IMPACT OF SECTORS AND POLITICAL INFLUENCE ON FINANCIAL DISTRESS ACROSS PAKISTANI PUBLIC LISTED FIRMS

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A thesis submitted in the fulfilment of the
requirements for the award of the degree of
Doctor of Philosophy (Management)

Faculty of Management
Universiti Teknologi Malaysia

FEBRUARY 2017

This thesis is dedicated to my inspiring parents, brothers and sisters for
their endless love, encouragement, support and sacrifices

ACKNOWLEDGEMENT

ABSTRACT

Identifying financial distress provides information on ways to control and direct firms in achieving their goals. The common approach is to study the relationship between set of explanatory variables and financial distress. However, in order to improve the firms' financial structure, there is a need to understand the impact of sectors and different political conditions that affect financial distress. This study investigated the industry effects on financial distress as it is identified that financial distress might differ for firms due to the unique nature of each industry. The study dealt with projected key ideas to evaluate and compare diverse financial distress models to show the robustness of Pakistani listed firms across industries, and study how good financial distress can be predicted. Finally, to alleviate the severe consequences of political instability, the current study underlined the differences in financial distress determinants during different political regimes (Dictatorship and Democratic). The study analysed 153 non-financial firms listed on Karachi Stock Exchange (KSE) during a ten-year period (2004-2013) featuring two political periods; 2004 to 2008 as dictatorship period and 2009 to 2013 as democratic period. Four models were employed, namely logit analysis, decision tree, neural network and paired t-test. A diversity of models was employed to check the strength and prediction correctness of the models and t-test was employed to compare two different political regimes. From the findings, the indirect impact is clearly noticeable due to changes in the signs and magnitude of determinants across sectors. Logit analysis shows better results as compared to the other models as it was based on different industry-level variables and two different political regimes. The mechanism among the variables and financial distress is dependent on different political conditions of the country. The result shows that the impact of different political conditions varies across sectors. In addition, the results of this study are valuable for financial institutions to forecast financial distress and estimate minimum capital requirements to reduce the cost of risk management.

ABSTRAK

Pengenalpastian masalah kewangan menyediakan maklumat tentang cara-cara untuk mengawal dan mengarah firma dalam mencapai matlamat mereka. Pendekatan yang biasa dilaksanakan adalah mengkaji hubungan antara pembolehubah penerang dengan masalah kewangan. Walau bagaimanapun, dalam usaha untuk meningkatkan struktur kewangan firma, terdapat keperluan untuk memahami kesan sektor dan keadaan politik yang berbeza yang memberi kesan kepada masalah kewangan. Kajian ini mengkaji kesan industri terhadap masalah kewangan kerana dapat dikenalpasti bahawa masalah kewangan mungkin berbeza bagi firma disebabkan ciri-ciri unik setiap industri. Kajian ini adalah berkaitan dengan idea-idea utama yang dijangka dapat menilai dan membandingkan pelbagai model masalah kewangan untuk menunjukkan keteguhan syarikat Pakistan yang tersenarai di seluruh industri, serta mengkaji bagaimana masalah kewangan boleh diramal. Akhirnya, untuk mengurangkan kesan yang teruk akibat ketidakstabilan politik, kajian ini menggariskan perbezaan dalam penentu masalah kewangan di bawah rejim politik yang berbeza (Diktator dan Demokratik). Kajian ini menganalisa 153 syarikat bukan kewangan yang tersenarai di Bursa Saham Karachi (KSE) dalam tempoh sepuluh tahun (2004-2013) yang memaparkan dua tempoh politik; 2004-2008 sebagai tempoh pemerintahan diktator dan 2009-2013 sebagai tempoh demokratik. Empat model telah digunakan, iaitu analisis logit, cabang keputusan, rangkaian neural dan ujian-t berpasangan. Pelbagai jenis model telah digunakan untuk memeriksa kekuatan dan ketepatan jangkaan model dan ujian-t telah digunakan untuk membandingkan dua rejim politik yang berbeza. Daripada dapatan kajian, kesan tidak langsung adalah jelas ketara disebabkan oleh perubahan dalam tanda-tanda dan magnitud penentu di seluruh sektor. Analisis logit menunjukkan keputusan yang lebih baik berbanding dengan model-model lain kerana ia adalah berdasarkan kepada pembolehubah industri yang berbeza dan dua rejim politik yang berbeza. Mekanisme antara pembolehubah dan masalah kewangan adalah bergantung kepada keadaan politik yang berbeza di negara ini. Dapatan menunjukkan bahawa kesan keadaan politik yang berbeza berubah mengikut sektor. Di samping itu, dapatan kajian ini adalah bernilai bagi institusi kewangan untuk meramal masalah kewangan dan anggaran keperluan modal minimum untuk mengurangkan kos pengurusan risiko.

