  | $0.0278 \\ (2.71)^{***}$          |  |  |
| Tan                | -0.1182                         | -0.1605             | -0.1116                          | -0.1549                           |  |  |
|                    | (-4.52)***                      | (-5.10)***          | (-4.29)***                       | (-5.02)***                        |  |  |
| Pro                | -0.1637                         | -0.1922             | -0.1661                          | -0.2183                           |  |  |
|                    | (-3.21)***                      | (-3.14)***          | (-3.25)***                       | (-3.60)***                        |  |  |
| REV                | 0.0001                          | 0.0016              | -0.0004                          | 0.0014                            |  |  |
|                    | (0.04)                          | (0.58)              | (-0.19)                          | (0.51)                            |  |  |
| TR                 | -0.0018                         | -0.126              | -0.0056                          | -0.0151                           |  |  |
|                    | (-0.06)                         | (-0.37)             | (-0.20)                          | (-0.45)                           |  |  |
| OCF                | 0.0055                          | 0.0111              | 0.0049                           | 0.0110                            |  |  |
|                    | (0.54)                          | (0.91)              | (0.49)                           | (0.93)                            |  |  |
| Consumer staples   | No                              | No                  | -0.0841<br>(-2.42)**             | -0.1397<br>(-3.38) <sup>***</sup> |  |  |
| Industrials        | No                              | No                  | -0.0038<br>(-0.21)               | -0.0378<br>(-1.77) <sup>*</sup>   |  |  |
| Materials          | No                              | No                  | 0.0450<br>(1.99) <sup>*</sup>    | 0.0260<br>(0.97)                  |  |  |
| Utilities          | No                              | No                  | -0.1043<br>(-2.01) <sup>**</sup> | -0.2538<br>(-4.11) <sup>***</sup> |  |  |
| Y2011              | -0.0347                         | -0.0605             | -0.0354                          | -0.0607                           |  |  |
|                    | (-1.63)                         | (-2.36)**           | (-1.68) <sup>*</sup>             | (-2.42) <sup>**</sup>             |  |  |
| Y2012              | 0.0009                          | -0.0098             | 0.0014                           | -0.0095                           |  |  |
|                    | (0.04)                          | (-0.39)             | (0.07)                           | (-0.38)                           |  |  |
| Y2013              | 0.0134                          | -0.0083             | 0.0124                           | -0.0141                           |  |  |
|                    | (0.06)                          | (-0.31)             | (0.56)                           | (-0.53)                           |  |  |
| Adjusted R-squared | 0.0651                          | 0.0625              | 0.0854                           | 0.1056                            |  |  |
| F-Statistics       | 5.71                            | 5.51                | 5.37                             | 6.53                              |  |  |
| Probability        | 0.0000                          | 0.0000              | 0.0000                           | 0.0000                            |  |  |
| N                  | 61                              | 0                   | 610                              |                                   |  |  |

 Table 5.11 Determinants of earnings management for entire sample

|                    | Mod                      | lel 2   | Model 3   |   |  |  |
|--------------------|--------------------------|---|---|---|--|--|
|                    | Limited                  | company   | Limited company   |   |  |  |
|                    | DAC1+                    | DAC2+   | DAC1+   | DAC2+   |  |  |
| Constant           | -0.0711                  | -0.0466   | -0.0478   | -0.0233   |  |  |
|                    | (-0.73)                  | (-0.40)   | (-0.47)   | (-0.19)   |  |  |
| Size               | $0.0334 \\ (3.44)^{***}$ | $\begin{array}{c} 0.0344 \\ \left( 2.98  ight)^{***} \end{array}$ | $\begin{array}{c} 0.0300 \\ \left( 2.95  ight)^{***} \end{array}$ | $\begin{array}{c} 0.0333 \\ \left( 2.78  ight)^{***} \end{array}$ |  |  |
| Tan                | -0.0906                  | -0.1234   | -0.0865   | -0.1189   |  |  |
|                    | (-2.71) <sup>***</sup>   | (-3.10)***  | (-2.62) <sup>***</sup>  | (-3.06) <sup>***</sup>  |  |  |
| Pro                | -0.1468                  | -0.2010   | -0.1461   | -0.2220   |  |  |
|                    | (-2.56)****              | (-2.94)***  | (-2.56) <sup>***</sup>  | (-3.29)***  |  |  |
| REV                | -0.0009                  | 0.0007  | -0.0013   | 0.0006  |  |  |
|                    | (-0.36)                  | (0.22)  | (-0.54)   | (0.19)  |  |  |
| TR                 | 0.0017                   | -0.2000   | -0.0088   | -0.0289   |  |  |
|                    | (0.05)                   | (-0.47)   | (-0.25)   | (-0.70)   |  |  |
| OCF                | -0.0028                  | 0.0062  | -0.0035   | 0.0056  |  |  |
|                    | (-0.17)                  | (0.31)  | (-0.21)   | (0.29)  |  |  |
| Consumer staples   | No                       | No  | -0.1051<br>(-1.98) <sup>**</sup>                                  | -0.1363<br>(-2.18) <sup>**</sup>                                  |  |  |
| Industrials        | No                       | No  | 0.0265<br>(1.17)  | -0.0058<br>(-0.22)  |  |  |
| Materials          | No                       | No  | $\begin{array}{c} 0.0487 \ (1.89)^{*} \end{array}$                | 0.0261<br>(0.86)  |  |  |
| Utilities          | No                       | No  | -0.1026<br>(-1.91) <sup>*</sup>                                   | -0.2530<br>(-4.00)***   |  |  |
| Y2011              | -0.0310                  | -0.0560   | -0.0334   | -0.0592   |  |  |
|                    | (-1.21)                  | (-1.84)*  | (-1.32)   | (-1.99) <sup>**</sup>   |  |  |
| Y2012              | 0.0005                   | -0.1114   | -0.0033   | -0.0156   |  |  |
|                    | (0.02)                   | (-0.37)   | (-0.13)   | (-0.52)   |  |  |
| Y2013              | 0.0081                   | -0.0051   | 0.0030  | -0.0186   |  |  |
|                    | (0.29)                   | (-0.15)   | (0.11)  | (-0.57)   |  |  |
| Adjusted R-squared | 0.0374                   | 0.0404  | 0.0631  | 0.0843  |  |  |
| F-Statistics       | 2.81                     | 2.96  | 3.18  | 3.97  |  |  |
| Probability        | 0.0033                   | 0.0020  | 0.0001  | 0.0000  |  |  |
| Ν                  | 42                       | 21  | 421   |   |  |  |

 Table 5.12 Determinants of earnings management for limited company

|                    | Mod<br>Sole-trader                | lel 5<br>· enterprise          | Model 6<br>Sole-trader enterprise                    |                                   |  |
|--------------------|-----------------------------------|--------------------------------|--|-----------------------------------|--|
|                    | DAC1+                             | DAC2+                          | DAC1+  | DAC2+                             |  |
| Constant           | -0.0621<br>(-0.38)                | 0.1772<br>(0.89)               | 0.0885<br>(0.52)                                     | $0.3897 \\ (1.88)^*$              |  |
| Size               | 0.0311<br>(1.79) <sup>*</sup>     | 0.0108<br>(0.50)               | 0.0173<br>(0.93)                                     | -0.0082<br>(-0.36)                |  |
| Tan                | -0.1659<br>(-3.76) <sup>***</sup> | -0.2155<br>(-3.94)***          | -0.1718<br>(-3.88) <sup>***</sup>                    | -0.2222<br>(-4.13) <sup>***</sup> |  |
| Pro                | -0.2189<br>(-1.88) <sup>*</sup>   | -0.1280<br>(-0.89)             | -0.2432<br>(-2.03) <sup>**</sup>                     | -0.1693<br>(-1.16)                |  |
| REV                | 0.0216<br>(2.00) <sup>**</sup>    | 0.0298<br>(2.23) <sup>**</sup> | $\begin{array}{c} 0.0282 \ (2.59)^{***} \end{array}$ | 0.0386<br>(2.92) <sup>***</sup>   |  |
| TR                 | -0.0179<br>(-0.36)                | 0.0008<br>(0.01)               | -0.0158<br>(-0.32)                                   | 0.0090<br>(0.15)                  |  |
| OCF                | $0.0247 \\ (1.67)^*$              | 0.0343<br>(1.87) <sup>*</sup>  | 0.0296<br>(2.03) <sup>**</sup>                       | 0.0410<br>(2.31) <sup>**</sup>    |  |
| Consumer staples   | No                                | No                             | -0.0664<br>(-1.44)                                   | -0.1363<br>(-2.44)**              |  |
| Industrials        | No                                | No                             | -0.0715<br>(-2.37) <sup>**</sup>                     | -0.1066<br>(-2.91) <sup>***</sup> |  |
| Materials          | No                                | No                             | 0.0619<br>(1.21)                                     | 0.0843<br>(1.35)                  |  |
| Utilities          | No                                | No                             | -  | -                                 |  |
| Y2011              | -0.0453<br>(-1.16)                | -0.0766<br>(-1.59)             | -0.0381<br>(-0.99)                                   | -0.0655<br>(-1.41)                |  |
| Y2012              | 0.0043<br>(0.11)                  | -0.0054<br>(-0.12)             | 0.0101<br>(0.28)                                     | 0.0037<br>(0.08)                  |  |
| Y2013              | 0.0299<br>(0.76)                  | -0.0080<br>(-0.16)             | 0.0401<br>(1.04)                                     | 0.0080<br>(0.17)                  |  |
| Adjusted R-squared | 0.0809                            | 0.0768                         | 0.1217   | 0.1502                            |  |
| F-Statistics       | 2.84                              | 2.74                           | 3.17   | 3.77                              |  |
| Probability        | 0.0038                            | 0.0051                         | 0.0004   | 0.0000                            |  |
| Ν                  | 18                                | <u> </u>                       | 18   | 39                                |  |

 Table 5.13 Determinants of earnings management for sole-trader enterprise

#### Determinants of Earnings Management across Industry Sectors

Table 5.14 presents the main determinants of earnings management across four different industry sectors, including consumer discretionary, consumer staples, industrials, and material. The year dummies in this section are also used as controlled variables.

It can be seen that firm size (*Size*) has a negative and significant relationship with both  $DAC1^+$  and  $DAC2^+$  of Lao firms in consumer staples at the 1% level and materials at the 5% level. This means that the larger firms in the two sectors engage in more earnings management upward during the years of observation. Whereas the size of firms in consumer staples exhibits a negatively significant relationship with  $DAC1^+$ but it is insignificant with  $DAC2^+$ , by contrast, the earnings management is not related to firm size in the industrials.

The tangibility (*Tan*) is negatively and significantly linked with both  $DAC1^+$  and  $DAC2^+$  of Lao enterprises in consumer staples at the 1% level and materials at the 5% level for  $DAC1^+$  and the 1% level for  $DAC2^+$ . This suggests that firms with more tangible assets in the two sectors are less likely to engage in earnings management. The tangibility of enterprises in consumer staples and industrials has a mixed and insignificant relationship with both measures of the earnings management.

The profitability (*Pro*) has a negatively significant relationship with both  $DAC1^+$  and  $DAC2^+$  of Lao enterprises in industrials at the 5% level, whereas the factor is also negatively related to  $DAC1^+$  at the 5% level but  $DAC2^+$  at the 1% level for firms in materials. This implies that the firms in industrials and materials with more profitability tend to have less earnings management. In addition, this study finds no enough evidence to support the relationship between profitability and earnings management of Lao firms in consumer discretionary, and consumer staples.

The total revenue (*REV*) is negatively and significantly related to both  $DAC1^+$ and  $DAC2^+$  of Lao enterprises in consumer discretionary at the 5% level, reflecting that the firms with more revenue are less likely to manipulate their earnings. Whereas the revenue of firms in consumer staples is positively and significantly associated with  $DAC2^+$  at the 10% level but it is positively insignificant with  $DAC1^+$ . The remaining sectors exhibit no linkage between the revenue and the measures of earnings management.

The trade receivables (TR) are also negatively and significantly associated to

both  $DAC1^+$  and  $DAC2^+$  in the Consumer discretionary sector at the 5% level, suggesting that firms in the sector with more receivables are less likely to engage in earnings management. Further, the account receivables of firms in Consumer staples, Industrials and Materials have mixed results but they are not significant with the earnings management's measures. The Operating Cash Flow (*OCF*) has a mix of positive and negative relationships with  $DAC1^+$  and  $DAC2^+$  of private enterprises in all industry sectors, suggesting the cash flow from operation of firms has no influence on earnings management in any particular industry sector.

|                       | Consumer<br>discretionary |                                 | Consumer staples                |                      | Industrials          |                      | Materials            |                       |
|-----------------------|---------------------------|---------------------------------|---------------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
|                       | DAC1+                     | DAC2+                           | DAC1+                           | DAC2+                | DAC1 <sup>+</sup>    | DAC2+                | DAC1 <sup>+</sup>    | DAC2+                 |
| Constant              | -0.0630<br>(-0.57)        | 0.0256<br>(0.18)                | $0.5553 \\ (1.75)^*$            | 0.3155<br>(1.14)     | -0.0620<br>(-0.33)   | 0.0228<br>(0.10)     | -0.1429<br>(-0.64)   | -0.1821<br>(-0.70)    |
| Size                  | 0.0430<br>(3.72)***       | 0.0410<br>(2.71) <sup>***</sup> | -0.0564<br>(-1.70)*             | -0.0286<br>(-0.99)   | 0.0230<br>(1.18)     | 0.0166<br>(0.73)     | 0.0456<br>(2.12)**   | 0.0520<br>(2.09)**    |
| Tan                   | -0.2142<br>(-6.12)***     | -0.2675<br>(-5.87)***           | -0.0443<br>(-0.79)              | -0.0686<br>(-1.41)   | 0.0540<br>(1.08)     | -0.0010<br>(-0.02)   | -0.1727<br>(2.36)**  | -0.2215<br>(-2.61)*** |
| Pro                   | 0.0604<br>(0.67)          | -0.0009<br>(-0.01)              | 0.2318<br>(1.39)                | 0.0739<br>(0.51)     | -0.2011<br>(-2.41)** | -0.2253<br>(-2.30)** | -0.2386<br>(-1.96)** | -0.4065<br>(-2.78)*** |
| REV                   | -0.0162<br>(-2.10)**      | -0.0219<br>(-2.18)**            | 0.0066<br>(0.46)                | $0.0205 \\ (1.65)^*$ | 0.0023<br>(1.29)     | 0.0073<br>(0.85)     | 0.0004<br>(0.12)     | 0.0036<br>(1.09)      |
| TR                    | -0.1078<br>(-2.29)**      | -0.1344<br>(-2.20)**            | 0.0540<br>(0.93)                | 0.0224<br>(0.44)     | 0.0603<br>(1.29)     | 0.0822<br>(1.50)     | 0.0163<br>(0.26)     | -0.0304<br>(-0.41)    |
| OCF                   | 0.0179<br>(1.02)          | 0.0270<br>(1.18)                | -0.0342<br>(-1.03)              | -0.0148<br>(-0.51)   | 0.0117<br>(0.83)     | 0.0177<br>(1.07)     | -0.0459<br>(-1.00)   | -0.0198<br>(-0.37)    |
| Y2011                 | -0.0600<br>(-1.84)*       | -0.0835<br>(-1.97)**            | $0.0836 \\ (1.87)^*$            | 0.0547<br>(1.40)     | -0.0542<br>(-1.47)   | -0.0825<br>(-1.90)*  | -0.0408<br>(-0.88)   | -0.0189<br>(-0.35)    |
| Y2012                 | -0.0152<br>(0.0322)       | -0.0190<br>(-0.45)              | 0.0984<br>(2.33)**              | 0.0819<br>(2.22)**   | 0.0402<br>(1.10)     | 0.0283<br>(0.66)     | -0.0563<br>(-1.18)   | -0.0690<br>(-1.24)    |
| Y2013                 | -0.0491<br>(-1.50)        | -0.0688<br>(-1.61)              | 0.2278<br>(5.15) <sup>***</sup> | 0.0885<br>(2.30)**   | 0.0060<br>(0.15)     | -0.0122<br>(-0.26)   | 0.0701<br>(1.38)     | 0.0728<br>(1.24)      |
| Adjusted<br>R-squared | 0.1982                    | 0.1644                          | 0.4845                          | 0.1666               | 0.0453               | 0.0405               | 0.0925               | 0.0994                |
| F-Statistics          | 7.15                      | 5.90                            | 4.34                            | 1.71                 | 2.14                 | 2.01                 | 2.36                 | 2.47                  |
| Probability           | 0.0000                    | 0.0000                          | 0.0021                          | 0.1435               | 0.0277               | 0.0393               | 0.0177               | 0.0131                |
| Ν                     | 22                        | 25                              | 3                               | 3                    | 21                   | 17                   | 121                  |                       |

 Table 5.14 Determinants of earnings management across industry sectors

*Note:* \*\*\*, \*\*, and \* represent the level of significance at 1%, 5%, and 10% respectively, based on two-tailed test.

In summary, the influence of firm size, tangibility, profitability, total revenue,

and trade receivables on earnings management vary across industry sectors (Table 5.14). The variation of industry influence exists due to several possible factors, such as competition nature, industry heterogeneity in business risk, asset types, regulation and technology (Brander & Lewis, 1986; Chevalier, 1995)

## 5.3.3 Relationship between Capital Structure and Earnings Management

This section reports the statistical testing of the formulated hypothesis H3, proposing that: "Lao private firms with higher financial leverage are expected to have higher earnings management." To test the hypothesis, this study employs both the absolute residuals of discretionary accruals from the Modified Jones Model ( $DAC1^+$ ) and the Performance-Augmented Model ( $DAC2^+$ ). The dependent variables are the total-debt ratio (TDebt) and long-term debt ratio (LDebt) and the main variables of intetest in this section are the  $DAC1^+$  and  $DAC2^+$ . This study also includes firm-specific factors as well as industry and year fixed effects as controlled variables to all models used in this section. The results are explained as in the following subsections.

## • Capital Structure and Modified-Jones earnings management

Table 5.15, Table 5.16, and Table 5.17 show the results of the impact of capital structure on earnings management of Lao private firms by using the residuals from the Modified Jones Model ( $DAC1^+$ ). While the model 1, 3, and 5 shows the results of the relationship between leverage (TDebt and LDebt) and  $DAC1^+$  for the entire sample and subsamples without industry control, Model 2, 4 and 6 presents the linkage under industry control for the entire sample, limited companies, and sole-trader enterprises respectively.

Whereas Model 1 for the *TDebt* (*LDebt*) of the entire sample is significant with an adjusted R-squared of 7.28% (6.28%), F-statistics of 5.78 (5.08) and P-value of 0.0000 (0.0000), Model 2 for the *TDebt* (*LDebt*) of the sample is also significant with an adjusted R-squared of 9.50% (7.91%), F-statistics of 5.57 (4.74) and P-value of 0.0000 (0.0000) (Table 5.15). In the model 1 and 2, the *DAC1*<sup>+</sup> has a statistically positive and significant association with both *TDebt* and *LDebt* at the 5% level for the entire sample, implying that Lao private firms use financial leverage as a governance mechanism to mitigate opportunistic behaviour of managers, as this is consistent with the prediction of Jensen (1986). In overall, the result supports the hypothesis H3, which proposes that firms with higher financial leverage are expected to have higher earnings management. This result is in line with previous studies, which prove that leverage is positively associated with income-increasing discretionary accruals (An et al., 2016; DeFond & Jiambalvo, 1994; Klein, 2002; Othman & Zeghal, 2006; Rodríguez-Pérez & van Hemmen, 2010; Sweeney, 1994). According to the agency theory (Jensen, 1986), the higher leverage is considered as a governance device to reduce opportunistic behaviour of managers for two main reasons: 1) repayment of debt reduces financial resources available to the managers for non-optimum spending; and 2) debt financing undergoes the scrutiny of creditors that is often subjected to lender-induced spending restriction.

This study runs the same regression models above by splitting the entire sample into limited companies and sole-trader enterprises. In Model 3 and 4, Table 5.16 reports the results of the impact of leverage on earnings management of the limited companies in Laos. The coefficient of earnings management measure from the Modified Jones Model (Dechow et al., 1995) is positively and significantly related to both *TDebt* and *LDebt* at the 5% level for the limited companies. This result indicates that the limited companies are more likely to use financial leverage to control earnings management. The finding on limited companies statistically supports the formulated hypothesis H3.

