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Does Islamic Label Indicate Higher Use of Trade Credit? Evidence from Pakistan

by

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This thesis is dedicated to my Parents

CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY

ISLAMABAD

CERTIFICATE OF APPROVAL

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Abstract

This study attempts to investigate the behavior of non-financial Islamic label firms towards usage of trade credit. So, as per previous literature it is hypothesized that Islamic label "shariah compliance" firms indicate higher use of trade credit, both demand and supply of trade credit. It is also hypothesized that trade credit is substitute of bank loan. The results are based on 338 non-financial firms listed in Pakistan stock exchange for 2008 to 2016 observation period. These include non-financial firms from all sectors. The study used random Generalized Method of Moment (GMM) estimation technique to explore the relationship of Islamic label and usage of trade credit as it is the most powerful method when sample size is large. This study found Islamic label firms use more trade credit as compared to conventional firms that have more access to bank loan. This study also found that Islamic label (Shariah compliance) firms prefer trade credit over the bank credit. The result of this study proves all stated hypotheses.

Keywords: Islamic Label, Trade Credit, GMM, Shariah Compliance.

Contents

List of Tables

Chapter 1

Introduction

In the modern world no one can neglect the role of money in survival of individuals and businesses. Like all other resources money is the necessary element for the formation of business as well growth of the business. Almost all financial analysts consider money as lifeblood of all organizations, and a primary engine for all internal and external tasks of the firm. For this reason, all firms need the availability of money on appropriate time and in appropriate amount as well as they define the sources of these funds to get and utilize (Hamouri and Radaydeh, 2014).

The sources of funds or money may be internal or external. Firm utilizes funds from internal sources like retained earning whereas externally it goes out for borrowing or for issue of new shares. When the firm requires funds, the financial managers or decision makers analyze the appropriate sources for provision of funds. To decide the better source of funds, it is necessary to take into account the cost of funds before financing. This decision will reduce the cost of capital for the firm (Hamouri & Radayddeh, 2014).

Islamic firms have also the need of external financing as like all conventional firms for their operations, survival and growth. However, the way of meeting their required financing is quite different than other conventional firm because of many reasons and modes. The use of debts differs from Islamic to other conventional firms because of prohibition of interest on debt according to Islamic shariah (Islamic law). Islamic firms retain different quality than conventional firms in getting

funds because of prohibition of interest on loan in Islamic shariah and the promotion of profit and loss sharing (Ayub, 2007). In this regard many scholars argue that Islamic label firms use a very low level of debt in their operations. This study examines the ratio and mode of debt that are using by Islamic label firms (Shariah complaint firms).

There are too many studies that indicate the level of debts for Islamic label firms. As the study of Hayat, & Hassan, (2017) indicates that there is a very low level of debts on the financial statement of the Islamic label firms. This attribute of debt level on balance sheet differentiate Islamic label firms from conventional firms (Bhatt and Sultan, 2012; Adamsson et al., 2014). As like with a low level of debts Islamic label firms may use high level of trade credits to meet their operations.

Trade credit is an external source of fund in corporate finance for a short time period. Firm use trade credits in two perspectives; firstly, accounts receivable are generated when funds are provided to customers in rendering goods or services to them on account. Secondly, accounts payable are generated when funds are provided by suppliers by providing goods or services on account. From the perspectives of accounts payable and account receivables, firms determine its trade credit policy. For too many suppliers trade credit plays a very significant role like future sales, non-salvageable relationship and specific investments depend upon financing ability of customers (Smith, 1987). The study of Nadiri (1969) emphasizes the role of supplier financing by comparing trade credit to a capital investment that yields return over time through gains in market share.

Islamic stocks are the shares issued by Islamic label firms that are operating according to Islamic finance and Shariah (Jurisprudence). Islamic Jurisprudence and financing refers all operations of the firms like financial instruments, practices, contracts and transactions that are governed according to Islamic Shariah (laws). Islamic finance defines all the permissions (Halal) and restrictions for the businesses being stated for Muslims. Due to these Shariah restricts some investments and some transactions are not allowed for the Muslims in their business activities.

Some major restrictions followed by Islamic Shariah- are interest on loan, excessive risk taking, un-ethical business, gambling and investing in those firms that have no real underlying assets. However, taking entrepreneurial risk to generate profit from it is allowed and encouraged whereas paying and receiving interest (riba) on loan is strictly prohibited. Unethical businesses like alcohol, smoking and pornography etc., have a greater harm to the society and thus strictly banned in Islamic law. These rules make principles of Islamic finance which restricts Muslims from some kinds of investments like conventional banking, speculations by derivatives or taking or paying conventional credit (loan and bonds).

Islamic Shariah is the complete code for the business and defines whole transactions for the Muslims based on the Holy Quran and the sayings of holy Prophet and last Messenger Muhammad (Peace Be Upon Him). The guidelines of Islamic Shariah to Muslims is applicable not only in business but in all aspects of life such as personal living, political, social and economic. Due to the rules and restriction of Islamic Shariah, Islamic label firms are highly assets-based and do not go toward debts and thus they are low leveraged as compared to other conventional firms. One of the importance of low leveraged firm is that companies have low distress risk. As according to the study of Bhatt et. al 2012, it is an accepted idea that low leveraged firm have low level of financial distress risk because of low dependence on credit market. However, in light of these studies, Islamic label firms have a high need of short term financing. So this study tries to explore the need of trade credit and how Islamic label affects the use of trade credit.

Trade credit (TC) play a significant role for firm financing and investment and thus it flows like supply and demand channel from one to another (Carvalho, and Schiozer, 2015). Trade credit is also considered as an alternative of bank credits when there are financial crises in the country (Love, Preve, and Sarria-Allende, 2007). When there is a time span between supply of goods and payments of goods, then trade credit takes place. Thus trade credit is a short-term loan for the companies and clients, whosever need it. Trade credit is the most widely accepted approach in modern world and facility of easy credit availability to the business. According to Paul and Guermat (2008) trade credit is one of important

financial instrument for the business but sometimes the researchers neglect it. Earlier Brennan et al. (1988) defines the term trade credit as "An arrangement to buy goods or services on account, that is, without making immediate cash payment".

Trade credit is a kind of agreement or contract in which firms buy supplies from other firms on credit, not to paying immediate payment but in nearest future. The suppliers finance the arrangement on firm reputation and size and become a financial intermediary. According to Meltzer (1960) such kind of suppliers extends trade credit financing to the deprived companies. Actually in trade credit the non-financial firm records supplier who supplies goods and services as accounts receivables whereas the receiving firms mention it an account payable in their balance sheets. Due to these functions of recording Trade Credit is stated as short term financing of the firm.

The use of trade credit plays a significant role in economic and finance and being high lights by recent literature. According to the findings of Alphonse et al. (2003), it is clear that trade credit increase when there is a shortfall in banks debt. The study further refers that, firms that have low access to banks or low availability of banks debts, firm or individuals use trade credits. The study of Schwartz (1974) examines that trade credit has also an impact on money control. But here a question may arise that, why do suppliers issue trade credit where as banks do not do so? The answer is that these suppliers have monetary advantages. Jain (2001) argues by answering this common question that trade credit by suppliers plays a role of financial intermediaries between suppliers and borrowers and have advantages for both. The study further suggested that banks and suppliers both need evaluation and information about their customers to supply credit, where as it is convenient for suppliers than banks. Banks need such information at a higher cost while cheaper for suppliers because of long term relationship (Burkart and Ellingsen, 2004). The study of Frank and Maksimovic (2004) also states that trade credit is helpful for both suppliers and borrowers for fulfilling their financing and investing needs, especially when financial market is inefficient.

The existence of trade credit is widely explained by theories and analyzing studies. Trade credit is a cheap source of external financing when the costs of other sources are high. However, the use of trade credit depends on the firms' ability to buy on account and to pay in nearest future (Burkart, Giannetti and Ellingsen 2008). The source of trade credit is different from other sources existing in businesses. According to Paul et., al (2008) the upmost feature that differentiate Trade credit from other financing source is that, it is offered by a non-financial firm. The study of Fisman and Love (2003) proposes that trade credit depends upon firms' features or characteristics. As Islamic label firm use more trade credit in case of non-financial firm. Whereas Burkart et., al (2008) suggests that its own intention of buyers and sellers mobilize the use of trade credit.