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ADB	-	Asian Development Bank
CPI	-	Consumer Price Index
GDP	-	Gross Domestic Product
GDP	-	Gross Domestic Product
HHI	-	HH Index Herfindahl-Hirschman Index
KSE	-	Karachi Stock Exchange
PBI	-	Pakistan Board of Investment
PPP	-	Purchasing Power Parity
PSEB	-	Pakistan Software Export Board
R&D	-	Research and Development
SBP	-	State Bank of Pakistan
SI	-	Stock Index

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CHAPTER 1

INTRODUCTION

1.1   General Overview

Financial distress had serious impact on the financial and non-financial firms among developed, emerging and developing countries (Newton, 2009). Many banks and manufactures went bankrupt and many are in distress due to their sensitivities to financial risks enlarged by internal decisions and external financial crisis (Elan *et al*., 2012). Fitzpatrick (1932) and Smith and Winakor (1935) were the first experts to work on bankruptcy prediction. Later on, Beaver (1966) and Altman (1968) used the financial ratios methodology in predicting financial distress. The seminal paper of Altman (1968) has led to the development of an extensive body of corporate finance literature mainly in the area of financial distress.

Predictions of financial distress increases the attention of financial managers, lenders and investors to assess losses and to make proper decisions to avoid financial distress (Sun *et al*., 2014). As the corporate firms are mostly based on external financing, one of the key decisions that lending institutions have to make is how to establish the assessment metrics while issuing loan to firms. Evidence shows that the market value of a distressed company drops sharply prior to its official failure (Beaver, 1968). Furthermore, global financial crisis has led to the financial distress of several publicly listed companies in the United States, Europe, Asia and other countries (World Bank, 2010). These led to the emergence of great interest in finding the best methods and financial indicators that can help in the prediction of financially distressed companies (Washington 2001). Researchers have used financial ratios,

prediction models, decision trees and other statistical methods to predict financial distress, but the elusive accurate prediction of bankruptcy seems to be just a step ahead of researchers (Altman, 2004; M. Arabsalehi, 2012; Xin zhou, 2011; Stenback, 2013; Agrawal and Maheshwari, 2014). The search is still on to find a simple, efficient and accurate way for users to predict bankruptcy.

Newton (2009) noted that financial distress is a worldwide problem that can happen both in developed and developing economies. However, it occurs excessively in developing economic environments. Some of the major causes behind corporate failures that vary across countries are the differences in accounting standards and social, political and economic environment (Barraca, 2007). Over the last two decades, a large number of financial distress incidences have occurred in developing countries. Assessing the ability of a company to pay back its financial obligations is of fundamental significance. In this context, financial distress models attempt to predict the firm default.

1.2   Background of Study

Generally, financial distress prediction is to predict whether a company will fall into financial distress based on the current accounting data through mathematical, statistical, or intelligent models. It plays an important role in managerial decision-making for firms, investment decision making for investors, credit decision-making for creditors, customer credit rating for bank (Sun *et al*., 2014). According to Edmister (1972), various factors can explain the financial status of the firm and therefore, a single financial ratio could not represent the business default. Businesses are enterprises that produce goods or render services for profit motive. Since the study of Fitzpatrick (1932), financial distress has become a challenging issue in corporate finance. In the beginning, most of the studies focused on financial insolvency by using firm-specific indicators. The process of taking financial ratios has been used since 1930s (Fitzpatrick, 1932; Smith and Winakor, 1935; Merwin, 1942; Chudson, 1945; Jackendoff, 1962). Since the influential work of Beaver (1966), several studies have endeavoured to forecast financial distress e.g.

profitability, size, accruals based ratios, working capital, cash flow ratios, return on assets, return on sales, leverage ratio as a predictor of firms' default across the United States including (Fitzpatrick, 1932; Smith and Winakor, 1935; Merwin, 1942; Chudson, 1945; Jackendoff, 1962; Deakin, 1972; Courtis, 1978). Merwin (1940), Beaver (1966), Altman (1968) and Rafiq et al. (2008) found that defaulted firms are presented significantly different than do successful firms using financial ratios because ratios shows the significance and financial position of firms. A large body of literature on financial distress has been done across U.S firms.

Although the majority of the studies used firm-specific variables, some researchers diverted towards macroeconomic indicators such as interest rate, stock index return and GDP, which affect financial distress. Due to the association between the general economic and bankruptcy rates, efforts have been made to predict default based on macroeconomic variables. Surveys such as that conducted for U.S. firms by (Liou and Smith, 2007; Reisz and Perlich, 2007; Bharath and Shumway, 2008; Lifschutz, 2010; Alkhatib and Al Bzour, 2011; Ahmadi *et al.*, 2012; Duan *et al.*, 2012) discovered that macroeconomic indicators affect financial distress. However, further research was done from international perspective, where firm and macroeconomic factors affecting firm failure are highlighted with institutional variances across countries.