In Model 5 and 6, Table 5.17 reports the results of the impact of capital structure on earnings management for sole-trader enterprises in Laos. As can be seen in the table that the coefficients of *TDebt* in relation to other control variables are equal to the coefficients of *LDbet*. This is because most of the firms did not report short-term liabilities in their balance sheets over the period of study. Therefore, the *TDebt* is approximately equal to *LDebt*, which leads to an insignificant difference in the coefficients. In the Model 5, the residual coefficient *DAC1*<sup>+</sup> is positively and insignificantly associated to both *TDebt* and *LDebt* of the firms, but in the Model 6, the *DAC1*<sup>+</sup> exhibits a negative and insignificant relationship with both *TDebt* and *LDebt*. The results do not support the hypothesis H3.

|                    | Mo                    | del 1                                       | Model 2                         |                       |  |
|--------------------|-----------------------|---|---------------------------------|-----------------------|--|
|                    | Entire                | sample                                      | Entire sample                   |                       |  |
|                    | TDebt                 | LDebt                                       | TDebt                           | LDebt                 |  |
| Constant           | -0.3907               | -0.3627                                     | -0.2929                         | -0.2797               |  |
|                    | (-4.50)***            | (-4.23)***                                  | (-3.22)***                      | (-3.11)***            |  |
| DAC1 <sup>+</sup>  | 0.1052                | 0.1074                                      | 0.0983                          | 0.1020                |  |
|                    | (2.39)**              | (2.47)**                                    | (2.23)**                        | (2.34)**              |  |
| Size               | 0.0453                | 0.0422                                      | 0.0327                          | 0.0315                |  |
|                    | (5.08) <sup>***</sup> | (4.80)***                                   | (3.48)***                       | (3.39)***             |  |
| Tan                | -0.0107               | -0.0006                                     | -0.0043                         | 0.0051                |  |
|                    | (-0.38)               | (-0.02)                                     | (-0.15)                         | (0.18)                |  |
| Pro                | -0.2112<br>(-3.82)*** | -0.2112<br>(-3.82)*** -0.1905<br>(-3.49)*** |                                 | -0.1673<br>(-3.04)*** |  |
| REV                | -0.0007               | -0.0002                                     | -0.0017                         | -0.0011               |  |
|                    | (-0.27)               | (-0.10)                                     | (-0.66)                         | (-0.43)               |  |
| TR                 | 0.0732                | 0.0587                                      | 0.0650                          | 0.0519                |  |
|                    | (2.39)**              | (1.94)*                                     | (2.14)**                        | (1.72)*               |  |
| OCF                | 0.0017                | 0.0031                                      | 0.0004                          | 0.0020                |  |
|                    | (0.16)                | (0.29)                                      | (0.03)                          | (0.19)                |  |
| Consumer staples   | No                    | No  | -0.0185<br>(-0.49)              | -0.0174<br>(-0.47)    |  |
| Industrials        | No                    | No  | 0.0121 0.0116<br>(0.62) (0.61)  |                       |  |
| Materials          | No                    | No  | 0.0778<br>(3.18) <sup>***</sup> | 0.0662<br>(2.73)***   |  |
| Utilities          | No                    | No  | 0.01712<br>(3.05)***            | 0.1553<br>(2.79)***   |  |
| Y2011              | 0.0061                | 0.0034                                      | 0.0062                          | 0.0035                |  |
|                    | (0.27)                | (0.15)                                      | (0.27)                          | (0.15)                |  |
| Y2012              | -0.0040               | -0.0093                                     | -0.0005                         | -0.0063               |  |
|                    | (-0.18)               | (-0.41)                                     | (-0.02)                         | (-0.28)               |  |
| Y2013              | -0.0207               | -0.0252                                     | -0.0121                         | -0.175                |  |
|                    | (-0.85)               | (-1.05)                                     | (-0.50)                         | (-0.73)               |  |
| Adjusted R-squared | 0.0728                | 0.0628                                      | 0.0950                          | 0.0791                |  |
| F-Statistics       | 5.78                  | 5.08  | 5.57                            | 4.74                  |  |
| Probability        | 0.0000                | 0.0000                                      | 0.0000                          | 0.0000                |  |
| N                  | 6                     | 10  | 610                             |                       |  |

 Table 5.15 Leverage and the Modified-Jones earnings management for entire sample

|                    | Moo<br>Limited        | del 3<br>company   | Model 4<br>Limited company |                       |  |
|--------------------|-----------------------|--|----------------------------|-----------------------|--|
|                    | TDebt                 | LDebt  | TDebt                      | LDebt                 |  |
| Constant           | -0.3695<br>(-3.29)*** | -0.3378<br>(-3.06)***  | -0.3221<br>(-2.74)***      | -0.3063<br>(-2.64)*** |  |
| DAC1 <sup>+</sup>  | 0.1204<br>(2.13)**    | 0.1236<br>(2.22)**   | 0.1275<br>(2.22)**         | 0.1320<br>(2.33)**    |  |
| Size               | 0.0407<br>(3.60)***   | $\begin{array}{c cccc} 0.0407 & 0.0374 \\ (3.60)^{***} & (3.36)^{***} \end{array}$ |                            | 0.0322<br>(2.74)***   |  |
| Tan                | 0.0391<br>(1.01)      | 0.0527<br>(1.38)   | 0.0403<br>(1.05)           | 0.0534<br>(1.40)      |  |
| Pro                | -0.2146<br>(-3.23)*** | -0.2146 -0.1899<br>(-3.23)*** (-2.90)***   |                            | -0.1712<br>(-2.59)*** |  |
| REV                | -0.0005<br>(-0.16)    | 0.0001<br>(0.04)   | -0.0010<br>(-0.35)         | -0.0003<br>(-0.10)    |  |
| TR                 | 0.0985<br>(2.42)**    | $0.0767 \\ (1.92)^*$   | 0.0925<br>(2.27)**         | 0.0731<br>(1.82)*     |  |
| OCF                | 0.0108<br>(0.57)      | 0.0145<br>(0.78)   | 0.0102<br>(0.54)           | 0.0143<br>(0.77)      |  |
| Consumer staples   | No                    | No   | 0.0130<br>(0.21)           | 0.0128<br>(0.21)      |  |
| Industrials        | No                    | No   | 0.0161<br>(0.61)           | 0.0151<br>(0.58)      |  |
| Materials          | No                    | No   | 0.0444<br>(1.48)           | 0.0305<br>(1.03)      |  |
| Utilities          | No                    | No   | 0.01609<br>(2.58)***       | 0.1445<br>(2.34)**    |  |
| Y2011              | 0.0107<br>(0.36)      | 0.0069<br>(0.24)   | 0.0118<br>(0.40)           | 0.0079<br>(0.27)      |  |
| Y2012              | 0.0080<br>(0.27)      | -0.0000<br>(-0.00)   | 0.0096<br>(0.32)           | 0.0013<br>(0.04)      |  |
| Y2013              | -0.0162<br>(-0.05)    | -0.0226<br>(-0.71)   | -0.0082<br>(-0.25)         | -0.0154<br>(-0.48)    |  |
| Adjusted R-squared | 0.0665                | 0.0573   | 0.0750                     | 0.0615                |  |
| F-Statistics       | 3.99                  | 3.55   | 3.43                       | 2.97                  |  |
| Probability        | 0.0000                | 0.0002   | 0.0000                     | 0.0002                |  |
| Ν                  | 42                    | 21   | 42                         | 21                    |  |

 Table 5.16 Leverage and the Modified-Jones earnings management for limited

 company

|                    | Moo         | lel 5        | Model 6                         |                                 |  |
|--------------------|-------------|--------------|---------------------------------|---------------------------------|--|
|                    | Sole-trader | • enterprise | Sole-trader enterprise          |                                 |  |
|                    | TDebt       | LDebt        | TDebt                           | LDebt                           |  |
| Constant           | -0.4708     | -0.4708      | -0.1865                         | -0.1865                         |  |
|                    | (-3.46)***  | (-3.46)***   | (-1.38)                         | (-1.38)                         |  |
| DAC1 <sup>+</sup>  | 0.0554      | 0.0554       | -0.0003                         | -0.0003                         |  |
|                    | (0.88)      | (0.88)       | (-0.01)                         | (-0.01)                         |  |
| Size               | 0.0587      | 0.0587       | 0.0254                          | 0.0254                          |  |
|                    | (3.98)***   | (3.98)***    | (1.71)*                         | (1.71)*                         |  |
| Tan                | -0.0874     | -0.0874      | -0.0704                         | -0.0704                         |  |
|                    | (-2.27)**   | (-2.27)**    | (-1.92)*                        | (-1.92)*                        |  |
| Pro                | -0.1838     | -0.1838      | -0.0890                         | -0.0890                         |  |
|                    | (-1.86)*    | (-1.86)*     | (-0.92)                         | (-0.92)                         |  |
| REV                | -0.0188     | -0.0188      | -0.0131                         | -0.131                          |  |
|                    | (-2.04)**   | (-2.04)**    | (-1.49)                         | (-1.49)                         |  |
| TR                 | -0.0149     | -0.0149      | -0.0016                         | -0.0016                         |  |
|                    | (-0.36)     | (-0.36)      | (-0.04)                         | (-0.04)                         |  |
| OCF                | -0.0197     | -0.0197      | -0.0152                         | -0.0152                         |  |
|                    | (-1.57)     | (-1.57)      | (-1.30)                         | (-1.30)                         |  |
| Consumer staples   | No          | No           | -0.0205<br>(-0.56)              | -0.0205<br>(-0.56)              |  |
| Industrials        | No          | No           | 0.0073<br>(0.30)                | 0.0073<br>(0.30)                |  |
| Materials          | No          | No           | 0.2236<br>(5.46) <sup>***</sup> | 0.2236<br>(5.46) <sup>***</sup> |  |
| Utilities          | No          | No           | -                               | -                               |  |
| Y2011              | 0.0100      | 0.0100       | 0.0012                          | 0.0012                          |  |
|                    | (-0.30)     | (-0.30)      | (0.04)                          | (0.04)                          |  |
| Y2012              | -0.0100     | -0.0100      | -0.0013                         | -0.0013                         |  |
|                    | (-0.32)     | (-0.32)      | (-0.05)                         | (-0.05)                         |  |
| Y2013              | -0.0055     | -0.0055      | 0.0105                          | 0.0105                          |  |
|                    | (-0.17)     | (-0.17)      | (0.34)                          | (0.34)                          |  |
| Adjusted R-squared | 0.0748      | 0.0748       | 0.2125                          | 0.2125                          |  |
| F-Statistics       | 2.52        | 2.52         | 4.90                            | 4.90                            |  |
| Probability        | 0.0074      | 0.0074       | 0.0000 0.0000                   |                                 |  |
| N                  | 18          | 39           | 18                              | 39                              |  |

 

 Table 5.17 Leverage and the Modified-Jones earnings management for soletrader enterprise

#### Capital Structure and Performance-Augmented earnings management

Table 5.18, Table 5.19, and Table 5.20 report the effect of capital structure on earnings management. The dependent variables are total debt ratio (*TDebt*) and long-term-debt ratio (*LDebt*), and the main independent variable is earnings management proxy (*DAC2*<sup>+</sup>) based on the Performance-Augmented Model proposed by Kothari et al. (2005). While Models 1, 3, and 5 show the results of the relationship between leverage (*TDebt* and *LDebt*) and *DAC2*<sup>+</sup> for the entire sample and subsamples without industry control; Models 2, 4 and 6 present the association under industry control for the entire sample, limited companies, and sole-trader enterprises respectively.

In the Table 5.18, the residual coefficient of  $DAC2^+$  is positively and significantly associated with both *TDebt* and *LDebt* at the 5% level for the entire sample. The coefficient is also positively associated with both *TDebt* and *LDebt* at the same level of significance for the limited companies (Table 5.19), but it is not significant for the sole-trader enterprises (Table 5.20). For the overall sample and limited companies, the result supports the hypothesis H3. This finding is compatible with previous studies, which note that leverage is positively associated with income-increasing discretionary accruals (An et al., 2016; DeFond & Jiambalvo, 1994; Klein, 2002; Othman & Zeghal, 2006; Rodríguez-Pérez & van Hemmen, 2010; Sweeney, 1994). In comparison, both  $DAC1^+$  and  $DAC2^+$  of the entire sample and limited companies exhibit the same positive and significant relationship with leverage at the same 5% level.

|                    | Moo                     | lel 1              | Model 2                         |                                 |  |  |
|--------------------|-------------------------|--------------------|---------------------------------|---------------------------------|--|--|
|                    | Entire                  | sample             | Entire sample                   |                                 |  |  |
|                    | TDebt                   | LDebt              | TDebt                           | LDebt                           |  |  |
| Constant           | -0.3991                 | -0.3711            | -0.3004                         | -0.2877                         |  |  |
|                    | (-4.60)***              | (-4.33)***         | (-3.31)***                      | (-3.20)***                      |  |  |
| DAC2 <sup>+</sup>  | $0.0785 \\ (2.15)^{**}$ | 0.0857<br>(2.37)** | 0.0840<br>(2.26)**              | 0.0918<br>(2.50**               |  |  |
| Size               | 0.0465                  | 0.0433             | 0.0333                          | 0.0320                          |  |  |
|                    | (5.26)***               | (4.96)***          | (3.57)***                       | (3.46)***                       |  |  |
| Tan                | -0.0106                 | 0.0005             | -0.0022                         | 0.0079                          |  |  |
|                    | (-0.37)                 | (0.02)             | (-0.08)                         | (0.28)                          |  |  |
| Pro                | -0.2134                 | -0.1916            | -0.1834                         | -0.1642                         |  |  |
|                    | (-3.86)***              | (-3.51)***         | (-3.30)***                      | (-2.98)***                      |  |  |
| REV                | -0.0008                 | -0.0004            | -0.0018                         | -0.0013                         |  |  |
|                    | (-0.32)                 | (-0.15)            | (-0.40)                         | (-0.51)                         |  |  |
| TR                 | 0.0740                  | 0.0596             | 0.0657                          | 0.0527                          |  |  |
|                    | (2.42)**                | (-0.15)            | (2.16)**                        | (1.75)*                         |  |  |
| OCF                | 0.0014                  | 0.0028             | -0.0001                         | 0.0015                          |  |  |
|                    | (0.13)                  | (0.26)             | (-0.01)                         | (0.14)                          |  |  |
| Consumer staples   | No                      | No                 | -0.0151<br>(-0.40)              | -0.0132<br>(-0.35)              |  |  |
| Industrials        | No                      | No                 | 0.0149<br>(0.77)                | 0.0147<br>(0.77)                |  |  |
| Materials          | No                      | No                 | 0.0800<br>(3.28) <sup>***</sup> | 0.0684<br>(2.83) <sup>***</sup> |  |  |
| Utilities          | No                      | No                 | 0.1823<br>(3.22)***             | 0.1679<br>(2.99)***             |  |  |
| Y2011              | 0.0072                  | 0.0049             | 0.0078                          | 0.0054                          |  |  |
|                    | (0.31)                  | (0.22)             | (0.34)                          | (0.24)                          |  |  |
| Y2012              | -0.0032                 | -0.0084            | 0.0004                          | -0.0053                         |  |  |
|                    | (-0.14)                 | (-0.37)            | (0.02)                          | (-0.24)                         |  |  |
| Y2013              | -0.0187                 | -0.0230            | -0.0097                         | -0.0149                         |  |  |
|                    | (-0.77)                 | (-0.96)            | (-0.40)                         | (-0.62)                         |  |  |
| Adjusted R-squared | 0.0711                  | 0.0620             | 0.0952                          | 0.0803                          |  |  |
| F-Statistics       | 5.66                    | 5.03               | 5.58                            | 4.80                            |  |  |
| Probability        | 0.0000                  | 0.0000             | 0.0000                          | 0.0000                          |  |  |
| N                  | 6                       | 10                 | 610                             |                                 |  |  |

 Table 5.18 Leverage and the Performance-Augmented earnings management for

 entire sample

Model 3 Model 4 Limited company Limited company **TDebt** *LDebt* **TDebt** LDebt Constant -0.3738 -0.3419 -0.3256 -0.3097 (-3.33)\*\*\* (-3.09)\*\*\*  $(-2.77)^{***}$ (-2.67)\*\*\*  $DAC2^+$ 0.0905 0.1007 0.1116 0.1218  $(2.15)^{**}$  $(1.98)^{**}$  $(2.29)^{**}$  $(2.53)^{**}$ Size 0.416 0.0380 0.0335 0.0321  $(3.69)^{***}$  $(3.43)^{***}$  $(2.82)^{***}$  $(2.73)^{***}$ Tan 0.0393 0.0539 0.0425 0.0565 (1.01)(1.41)(1.10)(1.48)Pro -0.1634 -0.2141 -0.1878 -0.1876 (-2.79)\*\*\* (-3.21)\*\*\* (-2.86)\*\*\* (-2.46)\*\* REV -0.0006 -0.0001 -0.0012 -0.0005 (-0.22)(-0.02)(-0.43)(-0.19) TR 0.1005 0.0790 0.0946 0.0755  $(2.47)^{**}$  $(1.97)^{**}$  $(2.32)^{**}$  $(1.88)^*$ OCF 0.0099 0.0135 0.0091 0.0131 (0.52)(0.73)(0.48)(0.71)Consumer staples No No 0.0149 0.0000 (0.24)(0.00)Industrials No 0.0201 No 0.0156 (0.76)(0.26)Materials No No 0.0477 0.0337 (1.60)(1.14)Utilities No No 0.1761 0.1617  $(2.78)^{***}$  $(2.59)^{***}$ Y2011 0.0120 0.0087 0.0141 0.0107 (0.30)(0.48)(0.37)(0.41)Y2012 0.0012 0.0091 0.0110 0.0028 (0.30)(0.04)(0.37)(0.09)Y2013 -0.0147 -0.0057 -0.0211 -0.0127 (-0.66) (-0.46)(-0.18) (-0.40)Adjusted R-squared 0.0644 0.0566 0.0757 0.0638 **F-Statistics** 3.89 3.52 3.04 3.46 Probability 0.0000 0.0002 0.0000 0.0002 421 Ν 421

 Table 5.19 Leverage and the Performance-Augmented earnings management for

 limited company

Table 5.20 Leverage and the Performance-Augmented earnings management forsole-trader enterprise

|                    | Moo                   | del 5        | Model 6                         |                     |  |
|--------------------|-----------------------|--------------|---------------------------------|---------------------|--|
|                    | Sole-trader           | r enterprise | Sole-trader enterprise          |                     |  |
|                    | TDebt                 | LDebt        | TDebt                           | LDebt               |  |
| Constant           | -0.4824               | -0.4824      | -0.1828                         | -0.1828             |  |
|                    | (-3.54)***            | (-3.54)***   | (-1.34)                         | (-1.34)             |  |
| DAC2 <sup>+</sup>  | 0.0462                | 0.0462       | -0.0096                         | -0.0096             |  |
|                    | (0.91)                | (0.91)       | (-0.19)                         | (-0.19)             |  |
| Size               | 0.0600                | 0.0600       | 0.0253                          | 0.0253              |  |
|                    | (4.10) <sup>***</sup> | (4.10)***    | (1.71) <sup>*</sup>             | (1.71)*             |  |
| Tan                | -0.0867               | -0.0867      | -0.0725                         | -0.0725             |  |
|                    | (-2.24)**             | (-2.24)**    | (-1.97)**                       | (-1.97)**           |  |
| Pro                | -0.1901               | -0.1901      | -0.0905                         | -0.0905             |  |
|                    | (-1.93)*              | (-1.93)*     | (-0.95)                         | (-0.95)             |  |
| REV                | -0.0189               | -0.0189      | -0.0127                         | -0.0127             |  |
|                    | (-2.05)               | (-2.05)      | (-1.44)                         | (-1.44)             |  |
| TR                 | -0.0159               | -0.0159      | -0.0016                         | -0.0016             |  |
|                    | (-0.38)               | (-0.38)      | (-0.04)                         | (-0.04)             |  |
| OCF                | -0.0199               | -0.0199      | -0.0148                         | -0.0148             |  |
|                    | (-1.58)               | (-1.58)      | (-1.26)                         | (-1.26)             |  |
| Consumer staples   | No                    | No           | -0.0217<br>(-0.59)              | -0.0217<br>(-0.59)  |  |
| Industrials        | No                    | No           | 0.0063<br>(0.26)                | 0.0063<br>(0.26)    |  |
| Materials          | No                    | No           | 0.2244<br>(5.47) <sup>***</sup> | 0.2244<br>(5.47)*** |  |
| Utilities          | No                    | No           | -                               | -                   |  |
| Y2011              | 0.0110                | 0.0110       | 0.0006                          | 0.0006              |  |
|                    | (0.33)                | (0.33)       | (0.02)                          | (0.02)              |  |
| Y2012              | -0.0096               | -0.0096      | -0.0013                         | -0.0013             |  |
|                    | (-0.30)               | (-0.30)      | (-0.04)                         | (-0.04)             |  |
| Y2013              | -0.0035               | -0.0035      | 0.0106                          | 0.0106              |  |
|                    | (-0.10)               | (-0.10)      | (0.34)                          | (0.34)              |  |
| Adjusted R-squared | 0.0751                | 0.0751       | 0.2127                          | 0.2127              |  |
| F-Statistics       | 2.53                  | 2.53         | 4.91                            | 4.91                |  |
| Probability        | 0.0072                | 0.0072       | 0.0000                          | 0.0000              |  |
| Ν                  | 13                    | 89           | 189                             |                     |  |

### • Industry Classifications

This part provides the results of the additional tests of the impact of earnings management on leverage by regressing the absolute residuals from the Modified-Jones Model and the Performance-Augmented Model against total-debt and long-term debt ratio of Lao firms across different industry sectors. The firm-specific factors as well as industry and year-fixed effects are also used as controlled variables.

