Determinants of Capital Structure: Evidence from the Banking Sector of Pakistan

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ARTICLE INFO	ABSTRACT
	This study seeks to explore the factors determining the capital structure of banking sector of Pakistan. A panel data set of 26 banks for the period of 2007 to 2011 was selected to fulfill the objective of this study. The findings of two econometric techniques of panel data i.e. fixed effects and random effects models reveal that size, tangibility, profitability, growth opportunities and liquidity are the significant determinants of capital structure. The size and liquidity of the banks in the sample have direct impact on leverage, whereas, tangibility, profitability and growth opportunities have a negative association with leverage. These outcomes are in line with corporate finance theories such as Trade-Off Theory, Agency Cost Theory and Pecking Order Theory. This study certifies that banking sector has determinants similar to non-financial sector, so, this study will help financial analysts and managers in understanding the dynamics and underlying premises on capital structure of banking sector of Pakistan.

Introduction

Finance is the key input to start any business and is required to meet the need of working capital along with long-term investments. A business can get funds from different resources. A proportion of these funds are invested by the owners in the business and remaining portion is borrowed from others i.e. from investors and individuals. Out of these funds, some are owned by the business permanently such as share capital and retained earnings, while remaining portion is held by the business for a longer period of time in form of long term debts and debentures. The intact composition of these available funds forms the overall financial structure of the organization and it includes short term borrowing as well.

Generally, the requirement of short term funds changes from time to time. Therefore, there is no such rigid policy implemented to proportionate the sources of short term funds. On the other hand, a definite policy is to be required to generate long term funds and it is known as capital structuring of the organization. Decisions about the debt-equity ratio and dividend are the important issue of this policy. The corporate enterprises can get long-term funds from various resources such as share capital (owners' investment) and debentures (creditors' investment). The profit earned from business activities may be distributed to the shareholders in form of dividend or may be retained in the business. The retained profit is a form of reinvestment in the business and it is owners' funds. Therefore, this source is also a part of long term funds available to any business. All these sources construct the capital structure for the business.

Determining an optimal capital structure is very hot issue in the literature of finance. When an investor decides to invest in the stock of any company, the strength of balance sheet helps him in making decision and capital structure is one of the significant evaluators which determine strength of the balance sheet. Basically, the capital structure of any company describes the long-term capital of the company that is the mixture of debt and equity. So it is crucial for the company to have such a mixture that will help in maximizing the company's stock price. Though the company has many financing options, but it is essential to choose that option which will increase its overall value. This is what we call an optimal capital structure of the company.

Many researchers observed that firms have a propensity to use target capital structure in order to raise their funds. The optimal capital structure is the mix of debt, common stock equity and preferred shares. The optimal capital structure policy must involve a strategic trade-off between risk and expected return. Many researchers observed that some firms employ more debts in their financing structure (Kjellman & Hansén, 1995); other firms prefer equity financing, whereas, many other firms have set target debt-equity ratio (Graham & Harvey, 2001) and its all depending upon the nature of the business.

Therefore, the company should consider financial flexibility, tax position of the firm, confronted business risk and conservative or aggressive behavior of management. Operating conditions along with these factors may cause deviation in actual capital structure from the targeted capital structure. Hence, the optimal capital structure must be used as the definitive capital structure that decreases the weighted average cost of capital (WACC) with an increase in shareholder's value. Figure 1, presented by Pandey (1999), explains completely the process of capital structure decision in order to get optimal capital structure.

The Banking Sector is an integral part of the financial services industry of any country. It is a key financial player and act as a backbone in any economy. It plays a fundamental role in the economic development of any country and plays a vital role in smoothing the function of financial markets. It is an organization where different people and business can invest or from where different people and business borrow money. The

main purpose of these financial institutions is to provide a variety in products and services of assets and liabilities side.

Figure 1: Capital Structure Decision Process
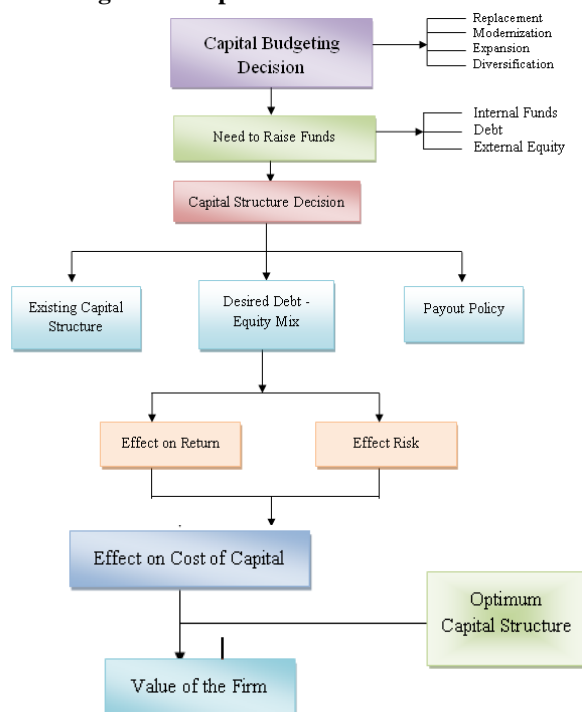
Source: Adopted from Pandey (1999).