Many techniques have been used by researchers to calculate the validity of financial distress and most of that research focused on firm and country level variables. The search is still on to find the best and most suitable technique for financial distress. The first considerations and analysis of financial distress arose in developed countries. Altman (1968, 1973, and 1983) conducted study in U.S.; Taffler (1984) explored the financial distress in UK to compare failed and non-failed firms using firm and country level variables. As the most significant macroeconomic-level determinants, including stock index, gross domestic product (GDP) and interest rate single ratio cannot fully represent financial distress, multivariate techniques have been used by researchers (Vassalou and Xing, 2004; Reisz and Perlich, 2007; Agrawal and Maheshwari, 2014).

The majority of the argument connected to financial distress progresses around the decisive works of Altman (1968), Ohlson (1980), Zmijewski (1984) and Shumway (2001). Altman (1968) applied multivariate discriminant analysis (MDA) for the first time to classify failed and non-failed U.S firms. Researchers still use Altman's discriminant model as a benchmark to forecast financial distress. Altman's Z-score model is a linear analysis of five ratios and this score is a basis for firm classification. Blum (1974) employed the same MDA technique for financial distress some years prior to failure. Similarly, to evaluate the predictive correctness of accounting ratios, Libby (1975) measured the prediction achievement of a selected set of accounting ratios for U.S firms. In the past literature, there are numerous studies that applied this method as a benchmark for financial distress in U.S. firms (e.g. Deakin, 1972; Altman, 1973; Benishay, 1973; Blum, 1977; Taffler, 1984; M. Arabsalehi, 2012; Xin zhou, 2011).

On the other hand, Ohlson (1980) was the first to introduce the logistic technique in studying financial distress using firm-specific indicators. He noted that the investigative authority of any model relies on when the information (financial ratios) is expected to be accessible and some other scholars employed Olson's O-score model such as Mensah, (1984); Gentry, Newbold et al. (1985), and Hellegiest (2004). Soon after, Zmijewski (1984) employed probit analysis, which is a static approach for default prediction in U.S firms. These studies have been done in U.S to assess financial distress determinants (firm-specific) using static methods.

Another strand of the empirical literature focused on studies within the emerging and developing nations. For instance, (Rahman, Qayuum and Afza, 2009), Sweden; Bandyopadhyay (2006), India; Yap, Yong, and Wai-Ching (2010) and Laitinen (1991), Finland. These studies further demonstrate the exclusivity of financial distress that varies across nations due to their different business environments and financial settings. Sandin and Porporato (2007) estimated the usefulness of ratio to predict financial distress in a period of stability of an emerging economy, such as the case of Argentina in the 1990s. Yildiz and Akkoc (2010) provided an alternative for Turkish bank bankruptcy prediction with Neuro fuzzy. This aspect of studies found that substantial work looked into firm-level factors as

significant determinants of bankruptcy prediction. Shah and Hijazi (2004) regarded profitability, firm size and growth rate as the significant explanatory variables of the financial distress. Luke (2004) found big differences across Thailand and Malaysia, as the financial distress decision is highly dependent on the firm-specific factors as well as the market-related factors including the economic and institutional environment, corporate governance practices, exposure to capital markets and the level of investor protection in which the firm operates. Similarly, a few studies provide some insights into firms across emerging markets and developing countries by concentrating on specific regions (Gurcharan, 2010; Sbeiti, 2010; Mat Nor et al., 2011). Results of the studies found different relationships between firm level and country-level determinants as firm level seems to have a pivotal position in predicting financial distress, but macro level variables are also found significant. According to the past literature, it seems that the study of financial distress varies in different countries and is based on different techniques that have been employed by previous researchers (Sandin and Porporato, 2007; Yap, et al., 2010; Yildiz and Akkoc, 2010).

1.3   Background of Problem

As mentioned in the previous section, several studies have provided enough compelling empirical evidence establishing the financial statement ratio-based prediction model specification as the premier specification in forecasting firm distress. It is expected that, in general, economic conditions of developed, emerging and developing countries is a foremost issue affecting firms' financial distress rate (Alam 2011; Ahmadi et al., 2012). Hence, most of the research focused on the effects of firm and macro-economic factors on financial distress. For the financial and economic development of any country, the sectors are considered as generators of economic growth. These sectors provide a proper base, which is essential for the sound and financial structure of the firm. Every sector is subject to different level of munificence, competitive environment, risk and facing different challenges; hence, the distinctive nature of each sector could affect the mechanism of the firms across sectors differently. Some recent developments in financial distress literature have

emphasized the significance of industries in explaining the firms' financial behavior (Naveed, 2015). Kayo and Kimura (2011) revealed that firms operate under different sectors; hence, the external factors that have the power to influence the firm-level factors should not be ignored. Higher-level industry characteristics may affect the firm's characteristics differently, whereby it does affect the firm's capability to repay their obligations. According to Nishat (2012), industry plays a significant role in explaining the risk volatility as firms are related to industries that are exposed to take different level of risk