|                       | Cons<br>discret      | umer<br>tionary    | Cons<br>staj           | umer<br>ples           | Indus             | strials                | Mate                   | erials  | Utilities             |                    |
|-----------------------|----------------------|--------------------|------------------------|------------------------|-------------------|------------------------|------------------------|---|-----------------------|--------------------|
|                       | TDebt                | LDebt              | TDebt                  | LDebt                  | TDebt             | LDebt                  | TDebt                  | LDebt   | TDebt                 | LDebt              |
| Constant              | -0.0739              | -0.0739            | -0.9704                | -0.9704                | -0.1406           | -0.1411                | -1.1870                | -1.1100   | -0.6935               | -0.7100            |
|                       | (-0.64)              | (-0.64)            | (-3.81)***             | (-3.81)***             | (-0.73)           | (-0.74)                | (-4.61)***             | (-4.25)***  | (-0.98)               | (-1.15)            |
| DAC1+                 | 0.1370               | 0.1370             | 0.0481                 | 0.0481                 | 0.2136            | 0.2088                 | -0.1037                | -0.0494   | 0.5354                | 0.5421             |
|                       | (1.96)**             | (1.96)**           | (0.31)                 | (0.31)                 | (2.97)****        | (2.91) <sup>****</sup> | (-0.95)                | (-0.45)   | (0.80)                | (0.94)             |
| Size                  | 0.0043               | 0.0043             | 0.1100                 | 0.1100                 | 0.0210            | 0.0210                 | 0.1275                 | 0.1179  | 0.0668                | 0.0679             |
|                       | (0.35)               | (0.35)             | (4.15) <sup>****</sup> | (4.15) <sup>****</sup> | (1.04)            | (1.05)                 | (5.08) <sup>****</sup> | (4.63) <sup>****</sup>                              | (1.05)                | (1.23)             |
| Tan                   | 0.1297               | 0.1297             | -0.1159                | -0.1159                | -0.1034           | -0.1049                | -0.0934                | -0.0133   | -0.5264               | -0.4891            |
|                       | (3.32)***            | (3.32)***          | (-2.71)***             | (-2.71)****            | (-2.00)**         | (-2.03)**              | (-1.08)                | (-0.15)   | (-2.47) <sup>**</sup> | (-2.65)***         |
| Pro                   | -0.2216              | -0.2216            | -0.4597                | -0.4597                | -0.2418           | -0.2561                | -0.0938                | 0.0543  | -1.1289               | -1.0786            |
|                       | (-2.39)**            | (-2.39)**          | (-3.51)***             | (-3.51)****            | (-2.76)***        | (-2.93)***             | (-0.64)                | (0.37)  | (-1.44)               | (-1.58)            |
| REV                   | 0.0183               | 0.0183             | 0.0078                 | 0.0078                 | -0.0032           | -0.0032                | -0.0052                | -0.0038   | 0.2621                | 0.2439             |
|                       | (2.28) <sup>**</sup> | (2.28)**           | (0.72)                 | (0.72)                 | (-0.43)           | (-0.42)                | (-1.58)                | (-1.15)   | (2.57)***             | (2.76)****         |
| TR                    | 0.0047<br>(0.10)     | 0.0047<br>(0.10)   | -0.0656<br>(-1.47)     | -0.0656<br>(-1.47)     | 0.0580<br>(1.19)  | 0.0601<br>(1.24)       | 0.2017<br>(2.75)****   | $\begin{array}{c} 0.1344 \\ (1.81)^{*} \end{array}$ | -0.0177<br>(-0.06)    | -0.0150<br>(-0.06) |
| OCF                   | 0.0147               | 0.0147             | 0.0108                 | 0.0108                 | -0.0045           | -0.0046                | -0.1365                | -0.1178   | 0.2560                | 0.2821             |
|                       | (0.81)               | (0.81)             | (0.42)                 | (0.42)                 | (-0.31)           | (-0.32)                | (-2.58)***             | (-2.19)**   | (2.24) <sup>**</sup>  | (2.85)***          |
| Y2011                 | -0.0058              | -0.0058            | 0.0013                 | 0.0013                 | -0.0003           | -0.0005                | 0.0458                 | 0.0381  | -0.2013               | -0.1881            |
|                       | (-0.17)              | (-0.17)            | (0.04)                 | (0.04)                 | (-0.01)           | (-0.01)                | (0.86)                 | (0.07)  | (-1.04)               | (-1.12)            |
| Y2012                 | -0.0203              | -0.0203            | -0.0036                | -0.0036                | -0.0341           | -0.0376                | 0.0658                 | 0.0569  | 0.0093                | 0.0100             |
|                       | (-0.61)              | (-0.61)            | (-0.10)                | (-0.10)                | (-0.90)           | (-0.99)                | (1.19)                 | (1.02)  | (0.07)                | (0.09)             |
| Y2013                 | -0.0261<br>(-0.77)   | -0.0261<br>(-0.77) | -0.0290<br>(-0.59)     | -0.0290<br>(-0.59)     | -0.536<br>(-1.27) | -0.0534<br>(-1.28)     | 0.0785<br>(1.34)       | 0.0587<br>(0.99)                                    | -                     | -                  |
| Adjusted<br>R-squared | 0.0750               | 0.0750             | 0.3702                 | 0.3702                 | 0.0664            | 0.0707                 | 0.2313                 | 0.1611  | 0.6945                | 0.7323             |
| F-Statistics          | 2.82                 | 2.82               | 2.88                   | 2.88                   | 2.54              | 2.64                   | 4.61                   | 3.30  | 4.28                  | 4.95               |
| Probability           | 0.0027               | 0.0027             | 0.0185                 | 0.0185                 | 0.0067            | 0.0047                 | 0.0000                 | 0.0009  | 0.9060                | 0.0691             |
| N                     | 22                   | 25                 | 3                      | 3                      | 2                 | 17                     | 12                     | 21  | 1                     | 14                 |

 Table 5.21 Leverage and the Modified-Jones earnings management across

 industry sectors

*Note:* \*\*\*, \*\*, and \* represent the level of significance at 1%, 5%, and 10% respectively, based on two-tailed test.

Table 5.21 reports the effects of earnings management on total-debt and longterm debt ratio by industry classifications. This study finds a positive and significant relationship between  $DAC1^+$  and both TDebt and LDebt of firms in consumer discretionary (5%) and industrials (1%). Therefore, enterprises in consumer discretionary and industrials use external debt as a governance mechanism to minimise opportunistic behaviour by managers. Whereas  $DAC1^+$  of Lao enterprises operating in consumer staples and utilities are positively and insignificantly related to both TDebtand LDebt, it exhibits a negative and insignificant relationship for the firms in materials. In sum, the results indicate clear evidence that this association between earnings management and leverage is diverse across industry sectors.

|                       | Cons<br>discret  | umer<br>tionary  | Cons<br>sta              | sumer<br>ples            | Indus                | strials               | Mate                     | erials              |  |
|-----------------------|------------------|------------------|--------------------------|--------------------------|----------------------|-----------------------|--------------------------|---------------------|--|
|                       | TDebt            | LDebt            | TDebt                    | LDebt                    | TDebt                | LDebt                 | TDebt                    | LDebt               |  |
| Constant              | -0.0858          | -0.0858          | -0.9241                  | -0.9241                  | -0.1575              | -0.1578               | -1.1778                  | -1.0982             |  |
|                       | (-0.75)          | (-0.75)          | (-3.76)***               | (-3.76)***               | (-0.82)              | (-0.82)               | (-4.56)***               | (-4.20)***          |  |
| DAC2 <sup>+</sup>     | 0.1252           | 0.1252           | -0.0621                  | -0.0621                  | 0.1633               | 0.1666                | -0.308                   | 0.0260              |  |
|                       | (2.33)**         | (2.33)**         | (-0.34)                  | (-0.34)                  | (2.65)***            | (2.72) <sup>***</sup> | (-0.33)                  | (0.27)              |  |
| Size                  | 0.0051<br>(0.42) | 0.0051<br>(0.42) | $0.1054 \\ (4.14)^{***}$ | $0.1054 \\ (4.14)^{***}$ | 0.0232<br>(1.15)     | 0.0230<br>(1.15)      | $0.1244 \\ (4.94)^{***}$ | 0.1143<br>(4.49)*** |  |
| Tan                   | 0.1339           | 0.1339           | -0.1223                  | -0.1223                  | -0.0918              | -0.0934               | -0.0823                  | 0.0010              |  |
|                       | (3.45)***        | (3.45)***        | (-2.78)***               | (-2.78)***               | (-1.77) <sup>*</sup> | (-1.18)               | (-0.95)                  | (0.01)              |  |
| Pro                   | -0.2133          | -0.2133          | -0.4440                  | -0.4440                  | -0.2479              | -0.2606               | -0.0816                  | 0.0767              |  |
|                       | (-2.31)**        | (-2.31)**        | (-3.51)***               | (-3.51)***               | (-2.82)***           | (-2.98)***            | (-0.45)                  | (0.51)              |  |
| REV                   | 0.0189           | 0.0189           | 0.0094                   | 0.0094                   | -0.0039              | -0.0039               | -0.0051                  | -0.0040             |  |
|                       | (2.35)**         | (2.35)**         | (0.83)                   | (0.83)                   | (-0.52)              | (-0.52)               | (-1.54)                  | (-1.18)             |  |
| TR                    | 0.0068           | 0.0068           | -0.0616                  | -0.0616                  | 0.0575               | 0.0590                | 0.1991                   | 0.1343              |  |
|                       | (0.14)           | (0.14)           | (-1.41)                  | (-1.41)                  | (1.17)               | (1.21)                | (2.70) <sup>**</sup>     | (1.80)*             |  |
| OCF                   | 0.0138           | 0.0138           | 0.0082                   | 0.0082                   | -0.0049              | -0.0051               | -0.1324                  | -0.1150             |  |
|                       | (0.76)           | (0.76)           | (0.33)                   | (0.33)                   | (-0.33)              | (-0.35)               | (-2.50)**                | (-2.14)**           |  |
| Y2011                 | -0.0035          | -0.0035          | 0.0087                   | 0.0087                   | 0.0016               | 0.0020                | 0.0495                   | 0.0410              |  |
|                       | (-0.10)          | (-0.10)          | (0.25)                   | (0.25)                   | (0.04)               | (0.05)                | (0.93)                   | (0.75)              |  |
| Y2012                 | -0.200           | -0.200           | 0.0062                   | 0.0062                   | -0.0301              | -0.0339               | 0.0695                   | 0.0615              |  |
|                       | (-0.60)          | (-0.60)          | (0.18)                   | (0.18)                   | (-0.79)              | (-0.89)               | (1.26)                   | (1.10)              |  |
| Y2013                 | -0.0243          | -0.0243          | -0.0126                  | -0.0126                  | -0.0503              | -0.0501               | 0.0734                   | 0.0534              |  |
|                       | (-0.72)          | (-0.72)          | (-0.34)                  | (-0.34)                  | (-1.19)              | (-1.19)               | (1.25)                   | (0.90)              |  |
| Adjusted<br>R-squared | 0.0818           | 0.0818           | 0.3709                   | 0.3709                   | 0.0585               | 0.0659                | 0.2257                   | 0.1602              |  |
| F-Statistics          | 3.00             | 3.00             | 2.89                     | 2.89                     | 2.34                 | 2.52                  | 4.50                     | 3.29                |  |
| Probability           | 0.0015           | 0.0015           | 0.0183                   | 0.0185                   | 0.0123               | 0.0069                | 0.0000                   | 0.0009              |  |
| N                     | 225              |                  | 3                        | 3                        | 2                    | 217                   |                          | 121                 |  |

 Table 5.22 Leverage and the Performance-Augmented earnings management

 across industry sectors

Table 5.22 reports the impact of earnings management on the capital structure of Lao firms across industry sectors after adding return on asset ratio (*ROA*) to the Modified Jones Model, which is regarded as the Performance-Augmented Model ( $DAC1^+$ ). This study finds a positive relationship between the  $DAC1^+$  and TDebt as well as *LDebt* on consumer discretionary at the 5% level, and industrials at the 1% level of significance, but it is negatively and insignificantly for firms operating in consumer staples and materials, which have a mixed relationship. In summary, the statistical results also confirm a diverse association between earnings management and leverage of Lao enterprises across different industry sectors.

In comparison between the result from the Modified Jones Model and the Performance-Augmented Model in relation to total-debt and long-term debt ratio, there are slightly different in the values of residual coefficients of the relationship, but the significant levels are not different. Therefore, the consistently empirical results from both models confirm the diverse impact capital structure on earnings management of Lao enterprises across different industry sectors.

# 5.3.4 Robustness Checks

This study conducts additional tests to provide valid conclusions by reestimating the relationship between earnings management and capital structure in according to leveraged firms or firms with debt, and signed-values effects of the association as follows.

#### Leveraged Firms

This study re-runs the regression on the relationship between earnings management and capital structure for a reduced sample of firms by considering only leveraged firms, which are separated into leveraged limited companies and leveraged sole-traders enterprises (Table 5.23). By comparison, the average total-debt ratio of the entire leveraged firms is around five times higher than the total-debt ratio for the entire sample over the period of study. The total-debt ratio of the entire leveraged firms is between 34.85% and 42.23% (Appendix 4), whereas the total-debt ratio for the entire sample ranges from 6.86% to 8.91% (Figure 5.4). In the annual balance sheets of Lao private firms, there is a blank for reporting long-term and short-term debts which are commonly used as an external source of funds for their business operation. From the regression presented in the table, this study finds two interesting

results from the reduced sample of the enterprises. First, as this reported earlier in Table 5.15 and Table 5.18, the effect of earnings management on leverage for the entire sample is positive and significant. The result from Table 5.23 also shows a positive and significant association between  $DAC1^+$  and debt (*TDebt* and *LDebt*) of leveraged firms at the 5% level. These consistent findings for the entire sample and the entire leveraged firms confirm that Lao private enterprises have more debt financing or long-term leverage when they are likely to engage in earnings management and *TDebt* (0.3124) as well as *LDebt* (0.3626) for the leveraged limited companies, reflecting that the firms use external debt as a governance mechanism to mitigate corporate managers' opportunistic behaviours (Jensen, 1986). However, the coefficient between earnings management's measure and leverage is positively insignificant for the leveraged sole-trader enterprises.

The similar impact of Performance-Augmented earnings management  $(DAC2^+)$  on leverage is also found in Table 5.24. The  $DAC2^+$  of the entire leveraged firms is positively and significantly related to *TDebt* at the 10% level, and to *LDebt* at the 5% level. Meanwhile, the  $DAC2^+$  of the leveraged limited companies has a positive and significant relationship with *TDebt* at the 5% level, and to *LDebt* at the 1% level, the  $DAC2^+$  exhibits no significant association with the leverage measures for leveraged sole-trader enterprises.

In a comparison of the results from Table 5.23 and Table 5.24, this study finds slightly different levels of significance between the coefficient values of earnings management's measures ( $DAC1^+$  and  $DAC2^+$ ) and TLdebt for the entire leveraged firms and the leveraged limited company. Whereas the  $DAC1^+$  exhibits the positive relationship at the 5% level, the  $DAC2^+$  is positively significant at the 10% level. However, these consistent findings confirm that both measures from the Modified Jones Model and the Performance-Augmented Model provide enough support evidence of the relationship between earnings management and debt of leveraged enterprises, particularly the leverage limited companies in the transitional economy of Laos. By contrast, this study is unable to find enough evidence of the association for the leveraged sole-trader enterprises.

Table 5.23 Leverage and the Modified-Jones earnings management for entireleveraged firms and subsamples

|                    | Leveraged firm                |                        | Leverage<br>com         | ed limited<br>pany             | Leveraged sole-<br>trader enterprise |                    |  |
|--------------------|-------------------------------|------------------------|-------------------------|--------------------------------|--------------------------------------|--------------------|--|
|                    | TDebt                         | LDebt                  | TDebt                   | LDebt                          | TDebt                                | LDebt              |  |
| Constant           | 0.8776                        | 0.8365                 | 0.7050                  | 0.6388                         | 1.7990                               | 1.7990             |  |
|                    | (3.08)***                     | (2.78) <sup>***</sup>  | (2.17)**                | (1.87)*                        | (0.84)                               | (0.84)             |  |
| DAC1 <sup>+</sup>  | 0.2372                        | 0.2830                 | 0.3124                  | 0.3626                         | 0.8194                               | 0.8194             |  |
|                    | (2.14)**                      | (2.40)**               | (2.62)***               | (2.90)***                      | (0.57)                               | (0.57)             |  |
| Size               | -0.0730                       | -0.0689                | -0.0603                 | -0.0538                        | -0.1815                              | -0.1815            |  |
|                    | (-2.47)**                     | (-2.21)**              | (-1.88) <sup>*</sup>    | (-1.60)                        | (-0.65)                              | (-0.65)            |  |
| Tan                | 0.3917                        | 0.4425                 | 0.4430                  | 0.4940                         | 0.3725                               | 0.3725             |  |
|                    | (3.99)***                     | (4.27)***              | (4.35)***               | (4.61) <sup>***</sup>          | (0.40)                               | (0.40)             |  |
| Pro                | -0.6924                       | -0.6064                | -0.6922                 | -0.6122                        | -0.7673                              | -0.7673            |  |
|                    | (-4.29)***                    | (-3.56)***             | (-3.23)***              | (-3.56)***                     | (-0.56)                              | (-0.56)            |  |
| REV                | 0.0231<br>(1.68) <sup>*</sup> | $0.0266 \\ (1.84)^{*}$ | $0.0267 \\ (1.97)^{**}$ | 0.0309<br>(2.16) <sup>**</sup> | -0.3817<br>(-1.45)                   | -0.3817<br>(-1.45) |  |
| TR                 | 0.1158                        | 0.0455                 | 0.1043                  | 0.0375                         | 1.2365                               | 1.2365             |  |
|                    | (1.38)                        | (0.51)                 | (1.23)                  | (0.42)                         | (1.65)*                              | (1.65)*            |  |
| OCF                | -0.0412                       | -0.0314                | 0.0276                  | 0.0428                         | -0.1846                              | -0.1846            |  |
|                    | (-0.91)                       | (-0.66)                | (0.56)                  | (0.83)                         | (-1.00)                              | (-1.00)            |  |
| Consumer staples   | 0.0434<br>(0.31)              | 0.0717<br>(0.49)       | 0.0492<br>(0.36)        | 0.0757<br>(0.52)               | -                                    | -                  |  |
| Industrials        | -0.0684                       | -0.0624                | -0.1005                 | -0.0986                        | 0.1556                               | 0.1556             |  |
|                    | (-1.02)                       | (-0.88)                | (-1.45)                 | (-1.35)                        | (0.31)                               | (0.31)             |  |
| Materials          | 0.0616                        | 0.0432                 | 0.0472                  | 0.0202                         | 0.1056                               | 0.1056             |  |
|                    | (0.88)                        | (0.58)                 | (0.63)                  | (0.26)                         | (0.30)                               | (0.30)             |  |
| Utilities          | 0.1756<br>(1.59)              | 0.1516<br>(1.30)       | $0.1908 \ (1.75)^{*}$   | 0.1646<br>(1.43)               | -                                    | -                  |  |
| Y2011              | 0.0784                        | 0.0641                 | 0.0810                  | 0.0667                         | 0.1310                               | 0.1310             |  |
|                    | (1.27)                        | (0.98)                 | (1.27)                  | (1.00)                         | (0.52)                               | (0.52)             |  |
| Y2012              | 0.0490                        | 0.0141                 | 0.0601                  | 0.0232                         | 0.1603                               | 0.1603             |  |
|                    | (0.78)                        | (0.21)                 | (0.92)                  | (0.34)                         | (0.77)                               | (0.77)             |  |
| Y2013              | -0.0700                       | -0.0993                | -0.0698                 | -0.1020                        | -0.0913                              | -0.0913            |  |
|                    | (-1.03)                       | (-1.39)                | (-0.96)                 | (-1.33)                        | (-0.29)                              | (-0.29)            |  |
| Adjusted R-squared | 0.3277                        | 0.2926                 | 0.3851                  | 0.3613                         | 0.2720                               | 0.2720             |  |
| F-Statistics       | 5.00                          | 4.40                   | 5.38                    | 4.96                           | 1.50                                 | 1.50               |  |
| Probability        | 0.0000                        | 0.0000                 | 0.0000                  | 0.0000                         | 0.3733                               | 0.3733             |  |
| Ν                  | 1                             | 16                     | 9                       | 9                              | 1                                    | 17                 |  |

Table 5.24 Leverage and the Performance-Augmented earnings managementfor entire leveraged firms and subsamples

|                    | Leveraged firm           |                                 | Leverage<br>com                | d limited<br>bany             | Leveraged sole-<br>trader enterprise |                    |
|--------------------|--------------------------|---------------------------------|--------------------------------|-------------------------------|--------------------------------------|--------------------|
|                    | TDebt                    | LDebt                           | TDebt                          | LDebt                         | TDebt                                | LDebt              |
| Constant           | $0.8676 \\ (3.01)^{***}$ | 0.8173<br>(2.70) <sup>***</sup> | 0.7501<br>(2.28) <sup>**</sup> | 0.6669<br>(1.94) <sup>*</sup> | 0.7973<br>(0.61)                     | 0.7973<br>(0.61)   |
| <i>DA2</i> +       | 0.1698                   | 0.2382                          | 0.2183                         | 0.2978                        | 0.0035                               | 0.0035             |
|                    | (1.72) <sup>*</sup>      | (2.30)**                        | (2.02) <sup>**</sup>           | (2.65) <sup>***</sup>         | (0.00)                               | (0.00)             |
| Size               | -0.0712                  | -0.0672                         | -0.0632                        | -0.0564                       | -0.0440                              | -0.0440            |
|                    | (-2.39)**                | (-2.15)**                       | (-1.94) <sup>*</sup>           | (-1.66) <sup>*</sup>          | (-0.27)                              | (-0.27)            |
| Tan                | 0.3908                   | 0.4500                          | 0.4335                         | 0.4920                        | -0.1173                              | -0.1173            |
|                    | (2.91) <sup>***</sup>    | (4.29)***                       | (4.18) <sup>***</sup>          | (4.55)***                     | (-0.12)                              | (-0.12)            |
| Pro                | -0.6746                  | -0.5681                         | -0.6568                        | -0.5526                       | -0.9441                              | -0.9441            |
|                    | (-4.05)***               | (-3.25)***                      | (-3.85)***                     | (-3.11)***                    | (-0.60)                              | (-0.60)            |
| REV                | 0.0214<br>(1.54)         | 0.0243<br>(1.67)*               | $0.0243 \\ (1.77)^*$           | 0.0280<br>(1.95)*             | -0.2848<br>(-1.07)                   | -0.2848<br>(-1.07) |
| TR                 | 0.1261                   | 0.0544                          | 0.1172                         | 0.0484                        | 1.2013                               | 1.2013             |
|                    | (1.50)                   | (0.61)                          | (1.37)                         | (0.54)                        | (1.46)                               | (1.46)             |
| OCF                | -0.0476                  | -0.0385                         | 0.0178                         | 0.0322                        | -0.2411                              | -0.2411            |
|                    | (-1.04)                  | (-0.81)                         | (0.36)                         | (0.62)                        | (-1.44)                              | (-1.44)            |
| Consumer staples   | 0.0399<br>(0.28)         | 0.0777<br>(0.53)                | 0.0436<br>(0.31)               | 0.0812<br>(0.55)              | -                                    | -                  |
| Industrials        | -0.0595                  | -0.0496                         | -0.0865                        | -0.0803                       | -0.0670                              | -0.0670            |
|                    | (-0.88)                  | (-0.70)                         | (-1.23)                        | (-1.09)                       | (-0.12)                              | (-0.12)            |
| Materials          | 0.0646                   | 0.0479                          | 0.0543                         | 0.0294                        | -0.0508                              | -0.0508            |
|                    | (0.91)                   | (0.65)                          | (0.71)                         | (0.37)                        | (-0.20)                              | (-0.20)            |
| Utilities          | 0.2054<br>(1.78)*        | 0.1984<br>(1.64)                | 0.2289<br>(1.99)**             | 0.2217<br>(1.85)*             | -                                    | -                  |
| Y2011              | 0.0814                   | 0.0692                          | 0.0877                         | 0.0788                        | 0.1729                               | 0.1729             |
|                    | (1.31)                   | (1.06)                          | (1.34)                         | (1.16)                        | (0.47)                               | (0.47)             |
| Y2012              | 0.0486                   | 0.0140                          | 0.0579                         | 0.0219                        | 0.1729                               | 0.1729             |
|                    | (0.76)                   | (0.21)                          | (0.87)                         | (0.32)                        | (0.75)                               | (0.75)             |
| Y2013              | -0.0669                  | -0.0977                         | -0.0679                        | -0.1019                       | 0.0466                               | 0.0466             |
|                    | (-0.98)                  | (-1.36)                         | (-0.92)                        | (-1.32)                       | (0.16)                               | (0.16)             |
| Adjusted R-squared | 0.3172                   | 0.2887                          | 0.3656                         | 0.3516                        | 0.2130                               | 0.2130             |
| F-Statistics       | 4.82                     | 4.33                            | 5.03                           | 4.80                          | 1.36                                 | 1.36               |
| Probability        | 0.0000                   | 0.0000                          | 0.0000                         | 0.0000                        | 0.4143                               | 0.4143             |
| N                  | 11                       | 6                               | 9                              | 9                             | 1                                    | 7                  |

### • Signed-Values Effects

The additional tests in this section use signed-positive and negative values of the residual coefficient from the Modified Jones Model and the Performance-Augmented Model as earnings management proxies for the limited companies and sole-trader enterprises (Figure 5.5). Whereas the signed-positive values contain 374 observations, the signed-negative values consist of 236 observations from the total number of 610. In the additional tests, firm-specific factors, industry sectors, and year dummies are used as control variables.





