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Determinants of Capital Structure: Evidence from the Banking Sector

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ABSTRACT

The main objective of this research is to investigate the capital structure determinants of Pakistani banks working at national and international levels. The purpose was to explore which variables influence the capital structure more. Data was gathered from the published report of the State Bank of Pakistan (SBP) and Pakistan Stock Exchange (PSX) website from the period 2010-2019 year. Twenty-four bank reports were compiled and analyzed who work at national and international levels. Eviews software was used to analyze the data in which descriptive, covariance correlation, and regression analysis were carried through by Ordinary Least Square (OLS) method. The results show that all five independent variables have a negative relationship except firm size on leverage which could be due to the firms' nature of business. This research concluded that ROA has a substantial negative impact on leverage; as ROA increase, it will reduce the leverage. TGB has a moderate negative, and GTH and INF have a weak negative on leverage, meaning TGB, GTH, and INF increases will reduce the leverage. SZ has a weak positive impact on leverage means Size will impact positively as size increases, and it will also increase leverage.

Introduction

Corporate finance is included in the basic terms affecting stockholder wealth, and making the right decisions regarding corporate finance is crucial. The prime objective of corporate finance is to maximize the benefits that the financing decision of the company can achieve. Capital structure is the mixture of funds utilized by organizations to back their activities and resources (Bukhari and Khan, 2013). Capital Structure is a crucial factor in using the proper combination of debt and equity (Martellinia et al., 2017). A firm's capital structure is discovering the firm's various sources of financing, i.e., Equity and Debt. The equity can be classified into (common and preferred stock) and Debt (Short-term debt and Long-term debt). A firm can collect the funds through equity by issuing common and preferred stock to the general public and through debt by giving bonds to the people having the specific endorsed interest rate or getting a loan from the banks as notes payable, which is in the form of long-term debt(Mujahid, 2013).

Firms finance themselves with an adequate capital structure to pay overall assets, run business operations smoothly, pay off debt without any hindrance, and firm growth by issuing equity and hybrid securities. The capital structure is a mixture of debt and equity. The equity portion includes common stocks, preferred stocks, and retained earnings, and the debt portion includes short-term bank loans, long-term debt, bonds, and debenture. Along with there are some hybrid securities that have both characteristics of debt and equity, i.e., income bonds. (Master of Science in Management-Finance - Weatherhead, n.d.)

The different ratios contribute to calculating or deciding the capital structure in various economies to solve the problem of the firm's performance, Profitability, and Shareholders' wealth (Afza & Nazir, 2014).
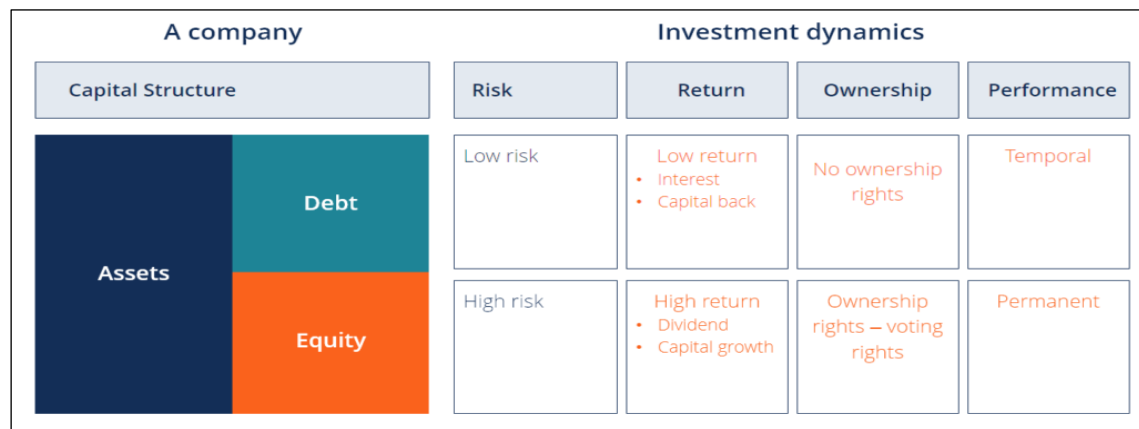

Figure 01: A company and Investment Dynamics (Course., 2012)

- Figure 01, left side, shows the capital structure divided into two portions, debt, and equity, and from these sources, firms pay the payment for the assets.