In previous literature, a lot of work is done on determining the factors which influence the capital structure of non-financial sectors. A number of factors were studied in this regard which would have impact on the capital structure of any organization. These factors may include profitability, size, assets' tangibility, growth opportunities, debt tax shield, earning volatility, liquidity, age and non-debt tax shield. But a little work is done on determining the capital structure of financial sectors, especially for banking sectors in Pakistan. It is important even for banks, especially in Pakistan, to design their optimal capital structure which will help meeting devastating challenges by boosting their operations in the financial markets.

So, the main purpose of this study is to fill this gap by determining which factors have significant impact on capital structure decision of banking sector of Pakistan during the period of 2007-2011. Moreover this study is aimed at determining the influence of these determinants without the application of capital regulatory requirements.

Review of Literature

Academic research shows a wide range for optimal capital structure. However, it is not possible for financial managers to find out any specific method which will help in defining optimal financing mix. But capital structure theories help them in understanding how this mix will have an impact on the value of the organization. Modigliani and Miller (1958) proposed "Capital Irrelevance Theory" by analyzing the affect of capital structure on firm's value and they made the base to think about the capital structure. They suggested that under perfect market an organization's value is not affected by its chosen capital structure. In other words, capital structure of the firm is not affected by selling debt or issuing stocks and cost of capital will remain constant.

According to the Trade-Off theory of Myers (1977), a firm must define a target debt-equity ratio after considering nature and requirement of business and then put its efforts to attain that target. This theory suggests that debt financing offers more

benefit to an organization as compared to equity financing since it gets tax shield on interest paid on debt while equity income is charged with tax. M.C. Jensen and Meckling (1976) were the first who proposed Agency Cost Theory. It is assumed under this theory that there exist two types of conflicts of interest in any organization.

First conflict is between the managers and shareholders and second is between the shareholders and bondholders. Between shareholders and managers, conflicts arise due to the reason that managers may take decisions in their own self- interests that are not in line with the aim of maximizing shareholders' wealth. Second type of conflict, between the debt-holders and shareholders, arises due to having different approach for risk and expected return. Debt-holders have more interest in current profit because it guarantees their returns. In contrast, shareholders may be willing to relinquish their current profit in order to get long-term appreciation in capital. This creates an agency problem.

Donaldson (1961) was the first who introduced the idea of Pecking Order Theory. He observed,

"Management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional bulges in the need for funds."

Later on Myers. C and Majluf. N (1984) and Myers (1984) observed the conclusion of Donaldson and proposed Pecking order theory with the assumption of information asymmetry. Theoretically, this theory proposes that insiders (managers) have more information about the investment decisions and returns associated with these investments as compared to those outside the organization. Thus, investors are willing to buy stocks on discount in case if there is an information asymmetry between managers and investors. In order to overcome this problem, a firm defines its hierarchy in financing its assets. This hierarchy leads the firm prefers retained earnings over debt financing and debt financing over equity financing.

Many researchers, by considering above mentioned theories, conducted research on capital structure and made contribution to the literature by identifying different factors which would have an impact on capital structure of firms in different non-financial sectors. DeAngelo and Masulis (1980) made cross-sectional and time series analysis of firms' financing decisions and developed a model to determine an optimal capital structure in the presence of personal and corporate taxes. They argued that decision about the optimal financing decision is related to industry since the rate of tax varies from industry to industry. Similarly, Chiarella, Pham, Sim, and Tan (1992), Huang and Song (2006), Niu (2008), Ozkan (2001) Rajan and Zingales (1995), and Ramlall (2009) conducted research on non-financial sector in order to measure financing behavior of non-financial sector.

It is a common assumption that there is no need to identify financing decisions of the bank because of the capital regulations which control banks' financing decisions. According to Mishkin (2000),

"Because of the high costs of holding capital […], bank managers often want to hold less bank capital than is required by the regulatory authorities. In this case, the amount of bank capital is determined by the bank capital requirements."