Kale et al. (1991) argued that the industry characteristics are important in explaining the riskiness of business. They illustrated that the firms operating in mature industries fall into distress at a higher than firms in growth industries. This impact indirectly provides insight about the nature of industry and its impact on firm's capability of repayment. However, a few previous studies have used dummy variables to characterize the sector. Such techniques do not deliver a vibrant description that displays the existent consequence of a particular sector on firm's financial distress. This argument is debatable as other factors, except for dummy variables related to the industry, may affect financial distress. To the best of researcher's knowledge, there are comparatively few studies that have examined the effect of sectors or industries on financial distress as compared to literature concentrated on firm and country level characteristics, and this empirical stream remains less explored. Kale et al. (1991) argued that industry effects are important in estimating the risk of the business. Single information can affect the industries differently across whole market. Therefore, industries tend to have different issues and challenges that could influence financial distress. According to Opler and Titman (1994), the industrial environment affects the firms' performance. They revealed that by identifying the risk, changes and investment opportunities in their operating environment, firms could generate more value and financial returns. Thus, firms operating in more competitive industries tend to face more dynamic, uncertain and complex environment.

Kayo and Kimura (2011) stated that firms that operate within a particular industry tend to have similar properties and Maksimovic and Phillips (1997) further

support the significance of industry effects on financial distress. Likewise, Ramakrishnan (2012) highlighted the sectors importance to capital structure decision making of Malaysian firms. He argued that sectors behaviour affects the firms' leverage. It is argued that firms are normally dependent on internal funds as their main source of financing, but as the internal resources are in reserve, they will rely on debt financing and then external equity as the last resort for financing. Many studies have found that firms follow leverage targets (Graham and Harvey, 2001; Fama and French, 2002; Flannery and Rangan, 2006). It is said that any wrong decision about capital structure may lead the firm to financial distress, which eventually leads it to bankruptcy (Eriotis, et al., 2007). Thus, industry related factors could not be ignored. By exploring the industry related factors of each industry, it could affect financial distress differently.

In line with these arguments, the important differential effect of each sector's distinctive environment on firms' financial structure needs to be understood. Therefore, to capture the real impact of sectors, this study warrants the need to investigate the sectors' behavioural effect on the financial distress mechanism of firms across sectors. Therefore sector level variables are important to check the impact on financial distress and the sector level variables are munificence as it deals with the growth of a particular industry (Smith *et al.* 2014). Dynamism deals with external and internal environment which affects sectors (Smith *et al*., 2014); Ramakrishnan, 2012). However, HH index deals with the highly concentrated industries and low concentrated industries (Moeinaddin, Nayebzadeh and Ghasemi, 2013). Finally the fourth variable is uniqueness as it measures the unique product as it deals with the selling expense as how much sector is prospering (Hsu and Hsu, 2011). In conjunction with above strand of arguments, the literature on financial distress mainly remained concentrated on firm and country level factors, and institutional differences. However, the role of sectors in explaining the financial behaviour of firms remained less investigated. In particular, there is no unequivocal evidence in this regard in developing economies. Furthermore, Grinold, Rudd and Stefek (1989) recognised that sectors riskiness could also be attributable to sectors composition as some sectors are internally more volatile than others.

Based on these criteria, Pakistan would be the best choice for the study in hand for various reasons. First, on basis of its national income as well as market infrastructure development, Pakistan is a developing economy (World Bank Development Indicator, 2010). The influence of sectors on leverage mechanism of Pakistani firms across sectors has remained unexplored as there is no clear evidence in this regard (Naveed, 2015). Second, Pakistan is a bank-oriented economy, which has a less developed stock and bond market. Political instability has directly affected the banking sector of the world, and because of high dependency on banking sector, the sectors of Pakistan have learned a great lesson (KSE Annual Report 2011-2012).

According to State Bank of Pakistan (2012), the capital market of Pakistan accounts for over 60 percent of the shares traded and majority of the debt and equity listings during Financial Year 2002/2003. The economy of Pakistan has experienced tremendous growth during the mid-2000s, between the 2003/2007 period, averaging 7% yearly GDP growth. The GDP growth of manufacturing sector of Pakistan has showed a remarkable double digit growth from 2000 to 2007. According to the survey of International Monetary Fund (2011), Pakistan economy has enjoyed relatively strong economic growth and performance until the outbreak of democratic era and global economic crisis in 2008. In early 2008, warning signs of economic downfall emerged as rate of inflation began to rise. The conditions significantly worsened in mid-2008 when there was global financial crisis and political instability, and the democratic government could not handle the crisis period and brisk increase in interest rate (Pakistan Economic Survey 2012-13). As a result of high interest rate, limited access to leverage, acute crisis of energy, high production cost, global economic crunch and poor industrial infrastructure, the economy of Pakistan witnessed major commotion in normal economic operations in the last few years. In accordance with (Ali and Afzal 2012), the devastating global economic crisis (2008) affected the financial and industrial sectors of developed as well as developing economies.

