INFLUENCE OF FINANCIAL AND OWNERSHIP FACTORS ON CAPITAL STRUCTURE OF IRANIAN LISTED COMPANIES

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This work is dedicated to my parents Iyjeren and Esmaeil who provided unconditional love and taught me how to soar on eagle's wings, my parents-in-law and my siblings for their continuous support and encouragement and my wife Naghimeh for her unconditional love, endless support and patience.

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ABSTRACT

For more than five decades, the issue of capital structure still remains a puzzle. One of the issues is the lack of consensus to choose either debt or equity that would qualify as the optimal capital structure. The study investigated the determinants of capital structure by exploring traditional financial theories (trade-off theory and pecking order theory) and agency cost hypothesis. The study was conducted on Iranian firms listed on the Tehran Stock Exchange for the period of 2001 to 2010. A panel data set of 123 published annual reports of these firms was compiled. The data was used to analyse the impact of the financial and corporate governance factors on the debt and equity structure of these firms. Ordinary Least Squares, Fixed Effect and Generalized Method of Moments methodologies were used in the analysis. The results stated that capital structure is positively related to tax rate, size, capital intensity, and risk, but negatively related to profit, growth and tangibility. As for the agency cost, government ownership has positive impacts on capital, indicating that these firms are exposed to financial distress with increasing debt. In contrast, capital structure is negatively related to the legal person ownership, ownership concentration of the single largest shareholder and the ten largest shareholders, indicating that these firms are able to manage their debts and future prospects. The effects of agency cost on capital structure shown in the study serve as the evidence of agency conflicts based on debt and equity explanations. In addition, the findings of this study predicted the financial and non-financial factors of capital structure. The study has contributed to the field of finance by identifying capital structure determinants, and provided valuable insights on optimizing capital structure among the Iranian firms which would provide information for investors as well as other stakeholders.

ABSTRAK

Selama lebih daripada lima dekad isu struktur modal masih kekal menjadi persoalan. Salah satu isu ialah kurangnya kesepakatan untuk memilih sama ada hutang atau ekuiti sesuai sebagai struktur modal optimum. Kajian ini mengkaji penentu struktur modal dengan meneroka teori kewangan tradisional (*trade-off theory* dan *pecking order theory*) dan hipotesis kos agensi. Kajian dilakukan ke atas firma-firma Iran yang tersenaraikan di Bursa Saham Teheran bagi tempoh 2001-2010. Satu set data panel bagi 123 laporan tahunan yang diterbitkan oleh firma-firma berkenaan telah dikumpulkan. Data digunakan untuk menganalisis kesan kewangan dan faktor pentadbiran korporat ke atas struktur hutang dan ekuiti firma-firma ini. Kaedah *Ordinary Least Squares*, *Fixed Effect* dan *Generalized Method of Moments* telah digunakan dalam penganalisisan data. Keputusan kajian menunjukkan bahawa struktur modal mempunyai hubungan yang positif dengan kadar cukai, saiz, intensiti modal dan risiko tetapi mempunyai hubungan yang negatif dengan keuntungan, pertumbuhan dan tangibiliti. Bagi kos agensi, pemilikan kerajaan mempunyai kesan positif ke atas modal. Ini menunjukkan bahawa firma-firma berkenaan terdedah kepada kesulitan kewangan dengan peningkatan hutang. Sebaliknya, struktur modal mempunyai hubungan negatif dengan pemilikan perseorangan yang sah, penumpuan pemilikan pemegang saham tunggal terbesar dan sepuluh pemegang saham terbesar yang menunjukkan bahawa firma-firma ini mampu menguruskan hutang dan prospek masa depan mereka. Kesan kos agensi ke atas struktur modal yang ditunjukkan dalam kajian ini menjadi bukti konflik agensi berdasarkan penjelasan hutang dan ekuiti. Di samping itu, hasil kajian ini meramalkan faktor kewangan dan faktor bukan kewangan dalam struktur modal. Kajian ini telah memberikan sumbangan kepada bidang kewangan dengan mengenal pasti penentu struktur modal dan menyediakan pandangan yang berharga mengenai mengoptimumkan struktur modal dalam kalangan firma-firma mampu memberikan maklumat kepada para pelabur dan pihak berkepentingan yang lain.