Berger, Herring, and Szegö (1995) examined the importance of capital structure in financial institutions and defined the difference between the regulatory and non-regulatory capital requirements. They analyzed that the assumptions of M & M theorem are not implemented on the

capital structure of the firms and stated that market capital requirements (measured as equity to asset ratio) enhance the value of bank while their absence stops the bank from revolution. They concluded that equity financing is better from investors' point of view as it raises the rate of return, whereas debt financing is better from owners' point of view as it helps in getting tax shield.

Later on, Yu (2000) also observed the capital structure of banking sector of Taiwan. He divided the banks in three groups as small, medium and large according to their asset size. He examined the relation of bank's equity ratio with five explanatory variables (profitability, liquidity, bank size, money market funds and intermediation spreads). Research findings show that leverage ratio has direct and significant relation with liquidity ratio. Medium sized banks have indirect but significant relation with leverage ratio thus approving bank capital is used by medium sized banks. Finally results show inverse relationship between capital ratio and access to money market for medium sized banks.

Amidu (2007) took initiative to determine financing behavior of banks in Ghana, suggested that profitability, asset structure, size, growth and corporate tax have significant influence on banks' financing pattern and findings were consistent with corporate finance theories such as trade-off, agency cost and pecking order theories.

Moreover, Gropp and Heider (2010) analyzed the factors determining the financial structure of US and European banks by collecting data for 14 years from 1991 to 2004 on 200 US and European banks. The main intention of this research was to identify the effect of variables such as collateral, profitability, market-to-book ratio, size, risk and dividend on banks. The empirical estimation of fixed effects regression model indicates that risk, profitability and dividend have negative impact on leverage of the bank while collateral and size have direct a relation with debt ratio and the separate analysis of US and European banks also reports the same results. Furthermore they suggested that regulatory capital requirements are of second order importance.

But numerous empirical findings of other researchers suggest that capital regulations may not be of first order importance in determining financing pattern of banks (Gropp & Heider, 2010). Banks normally hold flexible capital above the regulatory minimum to avoid issuing capital on short notice because of its increased cost (Barth, Caprio, & Levine, 2008; Brewer Iii, Kaufman, & Wall, 2008). Many other researchers such as Allen, Carletti, and Marquez (2011), Diamond and Rajan (1999), M. J. Flannery (1994) and Myers and Rajan (1998) proposed different theories on optimal capital structure of banks. These theories induced a new trend by indicating that capital requirement imposed by regulators are not nuts and bolts in banks' financing structure and it is possible to measure optimal capital structure of banks the same way as of nonfinancial firms.

Research findings of Ashcraft (2008), Calormiris and Wilson (1998), M. J. Flannery and Sorescu (1996), and M. Flannery and Rangan (2004) reveal that debt-holders, depositors and shareholders are the driving force to define capital structure of the bank other than regulatory minimums. So this research is based on determining those factors which will have impact on capital structure decision of banking sector of Pakistan.

Dependent and Independent Variables

This section of the study provides in-depth information regarding the dependent and independent variables, their proxies and research findings of previous literature related to these variables. Leverage is used, in this study, as a dependent variable to measure capital structure of the banks, whereas, independent variables include size, tangibility, profitability, growth opportunities and liquidity. Table 1 portrays the list of the explanatory variables, their expected sign with dependent variable and references supporting that signs.

Capital Structure or Financial Leverage (LEV)

The term capital structure, also known as financial leverage, is referred to as the mixture of a variety of securities i.e. long-term debt, common share and preferred share. Firms issue these types of securities to finance their assets. The prime objective of this study is to measure the capital structure for banking sector of Pakistan. So dependent variable is leverage and it may be defined in a number of ways. The broadest definition of leverage is the ratio of total liabilities to total assets, as it provides deep insight of short and long term debt policy of any organization. Ferri and Jones (1979) used this approach in their empirical research to measure leverage. According to Wald (1999), the ratio of total debt to total assets is more sensitive against financial crises as compared to long term debt ratio.

Therefore, financial leverage of banks is calculated, in this study, as the ratio of book value of total liabilities over the book value of total assets. The reason to take total liabilities is that it comprises of both deposits and non-deposits liabilities in case of banks and helps understanding leverage of banks the better way.