Several studies determine that trade creditors have more advantages on offering trade credit as compared to financial institutions (Garcia-Teruel and Martinez-Solano, 2010). As financial performance and the creditworthiness of buyers can be easily evaluated by suppliers. For this reason, they have less risk of credit defaults as compared to other financial institutions like banks. According to Cunat (2007) the second advantage of trade credit is that, buyers can take more trade credit as compared to the limits of banks. The study further refers that in most of the cases supplier can also take advantage of retaking back its goods if the customers cannot return the payment, and resell to other customers. Summarizing many studies Garcia-Teruel and Martinez-Solano (2010a) suggests that trade credit has low cost of financing for buyers and low risky for supplier as compared to all other floating instruments.

Many theories and studies discussed the reason that why suppliers offer trade credit and why buyers or borrower use this source. Frank and Maksimovic (2004) uncovers the reason in detail and argue the two basic reasons behind motivations and use of trade credit. The study indicates that first motive is that of real operation exists in trade credit, which includes the theory of transaction minimization, guarantee and price discrimination. The second motive of the use and offering of trade credit is financial functioning and fulfilling financial needs of both parties. According to Emery (1984) suppliers extend trade credit in non-developed

financial market and keep reserves for it. Supplier offers trade credit to firms and individuals constrained in finance and keeps long-term relationship with them Frank and Maksimovic (2004).

In addition to these studies authors also argue that suppliers have high market power when there is less competition and they earn high profit margin due to trade credits. However, in terms of firm and individuals the cognitive and behavioral perception affects their investment and financing decisions. According to Almlund (2011) the cognitive characteristics affect the financing decision of investors. The study of Rustichini (2012) also proposes that cultural and behavioral factors of individual may affect the financial decision-making process of firms and individuals while choosing the source of finance and investment. Furthermore, study analyses that investors preferences are affected by many factors that gender, personality, religions, cultural and social values (Sevdalis., and Harvey., 2015). For this purpose, trade credit is stabilizing by these cognitive strategies, personal perceptions and religious motives of buyers and sellers.

By using GMM technique it is found Islamic label 'shariah compliance firms' have significant impact on trade credit, and also prefer trade credit over bank credit "conventional debt". This is one of the first study that established empirically evidence higher usage of trade credit in 'shariah compliance firms' in Pakistani context firms.

1.1 Supporting Theories

The existence and use of trade credit in businesses and firms are explained by too many theories. The study examines some theories that briefly describe the term trade credit and its existences.

1.1.1 Transaction Costs Theory

Cyert and March (1963) for the first time initiate the transaction cost theory that was later on thoroughly explained by Williamson (1996) with theoretical assumptions. According to them transaction cost occurs when there is an economical exchange. Firms pay commission for collecting information and thus transaction cost occurs. According to Willaimsom (1981), management of firm bears transactions cost when it pays commission for services and extra advantages. The study further argues that transaction cost occurs every time when goods or services are transferred from one to another.

The trade credit plays an important role in reducing transaction cost of a firm. According to Ferris' Transaction Theory (1981) he proposes that trade credit reduces the exchange costs of products and services and hence the transaction cost may reduce due to trade credit motives. The theory further argues that in trade credit the transactions of buyer and seller become regular and hence reduces the transaction cost of both parties. So, when transaction costs are reduced, it creates more holding power of receivables for the firm.

Trade credit reduces cost as it makes the supplies of goods and credit financing from one point. Supply of goods on credit are also credit financing and both exist on one account. According to Mian and Smith (1992) the transaction cost reduces as the supply of products and services are taken from one point and hence it also increases efficiency in monitoring and exchange relationship. The assumption from the findings of Petersen and Rajan (1997) also suggests that trade credits can be used by firms for cost benefits. From lenders point of views they have very less information about the buyers or borrower as compared to credit suppliers. Information about buyers or borrower is necessary for credit and supplies, and hence suppliers have traditionally better advantages in trade credit due to strong informative relations (Schwartz, 1974).

1.1.2 Liquidity Theory

Trade credit can also be used for liquidity motives. When there is limited access of financing to the client or when suppliers have better access of finance than the client, so trade credit follows. Trade credit is the oldest type of financing accessible for the buyers by suppliers (Emery, 1987). According to this theory, trade credit suppliers have direct advantages over other financers. One of the most advantages is that suppliers are in a direct contact to their clients or buyers and easily evaluate and monitor credit worthiness of their clients. Besides this, suppliers have a fast and effective way of liquidating their assets in trade credit than other institutional financers.

The perspective of this liquidity theory is buyer opportunism as firstly note by Peterson and Rajan (1997). According to Wilner (2000) the purpose of trade credit evidently shows liquidity motives for buyers and suppliers. The preceding studies of Evan (2000) state that trade credit offered by suppliers are more profitable for supplier even in financial distress. Suppliers grant more concessions to buyers when there is distress in financial market and thus it should be marked as advantages for buyers. The findings of Petersen and Rajan (1997), and Evan (2000) further propose that seller opportunism also exists in trade credit where as buyers are dependent on suppliers (trade creditors).

1.1.3 Asymmetric Information Theory

Information about buyers or borrowers always depends upon the assessment of credits. In most of the cases lenders do not have the thorough knowledge and information about their customers, and thus cause difficulties in assessment of credit worthiness by lenders. Similarly, buyers also do not know about the good quality of lenders or suppliers' products and may cause a loss. Hence there are two views, the first one is that it has cost advantage for both buyers and lenders as earlier discussed. From lenders point of view, they have very less information about the buyers or borrower as compared to credit suppliers. Information about buyers or borrower is necessary for credit and supplies, and hence suppliers have

traditionally better advantages in trade credit due to strong informative relations (Schwartz, 1974 and Willaimsom 1981).

In the second view, trade credits have a cost advantage for both supplier and buyers but may cause a problem of product quality for buyers. The problem is pointed by Smith (1987), he refers that trade credit maintains in firms only if they maintain the quality of the products. Many studies refer that trade credits are more in those industries where quality of products is low. As like Lee and Stowe (1993), and Deloof and Jegers (1996) studied trade credit. On this point of view, they suggest that sellers pass low quality goods on high cost in trade credit. According to Long Malitz and Ravid (1993), and Wei and Zee (1997) large firms sell products of low quality on trade credit as compared to small firm because small firm have a more thinking of its reputations. These studies further suggest that in trade credit many industries cheat information about quality of the products.

1.2 Problem Statement

Trade credit plays an important role in financing of Islamic label firms. The contribution of this study is to explore the impact of trade credit on Islamic label. The Shariah complaint firms use trade credit for their financing and may consider it as an easy access for them in the financial market. Trade credit supplier may also supply it because of convenient access to financial market as well as other many advantages like transaction cost, risk and low chances of bed debts.

This empirical study explores the relationship between Islamic label 'shariah compliance firms' and the behavior of non-financial sector firms towards higher use of trade credit. In this study both trade credit demand and supply of trade credit analyzed, trade credit demand is measured by account payable to debt and for trade credit supply account receivable to sale proxy used. This study also provides evidence of trade credit as substitute of bank loan in Pakistani non-financial sector.

1.3 Research Questions

This study tries to answer the following research questions:

i. Does Islamic label an indication high trade credit demand?

ii. Does Islamic label an indication high trade credit supply?

1.4 Research Objectives

The main objectives of the study are as follow:

i. To examine the impact of Islamic label on trade credit demand.

ii. To examine the impact of Islamic label on trade credit supply.

1.5 Significance of the Study

Trade credit is to be considered as the main source of financing for Islamic label firm. Therefore, Islamic label and trade credit has a significant relationship and thus play effective role in the economic growth and individual preferences. By using GMM technique it is found Islamic label 'shariah compliance firms' have significant impact on trade credit, and also prefer trade credit over bank credit "conventional debt". This is one of the first study that established empirically evidence higher usage of trade credit in 'shariah compliance firms' in Pakistani context firms. From the analysis, this study proposes investors and stockholders to take concern on investment in trade credit. It enlightens the market players in making decision relating investment, operations and regulations of business. For investment in Shariah Compliant this study will provide more guidance to investors and brokers. In addition to financing, firms may also practice the trade credit in sales & marketing, and operations department for cash flow generations to maximize sales and growth. Firms when analyze the benefits of trade credit

may create a policy for it in the business model for many advantages as briefly discussed earlier. Firms may also be interested in determining optimum level of trade credit that can be used for financing. This study provides basis for setting up the level of trade credit to be maintained by the firms.

The study is also meaningful for organization employees to look over its trade credit policy that are beneficial for liquidity, profitability and growth revenue. The social and religious need of employees as well as investors needs may also be fulfilled through trade credit policy adopted by Islamic label. The government agencies and capital market authority may also have defined specific directions for trade credit spread according to the interest of both shareholders and the whole economy. The study contributes sound knowledge body about trade credit and also consists of direction for future research.