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LIST OF ABBREVIATIONS

ACT	-	Agency Cost Theory
CAPI	-	Capital Intensity
DE	-	Debt to Equity Ratio
DTA	-	Debt to Total Asset Ratio
EQU1	-	Proportion of Shares owned by the Single Largest Shareholder in Total Shares
EQU10	-	Proportion of Shares owned by the Ten Largest Shareholders in Total Shares
GL	-	Proportion of Legal Person Shares in Total Shares
GMM	-	Generalized Method of Moments
GOV	-	Proportion of Government Shares in Total Shares
GROW	-	Growth
LDE	-	Log of Debt to Equity Ratio
MM	-	Model Modigliani and Miller Model
OLS	-	Ordinary Least Square Regression Model
POT	-	Pecking Order Theory
RISK	-	Risk
TSE	-	Tehran Stock Exchange
SIZE	-	Size
TANG	-	Tangibility
TCT	-	Transaction Cost Theory
TOT	-	Trade-Off Theory
TXER	-	Effective Tax Rate

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CHAPTER 1

INTRODUCTION

1.1 General Overview

Capital structure refers to a combination of debt and equity but giving priority over each other in a financial decision of a firm to invest in pursuit of maximizing value of the firm and its shareholders wealth. The financial decision of capital structure is not only concerned with finding the right kind of finance, but is also concerned with choosing the best overall mixture of these funding options for commencement and running the operations of business. Therefore, the financial decision is considered to have occupying an important role in financial management to formulate the capital structure of the firms, affecting its overall operations, growth and value.

Modigliani and Miller (1958) initially asserted that the value of firm is entirely independent of its capital structure under perfect capital markets; therefore, debt and equity finance can substitute perfectly for each other. Modigliani and Miller (1963) later found that the presence of taxes and information asymmetry lead to the choice of capital structure and significantly affect the value of the firm. Accordingly, the choice of capital structure waxes and wanes the value of companies. A right choice builds an optimal capital structure that maximizes their value.

The study on the determinants of capital structure is necessary to provide companies in making an optimal choice between debt and equity to achieve the maximum value of firms. Albeit, there have been many studies on the determinants since second half of the 20th century; however, their findings are still ambiguous and difficult to interpret (Barclay and Smith, 2005). Most of the studies refer to the context of developed countries, such as the United States (e.g., Bradley *et al*., 1984; Kim and Sorensen, 1986; Friend and Lang; 1988; Titman and Wessels, 1988; Chaplinsky and Niehaus, 1993), Western Europe (e.g., Cole, 2007; Qian *et al.,* 2007), United Kingdom (e.g., Bevan and Danbolt, 2002), Germany and France (e.g., Antoniou *et al*., 2002), and European SMEs (e.g., Hall *et al*., 2004). Some studies (e.g., Rajan and Zingales, 1995) have compared the companies of developed countries with one another, such as between G7 countries (the group of seven countries is a working coalition of the world's largest economies) except Canada and Italy (Wald, 1999) and the United States and Japanese manufacturing corporations (Kester; 1986).

Recent studies have been carried out in the context of developing countries such as Thailand (Booth *et al.,* 2001), Malaysia (Pandey, 2001), China (Chen, 2004), Jordan (Omet and Nobanee, 2001), and Saudi Arabia (Al-Sakran, 2001), and the like, Turkey, Mexico, Brazil, Zimbabwe, Pakistan, India and South Korea. Some other studies, such as Deesomsak *et al.* (2004), used cross-country comparisons based on a particular region, the Asia Pacific. Although these studies provided similar evidence for the financial decision making, the evidence appeared to be insufficient to explain how companies from developing countries finance their assets (Barclay and Smith, 2005).

The studies from both developed and developing countries have reached a consensus that growth and development of a firm depend significantly on its sources of financial capital, which are crucial for a firm to access it. Financial capital and its accessibility is one of the main research areas in both developed and developing market economy (Harris and Raviv, 1991; Swanson *et al*., 2003). Therefore, the context of firms from a country, such as Iran, engaging in a market economy, has

been the area of this research to investigate the decision of financial capital structure of firms in the country.

1.2 Background of Study

Since 1950, when Durand (1952) and Modigliani and Miller (1958) propounded first theories of capital structure, the issue of capital structure still remains a puzzle (Harris and Raviv, 1991; Swanson *et al*., 2003; Lim, 2012; Umar *et al*., 2012). Durand's "relevance theory" proposed that capital structure affects the value of firms and companies because of the impact of relative different costs of debt and equity have on the weighted average cost of capital. In contrast, Modigliani and Miller's (1958) "irrelevance theory" suggested that capital structure does not affect the value of firms under perfect market conditions because it is the return to assets rather than the costs of capital that determines the value of the firms. Thus, studies on the capital structure evolved around two kinds of rational approaches, financial and corporate governance. The financial approach laid the foundation of "trade-off theory" with regard to Modigliani and Miller's irrelevance theory. Trade-off theory considers some conditions of imperfect market and explains that firms determine their optimal capital structure by finding the balance between benefits of debt and costs of debt. The theory of trade-off mainly takes under consideration how capital structure is affected by corporate tax (Modigliani and Miller, 1963); personal tax (Miller, 1977); non-debt tax shields (DeAngelo and Masulis, 1980) and bankruptcy costs (Baron, 1974; Warner, 1977).