Table 5.25 shows the effects of earnings management from the Modified Jones Model (*DAC1*) on total-debt ratio by splitting into positive and negative-signed earnings management. On the negative sign of earnings management, this study can only find a negative and significant relationship between negative signed earnings management and total-debt ratio at the 5% level for the limited companies, indicating that the firms with higher leverage are less likely to engage in income-increasing earnings through the use of discretionary accruals. This result contradicts the main finding using the absolute residuals from the Modified-Jones Model (*DAC1*<sup>+</sup>) in Table 5.16 of section 5.3.3. This study also finds a positive relationship between negative-signed earnings management and the total-debt ratio for the sole-trader enterprises, but

the evidence is insignificant. On the positive sign of earnings management, this study finds a positive relationship between positive-signed earnings management and total debt for the limited company but there is a negative association for the sole-trader enterprises, both coefficients are not significant to the total-debt ratio.

Table 5.26 presents the impact of the Performance-Augmented positive and negative values of earnings management (DAC2) on total-debt for the limited companies and sole-trader enterprises. On the negative sign of earnings management for the limited companies, a negative relationship at 5% level is reported between the negative sign of the Performance-Augmented earnings management and total-debt ratio. On the positive sign, a positive relationship is found between the positive values of the Performance-Augmented earnings management and total-debt ratio for sole-trader enterprises, but this study has no enough evidence support the impact.

In comparison from the two additional tests, the results in the Table 5.25 and Table 5.26 have a slight difference in coefficient values for both sole-trader enterprises and limited companies but there is no difference at significant levels. In summary, the results are not only in opposite direction but they are unable to support the main findings of the relationship between earnings management and capital structure of Lao private enterprises.

|                    | Total debt           |                       |                       |                    |  |  |
|--------------------|----------------------|-----------------------|-----------------------|--------------------|--|--|
|                    | Limited of           | company               | Sole-trader           | · enterprise       |  |  |
|                    | Negative DAC1        | Positive DAC1         | Negative DAC1         | Positive DAC1      |  |  |
| Constant           | -0.1150              | -0.4747               | -0.0198               | -0.2429            |  |  |
|                    | (-0.60)              | (-3.14)***            | (-0.17)               | (-1.13)            |  |  |
| DAC1               | -0.1960              | 0.0475                | 0.0335                | -0.0108            |  |  |
|                    | (-2.40)**            | (0.54)                | (0.73)                | (-0.09)            |  |  |
| Size               | 0.0053               | 0.0541                | -0.0082               | 0.0353             |  |  |
|                    | (0.27)               | (3.58) <sup>***</sup> | (-0.65)               | (1.49)             |  |  |
| Tan                | 0.0700               | 0.0693                | 0.0460                | -0.1297            |  |  |
|                    | (1.01)               | (1.45)                | (1.46)                | (-2.31)**          |  |  |
| Pro                | -0.2553<br>(-2.23)** | -0.1561<br>(-1.82)*   | $0.1408 \\ (1.65)^*$  | -0.1983<br>(-1.35) |  |  |
| REV                | 0.0008               | -0.0004               | -0.0076               | -0.0079            |  |  |
|                    | (0.11)               | (-0.14)               | (-0.95)               | (-0.49)            |  |  |
| TR                 | 0.1427               | 0.0306                | 0.0429                | -0.0155            |  |  |
|                    | (20.4)**             | (0.06)                | (1.09)                | (-0.25)            |  |  |
| OCF                | -0.0059              | 0.0306                | -0.0073               | -0.0312            |  |  |
|                    | (-0.19)              | (1.25)                | (-0.75)               | (-1.13)            |  |  |
| Consumer staples   | 0.0606               | -0.0189               | -0.0094               | -0.0421            |  |  |
|                    | (0.55)               | (-0.26)               | (-0.35)               | (-0.58)            |  |  |
| Industrials        | $0.0793 \\ (1.79)^*$ | -0.0446<br>(-1.35)    | 0.0013<br>(0.05)      | 0.0088<br>(0.25)   |  |  |
| Materials          | 0.0614               | 0.0240                | 0.4360                | 0.9990             |  |  |
|                    | (1.12)               | (0.67)                | (12.17)***            | (1.61)             |  |  |
| Utilities          | 0.2599<br>(3.15)**   | 0.0292<br>(0.26)      | -                     | -                  |  |  |
| Y2011              | 0.0070               | 0.0032                | 0.0396                | -0.0073            |  |  |
|                    | (0.14)               | (0.09)                | (1.52)                | (-0.15)            |  |  |
| Y2012              | 0.0346               | -0.0078               | 0.0898                | -0.0193            |  |  |
|                    | (0.63)               | (-0.22)               | (3.01) <sup>***</sup> | (-0.49)            |  |  |
| Y2013              | -0.0061<br>(-0.11)   | -0.0124<br>(-0.31)    | $0.0505 \\ (1.81)^*$  | 0.0138<br>(0.31)   |  |  |
| Adjusted R-squared | 0.1203               | 0.0605                | 0.7750                | 0.0089             |  |  |
| F-Statistics       | 2.59                 | 2.18                  | 19.81                 | 1.08               |  |  |
| Probability        | 0.0022               | 0.0092                | 0.0000                | 0.3846             |  |  |
| Ν                  | 164                  | 257                   | 72                    | 117                |  |  |

Table 5.25 Signed-values effects of total debt on the Modified-Jones earnings management

 Table 5.26 Signed-values effects of total debt on the Performance-Augmented

 earnings management

|                    | Total debt          |                       |                       |                  |  |  |
|--------------------|---------------------|-----------------------|-----------------------|------------------|--|--|
|                    | Limited of          | company               | Sole-trade            | r enterprise     |  |  |
|                    | Negative DAC2       | Positive DAC2         | Negative AC2          | Positive DAC2    |  |  |
| Constant           | -0.1374             | -0.4606               | 0.0287                | -0.2494          |  |  |
|                    | (-0.71)             | (-3.04)***            | (0.24)                | (-1.13)          |  |  |
| DAC2               | -0.1874             | -0.0568               | 0.0351                | 0.0077           |  |  |
|                    | (-2.29)**           | (-0.69)               | (0.76)                | (0.06)           |  |  |
| Size               | 0.0069              | 0.0550                | -0.0091               | 0.0357           |  |  |
|                    | (0.35)              | (3.64) <sup>***</sup> | (-0.72)               | (1.49)           |  |  |
| Tan                | 0.0863              | 0.0655                | 0.0461                | -0.1290          |  |  |
|                    | (1.22)              | (1.37)                | (1.48)                | (-2.29)**        |  |  |
| Pro                | -0.2682             | -0.1624               | 0.1415                | -0.1948          |  |  |
|                    | (-2.35)**           | (-1.91)**             | (1.66) <sup>*</sup>   | (-1.34)          |  |  |
| REV                | 0.0005              | -0.0006               | -0.0075               | -0.0077          |  |  |
|                    | (0.07)              | (-0.19)               | (-0.94)               | (-0.48)          |  |  |
| TR                 | 0.1369              | 0.0301                | 0.0442                | -0.0149          |  |  |
|                    | (1.96)**            | (0.59)                | (1.13)                | (-0.24)          |  |  |
| OCF                | -0.0091             | 0.0293                | -0.0071               | -0.0317          |  |  |
|                    | (-0.30)             | (1.20)                | (-0.73)               | (-1.15)          |  |  |
| Consumer staples   | 0.0686              | -0.0279               | -0.0112               | -0.0413          |  |  |
|                    | (0.61)              | (-0.38)               | (-0.41)               | (-0.56)          |  |  |
| Industrials        | 0.0879              | -0.0446               | 0.0013                | 0.0094           |  |  |
|                    | (1.99)**            | (-1.35)               | (0.05)                | (0.27)           |  |  |
| Materials          | 0.0695              | 0.0286                | 0.4380                | 0.1002           |  |  |
|                    | (1.27)              | (0.80)                | (12.12)***            | (1.61)           |  |  |
| Utilities          | 0.2754<br>(3.26)*** | 0.0197<br>(-0.02)     | -                     | -                |  |  |
| Y2011              | 0.0126              | -0.0008               | 0.0393                | -0.0066          |  |  |
|                    | (0.26)              | (-0.02)               | (1.51)                | (-0.14)          |  |  |
| Y2012              | 0.0427              | -0.113                | 0.0899                | -0.0196          |  |  |
|                    | (0.78)              | (-0.32)               | (3.02) <sup>***</sup> | (-0.49)          |  |  |
| Y2013              | -0.0014<br>(-0.03)  | -0.0117<br>(-3.04)*** | $0.0490 \\ (1.76)^*$  | 0.0132<br>(0.30) |  |  |
| Adjusted R-squared | 0.1174              | 0.0612                | 0.7752                | 0.0088           |  |  |
| F-Statistics       | 2.55                | 2.19                  | 19.84                 | 1.08             |  |  |
| Probability        | 0.0027              | 0.0087                | 0.0000                | 0.3850           |  |  |
| Ν                  | 164                 | 257                   | 72                    | 117              |  |  |

### 5.4 Summary of the Statistical Analysis

This section summarises the main findings in accordance with the six hypotheses formulated in Chapter 5. The results of the tested hypotheses are presented in Table 5.27. The results from the statistical analyses in this Chapter indicate that five of the six hypotheses are empirically accepted, only the hypothesis H1<sub>b</sub> on the impact of tangibility on capital structure is rejected.

|                 | Hypothesis   | Test result |
|-----------------|--|-------------|
| H1a             | Firm size is positively related to financial leverage of Lao | Accepted    |
|                 | private enterprises  |             |
| H1b             | Tangibility is positively related capital structure of Lao   | Rejected    |
|                 | private enterprises  |             |
| H1c             | Profitability is negatively related to financial leverage of | Accepted    |
|                 | Lao private enterprises                                      |             |
| H1 <sub>d</sub> | Lao private enterprises' capital structure has a diverse     | Accepted    |
|                 | relationship with industry sectors                           |             |
| H2              | Large private firms in Laos are more likely to engage in     | Accepted    |
|                 | earnings management than small firms                         |             |
| H3              | Private firms with higher financial leverage are expected to | Accepted    |
|                 | have higher earnings management                              |             |

 Table 5.27 Summary of the hypotheses and related statistical analyses

# 5.5 Chapter Summary

This chapter presented the details of statistical tests undertaken to investigate all hypotheses developed in this study to observe Lao private enterprises' capital structure decision and earnings management activities during the years of 2009-2013. These include descriptive statistics, correlation analysis, empirical results of dependent and independent variables from multivariate regression analyse. The statistics include the characteristics of dependent and independent variables within the entire sample and subsamples across different industry sectors. Further, this chapter also provided robustness check for the impact of earnings management on financial leverage of the limited companies and sole-trader enterprises.

The empirical results were presented in sequential orders in according to each hypothesis. First, it revealed the determinants of capital structure of Lao private enterprises. This study found evidence consistent with prior empirical studies that firm size, tangibility, and profitability influence the financing decisions of the companies. Theoretically, the POT and the TOT of capital structure can partially explain the determinants of capital structure of private enterprises in Laos. In addition, this study also discovered that size, tangibility, and profitability have a diverse influence on financing decision of Lao firms across different industry sectors. Second, the firm size, tangibility, and profitability are not only the determinants of capital structure, but also considered as the main factors of earnings management for Lao private enterprises. Further, cash flow from operation for sole-trader enterprises is also another important determinant of earnings manipulation. When classifying the sample firms into different sectors, this study found that the influence of firm size, tangibility, profitability, total revenue, and trade receivables on earnings management varies across industry sectors. Third, the result showed that earnings management has an influence on the capital structure decisions of limited companies but it has no impact on the earnings management of sole-trader enterprises. Furthermore, this study also discovered significant evidence that earnings manipulation through the use of discretionary accruals were diverse across industry sectors.

The next chapter will provide the conclusion of the empirical results in according to the three research questions of this study as well as limitations and the possible application or extension for potential research in the future.
#### 6.1 Introduction

The general objective of this study is to provide an insight into the business financing decisions and earnings management activities of Lao private enterprises by using firm-level data taken from their annual reports over a five-year period. To achieve the objective, this study employs related prior empirical studies in conjunction with theoretical principles to explain capital structure decision and earnings management practices of the firms.

This thesis contains six chapters. Chapter 1 introduces to the background of capital structure decision, earnings management, determinants of earnings management, and the relationship between leverage and earnings management. It also presents the research objectives, research questions, motivations, contributions, scope and delimitation of this study. Chapter 2 briefly provides the institutional background of Laos. This includes a country overview, an insight into politics and government, as well as macroeconomic conditions, capital markets, portfolio investments, private sector, financial sectors and business financing in the country. It also describes auditing standards, financial reporting, and a profile of the auditing and accounting profession. Chapter 3 reviews the theoretical principles underlying capital structure decisions and also presents agency theory as it applies to business. The principles of capital structure include the POT and TOT. Chapter 3 also reviews prior literature on capital structure decisions, earnings management, determinants of earnings management, and the impact of leverage on earnings management. The review leads to the identification of a research gap and formulates a theoretical and empirical foundation for the hypotheses of this study. Chapter 4 describes the conceptual framework, formulates hypotheses, and explains research data and data collection. It also provides the measurement of dependent and independent variables used in this project. Importantly, it also presents the empirical methodology as well as the bias issues of this study. Chapter 5 provides descriptive statistics of all variables and presents the empirical results and discussions in conjunction with reviewed theoretical principles and the findings from prior studies. Additionally, it explains the results of robustness checks for the impact of earnings management on financial leverage of Lao private enterprises.

This final chapter comprises of five main sections. The next section (6.2) summarises the main empirical results in according to each research question of this study. Section 6.3 features the research and policy implications. Section 6.4 describes the contributions of the empirical results found in this investigation. Section 6.5 explains the limitations of this study. Finally, Section 6.6 highlights the potential avenues for future research related to the private enterprises used in this study.

#### 6.2 Summary of the Empirical Findings

This section draws summaries from the empirical findings in terms of capital structure decision and earnings management of Lao private firms. The empirical summaries are derived from the statistical testing of six formulated hypotheses to answer three research questions developed in Chapter 4. The hypotheses have been statistically tested by using multiple linear regression models. The dataset used in the statistical analyses were taken from annual reports of 224 private enterprises in the capital city of Laos. The dataset contains 674 observations over the five-year period of 2009-2013. The summaries of the main empirical results are presented in according to each research question as in the following subsections.

### 6.2.1 Research Question One

The first research question of this study is "What are the firm-specific characteristics and industry sectors that influence capital structure decision of Lao private enterprises?" To answer the question, this study formulated four hypotheses on the influence of the firm-specific factors on financing decision of the enterprises. The following four hypotheses are formulated in according to the POTor TOT and the empirical supports from prior studies:

- 1). Hypothesis H1<sub>a</sub>: Firm size is positively related to long-term debt
- 2). Hypothesis H1<sub>b</sub>: Asset tangibility is positively related long-term debt
- 3). Hypothesis H1<sub>c</sub>: Profitability is negatively related to long-term debt
- 4). *Hypothesis* H1<sub>d</sub>: Lao private enterprises' capital structure has a diverse relationship with industry sectors

The empirical results of this study on the influence of firm-specific characteristics on capital structure are partially consistent with the predictions of the

POT or TOT. Although Laos is a least developed country during the economic transition from a command regime to a market-oriented mechanism, certain firm-specific factors that affect capital structure of firms in developed and developing countries also influence financing decision of Lao private enterprises. This has reflected that private firms in Laos have followed the basic rules of a market-oriented economy despite the centrally-planned regime. The business operation of the enterprises has shown a profit-oriented nature. Based on the statistical analyses of this study, the hypotheses  $H1_a$ ,  $H1_c$  and  $H1_d$  are accepted but the hypothesis  $H1_b$  is rejected.

The result showed that firm size is positively significant to long-term debt, implying that larger firms can easily access to financial leverage because bankruptcy cost associated with carrying debt are likely to decline as Lao firms become larger (Ang et al., 1982; Gruber & Warner, 1977). Thus, firm size is a very important factor that influences the accessibility to debt finance. Particularly, firm size of limited companies has a stronger relationship with long-term debt than the sole-trader enterprises'. The evidence is in agreement with the prior studies of listed companies in Japan and the United States (Rajan & Zingales, 1995) and in the transitional economy of China (Huang, 2006). Correspondingly, the explanatory power of the TOT is also applicable with regard to the size of Lao private enterprises. Therefore, the hypothesis H1<sub>a</sub> is statistically accepted.

Empirically, the results are mixed with both positive and negative association between tangibility and leverage of limited companies and sole-trader enterprises as well as the entire sample. The tangibility is positively insignificant to long-term debt of limited companies but negatively significant to long-term liabilities of sole-trader enterprises. This indicates that the tangible assets, which are commonly considered as collaterals for firms to access to debt finance, do not play an important role to Lao private enterprises in their financing decisions. It also means that whether the firms have high or low tangibility in their asset structures, the tangible assets will not affect their capital structure. The result of sole-trader enterprises is in line with V. A. Dang (2013) who reports that tangible assets of firms in the UK, France and Germany are negatively related to leverage, but contradicted for firms in the transitional economy of China (Huang, 2006), noted that tangibility has a positive association with debt. The result is not in agreement with the TOT but support the Pecking-Order perspective. Therefore, there hypothesis H1<sub>b</sub> is statistically rejected. Profitability has a negatively significant relationship with long-term debt of limited companies but it is insignificant with the leverage of sole-trader enterprises. The results indicate that the limited companies that are more profitable tend to have low leverage because retained earnings increase over time and there is more retained profit available to finance investments. As a result, firms are more likely to use retained earnings as their primary source on investment than external debt. In the overall sample, the result is not only in line with the prior findings of firms in developed and developing countries (Booth et al., 2001; Kayhan & Titman, 2007) but also with the transitional economy of China (Huang, 2006) and emerging Central and Eastern European countries (Delcoure, 2007). The empirical result confirms the prediction of POT. Therefore, the hypothesis H1<sub>c</sub> is statistically accepted.

The empirical analyses of industry effects on capital structures reveal that the material and utility sectors have a positive significance to leverage, but consumer staples are negatively insignificant to debt, whereas industrials have a mixed and insignificant relationship with leverage. The results indicate that Lao private enterprises adjust their debt-equity ratios to seek an optimum capital structure and the firms in different industry sectors exhibit diverse degrees of leverage. Firms in the industry sectors relying more on fixed tangible assets, such as utilities, tend to adjust their capital structures faster than firms in other sectors that have lower levels of tangible assets. This is in line with the prediction of the TOT on a given industry's influence on capital structure. The statistical results are theoretically and empirically plausible for the private enterprises in Laos. The results are also consistent with previous studies of firms in developed and developing countries (Delcoure, 2007; Frank & Goyal, 2009; Hovakimian et al., 2001; Lemmon et al., 2008; MacKay & Phillips, 2005) as well as in transitional economy of China (Huang, 2006). Therefore, the hypothesis H1<sub>d</sub> is empirically accepted.