This study is also helpful for those firms that face problem of financial distress due to use of heavy debt. In case of unavailability of bank loan due to hard times faced by companies, trade credit may prove as an alternative financing source for such firms. It opens new doors for researchers to study the role of trade credit in financial distress scenarios. It is also very meaningful in developing trade credit strategies for weaker firms and also for small firms that cannot obtain higher level of debt due to their limited resources.

1.6 Scheme of the Study

This study consists of five chapters. In chapter 01, there is an overall concept about Islamic label and trade credit and the theoretical background of study. Subsequently, Chapter 02 discusses the past studies and relevant literature of all concerned variables. Meanwhile, chapter 03 is about the methodology used in the current study and description of all variables. Chapter 04 describes the results obtained through financial techniques and empirical analyses. A chapter 05 summarizes and justifies the results and discussion to obtained expected results. Finally, this study concludes the limitations of study, future research directions and recommendations for further studies.

Chapter 2

Literature Review

This study tries to analyze the relationship between Islamic label and trade credit. Islamic label is those firm which are operating according to Islamic finance or Islamic Sharia. The study attempts to answer the question, Does Islamic label indicate the high use of trade credit? To answer this question, the study investigated the use and terminology of trade credit use in the market by firm. The study also highlights the mechanism of Islamic finance from prior literature. Henry (2016) in this regard, analyzes the study on mobilization of Islamic finance in Middle East, North Africa and many regions from Asia. The study states that Islamic finance is a factor of economic development and may mobilize new constituencies for the region. Islamic finance is mostly based on equity rather than debts due to which it achieved more trust because of strong transparency and accountability.

The study of Henry (2016) further refers that promoting Islamic finance fulfill the interest of both Islamic investors and Government. In actual, there are too many restrictions for Islamic label firm in operation like interest on loan and risk taking. Islamic firms have also the need of external financing as like all conventional firm for its operations, survival and growth. However, to meet its requiring finance, it is quite different than other conventional firm because of many reasons and modes. The study of Hayat, and Hassan, (2017) indicates that there is a very low level of debts on the financial statement of the Islamic label firms. Therefore, Islamic firms may turn toward trade credit for fulfilling the need of external financing because of very low level of debt. Trade credit is an external source of fund in

corporate finance for a short time period. Trade credit plays a significant role for firm financing and investment and thus it flows like supply and demand channel from one another (Carvalho, andSchiozer, 2015).

2.1 Islamic Label

Islamic label are those firm or companies that are operating according to Islamic finance or Islamic Shariah. Islamic finance is a financial system in which all the operations of firm are according to Islamic Shariah (Islamic laws) (Salvi, Miglietta, 2013). Companies following rules and regulation of Islamic Shariah also called as Shariah Complaint. Following Islamic finance is very beneficial for the society and based on the concept of balance among investors. In the modern world Islamic finance is an emerging segment for finance industry throughout Globe. From worldwide analysis of Islamic Finance in the modern Era demonstrates the high increase of Islamic financial products.

Islamic finance is governed by a well-defined jurisprudence called as Islamic shariah or Islamic law. This Islamic law is thoroughly defined and extracted from the last revealed book of Allah Almighty; the Holy Quran, and the saying and practices of Last Prophet Muhammad- Peace be upon him (PBUH). This law or Sharia explains all aspects of life like economic and social activities. The major goal of Islamic law is to maintain human justice in the society (Chapra, 2008). According to Islamic shariah, it is impossible to get success and prosperity in the nation without justice.

Some obligations implied by Islamic shariah on Muslims in the business activities are to be just, fair, honest and truthful towards other. According to the study of Walton (2011), Muslims are obliged to be honest, just and fair in their all of business activities towards other. In other words, Islamic finance defines all transactions that are allowed or prohibited according to Islamic shariah. The businesses that have harm to the society are strictly prohibited for the Muslims. The major objective of Islamic sharia is to establish friendship relations in all economical or financial activities among stakeholders (Rethel, 2011). In this regard

many Islamic institutions and banks are being established with accordance to the concept of Islamic law or Sharia.

The Holy book Quran and the sayings or Hadiths of the Holy prophet laid the foundation of social and economic system. Some basic actions that are forbidden according to Islamic law concluded by Islamic scholars from all school of thoughts are highlighted here. The most important is Riba commonly called as 'interest' is strictly forbidden by Islamic sharia in business or social activities (Ayub, 2002). Along with Riba, excessive gharar (where outcome is uncertain), gambling or maysir and dealing of Haram products (religiously forbidden) are strictly forbidden according to Islamic law. Investing in unethical business that have harm to the society like alcohol, pornography and gambling are also strictly prohibited. Investing in something that has no any underlying assets, are also not allowed for the Muslims according to Islamic Sharia. However Islamic sharia encouraged investment in trade but it should not be in Haram products, the transaction should not be risk free and there must be a stake of equity in it. All the rules are defined for sole proprietorship and all kinds of partnership business by Islamic finance.

All the principles concerned to Islamic finance have been discussed by numerous studies around the world. Around the globe Muslims and non-Muslim researchers analyzed these principles of Islamic finance and the model of Islamic businesses (Iqbal 2005). However, there are few or negligible studies focusing on corporate finance based on Islamic finance (Brealey, and Myers 2014). Basically, Islamic finance defines those activities that cannot be done in the business rather than what is allowed and lawful according to Shariah (Biancone 2012). The system of Islamic finance requires real based transactions and which have fruitful income wealth and fulfilling the needs of others. The basic aim of Islamic finance and shariah is to encourage those activities that have gain to the society and no any harm to people.

Following Islamic finance restricts Muslims to invest in some business and sectors like conventional banking, speculation of derivatives that have no underlying assets, interest bearing bonds and loan, un ethical business and unlawful business.

However according to Shariah scholars investing in stocks is allowed if the firms fulfill the following criteria (Derigs and Marzban, 2008):

- The firm of the stock must earn less than 5% of its earning from unlawful or unethical actions.
- The equity of the firm will be more than 67%, or the debt will be lower than 33% (average of 24 month).
- Firm account receivables of the firm to its market value of equity will be less than 49% (taking the average of 24 month).
- Cash to market value of equity should be lower than 33% (taking of 24-month average).

2.2 Trade Credit

Brennan et al. (1988) defines trade credit as "An arrangement to purchase goods and services on credit, that is, without instant cash payment". Trade credit plays an important role in companies' finances, especially when companies are difficult to get external fund through banks and other financial institutes. In recent years, trade credit in the form of creditors and receivables from non-financial corporations in the euro area has shifted largely in line with the business cycle. This confirms the typical pro-cyclical pattern of accounts payable and receivable because they are closely linked to the exchange of goods and services and thus to economic activity. In general, trade flow credits have remained a stable source of funding for euro area organizations, yet they tend to decrease when bank credit has been effortlessly available since 2005.

On the off chance that way, it is critical to know through which instrument trade credit plays this part. Exchange credit is given when there is a delay between the administration and the installment for them. While early exchange credit hypotheses relate the use of trade credit to the nearness of data asymmetries and the observing advantage that providers have over banks. Later investigations of

the studies focus on the exchange of credit (basically in the shape of accounts receivable) as a cash administration instrument.

Trade credit is an essential element of many businesses. As the study of Elliehausen and Wolken (1993) suggests that trade credits account for about 20 percent of the liabilities of non-banks, non-farmers and 15 percent of all major corporations. According to Rajan and Zingales (1995) trade credits by the firms are accounted for 17.8 percent of the total assets of US firms. In the United Kingdom, 70 per cent of total short-term loans (loans extended) and 55 per cent of total loans received by enterprises consisted of trade credits (Kohler, Britton and Yates 2000). In other countries, including Germany, France, Italy and Portugal, trade credits account for more than a quarter of total corporate assets (Marotta 2005).

2.3 Islamic Label and Trade Credit

This study finds out whether Islamic finance explains, supports or say something about the uses of trade credit in business activities. However, there is no any premise literature that explains the relationship between the uses of trade credit in Islamic finance. In fact, the literature and studies on Islamic finance has been growing day by day in all economical region of the world. According to recent statistics Islamic finance is so much growing in modern era as it reaches to 2.2 trillion US dollars (Reuters 2013). This mean researchers and analysts are positive towards Islamic finance around the Globe. But unfortunately, researchers do not specify links between Islamic finance and trade credit. According to Islamic shariah or Islamic finance trade credit is a lawful and allowed activity in the business. So, trade credit can be enlightened in all business organization to discourage interest-bearing credit from conventional banking.