$LEV = TL/TA$

Where:

LEV = Leverage

TL = Total Liabilities

TA = Total Assets

Size (SZ)

Trade-Off theory suggests that large firm should prefer debt financing to obtain target capital structure as they have low financial distress costs than smaller firms. Moreover, it is easy for larger firms to approach the capital market and these firms have low monitoring cost which will reduce agency cost. Similarly, firms with large size are more diversified and have low possibility of bankruptcy; therefore they should be leveraged more. Conversely, pecking order theory suggests inverse relation of size with debt ratio as large firms do not have the issue of information asymmetry and they can issue equity easily.

Theoretically, there exists an uncertain relationship between size and leverage. Titman and Wessels (1988) argued that larger firms, as compared to smaller firms, are more diversified with a little cost of bankruptcy, have stable cash flows and can adopt debt financing in their capital structure. Furthermore, they suggested that larger firms will have lower transaction cost in case of debt financing as compared to equity financing and these firms will also prefer debt financing. Guney, Li, and Fairchild (2011), Céspedes, González, and Molina (2010) and Cheng and Shiu (2007) found positive relationship of leverage with size in case of nonfinancial firms. In case of banks, Gropp and Heider (2010) suggest direct impact of size on leverage. Research findings of Rajan and Zingales (1995) suggest that firms with large size are more likely to release information to public as compared to smaller firms and this thing favor them in equity financing. So, size may have inverse relationship with leverage. Doukas and Pantzalis (2003) reported that large firms can generate their own internal capital market in which cash flow generated from one division may be used to finance other division. In this way, a large firm can reduce its external

financing. Size of the banks is measured in term of gross advances.

SZ1 = LOG (ADV)

Where:

SZ1 = Size of the bank

LOG = natural logarithm

ADV = Gross Advances

Tangibility of Assets (TANG)

Tangibility is used to measure the level of collateral a firm can offer to its debtors. Tangibility is positively related to a firm's leverage as it assures the lender that his loan is backed by some collateral assets. According to trade-off theory, a higher fixed to total assets ratio ensures higher level of security, thus offering more value to liquidate assets in case of bankruptcy. Pecking order theory suggests that selling secure debt may be beneficial for the organization as it reduces the cost which may arise from information asymmetry between insiders (mangers) and outsiders (investors) and organization can get advantage of this opportunity. Agency cost theory of M.C. Jensen and Meckling (1976) also suggests that in case of default, debt holders can recover more if firm's assets have more collateral value.

Most of the empirical findings in developed countries resulted with direct relationship of level of debt with tangible assets (Kremp, Stöss, & Gerdesmeier, 1999; Rajan & Zingales, 1995). Rajan and Zingales (1995) suggested that lenders are more willing to provide loan if balance sheet of the firm has the greater proportion of tangible assets, thus leading to higher leverage. Since most of the researchers measured tangibility of assets as the ratio of fixed assets over total assets, in this study, it is measured the same way.

TANG = FA / TA

Where:

TANG = Tangibility of banks' assets

FA = Fixed Assets

TA = Total Assets

Profitability (PROF)

The expected relationship of this variable depends upon the theory used. Pecking order theory predicts negative relation of profitability with leverage. According to this theory, more profitable firms generally borrow less because they have adequate internal funds for their capital investment programs, whereas, firms with less profitability generally use debt financing due to less availability of internal funds.

Myers (1984) indicated an inverse relationship between leverage and profitability under this theory and research findings of Rajan and Zingales (1995) also support this relationship in case of G7 countries. The reason to support this relationship was that more profitable firms as compare to less profitable firms incur more agency cost in case of increased debt financing. Similarly, research findings of Hovakimian, Opler, and Titman (2001), Sheel (1994) and Titman and Wessels (1988) predicted a negative relation of profitability with long term leverage. Findings of (Gropp & Heider, 2010) suggest that banks with more profitability prefer less leverage financing.

In contrast, trade-off theory explains a direct relationship of profitability with leverages. DeAngelo and Masulis (1980) argue that the firms with higher profitability can get more benefit of tax shield by increasing their debt financing. Moreover a profitable firm may have likelihood to pay back the loans, they can borrow more. Research finding of Burgman (1996), Aggarwal (1994), and Titman and Wessels (1988) also suggest positive sign of profitability with leverage. Um (2001) suggests

that high profitability will provide a higher debt capacity along with tax shields, therefore, a positive sign should be expected between financial leverage and profitability. In this study, profitability is measured by ROA.