Olokoyo and Omowunmi (2012) provided co-alignment principle to examine the industrial effect on the firms' performance. According to Ministry of Finance (2012), the dynamics of Pakistani sectors has gone through substantial changes since

Financial Year (FY) 2007. Due to non-availability of sufficient funds from external sources, the negative impact of the economic crisis on the firms' financial structure across sectors was mild. They revealed that if firms are able to recognize the driving change, riskiness and investment opportunities in their operating environment, they would create greatest value and financial returns. Hereby, consistent with this advice, the impact of sector is visible, as firms that function in sectors with high level of munificence create greater profits. Firms operating in more competitive industries tend to face more dynamic, uncertain and complex environment. They argued that firms in general depend upon their industries environment for both survival and success. Additionally, low concentration industries (competitive industries) are exposed to high risk and high volatility in profitability; therefore, they use lesser amount of leverage. Consistent with Ramakrishnan (2012), the positive substance of HH Index (Industry Concentration) reveals that firms are operating in highly concentrated environment with low risk and less competition.

The positive substance leads these firms to employ greater level of debt because of less competitive environment, while firms operating in low concentrated environment with high risk and more competition rely on internal rather than external financing. Lööf (2004) summarizes Titman's idea (1984) that the more unique a firm's asset is, the higher the market for such assets (Song, 2002). Lööf (2004) found that uniqueness is a significant factor that may affect leverage, which directly affects financial distress. A few studies that analysed the influence of sectors or industries as compared to literature concentrated on firm and country level characteristics and this empirical stream continues to be less explored (Mirzae, 2015; Naveed, 2014; Ramakrishnan, 2012, Riaz et al. (2014)). Thus, sector level variables such as munificence, dynamism, HH Index and uniqueness are analysed to check the impact of sectors across Pakistani listed firms.

The studies (Barraca, 2007; Ali and Afzal, 2012; Ministry of Finance, 2012) found significant effect of political periods on firm's business operations and investments. The devastating political periods affected the financial and industrial sectors of Pakistan (Ahmad, Khan and Tariq, 2012; Ali and Afzal, 2012). This is somewhat due to the fact that different industries rely on different levels of operating

leverage, and moderately due to the prospect that firms choose less financial leverage if their operations expose them to high financial distress costs (Altman, (1984), Dechow (1994), Gruszczynski, (2004), Gordon, (1961), Park and Han, (2002). In conjunction with the background of problem, the present study investigates the effects of industry/sector on financial distress of Pakistan listed firms across sectors/industries during different political regimes. According to Barracca (2007), sectors operate differently in political periods because of the borrowing patterns as the study highlighted the role of sectors/industries in explaining the firms financing patterns among the two political eras explaining the sectors impact (Zarebiski and Dimovski, 2012).

In this regard, the research investigation is likely to be more effective as this study adopts a particular country from the developing market that has been influenced by internal and external economic shocks. The study accentuates how different political periods affect financial distress of Pakistani firms across sectors. Moreover, some sectors have shown high degree of global recession impact in democratic period, for example, the growth of textile sector rapidly declined in 2009. The textile sector is biggest exporter of Pakistan; glancing through global perspectives, any change in political scenario directly affects the growth and financial structure of textile firms (Hussain, 2011). Furthermore, a convergence of critical factors in democratic era, severe energy shortages, political instability, high inflation and weak security situation resulted in sluggish Gross Domestic Product (GDP) growth of Pakistan. This risk premia affected the Pakistani firms across sectors differently. The textile, energy and automobile sectors have persistence in volatility movements during democratic period (Ministry of Finance, 2012). The mild negative impact of these sectors on the economic uplift of Pakistan as the moving average component is significant. For instance, automobile sector went down in democratic era and boomed in dictatorship era and unprecedented decline in sales revenue in Financial Year 08-09 (Daily Times, 2009). To the best of researcher's knowledge, no formal study to date in Pakistan has tended to focus on sector level variables by comparing two different political regimes (Business Recorders, 2012).

According to Ministry of Finance (2012), the dynamics of Pakistani sectors has undergone substantial changes since Financial Year (FY) 2008. Due to non-availability of sufficient funds from external sources, the political instability had a mild negative impact on the firms' financial structure across sectors. For example, in an environment of monetary tightening, firms reliant on short-term bank borrowing are more likely to face higher debt servicing costs than those issuing longer-term debt securities in capital markets (Anwar, 2012). In the context of Pakistan, industry specific policies are observed as a measure to boost the investments in priority sectors, or as a part of the reforms package during economic stability and economic downturn (Nishat, 2001). The incentives include tax immunities on priority sectors, facilitation of investment and banking sector procedures and easy access to sponsoring. In line with sectors' riskiness, Nishat (2001) discussed that financial reforms and changing industry specific policies could be another reason causing the change in sectors risk level. Moreover, some sectors have shown high degree of global recession impact. For example, the growth of textile sector has rapidly declined after the outbreak of global economic shocks in 2008. This risk premia affected the Pakistani firms across sectors differently. The textile, energy and automobile sectors have persistence in volatility movements during political instability period (Ministry of Finance, 2012). For instance, automobile sector endured the challenges of instable economic environment and unprecedented decline in sales revenue in Financial Year 08-09 (Daily Times, 2009). Therefore, the first issue coming into focus is to investigate the significant determinants (i.e. firm, sector and country) of financial distress and to compare whether and how sector-specific determinants of financial distress differ across sectors in Pakistan.