The link between Islamic finance and trade credit is not explained by literature but trade credit is strongly linked to many business operations. As according to Jensen (1986) trade credit was to be considered as the main source of external financing for the firm. In finance there is only one alternate for debt and that is trade credit. According to many empirical evidences of the studies, trade credit

is an alternative of debt and a good source of financing for the firm's business operations.

Recent studies explain with empirical evidences that there are many factors that are related to trade credit (Garca and Solano, 2010b). Some of these factors are interrelated to the economic development of an economy, like interest rate and financial policy, GDP; financial system and legal structure are major factors. These macroeconomic factors that are cannot be eliminate by firm's management (Demirguc-Kunt and Maksimovic., 2001). Continuing this phenomenon, the main focus of this study is to discuss the specific factors of the firm. There is a relationship between firm's business environment and the level of demand for trade credit. For example, Smith (1987) finds a link between changes in macroeconomic conditions and demand for commercial credit. During recessions, when the capacity of companies to generate funds from the operation is limited or exterior finances are limited, companies resort more on Trade Credit and even prolong it even further by postponing payment.

Therefore, change in macroeconomic factor may cause the high use of trade credit and also firm's capacity to get bank credit and its capacity is also reduced to generate internal cash (Huyghebaert 2006 and Garcìa and Martinez 2010b). Opposing to this assumption, Niskanen and Niskanen (2006) explain that accounts payable continue to increase during a highly established macroeconomic state. The explanation is that there are opportunities for investment during this period, so companies have the highest trade credit to support their operations.

But on the other hand, Demirguc and Maksi-movic (2001) Claims that in a country with developed financial institution and markets, monetary institutions easily monitor the lenders, hence, the company is easy to brow credit from banks or other financial intermediates. However, with an inadequate financial system in a country, the companies may suffer to reach the financial access. Therefore, the source of funds is transferred by non-financial institutes to suppliers. In addition, developed countries provide more production facility and well developed legal protection provide did to lender. Therefore, the uses of trade credit may be decreases because of efficiency level of a country's legal structure.

Companies need more funds in better economic conditions to finance investment opportunities (Niskamen and Niskamen, 2006). According to the study of Smith (1987) the Trade Credit demand changes with economic conditions and reports a direct link between the Trade Credit terms offered and the price paid for the goods. On the other hand, companies in certain sectors "find access to trade credit intrinsically easier" (Fishman and Love, 2003, p.354) and those who operate in markets with fierce competition can use credit terms as a marketing tool to compete (Summers and Wilson, 2002). In addition, small, new, less well-known and/or growing companies can offer generous credit terms to attract more customers and, therefore, can expect to demand more credit to finance them (Paul and Wilson 2006). However, in industry in terms of trade credit terms constantly because suppliers and customers both face same market conditions in same industry (Smith 1987). From this discussion the study concludes that there is a need of research to explore the pattern of account payable and account receivable to comprehend the associations between the supply and demand of trade credit and the exact characteristics of the business.

The pattern of Trade credit usages is different in different industries, but less variation identified within the same industries (Ng et al. 1999 and Fisman., and Love, 2003). However, some industries use too less and some industries even do not need trade credit without tangible inventories or nature of industry, such as technology and restaurant service firms, this pattern of trade credit is fully apposite from tangible inventories industries (Niskanen., and Niskanen, 2006). According to the study of Jain (2001) the firms which have number of sellers, trade credit is not frequently used, since banks are not able to save the cost of surveillance and banks want to pay money to buyers directly. So, higher bankruptcy cost and fixed monitoring cost force firms to use more trade credit.

The empirical evidences of Petersen and Rajan (1997) and Wilson and Summers (2002) propose that some firm specific feature as a factors of trade credit. So, solvency of the firm is major factor, which specifies the credit viability and reputation and good credit history of a firm, and also capability, and capacity of brow the alternative financing source. Therefore, according to Danielson and

Scott (2004), large companies can easily achieve commercial credit requirements. Schwartz (1974) argue that well established and larger firms have a quite better credit history and good credit history and firm's reputation to pay their account payable, such as their long-term relationship with customer and their huge financial scales. Garcìa-Teruel and Martnez-Solano (2010a) also explain the opinions that trade credit is an alternative financing for the company and the characteristics of large companies are determinants of commercial credit. In addition, Petersen and Rajan., (1997) documented that elder and large firms provide more trade credit to customer, so they also have good reputation and batter access to bank and other financial intermediaries, as compared to young small firms; they also found that small firms may have batter access to bank credit, but they cannot offer more trade credit because of lower sale.

According to the study of Garcìa-Teruel and Martìnez-Solano, (2010a), the capacity of internal cash generation can affect the supply and demand of commercial credit. The internal generation of cash refers to the amount of profits that a company can generate by itself during a period. It is measured by net profit plus depreciation of sales. (Garcìa-Teruel., and Martinez-Solano, 2010a) and found a negative relationship between the generation of internal cash and accounts payable, while it is positive with accounts receivable. Because companies with a large internal cash need less external financing, therefore, less accounts payable; These companies also possess the capacity to prolong more accounts receivable to their customers.

The accessibility to financial debt and the cost of debt is also a key factor of trade credit. This measures the ability of a company to access external financing. Therefore, the higher costs of financing lead firms to less attractive to offer trade credit whereas they have extra incentives to choose to credit from providers (Garcìa-Teruel and Martìnez-Solano, 2010a). Therefore, Nilsen (2002) documented that, in the period of monetary restriction, the bank loans cost may be higher than trade credit cost; and that case the usages of trade credit may increase.

According to Petersen and Rajan (1997), the identified sale of the company may affect the use of trade credit and also affirm that higher use of trade credit directly

associated with level of sale. Emery (1984) argue that a firm with low sale firms also used trade credit as marketing tool and offer trade credit to enhance sale growth. Hence, trade credit used for repaid growth of sales (Wilson and Summers 2002).

Companies to gain competitive advantages in broader sense nowadays use trade credit. Offering trade credit also comes to marketing considerations for many firms, which gain the advantages of increasing their sales. Buyers may experience special treatment from sellers if they are considered to have potential for long-term relationships. Therefore, TC can be used as a marketing tool to strengthen existing relationships with clients and/or attract new clients (Paul and Wilson, 2006). This can be achieved through the terms of the offered credit and/or the extension of the existing terms when it is considered worth investing in the clients to keep them in the business and thus generate future returns (Smith, 1987).

Hypothesis 1: Islamic label firms have high level of trade credit demand.

Hypothesis 2: Islamic label firms have high level of trade credit supply.

Chapter 3

Data and Methodology

3.1 Data Sample Selection

3.1.1 Data Description and Sample

The purpose of this empirically study is to explore the study examines the impact of Islamic label on use of trade credit. The sample has been taken form PSX all non-financial companies listed in Pakistani Stock Exchange. The sample size consists of 338 firms and the period of observation involved 2008 to 2016. In this study various industries of non-financial sector kept in focus during sampling such as Oil & Gas, Steel industry, refinery industry, textile, Telecommunication and cement industries. This empirical research bounded to only non-financial sector. The reason behind selecting only non-financial sector was the different capital structure of financial and non-financial companies, and also trade credit is mostly used by non-financial firms only.

3.2 Estimation Technique

In this study, the suggested model was estimated using panel data to capture the effect of unobservable heterogeneity of trade credit on firms. Therefore, the error of unobservable particular can be eliminated by transformation of variable

first difference or lag term (Arellano and Bover, 1990). According to Crisóstomo., Iturriaga, and Vallelado (2012) when sample size is consisted of time series and cross-sectional data the Panel data estimation technique is the most effective because it takes into account the unobservable and heterogeneity of data. OLS (ordinary least squares model) is not appreciated when unobserved effect is co-related to predicting variable. To overcome this heterogeneity issue in this study, the first differences and the random effects model is used.

This econometric technique considers the unobserved impact changing the factors into first difference and uses the generalized method of moments (GMM) to deal with endogeneity issues. Those distinctions are reflected in the nature of the instruments included (Levine, Loayza, and Beck, 2000). The presence of feeble instruments can lead a lower asymptotic exactness in limited samples (Alonso-Borrego and Arellano, 1999). Thus, in this powerful model, an estimator should be utilized that overcomes this heterogeneity problem, substituting the specification in differences with the original regression specified in levels such as the system estimator (Huang and Ritter, 2010).