PROF = ROA

Where:

PROF = Profitability

ROA = Return on Assets

Return on Assets = Profit (Loss) After Taxation/Total Assets

Growth Opportunities (GRW_OPP)

Growth opportunity is an asset which adds value to a firm but it is an intangible asset which cannot be collateralized and it is not charged under taxable income (Titman & Wessels, 1988). Different theories suggest different predictions to show the relationship of growth opportunities with leverage. Different researchers find different relationship, such as M.C. Jensen and Meckling (1986) and Myers (1977) concluded that firms with less growth opportunities prefer to use debt financing and growth opportunities cannot be used as collateral as it is not tangible assets. Similarly, Fama and French (2002) found that firms having more growth opportunities prefer less utilization of debt. Some other researchers predicted an inverse relationship of growth opportunities only with long-term debts and direct relationship with short term debts (Bevan & Danbolt, 2002; Chen, Cheng, He, & Kim, 1997; Rajan & Zingales, 1995; Titman & Wessels, 1988). Conversely, Céspedes et al. (2010), Gill, Biger, Pai, and Bhutani (2009), Sharif, Naeem, and Khan (2012), Tang and Jang (2007) and Yang, Lee, Gu, and Lee (2010) found positive relationship of leverage with growth opportunities but results of Gill et al. (2009) and Sharif et al. (2012) were not significant.

A variable growth opportunity, in case of banking sector, can be measured as growth rate of advances and growth rate of deposits. In this study, percentage growth in advances over the percentage growth in total assets is used.

GRW_OPP = GRADV/GRTA

Where:

GRW_OPP = Growth Opportunities for banks

GRADV = Growth Rate of Advances

GRTA = Growth Rate of Total Assets

Liquidity (LIQ)

Many researchers used liquidity as an independent variable to measure its impact on leverage of the firm. Basically liquidity is the ability of any firm to meet its short term obligation when they become due. Ozkan (2001) reported that higher liquidity ratio implies that a firm has more power to pay its debt as they become due, hence, the firm can structure its financing pattern by taking more debt rather than issuing equity. This research shows that liquidity has direct relationship with leverage ratio. Yu (2000) also observed that banks with more liquidity have positive impact on leverage. On the other hand, Tong and Green (2005) observed an inverse relationship of liquidity with leverage. Childs, Mauer, and Ott (2005) concluded that firms avoid interest rate and liquidity risk and have negative relation of long term debt ratio with liquidity. Similarly Guney et al. (2011), Mishra and Tannous (2010) and Sharif et al. (2012) reported a negative relation of liquidity with financial leverage. In this study variable liquidity is measured as cash and cash equivalent to total assets.

LIQ = CCE/TA

Where:

LIQ = Liquidity of the bank

TA = Total Assets

Data and Methodology

Current study is based on measuring capital structure of banking sector of Pakistan listed on Karachi Stock Exchange (KSE) and Lahore Stock Exchange (LSE). Secondary data of dependent and independent variables is retrieved mainly from publications of State Bank of Pakistan (SBP) named as "Financial Statement Analysis of Financial Sector 2006-2010" and "Financial Statement Analysis of Financial Sector 2007-2011". Other sources of data include yearly consolidated financial statements (balance sheet and income statement) of banks. Sample data of 26 banks, for the period of 2007 to 2011, was collected by convenient sampling technique/ simple random sampling technique. The data set used in this study is a panel data set as sample data is based on observations from a number of banks in time series. The reason to use panel data for this study is that it helps in controlling the bias caused by unobserved heterogeneity. It covers both dimensions i.e. time series and cross-sectional and panel data set has large number of observations. It provides more informative data than simple time series and cross sectional data with less multicollinearity in variables. The panel data set used is cross-sectional which is strongly balanced since observation is available for every unit and for every time period.

Figure 2: Choice of Regression Model for Panel Data
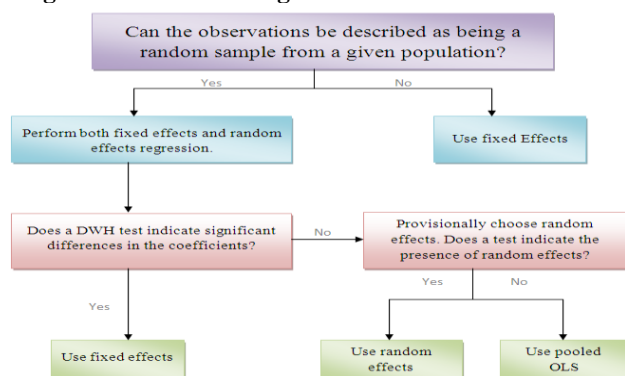
Source: Adopted from Dougherty (2011)

The decision regarding which regression model will provide best suitable result either fixed effects model or random effects model, is mainly based on decision making criteria presented by Dougherty (2011), illustrated in the Figure 2. According to this figure, if random sample is taken from the population, then both techniques of panel data i.e. fixed effects and random effects, should be employed. Fixed effect approach primarily concerns with uniqueness of every cross sectional component in sample and permit intercept term to vary across each component. On the other hand, random effect model assumes that variables in the study are not correlated by any means. Now the point is results of which model are more reliable and can be generalized to the population. For this purpose, Hausman's Specification Test is applied and if results of this test are significant and reject Null Hypothesis (H_0) i.e. "difference in coefficients not systematic", then fixed effect model will be used.