Several governments changed hands and each criticized the economic policies of the previous government but continued similar policies during their own period. In the recent period of democratic rule, there has been a widespread criticism of economic management. In previous government, a positive change has been seen in economic policies as sectors were growing at a standard rate (Muhammad Yaqub, 2010). In general, it is accepted that political instability provided great lessons to financial institutions in both developed and developing economies. When a democratic government was in power in Pakistan, it could not handle the pressure, and started getting loans from International monetary fund (IMF) and accepted all

the demands imposed by IMF. The effect was a reduction in the volume of debt and equity financing available to businesses and distress in financial market operations (Barracca, 2007). The political instability in the country created a huge impact as the military coup came to power and overruled the democratic people in power. In 2008, elections were held and democratic government came to power, and due to their policies that prevented high interest rates and massive inflation, the borrowing effects across sectors was reduced. However, a substantial part of the literature concerning financial distress have dealt with issues regarding the determinants of leverage at the firm's level and a few studies dealt with the explanatory power of institutional differences across developed, emerging and developing countries. The role of political regime in explaining the firm's financial behaviour remained less investigated. Thus, the sectors effect gained importance, which is needed to assess how the nature of the sectors affects the bankruptcy prediction of firms across sectors/industries. Barracca (2007) explained that during the democratic period, lending by financial institutions and equity issuance by firms was greatly reduced.

1.4   Problem Statement

The importance of financial distress has been at the core of vigorous debate for many years. The literature on financial distress has so far remained focused on financial distress or bankruptcy. In order to understand the influence of sectors/ industries on financial distress, the effect of different political instability and significance of financial distress, it is imperative to improve firm's financial performance. In the light of background of study and background of problem, current study highlights the issues from three distinctive viewpoints. Research to date has essentially focused on firm and country-level factors (Alam, 2011; Ahmadi *et al*., 2012). However, less consideration has been given to sectors' unique behavior, which could indirectly affect the mechanism of financial distress. Sectors play vital role in the firms' performance as the firms operate under different sectors that tend to have dissimilar dynamics, growth opportunities, riskiness, competitive environment and different level of access to capital markets. Keeping in view the vital role of sectors in firms' performance, it reveals the importance of scrutinizing how the

distinctive nature of sectors could affect financial distress mechanism of firms operating under different sectors' environment in developing countries. In the context of Pakistan, financial distress literature mainly tapped firm-level characteristics and macro-economic factors which effect financial distress (Shah and Khan, 2007; Ali and Ali, 2012). According to Javid and Iqbal (2008), most Pakistani companies face the problem of data limitation and could not establish greater understanding on financing decision of firms. Despite the importance of sectors' behavior in explaining the firms' financial structure, this area remained untapped in Pakistan.

Beside firm, sector and country specific effects, a few studies highlighted the significance of different political conditions in explaining financial distress (Baracca, 2007; Ali and Afzal, 2012). Financial distress in firm's perspective is highly sensitive to country's political conditions. In the context of political instability, research on financial distress remained mainly focused on diverse effect on financial and non-financial sectors of developed as well as emerging and developing economies (International Monetary Fund (2011). Glancing through political instability, most of literature on financial distress remained focused on developed countries (Yaqub, 2010). Conversely, much less consideration has been paid to emerging and developing economies. In particular, there is no clear evidence in developing countries in this regard. To the best of the researcher's knowledge, no study to date has tended to scrutinize the effect of different political periods on financial distress of Pakistani listed firms across sectors. The sectors of Pakistan have shown rapid growth during economic dictatorship period before 2008 (Butt, 2010). During the democratic era, the non-financial sectors are subject to serious challenges of long-term financial viability (Rahman, Qayuum and Afza, 2009). The inferences of internal and external economic shocks instigated adverse effect on financial distress across sectors. Normally, the firms operating in developed markets easily choose between short or long-term debts as per their requirements (Shah and Khan, 2009). As the banking sector of developed countries is both competitive and well developed, these firms are not controlled by the availability of either type of debt. On the other hand, firms operating in Pakistan find it difficult to use long-term debt because of less-developed capital markets, unstable interest rate and political uncertainty (Shah and Khan, 2009; Anwar, 2012). Consistent with Nishat (2001),

sectors play important role in explaining the national market volatility, as similar information can affect the sectors differently across whole market. Since the sectors response to political instability differs, the sector specific behavior may also differently affect the financial distress during different political periods. Therefore, it warrants the need to examine how different political instability affects financial distress across sectors in developing economies. The firms operate in sectors/ industries that have different business environment and carry different level of growth, risk, competitiveness. These require firms to look into sector level factors that can influence financial distress decision making. Thus, this study highlights the difference in financial distress decisions across sectors/ industries.