3.3 Measurement of Variables

3.3.1 Dependent Variable

3.3.1.1 Trade Credit

For capturing the effect of trade credit demand and supply, account receivable and account payable both are used in this study. Therefore, for measuring the trade credit demand (TCD) and trade credit supply (TCS) following proxies adopted from previous empirically studies. (Ahmed., Hui., and Khalid 2014). Therefore, here examined the two sets of trade credit relationships in this study, first a firm treats lenders (suppliers) and then borrowers (customers)

The level of accounts payable is used as the proxy of trade credit demand.

$$TCD = \frac{Accountspayable}{TotalDebt}$$

When a company is seen as a supplier, its accounts receivable is an indicator of how much it lends to its customers. When the company is considered as a customer, its accounts payable are loans from its supplier. Firms supply goods and services to customers which become its accounts receivables, and when firms purchase goods and services on account from its suppliers and vendors, they become firms' account payables. Although refer to the level of the company's accounts received, how far you decide to make a lend, its level is not just by the company, a firm's accounts receivables are simultaneously determined by the firm's willingness and ability to extend credit, as well as the ability or desire of its customers to repay the amount when due. The proxy used for measuring account receivables is the ratio of account receivable to sales.

$$TCS = \frac{AccountReceivables}{Sales}$$

3.3.2 Independent Variable

The independent variable is Islamic label (ISL) captured by dummy variable that takes the value of 1 if the firm is shariah compliant, or otherwise 0. (see Raphie., and Hassan 2016).

3.3.3 Control Variables

To investigate the relationship of Islamic label and trade credit some company-specific variables are used as control variables which are derived from the previous literature. Control variables consist of firm size, leverage, Sales growth, Profitability, Inventory, Liquidity and FIX.

3.3.3.1 Firm Size

Firm size measured as natural logarithm of book value of total assets. According to Ehikioya (2009) total assets can be used for measuring the firm's size. Therefore, existing literature indicates the mixed evidence between firm size and trade credit relationship. According to Petersen, and Rajan., (1997) Small firms uniformly use less trade credit than the large firms and also reported the positive and significant relationship between firm size and trade. Deloof., and Jegers, (1996). Also documented the positive and significant association between trade credit and firm size of the firms.

3.3.3.2 Leverage

Leverage (LEV) is measured as debt to equity ratio. According to Kohler., Britton., & Yates., (2000) leverage is significantly associated with trade credit. In addition, they found high leverage firm use low trade credit during 1990 to 1999. Therefore, leverage is positive and significantly related with trade credit (Molina., and Preve., 2012). Seifert., Seifert., and Sieke., (2013) also found the significant impact of leverage on trade credit.

3.3.3.3 Sales Growth

Sales growth measured as sales in current period minus sales in previous period divided by sales of current period. Ge., and Qiu., (2007) document the negative and significant relationship between sale growth and trade credit and argue that high internal cash generation of the firm means low use of external credit and tend to be higher demand of trade credit. The trade credit has positive and significant impact on sales growth because mostly negative income and negative sales growth firms offer trade credit to boost sale growth and their income (Petersen., and Rajan's., 1997).

3.3.3.4 Profitability

Profitability (PROF) measured as EBIT divided by total assets.

According to Cull., Xu., and Zhu, (2009) higher trade credit level lead to defaults are very rare. But higher profitability is significantly related with trade credit and also helps to stabilize the firm and repay the firms credit. But on the other hand, Deloof., (2003) found the negative association between trade credit and profitability.

3.3.3.5 Inventory

Inventory is defined as ratio of inventory to sales.

Haley., & Higgins., (1973) found the significant relationship between inventory and trade credit. Furthermore, Chung., (1989) documented the positive and significant relationship between inventory and trade credit by using the DFC model. Therefore, inventory channel used to produce income by trade credit (Guariglia., and Mateut., 2006). So, Bougheas., Mateut., and Mizen. (2009) empirical study indicates that the level of account receivable and account payable change with the cost of inventories.

3.3.3.6 Liquidity

Liquidity (LIQ) measured as ratio of liquid assets to total assets.

According to Bougheas., et., al., (2009) higher liquid firms tend to be less eager to propose trade credit. Also Boissay., and Gropp (2007) found positive and significant relationship between liquidity and trade credit and argue that higher liquidity indicates higher trade credit. On the other hand, Blasio., (2005) found no association between liquidity and trade credit.

3.3.4 Fixed Assets

It is calculated as the ratio of fixed assets to total assets. A firm having high fixed assets has an opportunity to get bank loan by pledging these assets. (Jaleel Ahmad and Hui Xiaofeng, 2016).

3.4 Model Specification

This study examines the impact of Islamic label on trade credit. As trade credit demand is also based on lagged trade credit demand that causes endogeneity problem, so GMM approach is used for this study. The model will be as follows:

$$TCD_{i,t} = \beta_0 + \beta_1 TCD_{i,t-1} + \beta_2 ISL_i + \beta_3 SALES\_GR_{i,t} + \beta_4 PROF_{i,t} + \beta_5 INV_{i,t} \\ \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 LIQ_{i,t} + \beta_9 FIX_{i,t} + \varepsilon_{i,t} \tag{3.1}$$

All variables are denoted i for the individual cross-sectional unit (i=1,$\cdots$,N) and t denoted for time period (t=1,$\cdots$,T).

TCD: Trade credit demand

ISl: Refer to Islamic label (sharia Complaint)

SALE_GR: Refer to Sale Growth

PROF: Refer to Profitability

INV: Refer to Inventories

SIZE: Refer to Firm size

LEV: Refer to Leverage

LIQ: Refer to Liquidity

FIX: Ratio to Fixed to Total Assets

3.5 Trade Credit Supply

In this study both demand and supply of trade credit keep in consideration.

$$TCS_{i,t} = \beta_0 + \beta_1 TCS_{i,t-1} + \beta_2 ISL_i + \beta_3 SALES\_GR_{i,t} + \beta_4 PROF_{i,t} + \beta_5 INV_{i,t} \\ \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 LIQ_{i,t} + \beta_9 FIX_{i,t} + \varepsilon_{i,t} \tag{3.2}$$

All variables are denoted i for the individual cross-sectional unit (i=1,$\cdots$,N) and t denoted for time period (t=1,$\cdots$,T).

TCs: Trade credit supply

ISl: Refer to Islamic label (sharia Complaint)

SALE_GR: Refer to Sale Growth

PROF: Refer to Profitability

INV: Refer to Inventories

SIZE: Refer to Firm size

LEV: Refer to Leverage

LIQ: Refer to Liquidity

FIX: Ratio to Fixed to Total Assets

Many existing studies provide the evidence that trade credit is a substitute for unavailable bank credit (Ge., and Qiu., 2007, Nilsen, 2002). If so, obtaining bank credit should result in a severe reduction of trade credit except the firms where trade credit policies are completely independent of their financial positions. An interaction between LEVERAGE and ISLAMIC dummy will be used in equation (3) and (4) to study how Islamic label affects firms' use of trade credit by influencing the availability of bank credit.

$$TCD_{i,t} = \beta_0 + \beta_1 TCD_{i,t-1} + \beta_2 ISL_i + \beta_3 LEV_{i,t} + \beta_4 ISL * LEV_{i,t} + \beta_5 PROF_{i,t} + \beta_6 INV_{i,t} \\ \beta_7 SIZE_{i,t} + \beta_8 SALES\_GR_{i,t} + \beta_9 LIQ_{i,t} + \beta_{10} FIX_{i,t} + \varepsilon_{i,t} \tag{3.3}$$

All variables are denoted i for the individual cross-sectional unit (i=1,$\cdots$,N) and t denoted for time period (t=1,$\cdots$,T).

TCD: Trade credit demand

ISl: Refer to Islamic label (sharia Complain)

SALE_GR: Refer to Sale Growth

PROF: Refer to Profitability

INV: Refer to Inventories

SIZE: Refer to Firm size

LEV: Refer to Leverage

ISL*LEV: Refer to Islamic dummy with leverage

LIQ: Refer to Liquidity

FIX: Ratio to Fixed to Total Assets

$$TCS_{i,t} = \beta_0 + \beta_1 TCS_{i,t-1} + \beta_2 ISL_i + \beta_3 LEV_{i,t} + \beta_4 ISL * LEV_{i,t} + \beta_5 PROF_{i,t} + \beta_6 INV_{i,t} \\ \beta_7 SIZE_{i,t} + \beta_8 SALES\_GR_{i,t} + \beta_9 LIQ_{i,t} + \beta_{10} FIX_{i,t} + \varepsilon_{i,t} \tag{3.4}$$

All variables are denoted i for the individual cross-sectional unit (i=1,$\cdots$,N) and t denoted for time period (t=1,$\cdots$,T).