Shyam-Sunder and Myers (1999) contended that firms that apply trade-off model compare the cost and benefits of debt financing, thus, predict their optimal debt levels, particularly when marginal present value of interest tax shield is equal to the marginal present value of the costs of financial distress. Moreover, where the marginal costs and benefits of each additional unit of financing are optimal, the form of financing, such as equating these marginal costs and benefits could be determined (Tong and Green, 2005).

A different perspective from Modigliani and Miller's (1958) theory is the "signalling models" that considers the impact of information asymmetry on capital structure. Myers and Majluf (1984) regarded debt or equity as a signal of information to markets and developed the "pecking order theory". This theory asserts that firms and companies often finance their investments in the order of using retained earnings, debt and then equity due to asymmetric information in different financial funding instruments, such as debt funding versus equity funding and internal funding versus external funding.

One of the aspects of pecking order theory predicts that profitable firms usually prefer internal financing rather than taking up new debts or equity, even though debt would be cheaper than equity within certain proportions. Fama and Fench (2002) found that comparing to non-profitable firms, profitable firms were less levered. On the other hand, because of information asymmetry, large firms tend to accumulate debts so as to support and keep up with the payments of dividends, while small firms tend to have the opposite behaviour (Murray and Goyal, 2003).

While, corporate governance approach refers to the issue of how debt and equity are treated as part of a corporate governance mechanism (Jensen and Meckling, 1976). Jensen and Meckling (1976) developed the "agency cost theory" to relate the principal-agent problem of corporate governance to capital structure. Agency cost theory examines how the capital structure is affected by agency debt costs arising from the conflict of interest between shareholders and creditors, and the agency equity costs arising from the conflict of interest between shareholders and managers. Ang *et al.* (2000) and Fleming *et al.* (2005) showed that the conflict between outside equity holders and owner-manager which generated agency costs could be reduced by increasing the owner-managers' proportion in equity (i.e., agency costs vary inversely with the manager's ownership). However, a reduction of the cost due to the conflicts between equity holders and debt holders would be more complicated. Jensen and Meckling (1976) suggested that there should be an optimal capital structure under which the lowest agency costs of a firm can be deduced from an independent variable such as size, profitability and growth. The locus of agency

costs which is equal to agency costs of outside equity and the ones of debt would be a convex curve, suggesting that agency costs should not be monotonic any more.

In general, the theories of capital structure determinants mentioned previously are developed from studies carried out in the context of Western market economies (Chittenden *et al*., 1996; Hall *et al*., 2000, 2004). In another words, most studies on capital structure has been conducted in developed countries (Al-Najjar, 2011). However, study on capital structure need to be tested in developing countries (Al-Najjar, 2011; Ba-Abbad and Ahmad-Zaluki, 2012). However, less work has been done in number to provide compelling evidence and information about developing countries, particularly Iran.

Iran, as a developing country, has a transitional market economy. The economic environment of developing countries is very different from the developed countries (Bas *et al.,* 2009); the latter have lower amount of long-term debt, while the adverse is true for the former (Demirguc-Kunt and Maksimovic, 1999). Due to the information asymmetry, developing countries have higher long term debt (Dragotã and Semenescu, 2004). Notwithstanding the difference, capital structure determinants of firms or debt ratios seem to be affected by the same significant ways and types of variables, such as tax, size, profitability and growth, in both developing and developed countries, but there are some differences in financial decision making on debt or equity choice in developing countries (Mayer, 1990). However, there are differences in terms of institutional factors affecting the capital structure, such as growth, profit and tax rates (Bagherzadeh, 2003). Such differences raise the question of how determinants of capital structure work in a transitional economy of a developing country market economy (Chen, 2004), such as Iran (IMF, 2010; World Bank, 2011). This study, therefore, attempted to bring a more specific focus by situating an examination of capital structure in the context of listed companies in Iran. In order to provide a much broader perspective on the determinants of capital structure of Iranian listed companies, this research has applied multi-disciplinary theories, trade-off and pecking order to address institutional factors as well as agency cost to refer to corporate governance factors.

1.3 The Iranian Institutional Context

The Tehran Stock Exchange (TSE) was incorporated in 1967 with six listed companies and experienced three different periods of time. First from 1967 to 1978, the number of listed companies increased from six to 105 companies. During this period, TSE experienced a good period of time in terms of investment in stock exchange and both companies and investors were attracted to shares trading. Secondly, from 1978 to 1988, TSE in this period of time was severely affected by two major events, the Islamic revolution and Iran-Iraq war. In this time dramatically the value and number of exiting companies reduced. Thirdly, 1988 to 2010, the Tehran stock exchange in this period was full of ups and downs. Since 1988, the private sector and most companies have been controlled by government and the number of companies listed on the stock exchange did not significantly increase or decrease. From 2001 onwards, the proposed implementation of Article 44 relating to the transfer of companies to the private sectors thus the number of companies listed in TSE increased. During 2001 to 2004 the TSE return on investment increased and reached up to 131.4 percent in 2003 while it experienced a very difficult situation in 2007. The number of listed companies increased from 56 in 1988 to 422 in 2006 and then reduced to 341 in 2010.