- And figure 01, the right side, shows the investment dynamics in terms of Risk, return, ownership and performance.

Finally, let's assume that the company has a considerable debt load; in that case, the first row will show the results of minimal investment risk due to the amount invested taken from somewhere else, the low returns due to high-interest payments, no ownership rights, and performance that is favourable only temporarily. On the other hand, if the company has more equity, the second row displays the results of high investment risk since the specified amount was not taken, and the money was used exclusively for the firm's management, high returns, high dividends, and capital growth because of low-interest charges. Full ownership rights, voting rights to select the board of directors, and performance will be increased. They have no rights for decision-making and not even making the policies for the firm. Preferred stockholder has fixed dividend mentioned on their preferred share; it is not dependent on the firm performance returns, either low or high returns firms have to pay to fix dividend. The third portion of the equity is returned earnings; the organization's profit reinvests in the firm's further operation. It enhances the stakeholder of common stock because they are related to the prospects of the firm shares.

Debt is called the borrowings taken by the firm to run business operations smoothly. Debt is raised by issuing debt instruments, and most debt is interest-bearing. Taking a loan from any financial or non-financial institution will be interest-bearing over the amount for the organization. There is a short-term and long-term debt in an organization. Short-term debts have a maturity of one year or less, like treasury bills and bank loans, while long-term debt has a maturity of more than one year, like notes payable, bonds, and debentures. Some are hybrid securities that possess the features of deductible fixed income. While resource distribution choices are indeed known from the theoretical point of view, with a scope of information accessible in complex situations, i.e., to set a technical way to get an opportunity or improve the existing parameter quality or liability management comprehension choices is similarly significantly more restricted (Wang et al., 2020)

Shareholders always want to increase their share and prevent risk. On the other side, paying a dividend to the bondholder is also risky for the firm; in this regard working on the proper capital structure is one of the critical responsibilities of a financial manager.

Whenever the firm increases its credit, it also increases the chances for unable to pay its debt because of the improper capital structure. When a company borrows too much, it may be challenging to pay back the principal and interest on time, but if it doesn't use its borrowing to fund worthwhile projects, one of its critical attempts to advance will fail. (Singh & Nejadmalayeri, 2004). Furthermore, (Sajid et al., 2016) claim that business leverage and investment choices have remained the zone of interest among scholars and monetary experts for several years. In any case, firms got to choose leverage by considering the economic failure cost, which might happen due to nonpayment of debts. A firm that uses more leverage has more risk of bankruptcy during the destruction of the business. On the other hand, a firm that uses less use might continue in this position because of having sufficient debt capacity.(Sharma & Kamalanabhan, 2012)

There are a lot of studies conducted on capital structure, and all research has different views; some researchers favor some theories, and others prefer other theories. Every theory shows a different image of the capital structure. Due to this condition, a clear understanding of the capital structure is still needed to explore. The research conducted by the researcher primarily focuses on the manufacturing sector, which accounts for most of the economies in developed nations. The main goal of this study is to identify the factors that determine the capital structure of Pakistani banks operating on a national and international scale. Therefore, the topic of capital structure determinants of Pakistani banks operating at the national and international levels from 2014 to 2018 has been chosen by researchers.