TCs: Trade credit supply

ISl: Refer to Islamic label (sharia Complaint)

SALE_GR: Refer to Sale Growth

PROF: Refer to Profitability

INV: Refer to Inventories

SIZE: Refer to Firm size

LEV: Refer to Leverage

ISL*LEV: Refer to Islamic dummy with leverage

LIQ: Refer to Liquidity

FIX: Ratio to Fixed to Total Assets

Chapter 4

Results and Discussion

This section of the study provides the detail empirical and statistical evidences of the research. These empirical evidences are structured to provide in depth results and interpretations of different statistical tests. These tests include descriptive statistics, correlations analysis, houseman tests and regression analysis.

4.1 Descriptive Statistics

Table 4.1 shows the descriptive analysis for all variables of this study for the period 2008 to 2016. The behavior of the data is examined to assure its accuracy before running other statistical tests. Descriptive statistics shows the general behavior of data including dependent variable as well as all independent variables. Here the descriptive statistical table contains the value of mean, minimum values, maximum values, and values of standard deviations of all variables. The mean value shows the average of data where as standard deviation shows how it deviates from mean. Minimum and maximum value is the high and low difference in data. The results of descriptive analysis of all variables are given below in Table 4.1.

Table 4.1 shows the statistical summary of all variables which includes in this study. The sample mean value of trade credit supply which is measured by account receivable to sales shows that account receivables to sale ratio is about 0.11. It means that on average, firms have 0.11 of trade credit supply, with a 12.07% of

TABLE 4.1: Descriptive statistics
Islamic label and trade credit demand

	TCS	**TCD**	**ISL**	**LEV**	**FIX**	**INVT**	**SG**	**PROF**	**LIQ**
Mean	0.1103	0.2205	0.3752	1.657	0.5251	0.1919	0.1034	0.1771	0.0392
Median	0.0748	0.1212	0.000	1.307	0.5412	0.1649	0.0849	0.1548	0.0130
Maximum	1.1044	1.844	1	9.870	0.9989	1.7424	1.7673	0.7228	0.5806
Minimum	0.000	0.000	0.000	-9.713	0.0008	0.0001	-1.0931	-0.2036	0.0002
Std. Dev.	0.1207	0.2462	0.4842	1.8976	0.2068	0.1621	0.2054	0.1333	0.0688

standard deviation. For measuring the trade credit demand, account payable to debt proxy used. The mean value of trade credit demand indicates account payable to debt ratio is about 0.22 with a standard deviation of 24.62%. The maximum and minimum values indicate high variation because of the reason that there is very large variation in firms' debt.

The mean value of Islamic label (dummy) is 0.375 and its standard deviation is 48.42% respectively. The average ratio of leverage (lev) is 1.657. This means that the average debt of the firm is high and the firms depend more on debt than equity. The value of its standard deviation is 189.76% showing very high variation. The sample value of fixed assets to total assets is about 0.525 indicate that mostly firms invest more in non-fixed assets e.g. buildings, equipment and land with a 20.68% of standard deviation. The average inventory rate (INVT) is 0.19 with standard deviation of 16.21%. The average sale growth rate is 0.1034 with a 20.54% standard deviation that indicates quite decent growing opportunities for our sample firms. The average profitability rate is 0.1771 with a 13.33% of standard deviation.

4.2 Correlation Matrix and Multicollinearity

To explore the relationships between dependent and in dependent variable which are included in model, and also to investigate the potential multicollinearity problem among variables, correlation analysis is performed. The correlation analysis results between independent and dependent and firm specific variable are reported in table 4.2. Correlation Matrix is a technique that explains the dependency of multiple variables at the same time. The strengthened and directional relationship among the variables is measured through these techniques. However, it is

also considered as a weak tool for analysis but still it is a wide approach used in the research studies. The values of correlation between variables range from -1 to +1, which tells the degree of association between the variables either positive or negative.

Values closer to +1 depict that the two variables are strongly positively related/affecting each other, whereas the values closer to -1 depict that the two variables are strongly negatively related/affecting each other. The correlation between independent variables should not exceed 0.7 to prove no multicollinearity problem among in depended variables. The result of correlation matrix is given below in the table 4.2.

Table 4.2 comprises a correlation analysis of all variable which used in this study. The trade credit demand is positively correlated among TCS, ISL, ISL*LEV, SG, INVT and FIX and negatively correlated with LEV, LIQ and PROF. Trade credit supply is also negatively correlated with LIQ, PROF, SG, and FIX and positively correlated with ISL, and ISL*LEV. The highest correlation of TCD is measured with ISL as 0.59 while all other correlations are less than 0.59. Where, high relation is better than worse (Jiraporn and Liu 2008 and Berger et al. 1997). The correlation analysis also indicates high correlation between ISL and ISL*LEV as 0.61 and correlation between ISL and LIQ as -0.79. ISL has positive correlation among ISL*LEV, SG, and FIX while negative with LEV, LIQ, INVT, and PROF. On the other hand, ISL*LEV is positively correlated with LEV, SG, and FIX and negatively correlated with LIQ, INVT, and PROF.

According to Tabach nick and Fidell (1996), if correlation value exceeds form 0.7 then data have multicollinearity problem. Furthermore, according to the above correlation analysis these variables have no multicollinearity problems because almost all the correlation values are below the 0.7 range.

Table 4.2: Correlations among Variable
Islamic label and trade credit demand

	TCD	**TCS**	**ISL**	**ISL*LEV**	**LEV**	**LIQ**	**SG**	**INVT**	**PROF**	**FIX**
TCD	1									
TCS	0.2544	1								
ISL	0.5905	0.0074	1							
ISL*LEV	0.3003	0.0944	0.6149	1						
LEV	-0.1136	0.0656	-0.0914	0.31374	1					
LIQ	-0.4751	-0.1279	-0.7914	-0.5008	0.0708	1				
SG	0.0186	-0.0129	0.0850	0.04309	-0.0312	-0.1349	1			
INVT	0.1398	-0.148	-0.0553	-0.0132	0.0512	-0.0821	-0.0722	1		
PROF	-0.2026	-0.0645	-0.3733	-0.3321	0.0127	0.1768	0.1058	0.35669	1	
FIX	0.2868	-0.051	0.7173	0.4573	-0.0512	-0.5913	0.01504	-0.0698	-0.412	1

TABLE 4.3: Hausman test
Islamic label and Trade Credit Supply

Hausman Test Correlated Random Effects			
Equation: Untitled			
Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Random cross-section	0	6	1
Cross-section test variance is invalid. Hausman statistic set to zero.			
Estimated cross-section random effects variance is zero.			

Hausman test is carried out for the sample of 338 firms for the period of 2008 to 2016 using the Trade Credit Supply as a dependent variable. The null hypothesis of the Hausman test is that random effect is consistent and efficient and the alternative hypothesis is fixed effect that is consistent and more suitable. From the above result it is clear that value of probability is insignificant and greater than 0.05, above the significant level, hence the study accepts the null hypothesis and reject the alternative hypothesis, indicating that the appropriate model is random effect model. Hence this study considers random effect model as its final model to be used.

TABLE 4.4: Hausman test
Islamic label and Trade Credit Demand

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	0	6	1
*Cross-section test variance is invalid. Hausman statistic set to zero.			
Cross-section random effects test comparisons:			

Hausman test is carried out for the sample of 338 firms for the period of 2008 to 2016 using the Trade Credit Demand as a dependent variable. From the above result it is clear that value of probability is insignificant and greater than 0.05 ($P > 0.05$), above the significant level, hence the study accepts the null hypothesis and reject the alternative hypothesis, indicating that the appropriate model is random effect model.

Table 4.5: Islamic Label & Trade Credit Demand
GMM

Dependent Variable: TCD				
Method: Panel GMM EGLS (Cross-section random effects)				
Sample (adjusted): 2009 2016				
Periods included: 8				
Cross-sections included: 315				
Total panel (unbalanced) observations: 2179				
Instrument specification: C TCD(-1) INVT INVT(-1) LEV LEV(-1) LIQ LIQ(-1)				
Variables	**Co-efficient**	**Stranded-Error**	**t-Stat**	**Prob**
C..	-0.01769	0.024	-0.73694	0.4612
ISL	0.080917	0.033216	2.436063	0.0149
TCD (-1)	0.843581	0.021005	40.16182	0.0000
INVT	0.105469	0.017254	6.112577	0.0000
LEV	-0.00227	0.001113	-2.0379	0.0417
LIQ	0.024698	0.025916	0.952994	0.3407
Effects Specification				
			S.D.	**Rho**
Cross-section random			0.019153	0.0482
Idiosyncratic random			0.085073	0.9518
Weighted Statistics				
R-squared	0.805533	Mean dependent var		0.196396
Adjusted R-squared	0.805085	S.D. dependent var		0.220212
S.E. of regression	0.09736	Sum squared resid		20.59772
Durbin-Watson stat	1.981738	J-statistic		1.96084
Instrument rank	8	Prob(J-statistic)		0.375154

The above table 4.5 explain the relationship between Islamic label and trade credit demand and in this model inventory(INVT), leverage (LEV), and liquidity (LIQ) entitled as control variable. The result of Islamic shows positive and significant impact on trade credit demand at the level of (P-value ≤ 0.05) with coefficient value of ($\beta = 0.080917$). So, this analysis supports first hypothesis and proves that Islamic label (shariah compliance firms) tend to be more relay on trade credit demand rather than conventional credit (interest based loan). The value of coefficient indicates that, keeping other factors same, if 1% variation occurs in Islamic label, then 8.0917% variation will occur in trade credit demand in the same direction.