According to the article 44 of the Constitution of Iran, the economy of Iran consists of three sectors, namely the state, the cooperative, and the private sectors. Accordingly, the growth and development of Iranian firms are strongly related to their organizational sector, economical state and governmental system. In addition, the capital structures of Iranian companies are also determined by the sectors and their financial factors or financial decisions to invest.

Before the Islamic revolution, the economic development of Iran was rapidly achieving a significant economic modernization and industrialization. However, this rapid growth dropped down significantly by 1978 and led to capital flight in the range of 30 billion to 40 billion US dollars by 1980 (Hakimzadeh, 2009). By the end of the 20th century, Iran's economy faced many obstacles, such as market forces, global financial crisis, and international sanctions (Gheissari, 2009).

Notwithstanding the international sanctions relating to nuclear program of Iranian government as well as the global financial crisis in 2008, the value of Iranian companies has kept the growth (Fassihi, 2010) on its moderate stage (Central Bank of Iran, 2010). According to International Monetary Fund report of 2010 and World Bank statistics of 2011, Iran's economy was the eighteenth largest economy in the world with regard to purchasing power parity. This economy is changing from a centrally planned to a free market with a large public sector along with an estimated of 50 percent of the economy. According to the Economic report of 2009, the annual growth rate of industrial production in Iranian companies was ranked 39th in 2008. This growth rate has leapt to 28th place out of 69th place from 2008 to 2009 (Tehran Times, 2010). The financial factors, such as growth, profit and tax rates (Bagherzadeh, 2003) made differences in a data set of capital structure decision in comparison with developed countries.

Over the past three decades, an increasingly changing market-oriented corporate sector has driven growth in the Iranian economy; the factors, financial policies, capital structures, institutions, managerial behavior and knowledge, determining the 'nature' of the Iranian firm have evolved (Bagherzadeh, 2003; Kimiyagari and Aynali, 2008). This change in business and ownership structures gives rise to know the relationships between debt levels and the financial and non-financial factors determining the Iranian firms' financial decision.

Until recently, findings derived from analysed data set of developing countries have not been found. A few studies on transition countries of Middle East such as Iran have recently been published (e.g., Janbaz, 2010; Shahjahanpour *et al.*, 2010; Kimiyagari and Aynali, 2008; Kordestani and Najafi-Omran, 2008; Bagherzadeh, 2003). However, the approaches, methods, time periods, and analyzed capital structure variables applied in the studies provide scanty information on how the Iranian firms make debt and equity choice. In order to overcome the issue of inadequacy of information, this study has applied more relevant theoretical and empirical approaches and methods with a wide range of the time period and the variables to examine the possible determinant factors of the capital structure of Iranian companies.

The limited information on the capital structure of Iranian companies gives rise to inadequacy in describing the country's capital structure; it only attempts to determine a set of explanatory factors (i.e. liquidity, effective tax rate, payout ratio, non-debt tax shield and uniqueness) affecting the choice of capital structure. Studies on the country context, such as Shahjahanpour *et al.* (2010), Kordestani and Najafi-Omran (2008) and Bagherzadeh (2003), used secondary data obtained from the financial statements of Tehran stock exchange listed corporations. These studies showed that decisions on capital structure of Iranian companies were likely tending to the content of the pecking order theory as compared to the trade-off theory.

Several other studies such as Kimiyagari and Aynali (2008) and Janbaz (2010) used secondary data obtained from balance sheets, income statements, and cash flow ratios of Iranian firms including databases of secure electronic and governmental database. Kimiyagari and Aynali's study consisted of 78 Iranian corporations; listed in TSE for the duration of 2001-2005 the study determined the effect of profitability, asset tangibility, growth, firm size, tax provision, and risk on capital structure of Iranian companies. While, Janbaz's (2010) study consisted of 70 Iranian corporations, existed in TSE for the duration of 2006-2007, the study examines the effect of profitability, asset tangibility, growth, firm size, tax provision, and liquidity on the capital structure. Their findings indicated that that both pecking order and trade off theories could predict the decision on capital structure of Iranian corporations, although the pecking order theory has better predictions.

Although the government has taken some steps to make marginal improvements in the last four decades, corporate governance in Iran has not yet to be well developed. An outstanding step is the establishment of the TSE in early 1967. Following, in April 1968, some amendments have been made to the Iranian Trade Law with regard to the process of instituting and controlling firms. Blue Ribbon Committee (1999) asserted that the modern concept of corporate governance has not recognized since the government has not sought to improve the competitive position of Iranian companies in the world's capital markets in an attempt to attract foreign investment.