On the other hand, if null hypothesis "difference in coefficients not systematic" is accepted then random effect model will be used. A further step is to test the validity of either Random effect model or pooled Ordinary Least Square (OLS) regression model is to be applied. Breusch Pagan Lagrange Multiplier Test is used for this purpose. If results signify the rejection of null hypothesis (H_0) i.e. "no random effects" then random effects model will be used otherwise pooled Ordinary Least Square (OLS) regression model will be applied. Both techniques i.e. fixed effect and random effect, are used, after that

Hausman's Specification Test is applied which signifies the selection of fixed effect model.

By observing research work done by different researchers on capital structure as well as the theories of capital structure, this study constructs the following two research model;

Fixed Effect Model:

$LEV_{it} = \beta_{0i} + \beta_1 (SZ_{it}) + \beta_2 (TANG_{it}) + \beta_3 (PROF_{it}) + \beta_4 (GRW\_OPP_{it}) + \beta_5 (LIQ_{it}) + \mu_{it}$

Random Effect Model:

$LEV_{it} = \beta_0 + \beta_1 (SZ_{it}) + \beta_2 (TANG_{it}) + \beta_3 (PROF_{it}) + \beta_4 (GRW\_OPP_{it}) + \beta_5 (LIQ_{it}) + \mu_t + \varepsilon_i$

Where:

SZ_{it} = Size of the bank i at time t

$TANG_{it}$ = Tangibility of assets of the bank i at time t

$PROF$ = Profitability of bank i at time t

GRW_OPP_{it} = Growth Opportunities of bank i at time t

LIQ_{it} = Liquidity of bank i at time t

μ_{it} = error of the firm i in time t

μ_t = error in time t

ε_i = error of firm i

Empirical Finding

The outcomes of model and the analysis of our finding are explained in this section. Table 2 depicts the descriptive statistics of the all the variables used in this study for period of 2007 to 2011. This table shows that all variables have 130 observations except growth opportunities. The mean value of Leverage is 0.8711, which means that 87% of debt financing is done against total assets in banking sector of Pakistan over the period of 2007-2011. The standard deviation of the leverage is 0.0891, its minimum value is 0.4649 and the maximum value is 0.9842. Similarly, values for all independent variables are also given in this table.

Coefficients is significant at 1% level in both models which predicts that banks prefer leverage financing by increasing the size of advances. Similarly, liquidity of banks also has direct impact on leverage, and its coefficient is significant at 5% in case of fixed effects model. Its statistical relationship with leverage, in case of random effect model, is found to be insignificant. Empirical findings advocate improvement in level of leverage with the increase in cash and cash equivalents which enhances the ability of banks to meet short term obligations. Remaining three variables i.e. tangibility, profitability and growth opportunities have inverse relationship with leverage in both models and their coefficients are significant at 1%. It means leverage level of banks in Pakistan shrinks by escalating level of collateral assets, ROA, and growth opportunities for advances.

The overall explanatory power of model is accomplished by calculating coefficient of determination, which is usually denoted by R^2. Overall R-square is higher in random effects model as compared to fixed effects model. Its value in random effects model shows 40.51% of variation explained by explanatory variables and in fixed effects model explained variation is 38.08%. Value of within R^2 in fixed effects model is 72.31% and in random effects model is 69.81%. Whereas, between R^2 of fixed effects and random effects are 38.16% and 38.90% respectively. Fitness of model is checked through F statistics in fixed effects model and through Wald Chi2 test in random effects model. Both models are good fit as F test of fixed effects model and Wald Chi2 test of random effects model are significant at 1%.The value of Chi^2 statistics of Hausman's specification test is 39.61 is significant at 1% level of significance which rejects null hypothesis (H_0).