#### 6.2.2 Research Question Two

The second research question of this study is: "What are the main determinants of earnings management of Lao private enterprises?" To answer the question, this study formulated the following hypothesis:

*Hypothesis H2:* Large private firms in Laos are more likely to engage in earnings management than small firms

The empirical result of the influence of size on earnings management of Lao firms indicate that size is positively significant to earnings management. This implies that large firms are more likely to engage in earnings management through the use of discretionary accruals than small firms. The result is in line with Moses (1987) and Wootton (1995). Based on the statistical finding of the overall sample, the hypothesis H2 is statistically accepted.

In addition to the firm size, this study finds that tangibility and profitability also have a negative and significant relationship with earnings management of Lao private firms, implying that the firms with higher tangibility and profitability tend to have less earnings manipulation. In addition, operating cash flow is positively and significantly associated with earnings management of sole-trader enterprises, indicating that firms engage in more earnings management when they have more cash flow from operation. Furthermore, this study found that the influence of firm size, tangibility, profitability, total revenue, and trade receivables on earnings management varies across industry sectors. The variation of industry influence exists due to several possible factors, such as competition nature, industry heterogeneity in business risk, asset types, regulation and technology (Brander & Lewis, 1986; Chevalier, 1995).

#### **6.2.3 Research Question Three**

The third research question of this study is "What are the relationships between earnings management and financial leverage of Lao private enterprises?" To answer the question, this study formulated the following hypothesis:

## *Hypothesis H3*: Lao private firms with higher financial leverage are expected to have higher earnings management

The empirical result indicates that earnings management has a positively significant impact on financial leverage of Lao private firms. This means that the firms use leverage as a governance mechanism to mitigate the opportunistic behaviour of managers because debt repayments reduce the financial resources available to them for non-optimum spending, and the debt financing undergoes the scrutiny of creditors that is often subjected to lender-induced spending restriction (Jensen, 1986). The finding is in agreement with the argument of prior studies (An et al., 2016; DeFond & Jiambalvo, 1994; Klein, 2002; Othman & Zeghal, 2006; Rodríguez-Pérez & van Hemmen, 2010; Sweeney, 1994). Based on this analysis, the hypothesis H3 is

statistically accepted. In addition to the main finding, this study also reveals a significant evidence that the earnings manipulation through the use of discretionary accruals of Lao enterprises across industry sectors are diverse.

#### 6.3 Implications

This study has several implications for owners or financial managers of Lao private enterprises, as well as academics, regulators and financial institutions. The results from this investigation support a number of earlier studies and can help improve an awareness of the determinants of capital structure, the existence of earnings management, the determinants of earnings management, and the impact of earnings manipulation on financial leverage of private firms in Laos.

As the determinants of capital structure are suggested to influence financing decision of the firms, users of this study may find the empirical results useful with regards to debt policy. Total-debt seems to be linked to several independent variables in various ways. It also seems to be that Lao private firms with low collateral ratios suffer the most from information asymmetry. These firms may benefit from starting to cooperate with commercial banks in their early stages of business life cycles to create good track records and reputations for long-term operation. Such close cooperation may help both Lao firms and banks reduce possible problems related to agency conflicts and information asymmetry.

Given that capital structure of Lao private firms is a significant basis for credit policy formulation, the current results of this study could also be useful for regulators. As a limitation of suitable financing sources during the time of economic transition in Laos, it could be beneficial to encourage the development of new or more flexible financial products to stimulate the circulation of financial resources to Lao private enterprises in contribution to overall economic development.

The result in this study empirically confirmed that Lao private enterprises engage in income-decreasing management to avoid taxable income by reporting regative earnings or low taxable income. The earnings management results in a negative effect on tax collection of tax authorities in Laos. In response, regulators can set strict controls in conjuction with accounting rules and standards into an enforcement to ensure the earnings quality or limit earnings frauds in their financial reports before submitting to tax authorities for taxation purpose. Consequently, Lao government will be able to retain negative earnings management of private firms and also capable to collect more revenues from business tax to finance public spendings.

### 6.4 Contributions of the Study

This study contributes to the existing literature on corporate financial management. It also provides an insight for corporate's owners or financial managers, academics, and regulators due to the following reasons:

The results from this study enrich an extended empirical evidence of corporate financing and earnings management in least developed countries, such as Laos. The country has a unique status of least developed economy during transitional period from centrally-planned regime to one based on a market-oriented mechanism. An accessiblitily to financial data of private firms in Laos is very difficult and limited due to an unavailability of digital data and few requirements for publication. In addition, the financing decision and earnings management activities of the firms are always been in concern of Lao government and have never been empirically explored. Therefore, the results of this study are important and even more valuable as the financial data accessed may not be available to researchers in the future.

This study also contributes to the ongoing research in accounting or finance literature. It provides a quantitative insight knowledge of capital structure decision and earnings management for private firms' managers, policymakers and other stakeholders. The results on firm-specific determinants and industry factors benefit financial managers in their financing decision to maximise firms' profitability. This study may also help policymakers to set appropriate rules and regulations in the future for business financing and to retrain negative earnings management. In addition, creditors of Lao private enterprises can minimise credit risks arising from their lendings by considering more determinants of capital structure and earnings management.

#### 6.5 Limitations of the Study

This current study has a number of limitations. One of the concerns is the generalization of the results. The sample private enterprises only operate in five industry sectors, indicating that the extent to which the results can be generalised to other sectors as a whole can be questioned. The lack of extensive sample and longer period prevents this study from investigating the capital structure decision and earnings management activities over the generalization and a longer time horizon.

Secondly, financial data used in this study is not in the form of balanced panel data. Accordingly, the study has to seek for an appropriate tool to analyse the financial information in the case of Lao private enterprises. Most of the data is only in the form of hard copy and not electronically available. Not all financial reports of firms registered to each tax office are available to collect for five consecutive years from 2009 to 2013. In addition, some specific firms did not only report their financial information to a single tax office but also submitted to other offices during the period of study. For example, some firms submitted their annual reports for 2009 and 2010 to the Vientiane Tax Office but their financial information for 2011-2013 was collected by the Tax Department. This means that some missing data exist for some particular years in the statistical analysis. Therefore, the existence of missing reports in different tax offices is impossible to fullill five consecutive years for some enterprises.

Thirdly, as far as the concerns about quality of financial reports used in this study goes, the results in this study are based on the accepted financial reports under Lao accounting manuals and instructions. Due to the reports were submitted for taxation purposes, the reported figures were manipulated by using discretionary accruals, as this proven in Chapter 5, section 5.3.2 on earnings management of Lao firms. Therefore, the eimpirical results of this study are not fully comparable to prior studies of firms with financial reports under different accounting standards, such as IFRS or GAAP.

Finally, since a majority of private enterprises in Laos does not rely on equity market, the firms have fewer incentives to disclose their internal information. In addition, there is a little obligation for them to release their financial data to public users under the Law on Enterprise (Government, 2005). Thus, financial reports of the taken sample cannot be found in any publication or on the internet. Furthermore, their boards of director might simply be there because the law prescribes their existence.

#### 6.6 Recommendations for Future Research

The study on financing decisions and earnings management activities of private firms in least-developed country with transitional economy is relatively new in Laos. In addition, there are vast issues within the undiscovered areas that remain for future researchers. Further theoretical and empirical examination is still required. This study raises several questions for future investigation.

Firstly, why do Lao private firms have fairly low leverage ratios, despite the

large tax advantage enjoyed by debt? As reviewed, the banking sector in Laos is in a relatively early period of development and is unsophisticated by international standards. The country's commercial banks are still small in size and have limited services. In such environment, there would be some shortages in the capacity of their services to enhance the financial resources available for private firms.

Secondly, do institutional factors within Laos affect the financing decisions of Lao private enterprises? Further research is required to develop new hypotheses in regarding financing decisions and the design of new testable variables to investigate the institutional influence on capital structure of the firms. The institutional factors would include such factors as: state ownership or institutional ownership (Li et al., 2009), relationship with main banks (Hirota, 1999), political patronage (Donald R Fraser & Chek, 2006), and country-specific factors (De Jong et al., 2008). In addition to the institutional factors, a larger sample of private firms from major provinces in Laos is also required for further detailed study and generalisation of capital structure choices.

Lastly, what are the incentives for managers of Lao enterprises to use accounting procedures or discretionary accruals to minimise their earnings? Some potential incentives would be in existence, such as unstandardised accounting rules, weak legal enforcement (Burgstahler et al., 2006), low levels of audit quality (L. Dang, 2004), and income-tax avoidance (Lin et al., 2012). Those causalities can be empirically examined by acquiring related data with more testable details.

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## APPENDICES

#### Appendix 1: Request for data collection (Lao version)



ສາທາລະນະລັດ ປະຊາທິປະໄຕ ປະຊາຊົນລາວ ສັນຕິພາບ ເອກະລາດ ປະຊາທິປະໄຕ ເອກະພາບ ວັດທະນາຖາວອນ





ກະຊວງສຶກສາທິການ ແລະ ກິລາ ມະຫາວິທະບາໄລແຫ່ງຊາດ ຕະນະເສດຖະສາດ ແລະ ບໍລິຫານທູລະກິດ

ເລກທີ:<u>0912</u> ຄສບ. 16 ນະຄອນຫລວງວຽງຈັນ, ວັນທີ: <u>21 JUN</u> 2005

## ໃບສະເໜີ

ເຖິງ: ທ່ານຫົວໜ້າກົມສ່ວຍສາອາກອນທີ່ນັບຖື

ເລື່ອງ: ສະເໜີຂໍນຳໃຊ້ຂໍ້ມູນບົດລາຍງານການເງິນຂອງວິສາຫະກິດເອກະຊົນຢູ່ກຶມສ່ວຍສາອາກອນ ໃນໄລຍະປີ 2009-2013 ເພື່ອນຳໃຊ້ເຂົ້າໃນການຄົ້ນຄວ້າວິທະຍານິຟົນປະລິນຍາເອກ ພາຍໃຕ້ຫົວຂໍ້ "ໂຄງສ້າງທາງ ການເງິນ ແລະ ການບໍລິຫານລາຍຮັບຂອງວິສາຫະກິດເອກະຊົນລາວໃນໄລຍະຂ້າມຜ່ານ"

ໃນນາມຄະນະເສດຖະສາດ ແລະ ບໍລິຫານທຸລະກິດ (ຄສບ) ອ້າພະເຈົ້າອໍຖືເປັນກຽດຮຽນສະເໜີມາບັງ ທ່ານ ເພື່ອພິຈາລະນາອະນຸຍາດໃຫ້ອາຈານ ສີມພຽນ ແກ້ວດຸນສີ ລິງເກັບກຳ ແລະ ນຳໃຊ້ຂໍ້ມູນຈາກໃບລາບງານ ເງິນຂອງວິສາຫະກິດເອກະຊົນທີ່ຊຳລະອາກອນຜ່ານກົມສ່ວຍສາອາກອນ ເພື່ອນຳໃຊ້ເຂົ້າໃນການຄົ້ນຄວ້າວິໄຈລະ ດັບປະລິນບາເອກ. ອາຈານ ສີມພຽນ ເປັນອາຈານປະຈຳຄະນະ ຄສບ ຂອງພວກເຮົາ, ມີໜ້າທີ່ຮັບຜິດຊອບເປັນ ອາຈານສອນວິຊາການເງິນວິສາຫະກິດ ແລະ ທັງເປັນຮອງຫິວໜ້າພາກວິຊາການເງິນແລະການຫະນາດານ (ກ່ອນ ໄປສຶກສາຕໍ່), ປະຈຸບັນກຳລັງສຶກສາຕໍ່ລະດັບປະລິນບາເອກປູ່ມະຫາວິທະບາໄລຄວິນສະແລນໃຕ້ ໃນປະເທດອິດ ສະຕາລີ ແລະ ກຳລັງເຮັດຍິດຕົ້ນຄວ້າວິໄຈ ສາຍາການບໍລິຫານທຸລະກິດ ພາຍໃຫ້ຫົວຂໍ້ "*ໂດງສັງຫາງການເງິນ ແລະ* ການບໍລິຫານລາບຮັບຂອງວິສາຫະກິດເອກະຊົນລາວໃນໄລຍະຂ້າມຜ່ານ" ຈຶ່ງຈຳເປັນຕ້ອງໄດ້ໃຊ້ຂໍ້ມູນທາງ ດ້ານການເງິນຂອງວິສາຫະກິດເອກະຊົນລາວ ເຂົ້າໃນການສຶກສາໃນດັ້ງນີ້. ຂໍ້ມູນທາງດ້ານການເງິນທີ່ສະເໜີຂໍອະນຸ ຍາດໃຫ້ນຳໃຊ້ດັ່ງກ່າວແມ່ນປະກອບມີ *ໃບລາບງານຜິນໄດ້ຮັບ* ແລະ *ໃນສະຫຼຸຍຊັບສົມບັດ* ຂອງວິສາຫະກິດ ເອກະຊົນ ຈຳນວນ 100 ບໍລິສັດ ເປັນເວລາ 5 ຍີຕໍ່ເນື່ອງ ນັບຕັ້ງແຕ່ປີ 2009 ເຖິງ ປີ 2013.

ດັ່ງນັ້ນ ຈຶ່ງຮຽນສະເໜີມາຍັງທ່ານເພື່ອຟິຈາລະນາຕາມຄວາມເໝາະສິມດ້ວຍ. ການພິຈາລະນາອະນຸຍາດ ຂອງທ່ານຖືເປັນສ່ວນໜຶ່ງໃນການປະກອບສ່ວນສະໜັບສະໜຸນນະໂຍບາຍຂອງລັດຖະບານໃນການສິ່ງເສີມວຽກ ງານການສຶກສາ ແລະ ສິ່ງເສີມໃຫ້ມີນັກຄົ້ນຄວ້າວີໃຈລະດັບສຸງໃນ ສປປ ລາວ.

ຄະນະບໍດີຄະນະເສດຖະສາດ ແລະ ບໍລິຫານທຸລະກິດ

ຮສ. ສິມຈິດ ສຸກສະຫວັດ

(ກະລຸນະຕິດຕໍ່: ອາຈານ ສືມພຽນ ແກ້ວດູນສີ, ໂຫ: 020 2222902, ອີເມລ: u1077037@usq.edu.au) ວິທະມາສະດດັງໂດກ, ເມືອງໂຫຫນີ, ນະຄອນຫຼວງວຽງຈັນ, ກູ້ໃນສະນີ: 7322, ໂຫ: 021 770067, ແຟັກ: 021 720160

#### Request for data collection (Translation from the Lao version)



Lao's People Democratic Republic Peace Independence Democracy Unity Prosperity



Ministry of Education and Sports Vientiane, date: \_\_\_\_\_\_ National University of Laos Faculty of Economics and Business Management

#### **Request for Data Release**

To: Purpose: The director general of Tax Department To request for the use of business enterprises' financial reports in Tax Department from the year 2009 to 2013

No.:\_\_\_\_/FEBM.16

On behalf of the Faculty of Economics and Business Management (FEBM), I am pleased to request for the collection of financial information of business enterprises taxed under tax regulations of the Taxation Department, Ministry of Finance, for Somephiane KEOKHOUNSY, one of our lecturers. He is currently conducting a research for his doctoral study, majoring in Business Administration at the Southern Queensland University in Australia. The requested financial reports include Balance Sheet and Income Statement of 100 enterprises from the year 2009 to 2013 in Tax Department. The financial information will be investigated as his doctoral thesis under the topic: "*Capital Structure and Earnings Management of Business Enterprises: Evidence from Transitional Economy Laos*". All financial information requested to obtain will be solely used for this research and not to be shared with other researchers or private or public body for different purposes.

Therefore, this letter is made and proposed to you for your kindest consideration in response to our government policy on supporting academic research in Laos.

#### **Dean of the Faculty of Economics and Business Administration**

(Signature and stamp)

(Contact person: Somephiane KEOKHOUNSY, Phone: 020 22222902, Email: u1077037@umail.usq.edu.au) Dongdok Campus, Xaythany, Vientiane, P.O.Box: 7322, Tel.: +856 21 770067, Fax: +856 21 720160

#### Appendix 2: Permission for use of data



Lao's People Democratic Republic Peace Independence Democracy Unity Prosperity

Ministry of Finance Tax Department No.: 52 3 9/TD Date: 30 AUG 2016

#### Permission for Use of Data

To whom it may concern,

This document is made to confirm that Mr. Somephiane KEOKHOUNSY has been given a permission to collect and use of business enterprises' financial reports for five consecutive years from Tax Department for only his doctoral research project, majoring in Business Administration under the title: "*Capital Structure and Earnings Management of Business Enterprises: Evidence from Transitional Economy Laos*".



#### **Director General of Tax Department**

Website: <u>http://www.tax.gov.la/Eng\_WebPAges/About.aspx</u> Address: LaneXang Avenue, Ban Hathsadee, Chanthabuly District, Vientiane Capital, Laos Phone: +856 21 217025 Fax: +856 21 218569

|    | Name of the firm                                   |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|
| 1  | 889 Construction Machanics and Trade Co. Ltd       |  |  |  |  |  |  |
| 2  | AAS (Sole)   |  |  |  |  |  |  |
| 3  | AAS Co. Ltd  |  |  |  |  |  |  |
| 4  | ACA Co. Ltd  |  |  |  |  |  |  |
| 5  | AIF Service (Sole)                                 |  |  |  |  |  |  |
| 6  | ALPI Lao International Co. Ltd                     |  |  |  |  |  |  |
| 7  | Arda Language Centre Co. Ltd                       |  |  |  |  |  |  |
| 8  | Argryn Consulting Service (Sole)                   |  |  |  |  |  |  |
| 9  | ARI Co. Ltd  |  |  |  |  |  |  |
| 10 | ASC Construction (Sole)                            |  |  |  |  |  |  |
| 11 | Asia Zafari Travel (Sole)                          |  |  |  |  |  |  |
| 12 | Asia-Trade Net-Boncafe (Lao) Co. Ltd               |  |  |  |  |  |  |
| 13 | AT Lao Co. Ltd                                     |  |  |  |  |  |  |
| 14 | BECS Co. Ltd                                       |  |  |  |  |  |  |
| 15 | Better Service (Sole)                              |  |  |  |  |  |  |
| 16 | Beungkayong Construction (Sole)                    |  |  |  |  |  |  |
| 17 | BioNet Lao (Sole)                                  |  |  |  |  |  |  |
| 18 | BKN Co. Ltd  |  |  |  |  |  |  |
| 19 | BL Industry Planting and Livestock Co. Ltd         |  |  |  |  |  |  |
| 20 | BL Poverty Reduction Support (Sole)                |  |  |  |  |  |  |
| 21 | Bounpee Consultant (Sole)                          |  |  |  |  |  |  |
| 22 | CALAO Vientiane Hotel Ltd                          |  |  |  |  |  |  |
| 23 | CAMC's Machinary Service Lao Co. Ltd               |  |  |  |  |  |  |
| 24 | Chalern TT Motor Export-Import (Sole)              |  |  |  |  |  |  |
| 25 | Charoen Phattana Group Co. Ltd                     |  |  |  |  |  |  |
| 26 | Chitnapha Construction (Sole)                      |  |  |  |  |  |  |
| 27 | Codupha Lao Co. Ltd                                |  |  |  |  |  |  |
| 28 | Construction Component Manufacturing (Sole)        |  |  |  |  |  |  |
| 29 | Dansavanh Vientiane Hotel Ltd                      |  |  |  |  |  |  |
| 30 | DB Co. Ltd   |  |  |  |  |  |  |
| 31 | DM Construction-Trading Co. Ltd                    |  |  |  |  |  |  |
| 32 | DST Factory Steel Co. Ltd                          |  |  |  |  |  |  |
| 33 | Earn and Young Lao Co. Ltd                         |  |  |  |  |  |  |
| 34 | Eurotech Co. Ltd                                   |  |  |  |  |  |  |
| 35 | Gateway Enterprise Ltd                             |  |  |  |  |  |  |
| 36 | GEOMAP Lao Co. Ltd                                 |  |  |  |  |  |  |
| 37 | Great Lao Garments Co. Ltd                         |  |  |  |  |  |  |
| 38 | Green Indochina Mining Co. Ltd                     |  |  |  |  |  |  |
| 39 | Guanming-Vientiane Joint Development Steel Co. Ltd |  |  |  |  |  |  |
| 40 | HECI (Sole)  |  |  |  |  |  |  |