Literature Review

Financial managers are curious and cautious about the current market's competitive environment. They have more sound knowledge about the different methods to finance their business with an adequate capital structure and the skill of handling complex business situations and placing money where the company will get the highest profits. There are different alternatives while choosing the capital structure through decision-making to exchange it with the help of the cognitive process(Wang & Mathur, 2011). Financial managers constantly improve financial decisions and concentrate on the best to maximize their firm's value. The trade-off theory (TOT) and Pecking order theory (POT) both play the leading role and control the capital structure. Trade-off theory has assembled the capital structure by supporting leverage and aiding in assuming leverage advantage. By balancing interest payments and the costs of issuing debt, this stage is the ideal stage of leverage. Based on the financial, the form considered debt is beneficial due to debt-tax-shields that assist in reducing expected tax payments and increase the after-tax cash flows (Bae & Noh, 2001). Is capital structure maximize the firm value? This theory was presented by(Wang & Mathur, 2011). Through different skills, managers can decide what the costs and benefits derive from the capital structure. Some market opportunities instruct financial managers to decide whether to issue debt or equity to get market different opportunities. Pecking order theory (POT) suggests that firms have internal and external options to finance themselves internally from equity finance. Suppose equity finance is not available then from external as debt finance. The managers set different targets to continuously adjust the debt-equity ratio over time to solve and improve the firm position. According to the literature, three theories the trade-off theory (TOT) (Younus, S., Ishfaq, K., Usman, M., & Azeem, 2014), pecking order theory (POT), and free cash flow (FCF), and each theory shows different ideas about corporate financing (Nhleko & Musingwini, 2016). The acceptance of capital structure is the optimal result of the existence, and it is exchanged between tax shields and insolvency costs that are worried out through tradeoff theory(Graham et al., 2002).

Trade-off Theory (TOT)

This theory suggests that firms must constantly manage the balance/tradeoff between liquidity and profitability. In contrast, liquidity refers to whether Is firm can pay

off its debt on due time without disturbing its routine operations, which guarantees firm profitability. An essential element of TOT is to define the technique wherein corporations would be generally financed either from the debt portion or equity portion. Debt financing has some advantages stated in TOT, like tax shield benefits, agency benefits, and debt financing(financial distress and agency costs are included)(Nhleko & Musingwini, 2016). The vital role of the theory is that it explains how the firm can identify where to be financed partially with equity and partially with debt—balancing between the costs and benefits of the firm maximizing its value when designing the structure that how much debt and equity is required for the business (Afza & Nazir, 2014; Sajid et al., 2016).

Tax Shield Benefits: Since interest payments made on debt are tax deductible, the amount of debt that the firm owes is reduced. For example, if every euro was paid in interest (assuming a 35% tax rate for owners), 0.35 of that euro might be kept (shareholders). Suppose a firm has a more significant portion of debt instead of a portion of the equity in its capital shape. In that case, it has to pay more interest than the dividend, and more goods will save more significant tax for the shareholder; this indicates the connection between debt and tax benefits (Nhleko & Musingwini, 2016)

Agency Benefits: Reducing the agency cost leverage is vital in diminishing and diversifying the operating and business risks. Whenever a company issues debt, outsiders can finance its operations for interest. The process of issuing debt now not most effectively diversifies the operating and business risk a shareholder bears to lenders but also reduces the agency costs. Due to the influence of outsiders, the interest of the shareholders will be reduced in businesses; on the opposite aspect, debt is the interest-bearing capital, and charges on the debt will leave fewer amounts in FCF to managers to determine, agency cost fit down through the procedure of recapitalization. When the company issues debt, it should pay its interest on defined intervals like quarterly, semiannually, annually, etc., and the principal amount will pay on maturity(CHEN et al., 1991). These cash flows can help managers become more attentive and cautious to develop new strategies and raise enough cash to pay off their debt by cutting their spending and forgoing buying a corporate aircraft or other opulent items for their use. (Burgman, 1996).

Debt financing (Financial Distress and agency costs):

Financial Distress: Restricting the leverage is the leading cause of financial distress. One of the possibilities of increasing financial distress is the leverage ratio. This situation is called financial distress when the firm cannot pay its debt. A suitable and general example is bankruptcy costs, and non-bankruptcy costs create the costs of financial distress. Indirect bankruptcy costs are the decline in sales, loss of market share, decrease in share price, and absence of HR (Human Resources) (Wai & Kwok, 2000). These problems can even occur when there is no financial crisis. When the firm is not able to pay off its legal obligation to the creditors, this condition is called Bankruptcy. Bankruptcy is the condition that demands some direct costs that refer to costs out-of-pocket which include management time, legal fees, etc.

Agency Costs: It is the cost that the firm utilizes techniques to align the management goals with the overall organizational purpose, i.e., maximizing the wealth of shareholders. Sources of agency cost include, first, the segregation of ownership from management and, second, the cost related to utilizing an agent. Conflict of interest arises when rights are segregated from management (between shareholders and managers). Managers will use the organizational resources for their consumption instead of increasing the shareholder's wealth. by using agents company include all costs expend on work and process like monitoring, stock options, and financial statements (Younus, S., Ishfaq, K., Usman, M., & Azeem, 2014).