The firms' specific variable inventory (INVT) also found statistically significant and positively related with trade credit demand at below the significance level of (P-value ≤ 0.05). These finding are in line with Spiros., Mateut., and Paul., (2008), they argue that inventory is important factor of account payable (trade credit demand). Therefore, inventories trade-off is beneficial to buyer so high level of inventories promotes trade credit. If other things remain same firms have incentive to promote trade credit. This argument is alike to argument of Wilson and Summers (2002), they argue that higher inventories firms tend to increase total sales by offering inventories on account. But, on the other hand leverage found negatively with coefficient value of (β = -0.00227) and statistically significant at level of (P-value ≤ 0.05). This result is also in line with previous findings. So, Islamic label 'shariah compliance firms' identified as a low debt firms (Hayat, and Hassan, 2017). These financial screens create a sub-set of low debt firms with possibly diverse factor than conventional counterparts (e.g. Bhatt and Sultan, 2012). But, liquidity found insignificantly related with trade credit demand.

In table 4.5 P-Value of J-statistic found above the significant level (P-value $\geq$ 0.05), which indicates that instruments used in this study are satisfactory. The value of R- square is good representative of the variable observations. R-squared R^2 (R^2 = 0.805533) means trade credit demand is explained 80% by independent variables, which is quite satisfactory. The value of adjusted R-square is (Adj. R^2 = 0.805085) which is less than R-square.

Table 4.6: Islamic Label & Trade Credit Supply
GMM

Dependent Variable: TCS				
Method: Panel GMM EGLS (Cross-section random effects)				
Sample (adjusted): 2009 2016				
Periods included: 8				
Cross-sections included: 308				
Total panel (unbalanced) observations: 2079				
Instrument specification: C TCS(-1) LEV LEV(-1) FIX FIX(-1) SG SG(-1) INVT				
INVT(-1) PROF PROF(-1)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.013527	0.003384	3.99741	0.0001
ISL	0.070066	0.011245	6.230897	0.0000
TCS(-1)	0.892713	0.009601	92.97918	0.0000
LEV	0.003679	0.000675	5.446916	0.0000
FIX	-0.06554	0.01089	-6.01865	0.0000
SG	-0.0475	0.006263	-7.58501	0.0000
PROF	0.017476	0.01108	1.577227	0.1149
INVT	-0.04142	0.007756	-5.33935	0.0000
Effects Specification				
			S.D.	**Rho**
Cross-section random			0	0
Idiosyncratic random			0.050438	1
Weighted Statistics				
R-squared	0.739523	Mean dependent var		0.111632
Adjusted R-squared	0.738643	S.D. dependent var		0.121993
S.E. of regression	0.062367	Sum squared resid		8.055323
Durbin-Watson stat	2.092271	J-statistic		0.264812
Instrument rank	12	Prob(J-statistic)		0.606833

The above table 4.6 reports the result of the Random effect model of Generalize method of Monument (GMM). For examining the relationship of Islamic label and trade credit supply GMM is performed to test the hypotheses. In all analysis leverage, inventory, sale growth, profitability and fixed to total assets ratio are entered as control variables.

In above table 4.6, analysis shows that the value P-state of C (0.0001) found statically significant its means there are other variables that can become part of this model. And the P-Value of J-statistic (0.606833) found above the significant level ($p \geq 0.05$) which indicates that model is significant. The value of R-squared

R^2 ($R^2 = 0.739523$) shows that 73.95% of variation occurred in dependent variable 'TCS' is explained by independent variable 'Islamic label' while adjusted R^2 value (Adj. $R^2 = 0.738643$) is a satisfactory value for the model of Islamic label and trade credit supply.

Table 4.6 shows that Islamic label is positively and significantly related with trade credit supply at the level of ($p \leq 0.05$) with coefficient value of ($\beta = 0.070066$). It indicates that if 1% variation occurs in Islamic label, the trade credit supply will change 7.0066% in the same direction. So, this study also explores the impact of Islamic finance 'shariah firm' on account receivable, means shariah compliance firms use less debt and prefer more trade credit. This analysis supports the second hypothesis and proves that Islamic label (shariah compliance firms) tend to be more relay on trade credit supply rather than conventional credit (interest based loan).

The firms' specific factors sale growth, fixed to total assets and inventories are found negatively and statically significant with trade credit supply, while leverage found to be positive and significant impact on trade credit supply. On the other hand, profitability is found to have insignificant effect on trade credit.

TABLE 4.7: Islamic Label * Leverage & Trade Credit Demand
GMM

Dependent Variable: TCD				
Method: Panel GMM EGLS (Cross-section random effects)				
Sample (adjusted): 2009 2016				
Periods included: 8				
Cross-sections included: 314				
Total panel (unbalanced) observations: 2132				
Instrument specification: C TCD(-1) INVT INVT(-1) LIQ LIQ(-1) PROFPROF(-1) LEV LEV(-1) SG SG(-1)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.042016	0.02702	1.554958	0.1201
ISL	0.11148	0.056331	1.979025	0.0479
TCD(-1)	0.829976	0.022012	37.70634	0.0000
LEV	0.012685	0.006397	1.982917	0.0475
ISL*LEV	-0.07248	0.029539	-2.45386	0.0142
INVT	0.136445	0.019488	7.001426	0.0000
LIQ	-0.03852	0.024984	-1.5417	0.1233
PROF	-0.16371	0.041436	-3.95084	0.0001
Effects Specification				
			S.D.	**Rho**
Cross-section random			0.029544	0.1146
Idiosyncratic random			0.082103	0.8854
Weighted Statistics				
R-squared	0.720091	Mean dependent var		0.163856
Adjusted R-squared	0.719168	S.D. dependent var		0.191344
S.E. of regression	0.101412	Sum squared resid		21.84401
Durbin-Watson stat	1.778465	J-statistic		2.587439
Instrument rank	12	Prob(J-statistic)		0.107714

The above table 4.7 reports the result of random effect of GMM model. For analyzing the of Islamic label impact on trade credit demand, random effect of GMM model is performed to test the hypotheses. In this analysis leverage, inventory, liquidity and profitability are used as control variables.

The above table 4.7 shows the result of second hypothesis, Islamic label and trade credit demand. So that the above result shows that Islamic label (shariah complaint firm) does affect the trade credit demand. The P-stat value of Islamic label found statistically significant at level of p less than 0.05 and positive relation with coefficient value of ($\beta = 0.11148$) on trade credit demand. As there is also no empirical evidence exists in previous literature on Islamic label role in trade credit

demand. So, this is pioneer study which establishes relationship of Islamic label and trade credit. Furthermore, according to coefficient value of Islamic label and trade credit demand, after controlling other variables, if there is 1 percent variation occur in Islamic label 11.148% percent variation will occur in trade credit demand in the same direction.

Our second keen interest to checking the combine effect of Islamic label and leverage so that effect of Islamic label can be examined on firms' use of trade credit in the presence of availability of debt. For this purpose, an interaction between Islamic label firm dummy and leverage is made. The result of Islamic label and leverage interaction found statistically significant at level of ($p \leq 0.05$) as the value of coefficient (β = -0.07248) show inverse relationship between Islamic label dummy and leverage interaction with trade credit demand. This finding is consistent with (Marc., and Wouter., 2010). So, trade credit is a tool of financing in case of unavailability of bank credit (Marc., and Wouter., 2010). In addition, Atanasova and Wilson (2004) argue that UK firms avoid bank loan and more reliance on inter credit (firms trade credit). Therefore, trade credit channel as substitute of financing as a bank credit is more suitable where monetary policy is stick (Guariglia and Mateut 2006). So, firms extend trade credit to enhance sale growth. (Petersen and Rajan, 1997; Marotta, 2005).