## **Appendix 3: List of the private firms in the analysis**

|    | Name of the firm                                 |  |  |  |  |
|----|--|--|--|--|--|
| 41 | Hi-Tech Lao Apparel Co. Ltd                      |  |  |  |  |
| 42 | Homsombat Accounting Service (Sole)              |  |  |  |  |
| 43 | Hong Livestock and farming (Sole)                |  |  |  |  |
| 44 | Hongsana Bridge Construction (Sole)              |  |  |  |  |
| 45 | Hoon Travel Co. Ltd                              |  |  |  |  |
| 46 | Human Technical Development School (Sole)        |  |  |  |  |
| 47 | Indochina Consulting Co. Ltd                     |  |  |  |  |
| 48 | Inter Spirit (Lao) (Sole)                        |  |  |  |  |
| 49 | Investment Consulting Co. Ltd                    |  |  |  |  |
| 50 | IT APIS Co. Ltd                                  |  |  |  |  |
| 51 | I-Tech Construction Co. Ltd                      |  |  |  |  |
| 52 | Jaikampang Electrical Store Co. Ltd              |  |  |  |  |
| 53 | Jansy Transport Service Co. Ltd                  |  |  |  |  |
| 54 | JB Trading (Sole)                                |  |  |  |  |
| 55 | Jompet Mine Manufacturing Export-Import (Sole)   |  |  |  |  |
| 56 | Kempone Aircon Assembly (Sole)                   |  |  |  |  |
| 57 | Keokhounsarb Construction and Real Estate (Sole) |  |  |  |  |
| 58 | Keota Wood Processing Co. Ltd                    |  |  |  |  |
| 59 | KFS (Sole)                                       |  |  |  |  |
| 60 | Khounthavong Lao Construction Co. Ltd            |  |  |  |  |
| 61 | Kolao Developing Co. Ltd                         |  |  |  |  |
| 62 | Kongkeo Kamlai Co. Ltd                           |  |  |  |  |
| 63 | Kongphet Havy Equipment and Part (Sole)          |  |  |  |  |
| 64 | KP Co. Ltd                                       |  |  |  |  |
| 65 | KPMG Lao Co. Ltd                                 |  |  |  |  |
| 66 | KPS Wood Products Co. Ltd                        |  |  |  |  |
| 67 | Lanexang Petroleum Co. Ltd                       |  |  |  |  |
| 68 | Lanxang Garments Co. Ltd                         |  |  |  |  |
| 69 | Lao ASEAN High-Tech Industry Industrial Co. Ltd  |  |  |  |  |
| 70 | Lao Bio Energy Group Co. Ltd                     |  |  |  |  |
| 71 | Lao BSS Co. Ltd                                  |  |  |  |  |
| 72 | Lao Cement Industry Co. Ltd                      |  |  |  |  |
| 73 | Lao Charcoal Development Co. Ltd                 |  |  |  |  |
| 74 | Lao GIS (Sole)                                   |  |  |  |  |
| 75 | Lao Home Mart Import-Export (Sole)               |  |  |  |  |
| 76 | Lao KaiYuan Mining (Sole)                        |  |  |  |  |
| 77 | Lao May Petroleum Co. Ltd                        |  |  |  |  |
| 78 | Lao Modern Consulting Co. Ltd                    |  |  |  |  |
| 79 | Lao Paking Product Co. Ltd                       |  |  |  |  |
| 80 | Lao Pu Ying Mining Co. Ltd                       |  |  |  |  |
| 81 | Lao SPG CMC Mining Co. Ltd                       |  |  |  |  |

|     | Name of the firm                                    |  |  |  |  |  |
|-----|---|--|--|--|--|--|
| 82  | Lao Sport Travel Co. Ltd                            |  |  |  |  |  |
| 83  | Lao Stanley Co. Ltd                                 |  |  |  |  |  |
| 84  | Lao Syuen Tour Co. Ltd                              |  |  |  |  |  |
| 85  | Lao Taixing Mining Co. Ltd                          |  |  |  |  |  |
| 86  | Lao Tonglian Mining Co. Ltd                         |  |  |  |  |  |
| 87  | Lao Vang Vieng Cement Co. Ltd                       |  |  |  |  |  |
| 88  | Lao Yamaki Co. Ltd                                  |  |  |  |  |  |
| 89  | Lao Yong Chaleon Trading Export-Import Co. Ltd      |  |  |  |  |  |
| 90  | Lao Yun Co. Ltd                                     |  |  |  |  |  |
| 91  | Lao-China Friendship Furniture Co. Ltd              |  |  |  |  |  |
| 92  | Lao-China Joint Development TIN Co. Ltd             |  |  |  |  |  |
| 93  | Lao-China Pump Fixing Service Co. Ltd               |  |  |  |  |  |
| 94  | Lao-Indochina group Co. Ltd                         |  |  |  |  |  |
| 95  | Lao-Lidu Mining Co. Ltd                             |  |  |  |  |  |
| 96  | Lao-Viet Hungheaung Co. Ltd                         |  |  |  |  |  |
| 97  | Lao-Viet Trade Export-Import (Sole)                 |  |  |  |  |  |
| 98  | Leamthong Trading (sole)                            |  |  |  |  |  |
| 99  | LEDC Investment Co. Ltd                             |  |  |  |  |  |
| 100 | Leighton Constractor (Laos)                         |  |  |  |  |  |
| 101 | Leudnilan Agricultural Promotion (Sole)             |  |  |  |  |  |
| 102 | Leuxay Hotel Ltd                                    |  |  |  |  |  |
| 103 | Lotus Consulting (Sole)                             |  |  |  |  |  |
| 104 | LT Computer Co. Ltd                                 |  |  |  |  |  |
| 105 | LTCSV Trade and Service                             |  |  |  |  |  |
| 106 | Manivone Plant Development for Export-Import (Sole) |  |  |  |  |  |
| 107 | Manivorn Planting (Sole)                            |  |  |  |  |  |
| 108 | MB Export-Import (Sole)                             |  |  |  |  |  |
| 109 | MBMC Consulting and Investment (Sole)               |  |  |  |  |  |
| 110 | Meely Haisork Travel (Sole)                         |  |  |  |  |  |
| 111 | Mekong Commerce Building Co. Ltd                    |  |  |  |  |  |
| 112 | Mekong Consultant and Investment (Sole)             |  |  |  |  |  |
| 113 | Mekong Trading and Investment Import-Export (Sole)  |  |  |  |  |  |
| 114 | MEX Consultant Co. Ltd                              |  |  |  |  |  |
| 115 | Milsearch-BPKP EOD Joint Venture Co. Ltd            |  |  |  |  |  |
| 116 | Mit Lao Electric (Sole)                             |  |  |  |  |  |
| 117 | Mitvieng Co. Ltd                                    |  |  |  |  |  |
| 118 | MJ Auto Trading Export-Import (Sole)                |  |  |  |  |  |
| 119 | Mouan Sone Ninhom Co. Ltd                           |  |  |  |  |  |
| 120 | MP Tour Co. Ltd                                     |  |  |  |  |  |
| 121 | MSA Trading Import-Export (Sole)                    |  |  |  |  |  |
| 122 | Nakonesack Hotel Ltd                                |  |  |  |  |  |

|     | Name of the firm                                       |  |  |  |  |  |
|-----|--|--|--|--|--|--|
| 123 | Namlik 1-2 Power Co. Ltd                               |  |  |  |  |  |
| 124 | Namngum 5 Power Co. Ltd                                |  |  |  |  |  |
| 125 | Namsi_Lao (Maestria) Co. Ltd                           |  |  |  |  |  |
| 126 | NCX Co. Ltd  |  |  |  |  |  |
| 127 | New Chip Xeng Co. Ltd                                  |  |  |  |  |  |
| 128 | Nhonkeelek Wood Processing Co. Ltd                     |  |  |  |  |  |
| 129 | NorConsult Laos (Sole)                                 |  |  |  |  |  |
| 130 | Novotel Vientiane Ltd                                  |  |  |  |  |  |
| 131 | NP Equipment (Sole)                                    |  |  |  |  |  |
| 132 | NVN Service (Sole)                                     |  |  |  |  |  |
| 133 | Office Ref: KAMUDABERHAD Ltd                           |  |  |  |  |  |
| 134 | PA Service Co. Ltd                                     |  |  |  |  |  |
| 135 | Participatory Development Training Centre (PADETC) Ltd |  |  |  |  |  |
| 136 | Pasongsouk Construction (Sole)                         |  |  |  |  |  |
| 137 | Pasongsouk Thavixay Construction (Sole)                |  |  |  |  |  |
| 138 | Pattamawat Petroleum Co. Ltd                           |  |  |  |  |  |
| 139 | Peeza Mortor Co. Ltd                                   |  |  |  |  |  |
| 140 | Peng Lamphanh Construction Co. Ltd                     |  |  |  |  |  |
| 141 | Petsamay Petroleum Co. Ltd                             |  |  |  |  |  |
| 189 | TPS Co. Ltd  |  |  |  |  |  |
| 190 | Trimax Co. Ltd   |  |  |  |  |  |
| 191 | Trio Lao Export Co. Ltd                                |  |  |  |  |  |
| 192 | Tri-S Co. Ltd  |  |  |  |  |  |
| 193 | TTC Construction (Sole)                                |  |  |  |  |  |
| 194 | Unicity Lao (Sole)                                     |  |  |  |  |  |
| 195 | Urai Phanich Co. Ltd                                   |  |  |  |  |  |
| 196 | Vast Mining Co. Ltd                                    |  |  |  |  |  |
| 197 | Venture International (Lao)                            |  |  |  |  |  |
| 198 | Vieng Champa Travel Co. Ltd                            |  |  |  |  |  |
| 199 | Vieng Motor (Sole)                                     |  |  |  |  |  |
| 200 | Viengchan Career Development College Ltd               |  |  |  |  |  |
| 201 | Viengchan XiewTang Co. Ltd                             |  |  |  |  |  |
| 202 | Viengkham Construction Co. Ltd                         |  |  |  |  |  |
| 203 | Viengnakhone Hotel Ltd                                 |  |  |  |  |  |
| 204 | Viengnakorn Export-Import (Sole)                       |  |  |  |  |  |
| 205 | Viengthong Phamarcy Export-Import (Sole)               |  |  |  |  |  |
| 206 | Vientiane Agricultural Trading Export-Import Co. Ltd   |  |  |  |  |  |
| 207 | Vientiane Carton Factory Co. Ltd                       |  |  |  |  |  |
| 208 | Vientiane Cement Co. Ltd                               |  |  |  |  |  |
| 209 | Vientiane Cleaning Co. Ltd                             |  |  |  |  |  |
| 210 | Vientiane Steel Industry Co. Ltd                       |  |  |  |  |  |

|     | Name of the firm                                    |  |  |  |  |  |
|-----|---|--|--|--|--|--|
| 211 | Vietiane Construction Co. Ltd                       |  |  |  |  |  |
| 212 | Vietin Lao Co. Ltd                                  |  |  |  |  |  |
| 213 | Vilazama Import-Export Co. Ltd                      |  |  |  |  |  |
| 214 | VPG Lao-Viet Joint Stock Company Co. Ltd            |  |  |  |  |  |
| 215 | VPP Electrical Installation and Fixing (Sole)       |  |  |  |  |  |
| 216 | Wonderful Cartons MFG Co. Ltd                       |  |  |  |  |  |
| 217 | Wonderful Garments Co. Ltd                          |  |  |  |  |  |
| 218 | Xang Chiang Co. Ltd                                 |  |  |  |  |  |
| 219 | Xaybouatong Construction Co. Ltd                    |  |  |  |  |  |
| 220 | Xeaman 3 Power Co. Ltd                              |  |  |  |  |  |
| 221 | Xokxai Agricultural Promotion Export-Import Co. Ltd |  |  |  |  |  |
| 222 | Yin Zing Co. Ltd                                    |  |  |  |  |  |
| 223 | Yumy Business Centre (Sole)                         |  |  |  |  |  |
| 224 | Zheng Liang Jiangshen Trading and Mining Co. Ltd    |  |  |  |  |  |



Appendix 4: Total-debt ratio of leveraged limited company and sole-trader enterprise

| Title            | Author     | Journal        | Sample & period | Variable                    | Finding   |
|------------------|------------|----------------|-----------------|-----------------------------|---|
| The Choice       | Marsh      | The Journal of | 748 UK listed   | Size, asset composition,    | - Firms are heavily influenced by market        |
| between Equity   | (1982)     | Finance        | firms for the   | bankruptcy risk, Beta,      | conditions and the past history of security     |
| and Debt: An     |            |                | period of       | standard deviation of       | prices in choosing between debt and equity.     |
| empirical study  |            |                | 1959-1974       | EBIT, standard deviation    | - Firms appear to make their choice of          |
|                  |            |                |                 | of returns                  | financing instrument as if they have target     |
|                  |            |                |                 |                             | levels of debt in mind.                         |
|                  |            |                |                 |                             | - Target debt levels are themselves a function  |
|                  |            |                |                 |                             | of company size, bankruptcy risk, and asset.    |
| Testing Capital  | V. A. Dang | Applied        | 1,340 UK, 446   | Collateral value of assets, | - UK, French and German firms adjust            |
| Structure        | (2013)     | Economics      | German, and     | non-debt tax shields,       | towards target leverage quickly in both the     |
| Theories using   |            |                | 316 French      | profitability, growth,      | partial adjustment and error correction models, |
| Error Correction |            |                | firms for the   | cash flow deficit           | which is consistent with the TOT.               |
| Models:          |            |                | period of       |                             | - The TOT explains the firms' financing         |
| Evidence from    |            |                | 1980-2007       |                             | decisions better than the POT.                  |
| the UK, France   |            |                |                 |                             |   |
| and Germany      |            |                |                 |                             |   |

# Appendix 5: Summary of empirical findings on capital structure decision of firms in developed countries

| Title             | Author      | Journal    | Sample & period | Variable                     | Finding  |
|-------------------|-------------|------------|-----------------|------------------------------|--|
| The               | Antoniou et | European   | All non-        | Lagged maturity,             | - The applicability of most theories of debt       |
| Determinants of   | al. (2006)  | Financial  | financial firms | effective tax rate, interest | maturity structure for the UK firms.               |
| Debt Maturity     |             | Management | listed in       | rate, term structure,        | - The debt maturity structure of a firm is         |
| Structure:        |             |            | France,         | leverage, liquidity, firm    | determined by firm-specific factors and the        |
| Evidence from     |             |            | Germany and     | quality, earnings,           | country's financial systems and institutional      |
| France, Germany   |             |            | the UK for the  | volatility, market to book   | traditions in which it operates.                   |
| and the UK        |             |            | years 1969-     | ratio, size, asset maturity, |  |
|                   |             |            | 2000, 1983-     | share price, market          |  |
|                   |             |            | 2000, and       | equity premium               |  |
|                   |             |            | 1987-2000       |                              |  |
|                   |             |            | respectively    |                              |  |
| Capital Structure | De Jong et  | Journal of | 11,845 firms    | Tangibility, business risk,  | - Firm-specific determinants of leverage           |
| Around the        | al. (2008)  | Banking &  | from 42         | size, tax, growth,           | differ across countries.                           |
| World: The roles  |             | Finance    | countries       | profitability, liquidity,    | - There is an indirect impact because country-     |
| of firm-and       |             |            | worldwide for   | bond market structure,       | specific factors also influence the roles of firm- |
| country-specific  |             |            | the years of    | stock market structure,      | specific determinants of leverage.                 |
| determinants      |             |            | 1997-2001       | capital formation            |  |
| Title              | Author        | Journal        | Sample & period | Variable               | Finding   |
|--------------------|---------------|----------------|-----------------|------------------------|---|
| Capital Structure  | López-        | Applied        | A large         | Market-to-book value,  | - The performance and size of the firm, the     |
| and Institutional  | Iturriaga and | Economics      | number of       | sales, profitability,  | assets tangibility and the growth opportunities |
| Setting: A         | Rodriguez-    |                | firms from 10   | tangibility            | have a relevant but differential effect across  |
| decompositional    | Sanz (2008)   |                | countries for   |                        | the different institutional systems.            |
| and international  |               |                | the years of    |                        | - The legal and institutional system of each    |
| analysis           |               |                | 1997-2002       |                        | country does not only affect firms' capital     |
|                    |               |                |                 |                        | structure but also creates the conditions to    |
|                    |               |                |                 |                        | explain a differential effect of the common     |
|                    |               |                |                 |                        | determinants of firms' financial choices.       |
| What Do We         | Rajan and     | The Journal of | 8,000 firms     | Market-to-book value,  | - Factors identified by previous studies as     |
| Know about         | Zingales      | Finance        | from 31         | sales, profitability,  | correlated in the cross-section with firm       |
| Capital            | (1995)        |                | countries for   | tangibility, return on | leverage in the United States, are similarly    |
| Structure? Some    |               |                | the years of    | assets                 | correlated in other countries as well.          |
| evidence from      |               |                | 1987-1991       |                        | - A deeper examination of the US and foreign    |
| international data |               |                |                 |                        | evidence suggests that the theoretical          |
|                    |               |                |                 |                        | underpinnings of the observed correlations are  |
|                    |               |                |                 |                        | still largely unresolved.                       |

| Title             | Author     | Journal          | Sample & period | Variable                  | Finding   |
|-------------------|------------|------------------|-----------------|---------------------------|---|
| Capital Structure | Drobetz et | Transportation   | 115 listed      | Book leverage, market     | - When compared with industrial firms from        |
| Decisions of      | al. (2013) | Research Part    | shipping        | leverage, tangibility,    | the G7 countries, shipping companies exhibit      |
| Globally-listed   |            | E: Logistics and | companies       | market-to-book ratio,     | higher leverage ratios and higher financial risk. |
| Shipping          |            | Transportation   | from G7         | profitability, size,      | - Standard capital structure variables exert a    |
| Companies         |            | Review           | countries for   | operating leverage, asset | significant impact on the cross-sectional         |
|                   |            |                  | the years of    | risk, dividend payer,     | variation of leverage ratios in the shipping      |
|                   |            |                  | 1992-2010       | rating profitability      | industry.   |
|                   |            |                  |                 |                           | - Asset tangibility is positively related to      |
|                   |            |                  |                 |                           | corporate leverage, and its economic impact is    |
|                   |            |                  |                 |                           | more pronounced than in other industries.         |
|                   |            |                  |                 |                           | - Profitability, asset risk, and operating        |
|                   |            |                  |                 |                           | leverage are all inversely related to leverage.   |
|                   |            |                  |                 |                           | - The speed of adjustment after deviations        |
|                   |            |                  |                 |                           | from the target leverage ratio is lower during    |
|                   |            |                  |                 |                           | economic recessions.                              |
|                   |            |                  |                 |                           | - The capital structure adjustment speed in the   |
|                   |            |                  |                 |                           | maritime industry is higher compared with the     |

| Title             | Author       | Journal        | Sample & period | Variable                   | Finding   |
|-------------------|--------------|----------------|-----------------|----------------------------|---|
|                   |              |                |                 |                            | G7 benchmark sample.                              |
| Capital Structure | Allen (1995) | The Financial  | 376 real estate | Total leverage, long-term  | - There is a positive relationship between        |
| Determinants in   |              | Review         | firms for the   | leverage, debt-equity      | leverage and the proportion of real estate assets |
| Real Estate       |              |                | years of 1980-  | ratio, real estate assets, | held, and a negative relationship between         |
| Limited           |              |                | 1989            | growth, non-debt tax       | leverage and both growth rates and non-debt       |
| Partnerships      |              |                |                 | shields, volatility,       | tax shields.                                      |
|                   |              |                |                 | TRA86                      | - Changes resulting from the Tax Reform Act       |
|                   |              |                |                 |                            | of 1986 are positively related to partnership     |
|                   |              |                |                 |                            | leverage.   |
| Financial Policy  | Michaelas et | Small Business | 3,500 UK        | Size, age, profitability,  | - Most of the determinants of capital structure   |
| and Capital       | al. (1999)   | Economics      | small firms for | growth, growth             | presented by the theory of finance appear         |
| Structure Choice  |              |                | the years of    | opportunities, risk, asset | indeed to be relevant for the UK small            |
| in UK SMEs:       |              |                | 1986-1995       | structure, stock level,    | business sector.                                  |
| Empirical         |              |                |                 | non-debt tax shields,      | - Size, age, profitability, growth and future     |
| evidence from     |              |                |                 | marginal tax rate, net     | growth opportunities, operating risk, asset       |
| company panel     |              |                |                 | debtors                    | structure, stock turnover and new debtors all     |
| data              |              |                |                 |                            | seem to have an effect on the level of both the   |

| Title            | Author      | Journal        | Sample & period | Variable               | Finding   |
|------------------|-------------|----------------|-----------------|------------------------|---|
|                  |             |                |                 |                        | short and long term debt in small firms.        |
|                  |             |                |                 |                        | - Capital structure of small firms is time and  |
|                  |             |                |                 |                        | industry dependent; time and industry effects   |
|                  |             |                |                 |                        | influence the maturity structure of debt raised |
|                  |             |                |                 |                        | in SMEs.  |
|                  |             |                |                 |                        | - Average short-term debt ratios appear to be   |
|                  |             |                |                 |                        | increasing during periods of economic           |
|                  |             |                |                 |                        | recession and decrease as the economic          |
|                  |             |                |                 |                        | conditions in the marketplace improve.          |
|                  |             |                |                 |                        | - Average long-term debt ratios exhibit a       |
|                  |             |                |                 |                        | positive relationship with changes in economic  |
|                  |             |                |                 |                        | growth.   |
| An Empirical     | Friend and  | The Journal of | 984 NYSE        | Debt/asset ratio,      | - The debt ratio is negatively related to       |
| Test of the      | Lang (1988) | Finance        | firms for the   | tangibility, mean of   | management's shareholding, reflecting the       |
| Impact of        |             |                | years of 1979-  | earnings/asset ratio,  | greater non-diversifiable risk of debt to       |
| Managerial Self- |             |                | 1983            | Standard deviation of  | management than to public investors for         |
| Interest on      |             |                |                 | earnings/assets ratio, | maintaining a low debt ratio.                   |