According to Barracca (2007), financial flexibility is important in firm's financial distress decisions, especially in political periods. The political periods had a major impact on the financial markets. It greatly reduced security issuance by firms and lending by financial institutions. Since 1996, democrats were in power and due to bad governance and bad financial policy, all the firms were affected and financial deficit was surging upward. From 2002, Army took over the country and martial law was imposed. From 2008 onwards, democrats again came to power through elections and again sectors were badly affected and the economy worsened (Yaqub, 2010). The sectors/industries may have different temperaments in different political periods. However, the effect of different political periods on firm's behaviour across sectors/industries remained untapped. The study highlights the differences in financial distress across sectors/industries and political periods, checks the impact of each political period and its effect on various sectors and whether the sectors differ in these political eras.

1.5 Research Questions

i. What are the significant determinants (i.e firm-level, sector-level and country-level) of financial distress across non-financial listed firms in Pakistan?

ii. What are the significant determinants of financial distress in each sector within the groups of Pakistan's listed firms? Do they differ across sectors?

iii. What are the effects of different political periods (democratic and dictatorship periods) on the determinants of financial distress within the group of Pakistani listed firms across non-financial listed firms in Pakistan?

iv. What are the significant determinants of financial distress in different political periods in each sector within the groups of Pakistan's listed firms? Do they differ across sectors?

1.6 Objectives of Study

i. To investigate the significant determinants of financial distress across non-Financial listed firms in Pakistan.

ii. To investigate the significant determinants of financial distress in each sector within the groups of Pakistan's listed firms.

iii. To examine the effects of different political periods (democratic and dictatorship period) on the determinants of financial distress across non-financial listed firms in Pakistan.

iv. To investigate the significant determinants of political periods in each sector within the group of Pakistan's listed firms.

1.7 Significance of Study

In general, the noteworthy contributions of this study are twofold, specifically, theoretical development and policy implications. In relation to the concept development, this study fills the gap in the literature succession by seizing the ancillary impact of sectoral behaviour on financial distress. Past literature provides evidence that most of the studies have been carried out in advanced economies which emphasized firm specific factors and macroeconomic factors (Mirzaei, 2015; Vassalou and Yuhang, 2004; Liou and Smith, 2007). However, a few studies explored the effects of industry on financial distress using dummy variables (Opler and Titman, 1994; Berkovitch and Israel, 1998). In addition, the past studies

confirmed that the divergence of the behaviour of a particular industry might differ due to its institutional settings. This is the first extensive study that considers the industry impact on financial distress across sectors in Pakistan. As most of the studies focus on developed markets, keeping in view the industry effect on financial distress, this study attempts to fill the gap with wide ranging robust analysis in the context of developing markets by analysing the effect of sector level variables i.e. munificence, dynamism, HH index and uniqueness. In addition, this study points out other important aspects by looking into different political conditions across sectors that indirectly affect financial distress. The contribution towards theoretical development can be seen in numerous phases, as the study focuses on political instability (dictatorship period and democratic period), sectors effect and factors influencing financial distress across sectors.

Referring to Financial Times Stock Exchange (2010), Pakistan is a developing economy, but the importance of financial distress is as significant as in developed economies. Therefore, it is vital to discover how firms in Pakistan manage their financial requirements during different political conditions. In addition, this is the first broad study that contemplates the effect of sectoral behaviour on financial distress through sectors by both democratic and dictatorship context. Variation in the influence of sectors on financial distress decision making is possible across developing countries due to its vast formal alterations, mainly among the developing markets.

It is widely acknowledged that political instability and its consequences represent a foremost incident, or series of events for economies. Therefore, political instability affects the firm characteristics and default determinants as well. Thus, another contribution of this study is to explore whether financial distress varies within two political regimes comprising of dictatorship and democratic (Yaqub, 2010). This study offers suitable strategies for the corporate sector and financial institutions. It is imperative to discover how and when companies face default. Therefore, the study differentiates the significant factors that show the companies' condition as default or non-default. The study highlights the other imperative reasons that affect firm's default.

For the business sector in particular, this study offers a good formula for executives to be associated with a definite separate sector in their decision-making. Additionally, the strategies can support firms to reply effectively and efficiently in different political conditions as the importance of the determinants changes across political eras and sectors. Similarly, the finance sector could plan loan procedures by arranging the position of financial distress determinants across sectors. In other words, the assessments should contemplate the fundamental financial distress that differs across sectors. This portion of information is supportive for the banking sector to form custom-made developments rendering to sectors and eventually reduce the default risk.

1.8   Scope of Study

The current study gains important insights into how industry/sector behaviour affects the relationship of financial distress at firms, sector and country-level variables. With these perspectives, this study examined the significant financial distress determinants of Pakistani firms listed on Karachi Stock Exchange (KSE) across sectors with respect to different political periods i.e. (democratic and dictatorship) causing diverse impact on firm's financial behaviour. Regardless of investigating significant financial distress determinants, the innovation of the study also highlighted the sectors effect that drives the active relationship between financial distress and set of firm, sector and country level variables.