Until recently, the Iranian government has made significant efforts to expand the capital market by controlling the majority of businesses in Iran. However, the recent policies have been aimed at increasing the number of external control mechanisms in place. For instance, the third and the fourth economic development plans, have placed a great deal of importance on the privatization of governmental organizations. Such actions indicate an interest in enhancing the current system to include external governance structures. Nevertheless, Iranian firms currently have weak internal and external corporate governance compared to companies in more industrialized countries (Mashayekhi and Bazaz, 2008).

The studies on the Iranian context such as Kimiyagari and Aynali (2008), Kordestani and Najafi-Omran (2008), Bagherzadeh (2003), Janbaz (2010) and Shahjahanpour *et al.* (2010), cover short period of time to predict persuasively the determinant factors of capital structure of Iranian firms. On the contrary, this study has involved a longer period of transaction to predict considerable determinant factors of capital structure of Iranian firms. The research has also aimed at bringing a more specific focus by examining capital structure in the context of listed companies in Iran. There are many differences in business operations, ownership structures, capital structure decisions, and reporting systems between listed and non-listed companies. The added advantage of data from the group of listed companies is that they use international accounting standards and are subject to relatively strict information disclosure requirements. They have received a similar degree of autonomy in their business operations. They also should be well-performing financially and tend to be large in size and have gone through the same process of incorporation required by the government.

Finally, capital structures of Iranian companies are influenced at least by two main different factors from firm's capital structure in developed countries. Firstly, the bond market in Iran is at an initial step of development and, in fact, there is no considerable corporate bond market. In 2003, the companies on TSE were allowed to issue corporate bonds, which were called as participation paper whichever short term bonds between 1 to 3 years of fixed income instruments. In comparison to developed countries, Iranian financial market, especially the bond market is less developed and

this limits debt financing mostly to bank loan. Secondly, in Iran, most economic activity directly or indirectly, is controlled by government which may affect firm capital structure.

1.4 Problem Statement

One of the main corporate finance decisions is a firm's capital structure decision that how a firm's assets and operations are financed through some combination of debt or equity. The decisions are reflected and explained by a firm's level of debt and equity. In a capital market with several inadequacies, such as taxes, agency costs and bankruptcy costs, many corporate finance theories propose that capital structure decisions are relevant since they can affect firms' value and shareholders' wealth. These theories, such as the trade-off theory, the pecking order theory and the agency theory are advanced to explain firm's capital structure. However, according to Myer (2001), each theory works under its own assumption and propositions, hence, none of the theories can give a complete picture of the practice of capital structure. Debt is one of the main types or sources of financing which is an amount of money borrowed by one party from another. Debt is used as method for making large purchases of some companies and as a part of their overall corporate finance strategy for many corporations and individuals. Therefore, money will be given under the condition that it is to be paid back at a later date, usually with interest.

As previously mentioned, there are several theories explaining the advantages and disadvantages of using debt. Trade-off theory considers some conditions of imperfect market and explains that firms determine their optimal capital structure by finding the balance between benefits of debt and costs of debt. Accordingly, firms select optimal capital structure by comparing the tax benefits of the debt and the costs of bankruptcy, that is to say the disciplinary role of debt and the fact that debt suffers less from informational costs than outside equity. Thus, optimal leverage minimizes cost of capital and maximizes firm value (Al-Shubiri, 2010). According to

pecking order theory, profitable firms and companies often prefer internal financing rather than taking up new debts or equity, although debt would be cheaper than equity within certain proportions. Another theory is the agency cost theory of capital structure. Agency costs arise as a result of the relationship between shareholders and managers and those between debt-holders and shareholders. The agency cost theory states that an optimal capital structure will be determined by minimizing the costs arising from conflicts between the parties involved.

Due to the lack of a consensus about what would qualify as optimal capital structure, it is pertinent to examine the effect of financial and corporate governance factors on firm's financial decisions. Several such studies were conducted in European countries and in United States. According to Al-Najjar (2011), most studies on capital structure have been conducted in developed countries. Examples of these studies conducted on the UK companies are Antoniou et al. (2002), Bevan and Danbolt (2002), Muradoğlu and Sivaprasad (2012), while European companies, particularly France and Germany, are studied by Antoniou et al. (2002), Kouki and Said (2012) and, Hall et al. (2004) and Hernádi and Ormos (2012). Some other studies such as Akhtar (2005) concerned with Australian companies, while Akhtar and Oliver (2009) worked on Japanese firms. However, findings of these studies need to be tested in developing countries as well (Al-Najjar, 2011; Ba-Abbad and Ahmad-Zaluki, 2012).