| Title             | Author     | Journal    | Sample & period | Variable                      | Finding   |
|-------------------|------------|------------|-----------------|-------------------------------|---|
| Corporate         |            |            |                 | total assets, market value    | - Unless there is a non-managerial principal      |
| Capital Structure |            |            |                 | of equity, fraction of        | stockholder, no substantial increase of debt can  |
|                   |            |            |                 | equity held by dominant       | be realised, which may suggest that the           |
|                   |            |            |                 | managerial insider,           | existence of large non-managerial stockholders    |
|                   |            |            |                 | fraction of equity held by    | might make the interests of managers and          |
|                   |            |            |                 | dominant non-managerial       | public investors coincide.                        |
|                   |            |            |                 | stockholder                   |   |
| Firms' Histories  | Kayhan and | Journal of | Firms listed in | Financial deficit, yearly     | - Cash flows, investment expenditures, and        |
| and their Capital | Titman     | Financial  | the Compustat   | timing, long-term timing,     | stock price histories have a substantial          |
| Structures        | (2007)     | Economics  | Industrial      | stock returns, leverage       | influence on changes in capital structure.        |
|                   |            |            | Annual Files at | deficit, change in target,    | - Stock price changes and financial deficits      |
|                   |            |            | any point       | book leverage, market         | (i.e., the amount of external capital raised)     |
|                   |            |            | between 1960    | leverage, market to book      | have strong influences on capital structure       |
|                   |            |            | and 2003        | ratio, profitability, selling | changes.  |
|                   |            |            |                 | expense, research and         | - Although firms' histories strongly influence    |
|                   |            |            |                 | development, size             | their capital structures, over time their capital |
|                   |            |            |                 |                               | structures tend to move towards target debt       |

| Title           | Author        | Journal       | Sample &       | Variable                   | Finding  |
|-----------------|---------------|---------------|----------------|----------------------------|--|
|                 |               |               | period         |                            | 0  |
|                 |               |               |                |                            | ratios that are consistent with the Trade-Off      |
|                 |               |               |                |                            | theories of capital structure.                     |
| How Firm        | Wald (1999)   | Journal of    | 4,404 firms    | Costs of financial         | - Differences appear in the correlation            |
| Characteristics |               | Financial     | (313 French,   | distress, moral hazard,    | between long-term debt/asset ratios and the        |
| Affect Capital  |               | research      | 316 German,    | non-debt tax shields,      | firm's riskiness, profitability, size, and growth; |
| Structure: An   |               |               | 1,350          | risk, tangibility,         | these correlations may be explained by             |
| international   |               |               | Japanese,      | inventories, research and  | differences in tax policies and agency             |
| comparison      |               |               | 1,096 UK,      | development,               | problems, including differences in bankruptcy      |
|                 |               |               | 1,329 US) for  | depreciation,              | costs, information asymmetries, and                |
|                 |               |               | the year 1991  | profitability, sales       | shareholder/creditor conflicts.                    |
|                 |               |               | or 1992        | growth, size               |  |
| The Debt-Equity | Hovakimian    | Journal of    | 39,387 firm    | Total assets, debt/assets, | - Firms may face impediments to movements          |
| Choice          | et al. (2001) | Financial and | years covering | leverage deficit, DTLD-    | toward their target ratio, and that the target     |
|                 |               | Quantitative  | 1979-1997      | DTLE, three-year mean      | ratio may change over time as the firm's           |
|                 |               | analysis      |                | ROA, NOLC, two year        | profitability and stock price change.              |
|                 |               |               |                | stock return, market-to-   | - A separate analysis of the size of the issue     |
|                 |               |               |                | book ratio, fraction of    | and repurchase transactions suggests that the      |

| Title           | Author     | Journal       | Sample &       | Variable                     | Finding  |
|-----------------|------------|---------------|----------------|------------------------------|--|
| THE             | Tution     | Journar       | period         | v ar lubic                   |  |
|                 |            |               |                | debt in three years, R&D     | deviation between the actual and the target        |
|                 |            |               |                | expenditures/sales,          | ratios plays a more important role in the          |
|                 |            |               |                | selling expenditures/        | repurchase decision than in the issuance           |
|                 |            |               |                | sales, tangible asset ratio, | decision.  |
|                 |            |               |                | firm size                    |  |
| How Does        | MacKay and | The Review of | Active and     | Leverage, capital/labour,    | - In addition to standard industry fixed           |
| Industry Affect | Phillips   | Financial     | inactive firms | risk, natural hedge,         | effects, the financial structure also depends on   |
| Firm Financial  | (2005)     | Studies       | from the       | profitability, size          | a firm's position within its industry.             |
| Structure?      |            |               | merged         |                              | - Competitive industries, a firm's financial       |
|                 |            |               | COMPUSTAT      |                              | leverage depends on its natural hedge (its         |
|                 |            |               | - CRSP for the |                              | proximity to the median industry capital-labour    |
|                 |            |               | years 1981-    |                              | ratio), the actions of other firms in the          |
|                 |            |               | 2000           |                              | industry, and its status as an entrant,            |
|                 |            |               |                |                              | incumbent, or exiting firm.                        |
|                 |            |               |                |                              | - Financial leverage is higher and less            |
|                 |            |               |                |                              | dispersed in concentrated industries, where        |
|                 |            |               |                |                              | strategic debt interactions are also stronger, but |

| Title             | Author     | Iournal    | Sample &        | Variable                    | Finding   |
|-------------------|------------|------------|-----------------|-----------------------------|---|
| The               | Aution     | Journa     | period          | v ar labit                  | rinung  |
|                   |            |            |                 |                             | a firm's natural hedge is not significant.      |
|                   |            |            |                 |                             | - Financial structure, technology, and risk are |
|                   |            |            |                 |                             | jointly determined within industries.           |
| Partial           | Flannery   | Journal of | All firms       | Earnings before interest    | - Firms do have target capital structures.      |
| Adjustment        | and Rangan | financial  | included in the | and tax, market-to-book     | - The typical firm closes about one-third of    |
| toward Target     | (2006)     | economics  | Compustat       | ratio of assets, total      | the gap between its actual and its target debt  |
| Capital           |            |            | Industrial      | assets, depreciation, fixed | ratios within one year.                         |
| Structures        |            |            | Annual tapes    | asset proportion, industry  | - "Targeting" behaviour explains far more of    |
|                   |            |            | between the     | median debt ratio,          | the observed changes in the capital structure   |
|                   |            |            | years 1965 and  | research and                | than market timing or pecking order             |
|                   |            |            | 2001            | development expenses        | considerations.                                 |
| Capital Structure | Frank and  | Financial  | A sample of     | Leverage measures,          | - The most reliable factors for explaining      |
| Decisions:        | Goyal      | Management | US publicly     | profitability, firm size,   | market leverage are: median industry leverage   |
| Which factors are | (2009)     |            | traded          | growth, industry, nature    | (+ effect on leverage), market-to-book assets   |
| reliably          |            |            | American        | of assets, taxes, risk,     | ratio (-), tangibility (+), profits (-), log of |
| important?        |            |            | firms from      | supply-side factors, stock  | assets (+), and expected inflation (+).         |
|                   |            |            | 1950 to 2003    | market conditions, debt     | - Dividend-paying firms tend to have lower      |

| Title | Author | Journal | Sample & period | Variable           | Finding                                       |
|-------|--------|---------|-----------------|--------------------|---|
|       |        |         |                 | market conditions, | leverage.                                     |
|       |        |         |                 | macroeconomic      | - When considering book leverage, somewhat    |
|       |        |         |                 | conditions         | similar effects are found.                    |
|       |        |         |                 |                    | - For book leverage, the impact of firm size, |
|       |        |         |                 |                    | the market-to-book ratio, and the effect of   |
|       |        |         |                 |                    | inflation are not reliable.                   |

| Title             | Author       | Journal        | Sample &       | Variable                     | Finding  |
|-------------------|--------------|----------------|----------------|------------------------------|--|
|                   |              |                | period         |                              |  |
| Capital           | Booth et al. | The Journal of | Firms from 10  | Total debt ratio, long-      | - Although some of the insights from modern      |
| Structures in     | (2001)       | Finance        | developing     | term book-debt ratio,        | finance theory are portable across countries,    |
| Developing        |              |                | countries for  | long-term market-debt        | much remains to be done to understand the        |
| Countries         |              |                | the years of   | ratio, average tax rate,     | impact of different institutional features on    |
|                   |              |                | 1985-1991      | tangibility, business risk,  | capital structure choices.                       |
|                   |              |                |                | size, return on assets,      |  |
|                   |              |                |                | market to book ratio         |  |
| Institutional,    | Lemma and    | Management     | 986 firms from | Size, earnings volatility,   | - The legal and financial institutions, the      |
| Macroeconomic     | Negash       | Research       | nine African   | profitability, growth,       | income level of the country in which a firm      |
| and Firm-specific | (2013)       | Review         | countries for  | tangibility, dividend        | operates, the growth rate of the economy and     |
| Determinants of   |              |                | the years of   | payout, tax shield,          | inflation matter in capital structure choices of |
| Capital Structure |              |                | 1999-2008      | taxation, inflation, size of | firms in the sample countries.                   |
|                   |              |                |                | overall economy, growth      | - Capital structure choice of firms in the       |
|                   |              |                |                | rate of real GDP, income     | sample countries was affected by industry and    |
|                   |              |                |                | group, stock market size,    | firm-specific characteristics.                   |
|                   |              |                |                | stock market liquidity,      | - The findings signify the role that probability |

## Appendix 6: Summary of empirical findings on capital structure decision of firms in developing countries

| Title             | Author      | Iournal        | Sample &         | Variable                    | Finding   |
|-------------------|-------------|----------------|------------------|-----------------------------|---|
| The               | Aution      | Journai        | period           | v ar fabit.                 | rinung  |
|                   |             |                |                  | size of banking sector,     | of bankruptcy, agency costs, transaction costs, |
|                   |             |                |                  | creditor, creditor rights,  | tax issues, information asymmetry problems,     |
|                   |             |                |                  | shareholder rights, rule of | access to finance and market timing play in     |
|                   |             |                |                  | law, origin                 | capital structure decisions of firms in Africa. |
| Capital Structure | Chakraborty | Research in    | 1,169 listed     | Debt, profitability,        | - Among the three alternative theories of       |
| in an Emerging    | (2010)      | International  | firms for the    | tangibility, size, growth,  | capital structure, the POT and the static TOT   |
| Stock Market:     |             | Business and   | years of 1995-   | non-debt tax shields,       | both seem to explain Indian firms' decisions.   |
| The case of India |             | Finance        | 2008             | uniqueness                  | - There is little evidence to support the       |
|                   |             |                |                  |                             | agency cost theory.                             |
| Capital Structure | Suto (2003) | Corporate      | 375 non-         | Return on investment,       | - The commitment of banks to finance            |
| and Investment    |             | Governance: An | financial listed | tangibility, leverage,      | corporate debt as well as lending obviously     |
| Behaviour of      |             | International  | companies        | bank dependency,            | increased debt ratios.                          |
| Malaysian Firms   |             | Review         | during fiscal    | internal fund, non-debt     | - Increasing ownership by native Malays,        |
| in the 1990s: A   |             |                | years 1995–99    | tax shield, collateral      | both the direct and indirect holding of         |
| study of          |             |                |                  | value, corporate size,      | corporate shares, played no significant role in |
| corporate         |             |                |                  | business risk, TOP10,       | disciplining corporate management.              |
| governance        |             |                |                  | Bumiputera                  | - Ownership concentration mitigated conflict    |

| Title             | Author | Journal | Sample & period | Variable                 | Finding                                    |
|-------------------|--------|---------|-----------------|--------------------------|--|
| before the crisis |        |         |                 | shareholding, foreigners | between managers and owners.               |
|                   |        |         |                 | shareholdings            | - Foreign ownership also contributed to a  |
|                   |        |         |                 |                          | reduction in the agency cost of equity     |
|                   |        |         |                 |                          | financing in financial liberalisation.     |
|                   |        |         |                 |                          | - High dependency on debt led to excessive |
|                   |        |         |                 |                          | corporate investment before the crisis.    |

| Title              | Author     | Journal       | Data &         | Variable                         | Finding  |
|--------------------|------------|---------------|----------------|----------------------------------|--|
|                    |            |               |                |                                  | <b>T 1 1</b>                                   |
| The                | Huang      | China         | 1,200 Chinese  | Profitability, tangibility, tax, | - Leverage increases with size and             |
| Determinants of    | (2006)     | Economic      | listed         | size, non-debt tax shields,      | tangibility, and decreases with profitability, |
| Capital Structure: |            | Review        | companies for  | growth, volatility, ownership    | non-debt tax shields, growth opportunity,      |
| Evidence from      |            |               | the period of  | structure and managerial         | managerial shareholdings and correlates with   |
| China              |            |               | 1994-2003      | shareholdings, institution,      | industries.                                    |
|                    |            |               |                | industry                         |  |
| The                | Delcoure   | International | 22 Czech, 61   | Size, risk, growth,              | - The POT and TOT partially explain            |
| Determinants of    | (2007)     | Review of     | Polish, 33     | profitability, non-debt tax      | financing decision in Central and Eastern      |
| Capital Structure  |            | Economics     | Russian and 13 | shields, tax                     | Europe countries.                              |
| in Transitional    |            | and Finance   | Slovak listed  |                                  | - Leverage decisions are affected by the       |
| Economies          |            |               | firms from     |                                  | differences and financial constraints of       |
|                    |            |               | 1996-2002      |                                  | institutional factors.                         |
| Determinants of    | J. J. Chen | Journal of    | 88 Chinese     | Profitability, size, growth,     | - Neither the Trade-Off model nor the          |
| Capital Structure  | (2004)     | Business      | listed         | tangibility, cost of financial   | Pecking-Order hypothesis provides              |
| of Chinese-listed  |            | Research      | companies for  | distress, non-debt tax shields   | convincing explanations for the capital        |
| Companies          |            |               | the period of  |                                  | choices of the Chinese firms.                  |

## Appendix 7: Summary of empirical findings on capital structure decision of firms in transitional economies

|                   |            |             | 1995-2000       |                                 | - The capital choice decision of Chinese      |
|-------------------|------------|-------------|-----------------|---------------------------------|---|
|                   |            |             |                 |                                 | firms seems to follow a "new Pecking-         |
|                   |            |             |                 |                                 | Order"- retained profit, equity, and long-    |
|                   |            |             |                 |                                 | term debt.                                    |
| Capital Structure | Nguyen     | ASEAN       | 558 SMEs for    | Growth, tangibility, business   | - Leverage is positively related to growth,   |
| in Small and      | and        | Economic    | the period of   | risk, profitability, size,      | business risk, firm size, networking, and     |
| Medium-sized      | Ramachan   | Bulletin    | 1998-2001       | ownership, relationship with    | relationships with banks but negatively       |
| Enterprises: The  | dran       |             |                 | banks, networking               | related to tangibility.                       |
| case of Vietnam   | (2006)     |             |                 |                                 | - Profitability seems to have no significant  |
|                   |            |             |                 |                                 | impact on the capital structure of Vietnamese |
|                   |            |             |                 |                                 | SMEs.   |
| Back to the       | Lemmon et  | The Journal | Firm-year       | Book leverage, market           | - The majority of variation in leverage       |
| Beginning:        | al. (2008) | of Finance  | observations in | leverage, sales, market-to-     | ratios is driven by an unobserved time-       |
| Persistence and   |            |             | the annual      | book ratio, profitability, cash | invariant effect that generates surprisingly  |
| the cross-section |            |             | Compustat       | flow volatility, median         | stable capital structures: High (low) levered |
| of corporate      |            |             | database        | industry book leverage,         | firms tend to remain as such for over two     |
| capital structure |            |             | between 1995    | intangible assets               | decades.                                      |
|                   |            |             | and 2003        |                                 |   |

| Title              | Author      | Iournal        | Data &        | Research      | Variable              | Finding                                |
|--------------------|-------------|----------------|---------------|---------------|-----------------------|--|
| Inte               | Autior      | Journal        | period        | method        | variable              | rinding                                |
| Political Cost     | Key (1997)  | Journal of     | Firms in      | Discretionary | Total accruals, PPE   | - Firms for which proposed             |
| Incentives for     |             | Accounting and | cable         | accruals      | (property plant and   | regulations are expected to be more    |
| Earnings           |             | Economics      | industry for  |               | equipment), gross     | harmful have greater income-           |
| Management in the  |             |                | the years of  |               | intangible assets,    | decreasing accruals.                   |
| Cable Television   |             |                | 1989-1995     |               | revenue, basic        | - Firms for which cable television     |
| Industry           |             |                |               |               | service price         | operations are more important have     |
|                    |             |                |               |               |                       | greater income-decreasing accruals.    |
| Earnings           | Teoh et al. | Journal of     | 6,386         | Discretionary | Firm size, book-to-   | - Issuers who adjust discretionary     |
| Management and the | (1998b)     | Financial      | seasoned      | accruals      | market ratio,         | current accruals to report higher net  |
| Underperformance   |             | Economics      | equity issues |               | discretionary         | income prior to the offering have      |
| of Seasoned Equity |             |                | between       |               | current accruals,     | lower post-issue long-run abnormal     |
| Offerings          |             |                | 1976 to 1990  |               | Discretionary long-   | stock returns and net income.          |
|                    |             |                |               |               | term accruals, non-   | - The relation between                 |
|                    |             |                |               |               | discretionary         | discretionary current accruals and     |
|                    |             |                |               |               | current accruals, on- | future returns (adjusted for firm size |
|                    |             |                |               |               | discretionary long-   | and book-to-market ratio) is           |

## Appendix 8: Summary of empirical findings on earnings management

| Title              | Author       | Iournal        | Data &        | Research      | Variabla             | Finding                             |
|--------------------|--------------|----------------|---------------|---------------|----------------------|-------------------------------------|
| The                | Aution       | Journai        | period        | method        | v al lable           | rinung                              |
|                    |              |                |               |               | term accruals,       | stronger and more persistent for    |
|                    |              |                |               |               | change in capital    | seasoned equity issuers than for    |
|                    |              |                |               |               | expenditures         | non-issuers.                        |
| Earnings           | Erickson and | Journal of     | 78 firms      | Discretionary | Total accruals,      | - Acquiring firms manage earnings   |
| Management by      | Wang (1999)  | Accounting and | involved in a | accruals      | change in revenues,  | upward in the periods prior to the  |
| Acquiring Firms in |              | Economics      | negotiated    |               | total assets, PPE    | merger agreement.                   |
| Stock for Stock    |              |                | stock for     |               | (property plant and  | - The degree of income increasing   |
| Mergers            |              |                | stock merger  |               | equipment),          | earnings management is positively   |
|                    |              |                | during the    |               | unexpected           | related to the relative size of the |
|                    |              |                | period 1985-  |               | accruals, deal ratio | merger.                             |
|                    |              |                | 1990          |               | (DR), stock owned    |                                     |
|                    |              |                |               |               | by management        |                                     |
|                    |              |                |               |               | (OWN)                |                                     |
| On the Association | Kasznik      | Journal of     | Point and     | Discretionary | Total accruals,      | - Managers use positive             |
| between Voluntary  | (1999)       | Accounting     | range         | accruals      | discretionary        | discretionary accruals to manage    |
| Disclosure and     |              | Research       | estimates of  |               | current accruals,    | reported earnings upward when       |
| Earnings           |              |                | annual        |               | non-discretionary    | earnings would otherwise fall below |

| Title               | Author      | Iournal    | Data &       | Research      | Variable            | Finding                            |
|---------------------|-------------|------------|--------------|---------------|---------------------|------------------------------------|
| 1 IIIe              | Autioi      | Journai    | period       | method        | v al lable          | rinung                             |
| Management          |             |            | earnings     |               | current accruals,   | management's earnings forecast.    |
|                     |             |            | appearing on |               | adjusted            | - The extent of earnings           |
|                     |             |            | the Nexis    |               | discretionary       | management activity is positively  |
|                     |             |            | News File    |               | current accruals    | associated with proxies for the    |
|                     |             |            | during 1987- |               |                     | increased likelihood and cost of   |
|                     |             |            | 1991         |               |                     | litigation associated with         |
|                     |             |            |              |               |                     | management earnings forecast       |
|                     |             |            |              |               |                     | errors.                            |
|                     |             |            |              |               |                     |                                    |
| Management of       | Burgstahler | Journal of | Actual and   | Discretionary | Earnings before     | - Managers avoid reporting         |
| Earnings and        | and Eames   | Business   | forecast     | accruals      | extraordinary items | earnings lower than analyst        |
| Analysts' Forecasts | (2006)      | Finance &  | annual EPS   |               | (TAC), total asset, | forecasts and provide new evidence |
| to Achieve Zero and |             | Accounting | values for   |               | change in revenue,  | of actions contributing to this    |
| Small Positive      |             |            | the years    |               | PPE (property plant | phenomenon.                        |
| Earnings Surprises  |             |            | 1986 through |               | and equipment),     | - Both the operating cash flow and |
|                     |             |            | 2000         |               | industry            | discretionary accruals components  |
|                     |             |            |              |               |                     | of earnings are managed.           |

| Title          | Author       | Iournal        | Data &       | Research        | Variabla             | Finding                                |
|----------------|--------------|----------------|--------------|-----------------|----------------------|--|
| 1100           | Autior       | Journai        | period       | method          | v ar lable           | rinunig                                |
| Debt-covenant  | Sweeney      | Journal of     | 130 firms in | Empirical study | Magnitude of         | - Managers of firms approaching        |
| Violations and | (1994)       | Accounting and | the years    |                 | earnings effect, net | default respond with income-           |
| Managers'      |              | Economics      | 1977-1990    |                 | worth, liquidity,    | increasing accounting changes and      |
| Accounting     |              |                |              |                 |                      | that the default costs imposed by      |
| Responses      |              |                |              |                 |                      | lenders and the accounting             |
|                |              |                |              |                 |                      | flexibility available to managers are  |
|                |              |                |              |                 |                      | important determinants of              |
|                |              |                |              |                 |                      | managers' accounting responses.        |
|                |              |                |              |                 |                      | - Private lending agreements are       |
|                |              |                |              |                 |                      | the first violated, that net worth and |
|                |              |                |              |                 |                      | working capital restrictions are the   |
|                |              |                |              |                 |                      | most frequently violated               |
|                |              |                |              |                 |                      | restrictions, and that in 52 percent   |
|                |              |                |              |                 |                      | of the cases lenders require           |
|                |              |                |              |                 |                      | concessions from borrowers to          |
|                |              |                |              |                 |                      | resolve default.                       |
| The Effect of  | Cahan (1992) | The Accounting | 48           | Discretionary   | Depreciation,        | - Managers adjust earnings in          |