To bring into focus that financial distress differ across sectors, this study performs sector wise analysis of 153 non-financial Pakistani firms listed in Karachi Stock Exchange across seven industries. The selected industries were chosen from a data set namely: textile, cement, sugar, energy, chemical, fertilizer and automotive. These sectors are chosen because of high contribution to Pakistan's economy. The political instability outbreak diverse effect on financial and non-financial sectors of Pakistan (Ali and Afzal, 2012). Therefore, it permits the need to scrutinize how different political conditions affect financial distress of Pakistani listed firms across sectors. In the light of above, the rational that defines the period of the study is to bring into focus the effect of two different political regimes of Pakistani listed firms

across sectors. Hence, the study employs the period of study (2004-2013) representing two different political period's dictatorship regime (2004-2008) and democratic regime (2009-2013).

In this regard, the study performs overall and sector-wise analysis of Pakistani listed non-financial firms across sectors with respect to different political periods that have an impact on firms' financial distress. Furthermore, in order to have greater insights into the financial behaviour of firms across sectors, the study employs firm, sector and country level determinants. Moreover, the study assists the corporate firms and banking institutions through logit, decision tree and neural network model to establish sector based lending and borrowing mechanisms. Finally, the study employs logit analysis to recognize the existence of financial distress across sectors in developing markets, and employs paired t-test to check the impact of sectors in different political eras. Additionally, this study augments innovation drive to existing body of literature by exploring the factors that could influence financial distress across sectors.

1.9   Operational Definitions of variables

The operational definitions of firm, sector and country level variables are as follows.

1.9.1   Firm-level Variables

Firm-specific variables that calculated financial distress in this study are as follows:

1.9.1.1 Profitability

Profitability of a firm can also be considered as an imperative determinant of financial distress (Mirzaei, 2015). This study will measure profitability of a firm as earnings before interest and tax over total assets (Nadaraja *et al*., 2011).

1.9.1.2 Size

The larger the size of the firm, higher the ability to acquire debt financing (Fama & French, 2002). This study uses natural logarithm of total sales to measure the firm size (Hernadi & Ormos, 2012).

1.9.1.3 Growth

Companies with larger growth chances look onward to external sources of financing (Hall *et al*., 2004). This study will measure growth of a firm by applying the geometric average of five-year sales growth to total asset growth (Delcoure, 2007).

1.9.1.4 Working Capital

The rationale behind this factor is to measure the degree of assets that a company could use as prime security. It is calculated by current asset substracts the current liability (Vural, Sokmen & Cetenak, 2012)

1.9.1.5 Leverage Ratio

A financial measurement that looks at how much capital comes in the form of debt and assesses the ability of a company to meet financial obligations. It calculated by Total Debt to Total Assets (Norfian, 2011).

1.9.2   Sector-level Variables

Sector level variables that are used in this study are as follows:

1.9.2.1 Munificence

The ability to preserve in constant atmosphere is called munificence. It can be calculated by regressing time against sales.

1.9.2.2 Dynamism

Dynamism measures the extent to which an environment is stable or unstable (Smith *et al*., 2014). It calculated by taking standard error of munificence and average of sales.

1.9.2.3 Herfindahl-Hirschman Index (HH Index)

It deals with industry concentration of high and low. It is calculated by taking square of market shares.

1.9.2.4 Uniqueness

Firms which manufacture specific or unique products suffer from more costs that they liquidate (Titman & Wessels, 1988). Because their dealers and labors have definite specialized abilities associated to their jobs that might be hard for them to cash out in any other operation (Hsu & Hsu, 2011). This study will measure as selling expense over sales (Shahjahanpour *et al*., 2010).

1.9.3   Country-level Variables

Sector level variables that are used in this study are as follows:

1.9.3.1 Lending Interest rate

It represents the economic development of any country; the interest rate is selected because it affects the demand for credit (Mahmud et al., 2009).

1.9.3.2 Stock Index

It can depict the performance of the country. It is computed from the prices of the selected stocks. It also compares the return on specific investments.

1.9.3.3 Inflation

It is a measure of inflation. It measures the increase in the overall price level of the goods and services in the economy. It can be achieved by the interest rates of the banks.

1.9.3.4 Gross Domestic Product (GDP)

A measure of the total output of a country that takes the gross domestic product (GDP) and divides it by the number of people in the country. A rise in per capita GDP signals growth in the economy and tends to translate as an increase in productivity).

1.10   Organization of the Study

The rest of the study is organized in the following way:

Chapter 2 deals with broad, academic and observed literature on financial distress explanation, their determinants in the context of firms, sectors and country-level factors. This study explains financial distress of developed, emerging and developing countries respectively. Moreover, it presents insight into the effects of democratic and dictatorship political periods, and financial distress determinants. Finally, chapter 2 gives an overview of sector-wise performance of Pakistan economic groups. Chapter 3 explains the data and methodology being employed for the investigation purpose. Chapter 4 deals with the analysis and significance of the study. Finally chapter 5 deals with the probable answers of the research questions systematically and also it deals with conclusions, future recommendations and implications.

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