Table 1: List of Independent Variables, their Symbols, Signs and References

Variable Name	Expected Sign	Sign	Reference	Sign	Reference
Size	+ / -	+	Céspedes et al. (2010), Cheng and Shiu (2007), De Jong, Kabir, and Nguyen (2008), Deesomsak, Paudyal, and Pescetto (2004),Fama and French (2002), Guney et al. (2011), Gropp and Heider (2010), Istaitieh and Rodríguez-Fernández (2006),Khrawish and Khraiwesh (2010) ,Serrasqueiro and Rogão (2009),Sharif et al. (2012),Wald (1999),	-	Mishra and Tannous (2010), Shah and Khan (2007)
Tangibility	+ / -	+	Cheng and Shiu (2007), Céspedes et al. (2010), Delcoure (2007), Fernández and Aplicada (2005), Khrawish and Khraiwesh (2010), Gaud, Jani, Hoesli, and Bender (2005), (Guney et al., 2011), Gropp and Heider (2010), Mitton (2008),Nivorozhkin (2005), Titman and Wessels (1988), Omet (2006), Supanvanij (2006), Shah and Khan (2007), Voutsinas and Werner (2011), Yang et al. (2010)	-	Afza and Hussain (2011), Daskalakis and Psillaki (2008), Gill et al. (2009), Jõeveer (2006),I. Pandey (2001), Chiarella et al. (1992)
Profitability	+ / -	+	Aggarwal (1994),Burgman (1996), DeAngelo and Masulis (1980), Titman and Wessels (1988),	-	Afza and Hussain (2011), Céspedes et al. (2010), Cheng and Shiu (2007), Fama and French (1998), Gill et al. (2009), Gleason, Mathur, and Mathur (2000), Gropp and Heider (2010), Hammes (1998), Hovakimian et al. (2001), Khrawish and Khraiwesh (2010), Sharif et al. (2012), Shah and Khan (2007)
Growth Opportunities	+ / -	+	Céspedes et al. (2010), Drobetz and Fix (2003), Kashyap, Rajan, and Stein (1998), Tang and Jang (2007), Yang et al. (2010),	-	Bevan and Danbolt (2002), Chen et al. (1997), Fama and French (2002), M.C. Jensen and Meckling (1986), Rajan and Zingales (1995), Shah and Khan (2007), Myers (1977), Titman and Wessels (1988)
Liquidity	+ / -	+	Fama and French (2002), Ozkan (2001), Yu (2000)	-	(Afza & Hussain, 2011), Deesomsak et al. (2004), Guney et al. (2011), Mishra and Tannous (2010), Sharif et al. (2012), Tong and Green (2005), Viviani (2008)

Table 2: Descriptive Statistics

Variable	Observations	Mean	Stan. Dev.	Minimum	Maximum
LEV_{it}	130	0.8711	0.0891	0.4649	0.9842
SZ_{it}	130	7.7563	0.6137	6.4189	8.7742
$TANG_{it}$	130	0.0366	0.0241	0.0060	0.1744
$PROF_{it}$	130	0.0003	0.0216	-0.0708	0.0372
GRW_OPP_{it}	128	1.2139	3.1621	-11.1344	29.6865
LIQ_{it}	130	0.1010	0.0422	0.0302	0.2776

Table 3: Pearson Correlation Coefficient Matrix

Variables	SZ1	TANG	PROF1	GRW_O.	LIQ1
SZ1	1.0000				
TANG	-0.3369*	1.0000			
PROF1	0.3962 *	-0.3036*	1.0000		
GRW_O.	-0.1831**	0.2749*	-0.0408	1.0000	
LIQ1	-0.0716	0.1239	0.1999*	0.0380	1.0000

Table 4.3: Regression Results of Four Models

Variables	Proxies	Fixed Effect	Random Effect
Leverage	Total Liabilities /Total Assets		
Size	Log of Advances	0.2289*	0.1580*
Tangibility	Fixed Assets/Total Assets	-0.4346*	-0.5076*
Profitability	ROA= Profit/ (Loss) after Taxation/ Total Assets	-0.9607*	-0.9697*
Growth Opportunity	Growth Rate of Gross Advances / Growth Rate of Total Assets	-0.0026*	-0.0036*
Liquidity	Cash and Cash Equivalent / Total Assets	0.2111**	0.1448
R^2			
Within		0.7231	0.6981
Between		0.3816	0.3890
Overall		0.3808	0.4051
F Statistics		50.66*	
Wald Chi^2			194.74*
Hausman's Test		39.61*	

It shows that it is appropriate to use estimated results of fixed effects as compared to random effects.