| Title                  | Author     | Iournal        | Data &        | Research      | Variable              | Finding                                |
|------------------------|------------|----------------|---------------|---------------|-----------------------|--|
| The                    | Author     | Journai        | period        | method        | v ar lable            | rinunig                                |
| Antitrust              |            | Review         | investigated  | accruals      | inventory, account    | response to monopoly-related           |
| Investigations on      |            |                | firms         |               | payable, taxes        | antitrust investigations.              |
| Discretionary          |            |                | between       |               | payable, deferred     |  |
| Accruals: A refined    |            |                | 1970-1983     |               | tax expense, change   |  |
| test of the political- |            |                |               |               | in sales, FIXASSET    |  |
| cost hypothesis        |            |                |               |               | (property plant and   |  |
|                        |            |                |               |               | equipment)            |  |
| Debt Covenant          | DeFond and | Journal of     | 94 firms that | Discretionary | Total accruals, total | - In the year prior to violation, both |
| Violation and          | Jiambalvo  | Accounting and | reported debt | accruals      | assets, change in     | models indicate that 'abnormal'        |
| Manipulation of        | (1994)     | Economics      | covenant      |               | revenues, PPE         | total and working capital accruals     |
| Accruals               |            |                | violation in  |               | (property plant and   | are significantly positive.            |
|                        |            |                | annual        |               | equipment)            | - In the year of violation, there is   |
|                        |            |                | reports       |               |                       | evidence of positive abnormal          |
|                        |            |                | during the    |               |                       | working capital accruals after         |
|                        |            |                | fiscal years  |               |                       | controlling for management changes     |
|                        |            |                | 1985 through  |               |                       | and auditor going concern              |
|                        |            |                | 1988          |               |                       | qualifications.                        |

| Title                | Author          | Iournal        | Data &        | Research      | Variable              | Finding                               |
|----------------------|-----------------|----------------|---------------|---------------|-----------------------|---------------------------------------|
| 1100                 | Author          | Journai        | period        | method        | v ai iabit            | rinunig                               |
| Earnings             | Phillips et al. | The Accounting | 2,252 to      | Discretionary | Total accruals, total | - Deferred tax expense is generally   |
| Management: New      | (2003)          | Review         | 2,782 firm-   | accruals      | assets, change in     | incrementally useful beyond all       |
| evidence based on    |                 |                | years for the |               | revenues, PPE         | three accruals-based measures with    |
| deferred tax expense |                 |                | years of      |               | (property plant and   | regard to detecting earnings          |
|                      |                 |                | 1994-2000     |               | equipment), sales     | management to avoid an earnings       |
|                      |                 |                |               |               |                       | decline and to avoid a loss.          |
|                      |                 |                |               |               |                       | - Deferred tax expense is             |
|                      |                 |                |               |               |                       | significantly more accurate than any  |
|                      |                 |                |               |               |                       | of the accrual measures in            |
|                      |                 |                |               |               |                       | classifying firm-years as             |
|                      |                 |                |               |               |                       | successfully avoiding a loss,         |
|                      |                 |                |               |               |                       | whereas no one measure is             |
|                      |                 |                |               |               |                       | relatively more accurate than the     |
|                      |                 |                |               |               |                       | others in classifying firm-years that |
|                      |                 |                |               |               |                       | successfully avoid an earnings        |
|                      |                 |                |               |               |                       | decline.                              |
| Deferred Taxes,      | Kasipillai and  | Journal of     | 221           | Earnings      | Total accruals, total | - Malaysian public listed             |

| Title              | Author       | Iournal      | Data &        | Research      | Variabla              | Finding                                 |
|--------------------|--------------|--------------|---------------|---------------|-----------------------|---|
| The                | Autior       | Journai      | period        | method        | v al lable            | rinung                                  |
| Earnings           | Mahenthiran  | Contemporary | Malaysian     | distribution  | assets, change in     | companies use both the accrual and      |
| Management, and    | (2013)       | Accounting & | public listed |               | revenues, PPE         | valuation allowance components of       |
| Corporate          |              | Economics    | companies     |               | (property plant and   | net deferred tax liabilities to avoid a |
| Governance:        |              |              | for the years |               | equipment), return    | decline in earnings.                    |
| Malaysian evidence |              |              | 2005-2008     |               | on assets             | - Ownership structure and board         |
|                    |              |              |               |               |                       | structure affect the extent to which    |
|                    |              |              |               |               |                       | earnings management is associated       |
|                    |              |              |               |               |                       | with a deferred tax component.          |
| Earnings           | Chung et al. | Journal of   | 22,576        | Discretionary | Total accruals, total | - Big 6 auditors and institutional      |
| Management,        | (2005)       | Business     | company       | accruals      | current accruals,     | investors with substantial              |
| Surplus Free Cash  |              | Research     | year          |               | discretionary         | shareholdings moderate the SFCF-        |
| Flow, and External |              |              | observations  |               | accrual, non-         | DAC relation, which suggests that       |
| Monitoring         |              |              | over the      |               | discretionary         | external monitoring by these two        |
|                    |              |              | period 1984-  |               | accruals, total       | outside stakeholders is effective in    |
|                    |              |              | 1996          |               | assets, sales         | deterring managers' opportunistic       |
|                    |              |              |               |               | revenues, PPE         | earnings management.                    |
|                    |              |              |               |               | (property plant and   |   |

| Title                | Author       | Iournal   | Data &        | Research        | Variabla             | Finding                             |
|----------------------|--------------|-----------|---------------|-----------------|----------------------|-------------------------------------|
| The                  | Aution       | JUUI IIAI | period        | method          | v ai lable           | rinding                             |
|                      |              |           |               |                 | equipment), return   |                                     |
|                      |              |           |               |                 | on assets, account   |                                     |
|                      |              |           |               |                 | receivables, size,   |                                     |
|                      |              |           |               |                 | debt, big 6          |                                     |
| Socioemotional       | Stockmans et | Family    | 295 family    | Empirical study | Institutional        | - Institutional investors avoid     |
| Wealth and Earnings  | al. (2010)   | Business  | firms for the |                 | ownership, annual    | investments in family firms.        |
| Management in        |              | Review    | years of      |                 | market adjusted      | - Financial regulation can mitigate |
| Private Family Firms |              |           | 1998-2006     |                 | returns, average     | external investors' concerns.       |
|                      |              |           |               |                 | monthly volume,      |                                     |
|                      |              |           |               |                 | market value of      |                                     |
|                      |              |           |               |                 | equity, beta,        |                                     |
|                      |              |           |               |                 | standard deviation   |                                     |
|                      |              |           |               |                 | of market model      |                                     |
|                      |              |           |               |                 | Residuals, leverage, |                                     |
|                      |              |           |               |                 | dividend yield,      |                                     |
|                      |              |           |               |                 | earning-price ratio, |                                     |
|                      |              |           |               |                 | book-price ratio,    |                                     |

| Title                | Author        | Iournal        | Data &        | Research        | Variabla             | Finding                              |
|----------------------|---------------|----------------|---------------|-----------------|----------------------|--------------------------------------|
| 1100                 | Autioi        | Journai        | period        | method          | v ai lable           | rinding                              |
|                      |               |                |               |                 | sales growth, S&P    |                                      |
|                      |               |                |               |                 | stock rating         |                                      |
| The Importance of    | Burgstahler   | The Accounting | 298,290       | Empirical study | Earnings             | - Earnings management is more        |
| Reporting            | et al. (2006) | Review         | firm-year     |                 | management, Size,    | pervasive in private firms and that  |
| Incentives: Earnings |               |                | observations  |                 | leverage, growth,    | both public.                         |
| management in        |               |                | from non-     |                 | return on assets,    | - Private firms exhibit more         |
| European private     |               |                | financial     |                 | industry, PUBL       | earnings management in countries     |
| and public firms     |               |                | private and   |                 | (publicly traded     | with weak legal enforcement.         |
|                      |               |                | public firms  |                 | debt or equity       | - Private and public firms respond   |
|                      |               |                | in 15 EU      |                 | securities), legal   | differentially to differences in the |
|                      |               |                | countries for |                 | variable             | tax and accounting rules in the EU.  |
|                      |               |                | the years of  |                 |                      |                                      |
|                      |               |                | 1997-2001     |                 |                      |                                      |
| Audit Committee,     | Klein (2002)  | Journal of     | All firm-     | Discretionary   | Total accruals, non- | - A negative relation is found       |
| Board of Director    |               | Accounting and | years listed  | accruals        | discretionary        | between audit committee              |
| Characteristics, and |               | Economics      | on the S&P    |                 | accruals, total      | independence and abnormal            |
| Earnings             |               |                | 500 as of     |                 | assets, change in    | accruals.                            |

| Title               | Author        | Iournal      | Data &       | Research      | Variabla              | Finding                             |
|---------------------|---------------|--------------|--------------|---------------|-----------------------|-------------------------------------|
| Inte                | Author        | Journai      | period       | method        | variable              | rinunig                             |
| Management          |               |              | March 31,    |               | revenues, PPE         | - A negative relation is also found |
|                     |               |              | 1992 and     |               | (property plant and   | between board independence and      |
|                     |               |              | 1993 with    |               | equipment),           | abnormal accruals.                  |
|                     |               |              | annual       |               | abnormal accruals,    | - Reductions in board or audit      |
|                     |               |              | shareholder  |               | net income,           | committee independence are          |
|                     |               |              | meetings     |               | operating cash flows  | accompanied by large increases in   |
|                     |               |              | between July |               |                       | abnormal accruals.                  |
|                     |               |              | 1, 1991 and  |               |                       | - Boards structured to be more      |
|                     |               |              | June 30,     |               |                       | independent of the CEO are more     |
|                     |               |              | 1993.        |               |                       | effective in monitoring the         |
|                     |               |              |              |               |                       | corporate financial accounting      |
|                     |               |              |              |               |                       | process.                            |
|                     |               |              |              |               |                       |                                     |
|                     |               |              |              |               |                       |                                     |
| The Effect of Audit | Becker et al. | Contemporary | 10,379 Big   | Discretionary | Total accruals, total | - Clients of non-Big Six auditors   |
| Quality on Earnings | (1998)        | Accounting   | Six and      | accruals      | assets, revenues,     | report discretionary accruals that  |
| Management          |               | Research     | 2,179 non-   |               | PPE (property plant   | are, on average, 1.5-2.1% of total  |

| Title                 | Author     | Author Journal | Data &        | Research      | Variable            | Finding                               |
|-----------------------|------------|----------------|---------------|---------------|---------------------|---------------------------------------|
|                       | Autior     |                | period        | method        | v al lable          | rinding                               |
|                       |            |                | Big Six firm  |               | and equipment),     | assets higher than the discretionary  |
|                       |            |                | years for the |               | discretionary       | accruals reported by clients of Big   |
|                       |            |                | period of     |               | accruals, operating | Six auditors.                         |
|                       |            |                | 1989 to 1992  |               | cash flows          | - The mean and median of the          |
|                       |            |                |               |               |                     | absolute value of discretionary       |
|                       |            |                |               |               |                     | accruals are greater for firms with   |
|                       |            |                |               |               |                     | non-Big Six auditors.                 |
|                       |            |                |               |               |                     | - Lower audit quality is associated   |
|                       |            |                |               |               |                     | with more "accounting flexibility".   |
| On the Association    | Koh (2003) | The British    | 107 firm-     | Discretionary | Income increasing   | - A positive association is found at  |
| between Institutional |            | Accounting     | year          | accruals      | discretionary       | the lower institutional ownership     |
| Ownership and         |            | Review         | observations  |               | accruals,           | levels, consistent with the view that |
| Aggressive            |            |                | of Australian |               | institutional       | transient (short-term oriented)       |
| Corporate Earnings    |            |                | firms for the |               | ownership, firm     | institutional investors create        |
| Management in         |            |                | years of      |               | size, leverage,     | incentives for managers to manage     |
| Australia             |            |                | 1993-1997     |               | managerial          | earnings upwards.                     |
|                       |            |                |               |               | ownership, auditor, | - A negative association is found at  |

| Title             | Author       | Authon Journal | Data &       | Research      | Variabla              | Finding                                |
|-------------------|--------------|----------------|--------------|---------------|-----------------------|--|
| The               | Author       | Journai        | period       | method        | v al lable            | rmang                                  |
|                   |              |                |              |               | total accruals,       | the higher institutional ownership     |
|                   |              |                |              |               | control entity,       | levels, consistent with the view that  |
|                   |              |                |              |               | mining companies      | long-term oriented institutional       |
|                   |              |                |              |               |                       | investors' monitoring limits           |
|                   |              |                |              |               |                       | managerial accruals discretion.        |
|                   |              |                |              |               |                       | - Institutional investors can act as a |
|                   |              |                |              |               |                       | complementary corporate                |
|                   |              |                |              |               |                       | governance mechanism in                |
|                   |              |                |              |               |                       | mitigating myopic aggressive           |
|                   |              |                |              |               |                       | earnings management by                 |
|                   |              |                |              |               |                       | corporations when they have a          |
|                   |              |                |              |               |                       | sufficiently high ownership level.     |
| The Balance Sheet | Barton and   | The Accounting | 3,649 firms  | Discretionary | Total accruals, total | - The likelihood of reporting larger   |
| as an Earnings    | Simko (2002) | Review         | during 1993- | accruals      | assets, change in     | positive or smaller negative           |
| Management        |              |                | 1999         |               | revenues, change in   | earnings surprises decreased with      |
| Constraint        |              |                |              |               | account receivables,  | the proxy for overstated net asset     |
|                   |              |                |              |               | PPE (property plant   | values.                                |

| Title          | Author       | Journal     | Data &        | Research      | Variable              | Finding                              |
|----------------|--------------|-------------|---------------|---------------|-----------------------|--------------------------------------|
| 1100           |              |             | period        | method        | v al lable            |                                      |
|                |              |             |               |               | and equipment),       |                                      |
|                |              |             |               |               | signed EPS surprise,  |                                      |
|                |              |             |               |               | NOA (overstated       |                                      |
|                |              |             |               |               | net assets)           |                                      |
| Organizational | K. W. Lee et | Journal of  | 31,263 firm-  | Discretionary | Total accruals, total | - Intrafirm collusion toward a       |
| Structure and  | al. (2007)   | Accounting, | year          | accruals      | assets, sales change, | common organizational goal is more   |
| Earnings       |              | Auditing &  | observations  |               | PPE (property plant   | prevalent in highly related          |
| Management     |              | Finance     | spanning the  |               | and equipment),       | organizational structure because the |
|                |              |             | years 1991 to |               | abnormal accruals,    | economic welfare of economic         |
|                |              |             | 2004          |               | Organizational        | agents is highly independent.        |
|                |              |             |               |               | relatedness,          | - Earnings management is             |
|                |              |             |               |               | insiders' ownership,  | positively associated with           |
|                |              |             |               |               | institutional         | organizational relatedness.          |
|                |              |             |               |               | ownership,            | - For firms with high                |
|                |              |             |               |               | proportion of board   | organizational relatedness, those    |
|                |              |             |               |               | members, long-term    | with a high proportion of outside    |
|                |              |             |               |               | debt, market value    | directors and high institutional     |

| Title              | Author    | han Jaumal     | Data &        | Research        | Variabla             | Finding                            |
|--------------------|-----------|----------------|---------------|-----------------|----------------------|------------------------------------|
| Inte               | Autior    | Journai        | period        | method          | Variabic             | rinunig                            |
|                    |           |                |               |                 | of equity, cash from | equity ownership have less         |
|                    |           |                |               |                 | operations, net      | pronounced earnings management.    |
|                    |           |                |               |                 | income,              | - Collectively, an interaction     |
|                    |           |                |               |                 |                      | between corporate governance       |
|                    |           |                |               |                 |                      | structure and organizational       |
|                    |           |                |               |                 |                      | relatedness in affecting earnings  |
|                    |           |                |               |                 |                      | quality.                           |
|                    |           |                |               |                 |                      |                                    |
| The Effect of      | Jelinek   | The Journal of | 2,239, 2,246, | Discretionary   | Total accruals,      | - Increased leverage is associated |
| Leverage Increases | (2007)    | Business and   | 2,285, 2,382, | accruals        | income before        | with a reduction in earnings       |
| on Earnings        |           | Economic       | 2,467, and    |                 | extraordinary items, | management, and that growth and    |
| Management         |           | Studies        | 2,703 for     |                 | cash flows from      | free cash flow levels are factors  |
|                    |           |                | samples for   |                 | operations,          | influencing this relationship;     |
|                    |           |                | the period    |                 | extraordinary items  | leverage changes and leverage      |
|                    |           |                | 1992-2002     |                 | and discontinued     | levels may have differing impacts  |
|                    |           |                |               |                 | operations           | on earnings management.            |
| Earnings           | An et al. | Journal of     | 25,777 firms  | Empirical study | Market leverage,     | Under strong institutional         |

| Title                 | Author     | Iournal        | Data &        | Research        | Variabla              | Finding                               |
|-----------------------|------------|----------------|---------------|-----------------|-----------------------|---------------------------------------|
| Inte                  | Autior     | Journal        | period        | method          | v al lable            | rinung                                |
| Management,           | (2016)     | Banking &      | across 37     |                 | earnings              | environment, firms with high          |
| Capital Structure,    |            | Finance        | countries for |                 | management            | earnings management activities are    |
| and the Role of       |            |                | the years     |                 | variable, size,       | associated with high                  |
| Institutional         |            |                | 1989-2009     |                 | profitability,        | financial leverage:                   |
| Environments          |            |                |               |                 | tangibility, market-  | - Both corporate debt and             |
|                       |            |                |               |                 | book ratio, industry- | institutional environments can be     |
|                       |            |                |               |                 | median leverage,      | served as external control            |
|                       |            |                |               |                 | GDP per capita,       | mechanisms to alleviate the agency    |
|                       |            |                |               |                 | stock market          | cost of free cash flow.               |
|                       |            |                |               |                 | capitalization to     | - It is less costly to rely on        |
|                       |            |                |               |                 | GDP, GDP growth,      | institutional environments than debt. |
|                       |            |                |               |                 | macro-level           |                                       |
|                       |            |                |               |                 | institutional-        |                                       |
|                       |            |                |               |                 | environment           |                                       |
|                       |            |                |               |                 | variable              |                                       |
| Debt, Diversification | Rodríguez- | Journal of     | 443 firms for | Empirical study | Discretionary         | - For less-diversified firms, debt    |
| and Earnings          | Pérez and  | Accounting and | the years     |                 | accrual, debt,        | reduces positive discretionary        |

| Title                | Author     | uther Iournal | Data &        | Research        | Variable              | Finding                              |
|----------------------|------------|---------------|---------------|-----------------|-----------------------|--------------------------------------|
| The                  | Author     | Journal       | period        | method          | v al lable            | rinding                              |
| Management           | van Hemmen | Public Policy | 1992-2002     |                 | change in revenue,    | accruals, whereas in relatively      |
|                      | (2010)     |               |               |                 | tangibility, IDEBT,   | more-diversified firms the impact of |
|                      |            |               |               |                 | GROU, effective       | debt becomes positive.               |
|                      |            |               |               |                 | tax rate, the big six | - Marginal increases in debt         |
|                      |            |               |               |                 | auditors              | provide the incentives for managers  |
|                      |            |               |               |                 |                       | to manipulate earnings, and          |
|                      |            |               |               |                 |                       | diversification provides the needed  |
|                      |            |               |               |                 |                       | context for this accounting practice |
|                      |            |               |               |                 |                       | to be possible.                      |
| A Study of Earnings- | Othman and | The           | 1674          | Empirical study | Debt, size,           | - Incentives for earnings            |
| Management           | Zeghal     | International | Canadian      |                 | tangibility, tax,     | management for French firms are      |
| Motives in the       | (2006)     | Journal of    | and 1470      |                 | industry, manager's   | specifically linked to contractual   |
| Anglo-American and   |            | Accounting    | French firm-  |                 | ownership, audit      | debt costs and effective tax rate.   |
| Euro-Continental     |            |               | year          |                 | quality, foreign      | - Canadian firms show specific       |
| Accounting Models:   |            |               | observations  |                 | stock exchange        | incentives matched with a dynamic    |
| The Canadian and     |            |               | for the years |                 | listing, small loss   | capital market.                      |
| French cases         |            |               | 1996-2000     |                 | avoidance,            | - Issuing equity is a strong motive  |

| Title           | Author       | Journal      | Data & period | Research<br>method | Variable             | Finding                               |
|-----------------|--------------|--------------|---------------|--------------------|----------------------|---------------------------------------|
|                 |              |              |               |                    | smoothing reported   | for earnings management in            |
|                 |              |              |               |                    | operating earnings   | Canadian firms.                       |
| The Effect of   | Zhong et al. | Quarterly    | Ownership     | Discretionary      | Total assets, pre-   | - Outside blockholders ownership      |
| Monitoring by   | (2007)       | Journal of   | data on       | accruals           | managed earnings,    | is positively associated with         |
| Outside         |              | Business and | Compact       |                    | operating cash       | discretionary accruals for firms that |
| Blockholders on |              | Economics    | Disclosure    |                    | flows, discretionary | face declining pre-managed            |
| Earnings        |              |              | from 1994 to  |                    | accruals,            | earnings.                             |
| Management      |              |              | 2003          |                    | blockholders, debt,  | - Outside blockholders are not        |
|                 |              |              |               |                    | size, growth         | effective monitors of income-         |
|                 |              |              |               |                    |                      | increasing earnings management        |
|                 |              |              |               |                    |                      | that is generally with the bounds of  |
|                 |              |              |               |                    |                      | GAAP.                                 |