Businesses generally issue debt financing to reduce conflicts of interest. Still, if they don't take full advantage of it, the result will be a conflict of interest between the manager, shareholder, and creditor due to divergent goals (miller Authors, 2015).

Pecking Order Theory (POT)

The pecking order theory expects hierarchal financing choices where firms first depend on internal ways of financing. If these are not investment prerequisites, the firm looks for outside funding from debt as a second option. The second portion of this definition is more complex because it prioritizes debt over equity. Considering the second portion of this definition, it is not very easy to differentiate between POT and TOT. To explain the second portion of this definition adequately, we have to look at the merit and demerits of these sources of financing.

Equity: The firm issues shares for raising capital funds for the organization called equity. Following are the pros and cons of equity.

Advantages of Equity

- It will not lead to bankruptcy, and costs occurred during financial distress are also controlled by it.
- More equity financing reduces the conflict of interest. If the firm has more equity financing and selects the more risky project and it will expose more risk to the shareholder as compared to the creditors
- There is no need to repay the principal amount on maturity and interest in equity financing
- The free cash flow problem can be identified through the dividend payment to shareholders, which is the substitute for debts.
- Equity financing gives voting rights to the shareholders to control the organizations

Disadvantages of Equity

- Equity financing has no tax shield benefit.
- Equity financing increases shareholder interest and may increase the agency's cost.
- Collecting the funds by issuing shares takes more time, but retained earnings are always available.
- It has transaction costs like debt financing.
- It is considered a high risk to issue equity financing because investors analyze the equity—an issue as the bad news and the prices of the stock decline.

Retained Earnings: The portion of the total net income that organizations reinvest into the business is retained earnings. Retained earnings are the pecking order theory's top priority source of funds. Following are the advantages and disadvantages of retained earnings.

Advantages of retained earnings

- It is an inexpensive source of financing.
- Always available, having no cost to get it.
- It resists issuing either debt or equity financing.

Disadvantages of retained earnings

- Retained earnings increase the FCF because more reinvestment may create extra FCF.
- Retained earnings increase the interest of shareholders of the organization, thus increasing the agency problem of equity side and agency costs also generated through retained earnings.
- Retained earnings will avoid the advantage of a tax shield.

Debt: The fund borrowed by the firm is debt financing, and according to the priority, it comes between retained earnings and equity. It has the following advantages and disadvantages.

Advantages of Debt

- It provides tax shield benefits.
- Debt financing pacifies the FCF issues due to the interest payment, leaving fewer FCF managers to decide on it.
- It alerts the managers to pay their financial obligation to the creditors of the firm
- If the firm uses the option of debt financing, it signals a good impression, it may increase the share price, and it enhances the confidence of investors as well as the managers

Disadvantages of Debt:

- More debt financing may lead to bankruptcy and financial distress.
- Debt financing can create a conflict of interest between shareholders and creditors and may lead to over-investment and under-investment conditions.
- Irrespective of the firm financial condition, the company is liable to pay regular interest and principal value on maturity to the creditors.
- It is not easy to acquire financing like retained earnings.
- It takes more time to collect the funds by issuing debts, but retained earnings are always available.
- Debt financing has the cost of transaction for selling the debt instrument.

It means that the advantages taken from the debt have influenced to disadvantages of Retained Earnings, and the benefits taken from the equity will be the disadvantages of debt; similarly, some advantages of retained earnings are the disadvantages of equity. By referring to the pros and cons of causes of finance, there may be two possibilities; for instance, firms either choose benefits in a pecking order sequence or vice versa. Now we can quickly check out POT in the light of the pros and cons of retained earnings, debt, and equity. The firm is risk-averse and wants to finance its Total assets, operations, and growth. After reviewing the pros and cons of retained earnings, debt, and equity, we can examine their relationship. The advantages of each future layer address negative aspects of the past in the hierarchy of desire in POT.