Discussion and Conclusion

Relationship between size and leverage shows the application of Trade-off Theory and Agency Cost Theory, thus predicting that banks with large advances have low financial distress costs and easy access to capital market as compare to smaller banks and they prefer debt financing to obtain target capital structure. Moreover, larger banks have low problem of information asymmetry, low monitoring cost which will reduce agency cost and are more diversified with stable cash flows which will lessen the possibility of bankruptcy; therefore they prefer debt financing in their financing structure. Akhavein, Berger, and Humphrey (1997) explains the reason of direct relationship between size and leverage as banks with large size increase their lending thus allowing banks to run their business with less capital. Gropp and Heider (2010) also predict banks with larger size are more leveraged. Hence, findings of this study are consistent with those of Barclay and Smith Jr (1995), Céspedes et al. (2010), Cheng and Shiu (2007), Grinblatt and Titman (1998), Guney et al. (2011), Smith (1977), Titman and Wessels (1988) and Warner (1977) who found positive relationship of leverage with size.

Normally, tangibility has positive relation with leverage in developed countries, but empirical findings depict that in developing country it has inverse relationship with leverage (Jõeveer, 2006; I. Pandey, 2001). Findings of this research predict that debt level of the bank decreases by increasing its collateral level. This may be due to the reason that banks have more investment in opaque assets which will increase the chances of bankruptcy. Moreover, it becomes difficult for investors to verify assets with more opacity and this proves that in banking sector of developing countries such as Pakistan leverage is the decreasing function of tangible assets. These results are consistent with research findings of Jõeveer (2006) and I. Pandey (2001) and proves fixed assets are not the main source of collateral in banking sector of Pakistan. Moreover, Afza and Hussain (2011), Chiarella et al. (1992), Daskalakis and Psillaki (2008) and Gill et al. (2009) are also in favor of this relationship.

Empirical findings of profitability suggest that banks with more profitability will have to incur more agency cost due to more chances of conflicts in creditors and shareholders in case of increased debt financing; therefore, they should prefer internal financing for investment purpose. These findings are consistent with Pecking Order Theory (POT) and Agency Cost Theory, which predict inverse relationship of profitability of the firm with its leverage financing. Results of this research are similar to those of Céspedes et al. (2010), Cheng and Shiu (2007), Gill et al. (2009), Gleason et al. (2000), Sheel (1994), Sharif et al. (2012) and Titman and Wessels (1988) who predicted an inverse relationship between profitability and leverage. Moreover, Fama and French (1998), Gropp and Heider (2010), Hammes (1998), Hovakimian et al. (2001) and Khrawish and Khraiwesh (2010) also support this relationship.

Research findings of this research depict a statistically significant relationship with negative impact of growth opportunities on leverage and are consistent with Trade off Theory (TOT) and Agency Cost Theory thus suggesting that banks with less intangible assets prefer using debt financing. Furthermore, Agency Cost Theory suggests that firms with more growth opportunities prefer equity financing as they have more opportunities to finance in risky investments. Resultantly,

agency cost increases and lenders are only willing to lend at high interest rate, therefore, more growing firms prefer equity financing over debt financing. In other words, the banks with more growth opportunities have equal chances to make investment in safe as well as in risky projects. Financial managers, being an agent to shareholders, will prefer risky projects to increase shareholders' returns. On the other hand, lenders will ask for more premiums in order to compensate the extra risk in more growing banks, which increases the cost of debt. So, financial managers prefer equity financing by the increase of growth opportunities. Findings of this research are in line with the findings of Fama and French (2002), Harris and Raviv (1991), M.C. Jensen and Meckling (1986), Myers (1977) and Rajan and Zingales (1995).

Kashyap et al. (1998) point out that banks in shape of current account offer more liquidity to their depositors and for borrowers they expand credit through credit lines. Furthermore, findings of this study are consistent with those of Fama and French (2002), Ozkan (2001) and Yu (2000). Thus, banks with higher cash can play more overtly in the credit market by lending more and thus increasing the leverage and the same is well proven by our research results. Banks with higher liquidity have higher leverage as well, which shows their better ability to meet interest expense and these findings are consistent with Trade off Theory.

Thus, findings of this study suggest, within the standard corporate finance theories i.e. Trade-off Theory, Agency Cost Theory and Pecking Order Theory, similar to nonfinancial sector banks with higher level of leverage may have more tax benefits, and with little confrontation of information asymmetry have low agency and bankruptcy cost. This empirical study has a significant contribution to the existing literature. It develops a path to determine the important factors which have a significant impact on capital structure decision of banking sector in Pakistan along with application of capital structure theories. This study will help managers in making decision of optimal debt-equity choice for banking sector. Moreover, this study can motivate upcoming researchers to consider capital regulations and to include other factors as well in their research. They can run their research by expanding data years and even they can segregate their study with respect to bank category and can also conduct a study on overall financial sector of Pakistan.

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