Similar empirical studies have recently been undertaken in an effort to apply the capital structure theories and the findings related to developed marked economy to the context of developing and transitional economies (e.g. Awan et al., 2011; Bauer, 2004). To the best knowledge of the researchers less work have so far been done in the context of developing countries. Examples of scarce studies on the context of Chinese firms are Chen (2004) and Seelanatha (2010) and Lim (2012), on Malaysian firms by Pandey (2001), on Saudi Arabian companies by Al-Sakran (2001), on Jordanian firms by Omet and Nobanee (2001), on Pakistani context by Qureshi (2009) and Awan et al. (2011), and on the context of Turkey by Parlak (2010). Only a few countries specific peer-reviewed studies can be seen in this regard (Booth et al., 2001; Bessler et al., 2011). However, the studies are limited in

number to provide compelling evidence and information about developing countries, particularly Iran.

Literature on capital structure determinants of Iranian listed companies is very sparse. To cast some light on the recurring issue, Shahjahanpour *et al.* (2010) and Kimiyagari and Aynali (2008) suggested further studies on the context of Iranian firms. So far, the studies on the Iranian context cover only short period to predict persuasively the determinants of capital structure. This ultimately provides scanty evidence and information on the institutional and corporate governance determinants of capital structure of the Iranian companies.

The limited information on capital structure determinants of the companies gives rise to inadequacy in describing capital structure determinants of Iranian firms, their financial decisions between debt and equity. The literature only provide a set of explanatory factors (i.e. liquidity, effective tax rate, payout ratio, non-debt tax shield and uniqueness) affecting the choice of capital structure. Due to the lack of adequate information and the inefficiency in the administrative system of tax collection, many of the profitable jobs commensurate with their income taxes fled, and, thus, part of government revenue got lost. Some of the tax collection rules offer tax breaks for companies, industries, and specific activities under certain conditions. Companies whose stock are accepted, by the Subscription Board for Transaction in Stock Exchange, shall be exempted from payment of 10% of the applicable tax, provided that all transfers of shares shall be made through the commission agents of the Stock Exchange and that such transfers shall be duly registered in the relevant books (Article 143 of T.A).

Being in developing markets, Iranian firms are often exposed to different financial risks like bankruptcy, manipulation of resources, agency conflicts due the lack of stakeholders' protection or poor corporate governance (Asadi *et al.,* 2011). Some of the companies are heavily loaded by family, institutional, and even single shareholders, which expose the corporate risk to more corporate governance issues as the corporate financial policies are influenced by ownership structure in developed and developing countries (Asadi *et al.,* 2011; Sinaee *et al.,* 2011). The literature

provides a limited background of studies regarding corporate governance issues in case of Iran. Corporate governance in Iran has yet to be explored extensively.

By controlling the majority of businesses in Iran, the Iranian government has made significant efforts to expand the capital market. However, the recent policies have been aimed at increasing the number of external control mechanisms in place. In other words, the third and the fourth economic development plans have placed a great deal of importance on the privatization of governmental organizations. Such actions indicate an interest in enhancing the current system to include external governance structures. However, Iranian firms currently have weaker internal and external corporate governance compared to companies in more industrialized countries (Mashayekhi and Bazaz, 2008). Furthermore, in Iran, there is no considerable corporate bond market because the bond market is on the initial step of development. The companies on TSE in 2003 were allowed to issue corporate bonds, which are called as participation paper consists of short term bonds between 1 to 3 years of fixed income instruments. The Iranian bond market compared to developed countries is less developed and this limits debt financing to mostly bank loans.

According to IMF (2011), Iranian banking system is unique in that all banking activities must follow principles of Islamic Sharia. Moreover, Islamic banking in Iran is regulated by the 1983 law on interest and free banking, whereas other countries hosting Islamic banking are calling on a regulatory level to introduce provisions for specific requirements of Shari'a, especially the prohibition of interest. TSE is developing plans for listing sukuk (Sukuk is the Arabic name for financial certificates, but commonly refers to the Islamic equivalent of bonds). Since fixed income, interest bearing bonds are not permitted in Islam, Sukuk securities are structured to comply with the Islamic law and its investment principles, which prohibits the charging or paying of interest. Financial assets that comply with the Islamic law can be classified in accordance with their tradability and non-tradability in the secondary markets, a market which has not yet developed in Iran, as it has in Malaysia and GCC countries (IMF, 2011). In addition, government in Iran provides cheap loans for industries and entrepreneurs to stimulate investment, support emergence of new SMEs.

However, the insufficient evidence for capital structure determinants of Iranian firms leads to an unclear issue as to whether Iranian firms prioritize debt over equity or vice versa to finance their assets. The lack of evidence in turn gives rise to vital challenges in making financial decisions, prioritizing debt or equity, with respect to the effect of capital sources and their accessibility. The decision on debt or equity determines the growth and development of a firm (Harris and Raviv, 1991; Swanson *et al*., 2003).