Hence, firm specific variable leverage found positively and significantly at (P-value ≤ 0.05) level with coefficient value of ($\beta = 0.012685$) related with trade credit demand. And inventory with coefficient value of ($\beta = 0.136445$) found statistically significant at level of (P-value ≤ 0.05), therefore this results also in line with Daripa and Nilsen (2005) they argue that level of inventories has positive impact on trade credit due to incentive to buyers to hold greater level of inventories. On the other hand, liquidity with coefficient value of (β = -0.03852) found statistically insignificant and negatively related with trade credit demand. Jaleel and xiaofeng (2016) also found insignificant relationship between trade credit and liquidity, they argue that firms which don't face liquidity problem they are less interested to promote trade credit. Hence, profitability is also found statically

significant and negatively related with trade credit demand at level of (P-value $\leq$ 0.05).

The higher value of R- square is good representative of the variable observations. In this model of Islamic label*leverage and trade credit demand R-squared R^2 ($R^2 = 0.720091$) percent, means 72% variation occur in trade credit demand by independent variables, which is quite satisfactory. The value of adjusted R-square is (Adj. $R^2 = 0.719168$) which is below the R-square. And the P-Value of (J-statistic) found above the significant level (r = 0.107714) which indicates that model is significant and accurate at 95 percent level.

The previous table 4.6 showed the effect of Islamic label on use of trade credit. This study is also interested to check the effect of Islamic label on firms' use of trade credit in the presence of availability of debt. For this purpose, an interaction between Islamic label firm dummy and leverage is created. So in table 4.8, Islamic label*leverage and Trade Credit demand have been examined. For analysis the relationship of Islamic label and trade credit supply, the dynamic penal model Generalized method of Monument (GMM) proposed by (Arellano and Bond, 1991) is used and random effect model respectively used in the empirical analysis. The above table 4.8 reports the result of the Random effect model of Generalized method of Monument (GMM). For examining the relationship of Islamic label and trade credit supply, GMM model is performed to test the hypotheses. In all analysis leverage, inventory, liquidity sale growth, profitability and fixed to total assets ratio is used as control variables.

The above table 4.8 analyses show that the value P-state of C is 0.4239, found statically insignificant, it means there is no omitted variable, and the P-Value of J-statistic is 0.01183 found below the significant level (p $\leq$ 0.05) which indicates that model is significant. The value of R-squared R2 ($R^2 = 0.707308$) shows that 70.73% of variation occurred in dependent variable trade credit demand is due to independent variable Islamic label, while adjusted R^2 value (Adj. $R^2 = 0.706319$) shows the satisfactory value for the model of Islamic label* leverage and trade credit supply.

Table 4.8: Islamic Label * leverage & Trade Credit Supply
GMM

Dependent Variable: TCS				
Method: Panel GMM EGLS (Cross-section random effects)				
Sample (adjusted): 2009 2016				
Periods included: 8				
Cross-sections included: 308				
Total panel (unbalanced) observations: 2079				
2SLS instrument weighting matrix				
Instrument specification: C TCS(-1) LEV LEV(-1) SG SG(-1) FIX FIX(-1) INVT INVT(-1) PROF PROF(-1)				
Variables	**Coefficient,**	**Stranded Error**	**T–Stat**	**Prob**
C	0.0047	0.005875	0.799916	0.4239
ISL	0.107257	0.02197	4.881916	0.0000
TCS(-1)	0.908304	0.011852	76.63635	0.0000
LEV	0.009157	0.002537	3.609991	0.0003
ISL*LEV	-0.02352	0.010131	-2.32148	0.0204
FIX	-0.07065	0.011473	-6.15731	0.0000
SG	-0.04534	0.006069	-7.47103	0.0000
INVT	-0.0357	0.007123	-5.01156	0.0000
Effects Specification				
			S.D.	**Rho**
Cross-section random			0	0
Idiosyncratic random			0.051427	1
Weighted Statistics				
R-squared	0.707308	Mean dependent var		0.111632
Adjusted R-squared	0.706319	S.D. dependent var		0.121993
S.E. of regression	0.066111	Sum squared resid		9.051576
Durbin-Watson stat	1.94565	J-statistic		0.743674
Instrument rank	12	Prob(J-statistic)		0.388486

The above result shows that after controlling the all other variables, the Islamic label found positively statistically significant at level of ($p \leq 0.05$) as the value of coefficient of Islamic label ($\beta = 0.107257$) indicates direct relationship and if 1 percent change occurs in Islamic label dependent variable trade credit demand

will change 10.7257 percent. The result of Islamic label and leverage interaction found statistically significant at level ($p \leq 0.05$) as the value of coefficient (β = -0.02352) show negative relation between Islamic label dummy and leverage interaction with trade credit supply. Therefore, this study also prove that trade credit is substitute of bank credit. As this paper explore new evidences as Meltzer's (1960) evidences. According to Meltzer's (1960) trade credit can be substitute of bank credit and trade credit is dependent on firm's relationship. And trade credit is good choose while banks ignore the credit (Burkart and Ellingsen 2002). Hence, account receivable to sale is positively and significantly associated with bank debt (Marc., and Wouter., 2010). In addition, trade credit is batter choose for short term financing for firms which have strong customer relation (Marotta, 1997; Demirguc-Kunt and Maksimovic, 2001; Nilsen, 2002).

The above result also shows the firms specific variable leverage (β = 0.009157) and (P-value ≤ 0.05) found positive and significant relationship with trade credit supply. These results are in line with (Molina and Preve., 2012 and Seifert., Seifert., and Sieke., 2013). In addition, inventory with coefficient value of (β = -0.0357) sale growth coefficient value of (β = -0.04534) and fixed to total assets (β = -0.07065) found statically significant at the level of ($p \leq 0.05$) and inversely related with trade credit supply.

As there is no virtually existing literature on this domain this is first empirically study which prove the positive and significant impact of Islamic label on trade credit, and it is a good sign for encouragement for Islamic financing concept. In fact, Islamic finance is growing very fast (Reuters, 2013). Hence, this finding will help to increasing attention to Islamic industry. Much of this research tends to be very positive towards Islamic finance. So, this result confirms that Islamic label firms are able to provide more trade credit to customers.

Chapter 5

Conclusion and Recommendations

This empirical study explores the relationship between Islamic label 'shariah compliance firms' and the behavior of non-financial sector firms towards higher use of trade credit. 338 firm's Annual financial data have been obtained from non-financial sectors firms listed in Pakistani stock exchange for the period of 2008 to 2016 and Islamic label firms identified by dummy variable. In this study both trade credit demand and supply of trade credit are analyzed, trade credit demand is measured by account payable to debt and for trade credit supply account receivable to sale proxy is used. This study also provides evidence of trade credit as substitute of bank loan in Pakistani non-financial sector. Moreover, after applying the GMM estimation technique, it is found that Islamic label 'shariah compliance firms' have significant impact on trade credit, and also prefer trade credit over bank credit "conventional debt". This is one of the first study that established empirical evidence of higher usage of trade credit in 'sharia compliance firms' in Pakistani context firms.

In addition, this study suggests that Islamic labels firms significantly associated with both trade credit demand and supply. Furthermore, trade credit is also significant source of financing while bank loan is unavailable, and trade credit is better option in case of better customer relations. It is also observed that firms

which having higher level of inventory are less interested to promote trade credit but more interested to collect goods on account from suppliers. In addition, sale growth is directly related to trade credit supply and inversely related to trade credit demand. And this empirical finding found that fixed to total assets also significantly related with trade credit transaction. Therefore, liquidity have insignificant impact on usage of both trade credit demand and supply.

This empirical finding also subsidizes some significant practical policy application. This study provides evidence of trade credit role in Islamic label firms "shariah compliance". It also provides basic guidelines for policy makers to develop and encourage the trade credit Channel. It is also helpful to enhance and promote the Islamic finance in our economy and build trust and better customer relationships, and discourage the conventional mechanism.

5.1 Suggestions

In light of this empirical evidence legislative authority need to improve the trade credit mechanism and encourage shariah compliance firms which use trade credit as a substitute of conventional credit "bank debt".

5.2 Limitations

Although this empirical study has many practical implementations. But this study also has same limitation and unobserved factor. First this study only takes into account high capitalized firms which listed in Pakistan stock exchange that public their financial information regular basis. Furthermore, this study only limited to non-financial sector of Pakistan. And results can't be generalized over all Pakistani industries.

5.3 Future Directions

This study explored the relationship of Islamic label and trade credit in non-financial firms in Pakistani context. Its findings are not established over financial sector. This study also shade light on high use of trade credit in Islamic label firms, so this is open call for researchers to conduct research on financial sector and also role of trade credit in financial distress or bankruptcy.

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