Private Debt Market in East Asian Countries

The market is comparatively more liquid and more profound than the current market. Akhter (2007) stated that the growth of financial assets is more rapid than the world GDP, which was beyond $200 trillion in 2010. The most significant component of global financial support has been observed by shifting from bank deposits to private debt securities. Comparing domestic and private debt issues are three times faster growing than domestic debt issues. It shows the globalization of capital flow and international integration (Akhtar 2007). She contends that the East Asian monetary emergency of 1997 instructed EAC on how unsafe and difficult it is to too many reliance on banks. By exploiting this

profitable learning, EAC took forceful measures to build up a few national and local security markets. Adjacent to noteworthy development in value advertises, EAC endeavoured to advance obligation showcase as an outcome now EAC yielding positive results.

Other Challenges to Pakistan

From 2003 to now, the economic conditions of Pakistan have been remarkable. Due to these changes, the GDP rapidly changes. Pakistan, there are a lot of other issues that can affect Pakistan's capital structure. Like inflation, day-to-day increases in the CPI, energy crisis, fluctuation in per unit cost of electricity, and the fiscal deficit, we never match the actual expenditure of our budget. Foreign direct investment is also one major factor that affected Pakistan's economy after the disasters in Oct 2008. Pakistan became the fastest-growing country from 2009 onward. The GDP growth rate increased from 3.84 to 4.70 in the statistics from 2012 to 2016. It is also observed that Pakistan is one of the growing countries in the Asian region (Economic Survey of Pakistan).

Research Variables

In this segment, researchers focused on research variables, categorized into dependent (Predictor) and independent variables. This research has five independent variables and one dependent variable mentioned below:

Independent variables

Profitability in terms of ROA: The capital structure could be determined through profitability, which is the primary determinant of capital structure. The theories previously discussed in chapters TOT and POT represent profitability. As discussed in the literature review, comparing the benefits and costs of Leverage firms can quickly identify the target debt ratio. Enhancing the debt firms can readjust their target Leverage allowing any increase (decrease) in Cost (benefits). In a business, frequent cash flow shows the firm is profitable and less risky and can avoid the financial distress cost of bankruptcy. They oppose TOT; as per POT, the firm is more beneficial if they use their retained earnings in projects. Myers (1984) stated in that sense. Suppose the firm has insufficient equity, so it can go to the debt portion and raise its funds. It is forecasted that the POT has a negative relationship between profitability and leverage.

- H1a: As suggested by TOT, the relationship between profitability and leverage is positive.

- H1b: The relationship between profitability and leverage is negative, as suggested by POT.

The tangibility of Assets (TNG): If we compare a firm with more physical assets with a firm with fewer physical assets, we will find that a firm with more physical assets can borrow the debt ata cheaper cost. A company can have more bargaining power if they have more tangibility of assets. Due to the borrowings and investing of a firm in riskier projects, the agency cost between creditor and shareholder exists, shifting wealth from creditors to shareholders(Borchardt et al., 2020; Burgman, 1996). A firm can use fixed assets as security through pledging, which benefits those companies with more fixed assets. TOT forecast about the relationship between the tangibility of assets and debt is positive because the agency cost bear by the firm is low.

Tangibility and leverage have a negative relationship, as MTT may conclude the result taken through the consistency and prediction in light of whether the firm has enough tangibility. They start issuing equity may demonstrate the price of the Financial Instrument will be a mismatch, for instance, valuation of shares, undervaluation of bonds, etc., cheapest

cost of the equity premium is one of the other reasons. MTT prescribes when the stock price is overvalued by then in perspective of unbalanced information, the equity issued by the firms.

- H2a: The relationship between tangibility and leverage is positive, as predicted by TOT theory.

- H2b: The relationship between tangibility and leverage is negative, as predicted by POT theory.

Growth (GTH): An excellent independent variable is a growth, which has been derived from POT and TOT. In the theories of capital structure, conflict arises in the relationship between leverage and growth Yakup Asarkay (2016). Per the pecking order theory, if the firms rely on their internal financing(Babcock et al., 1999), that is not sufficient for growth. Thus the company increased its leverage during the growth period. Growth and leverage have a positive relationship (CEIC Express, 2020).

- H3a: In the trade-off theory, the relationship between growth and leverage is negative, as forecasted by this theory.