This study brought some novelty by involving institutional factors (i.e. tax, profit, firm size, firm growth, tangibility, capital intensity, and risk) and corporate governance factors (i.e. legal person ownership, government ownership, and largest shareholders) together to investigate extensively about how capital structure effects the Iranian companies in order to provide ample evidence and information. Furthermore, this study applied longer period of transaction to examine the determinants of capital structure, because longer period data might give a better insight into the results. Thus, this study could be considered a pioneer in detailed examination of the determinants of capital structure of Iranian firms, as preliminary groundwork for prospective researches.

1.5 Research Questions

This study has addressed the following research questions (RQ):

RQ 1: What are the determinant factors of capital structure in Iranian listed companies?

RQ 2: What is the impact of financial factors on capital structure?

RQ 3: What is the impact of corporate governance factors on capital structure?

RQ 4: Which variables among financial factors and corporate governance factors have consistency with capital structure theories?

1.6 Purpose of Study

The purpose of this study is to determine the financial and corporate governance factors underlying capital structure of Iranian non-financial industry listed companies in Tehran Stock Exchange during the years of 2001 to 2010.

1.7 Objectives of Study

The following research objectives (RO) referred to a period of change and transition between 2001 and 2010 of Iranian firms, examining those determinants of financial and corporate governance factors.

RO 1: To identify determinants of capital structure of Iranian listed companies.

RO 2: To investigate the impact of financial factors on capital structure.

RO 3: To investigate the impact of corporate governance factors on capital structure.

RO 4: To identify the financial variables and corporate governance variables which are consistent with the capital structure theories.

1.8 Scope of Study

This study has investigated the factors determining capital structure of 123 listed non-financial Iranian companies in Tehran Stock Exchange between 2001 and 2010. The variables for this study includes financial variables i.e. tax, profitability, size, growth, tangibility, capital intensity and risk as well as corporate governance variables, i.e. government ownership, legal person ownership, single largest shareholder and ten largest shareholders. The selected time period was after the year 2000 when the Iranian parliament passed more comprehensive and advance Securities Act than the previous one to develop an efficient and transparent securities

market (Tehran Stock Exchange, 2008). The Act, hereby, rendered the possibility of the study to collect an advanced data set that presents the development of financial instruments of the companies.

1.9 Significance of Study

This study has intended to make the following new contributions:

Generally, the studies either conducted on the capital structure of developed country have used a single theoretical approach that confines the findings to a narrow perspective. By contrast, this study has referred to multi-disciplinary theories (trade-off theory, pecking order theory and agency cost theory), so as to examine the determinants of capital structure, thereby contributing to broadening the perspective on prospective findings. The study has applied trade-off and pecking order theories as basic framework, and then incorporated the agency cost theory including the corporate governance factors into the study in order to use both financial and corporate governance factors, so that their possible impacts on capital structure of Iranian listed companies are determined.

Most studies of developing countries have applied capital structure theories (i.e. trade off theory, pecking order theory and agency cost theory) without closely examining them when applied to the institutional context. As well as most studies in Iran also have applied capital structure theories without closely examining the relevance or irrelevance of these theories. Thus, this study attempts to examine the Iranian institutional context and discuss the impact of Iranian institutional factors that may affect capital structure. It therefore contributes to enhancing the empirical value of studying capital structure in the case of Iranian listed companies.

As for corporate governance in Iran, Ghorbani and Zavareh (2013) argued that the main majority of the stockholders of the Iranian companies is government and the institutional investors are governed by the governmental sector which is lack

of management capability and efficiency. Furthermore, the firms with major foreign investors in Iranian firms are rare. Usually, private sector is not supported by the government, and is under heavy regulations (Ghorbani and Zavareh, 2013). According to Shlifer and Vishney (1997), ownership is one of the important determinants of corporate governance. Corporate governance in Iran has not yet to be well developed. Iranian government controlled the majority of businesses in Iran, either directly or indirectly and has made significant efforts to expand the capital market. Its actions indicate an interest in enhancing the current system to include external governance structures. There are very limited empirical evidences that explored the institutional ownership as a determinant of capital structure in Iran (Kimiyagari and Aynali, 2008). Keeping in views the lack of effort in this context, this study has examined the Iranian institutional context and discussed the impact of Iranian institutional factors that may affect capital structure. It therefore would contribute by enhancing corporate governance issue as determinant of capital structure in the case of Iranian listed companies.

Iranian banking activities must follow principles of Islamic Sharia (IMF, 2011). Moreover, Islamic banking in Iran is regulated by the 1983 law on interest and free banking. Therefore, Tehran Stock Exchange is developing plans for listing sukuk (Sukuk is the Arabic name for financial certificates, but commonly refers to the Islamic equivalent of bonds). This unique system might affect to choose the optimal capital structure of Iranian listed firms. Hence, this study contributes by involving financial and corporate governance factors on how Iranian listed firms are choosing debt or equity.

From a practical point of view, the result of this study provides high quality information, particularly on capital structure to the management in terms of decision making regarding the choice between debt and equity. Effective and efficient decisions result in the reduction of costs and thereby maximize shareholder wealth. In addition, findings of this study make available information for banking institutions. Furthermore, the banking institutions are better able to make decisions with knowledge about financial situation of firms in terms of lending and reduce the default risk. Besides, the result of this study would be of help for future researchers,

market practitioners and industries listed in Tehran stock exchange to improve the performance of companies which can ultimately lead towards the economic growth and development of Iran.

1.10 Definition of Important Terms

- **Debt to Equity Ratio** - A measurement of a company's financial leverage. It indicates relative proportion of shareholder's equity and debt the company is using to finance its assets.

- **Debt to Total Assets Ratio** - A measurement for a company's financial leverage. It shows how much of the company's assets have been financed by debt. This ratio examines the percent of the company that is financed by debt.

- **Tax Rate -** The tax rate is the tax imposed by the government and some states based on an individual's taxable income or a corporation's earnings. In addition, tax rate is the percentage of a corporation's earning that is owed to the state, federal and in some cases, municipal governments. This study used the dividing of tax amount to profit before tax for measurement of tax rate.

- **Profitability -** Profitability is the quality of affording gain or benefit or profit. In this study profitability is measured by net profit divided by total asset.

- **Firm Size -** Firm size data provide a count of firms and their size. We measure firm size by the log of total assets.

- **Asset Tangibility -** Asset tangibility is assets that have a physical form. Tangible assets include fixed assets, such as machinery, buildings and land. In this study asset tangibility is measured by fixed assets to total assets.

- **Growth** - Increasing and development from a lower to a higher or more complex form. An increase, as in size, number or value. For measuring growth, this study used log of total revenue.

- **Capital Intensity -** In this study capital intensity is measured by dividing total assets to total revenue. This ratio is a formula that calculates how much money a company will need in order to support a certain level of sales.

- **Risk -** Risk is the probability that an actual return on an investment will be lower than the expected return. This study used standard deviation of return on equity for measurement of risk.

- **Government Ownership -** Shares owned by the government are 'government shares'. For the measurement of government ownership, this study used the percentage of government shares in total shares. It shows the shares of government in a company.

- **Legal Person Ownership -** Shares owned by institutions and firms' legal persons are 'legal person shares'. This study used the percentage of legal person shares in total shares for the measurement which indicates the legal person's shares in a company.

- **Largest Shareholder -** Shares owned by single largest shareholder in firms are largest shareholder. For the measure of the single largest shareholder this study used the percentage of shares by the largest shareholder in total shares, indicating the largest shareholder's share in a company.

- **Ten Largest Shareholders -** Shares owned by ten largest shareholders in firms are ten largest shareholders. For measurement of ten largest shareholders, this study used the percentage of shares by the ten largest shareholders in total shares. It shows the ten largest shareholders' share in a company.

1.11 Structure of Thesis

The thesis consists of five chapters. This chapter (Chapter 1) introduces the thesis and describes the research background, objectives, questions, purpose, scope, potential contribution to knowledge, and limitation.

Chapter 2 reviews, compares, analysis, discusses, and summarizes the studies which have been carried out previously and also studied recently on determinants of capital structure with an emphasis on the two areas of capital structure theories: corporate finance and corporate governance.

Chapter 3 discusses the methodology and defines the hypotheses, thereby explaining how they are estimated and also how the framework is designed. This chapter develops two frameworks in line with three sets of theoretical hypotheses and their relevance for the Iranian institutional context is being discussed. The chapter describes how statistical models, as ordinary least square (OLS), fixed effect model and generalized method of moments (GMM) are designed to test theoretical hypotheses of capital structure.

As for the Chapter 4, it reports on the empirical findings of the models tested. The chapter presents the results of OLS, fixed effect and GMM analyzed in between two statistical models using two dependent variables in one market. This chapter aims to identify the determinants of capital structure of Iranian listed companies.

Finally, the Chapter 5 discusses the statistical results, whereby it outlines the contributions that this research makes to the study of capital structure in the case of Iranian listed companies. Thereafter, it discusses some limitations to the research and makes some suggestions for future study.

One conclusion that may be gleaned is that the capital structure is related to the level of profit, beside that capital structure variation depends on different factors such as corporate governance and information asymmetry in financial markets.

In his original work on capital structure, Durand (1952) argued that capital structure influences the value of firms, although Modigliani and Miller (1958) disputed this conclusion for a set of restrictive assumptions about markets and imperfections. It is interesting to conjecture in the Iranian context, that this research has investigated the effect of capital structure on the value of Iranian listed companies. In real world markets, capital structure can influence firms' value through its impact on risk, profitability and dividends, and the growth potential of a business. It is expected that a firm's value might be maximized among the Iranian listed companies because of the higher debt ratio. At the same time, if the gearing was perceived as a significant risk, then this might negatively affect the firms' value. However, the research suggests this risk could be moderated adequately by the use of corporate governance factors.

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