- H3b: In the pecking order theory, the relationship between growth and leverage is positive, as forecasted by this theory.

Size (SZ): One of the important determinants of capital structure is size because, in the literature review, we can easily see the contradictory relationship between height and debt. The diversified portfolio of the large firms has less default risk, and the financial distress is also low. A diversified portfolio decreases the chances of bankruptcy). In like manner of TOT, whenever a firm reduces the cost of Leverage, it enhances Leverage, so there could be a positive relationship between size and leverage because the firm's size decreases the leverage cost.

- H4a: The relationship between size and leverage is positive, as suggested by TOT.

- H4b: The relationship between size and leverages is negative, as suggested by POT.

Inflation (INF): Inflation refers to an increase in the price of goods and services. If the commodities prices increase at a specific period due to any factor is termed inflation. Inflation ultimately influences the purchasing power of the customers. If inflation is stable in any economy, it will affect and reduce the economy's productivity due to stable inflation each year. Then it will create some hindrances in the lives of low-income individuals (Afza & Nazir, 2014). The study discovered that the relationship between inflation and leverage is positive, as predicted by the tradeoff theory, and negative, by the pecking order theory (Cahyono & Chawla, 2019).

- H5a: The relationship between inflation and leverage is positive, as suggested by TOT.

- H5b: The relationship between inflation and leverage is negative, as suggested by POT.

**Dependent variable**

Leverage (Lev): One of the dependent variables of the capital structure is Lev (Leverage ratio), and capital structure is considered the most important determinant. They were using Book value instead of the market value of the assets in the calculation for leverage ratio because when the company pledges a loan or deals with bankruptcy, they

highly considered the book value of the assets. Book value is preferable to market value because, in financial markets, fluctuation from time to time. While making a financing decision, managers rely on the book value of the assets, which is also helpful in making a financing policy. There is the majority of financial managers do not handle the fluctuation of the financial market Graham and Harvey (2001).

Research Model
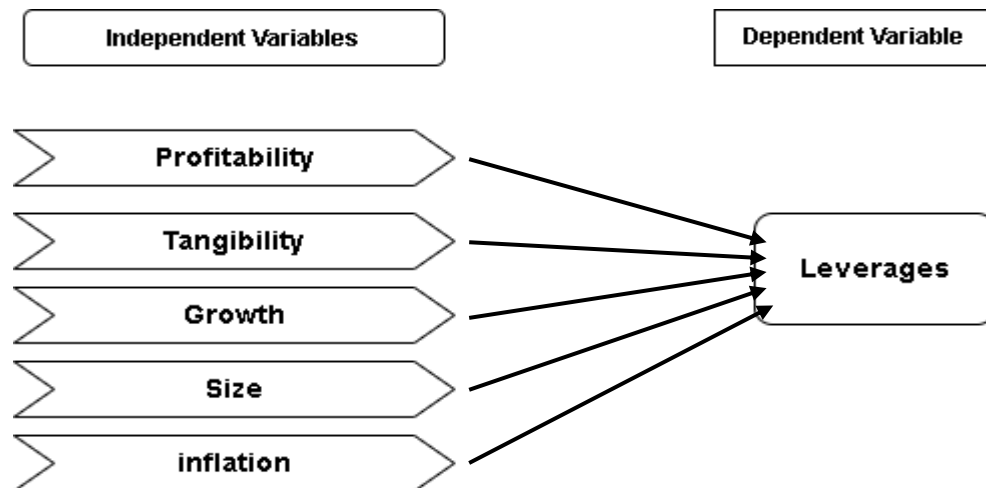
Material and Methods

This research data is collected from the State Bank of Pakistan (SBP) and Pakistan Stock Exchange (PSX) website "through the investigation of the financial statements of the domestic and international banks operating in Pakistan from 2010-2019. Twenty-four banks were approached for data gathered for this study. This information will look at the capital structure of banks working at national and international levels. A simple random sampling technique collected this research data. The data set used in this investigation is panel data which helps control the bias effect due to unobserved heterogeneity. Panel data covers both like time series and also cross-sectional analysis. Banking is the most significant economic group in Pakistan as per investment. Details of 24 banks are under:

Table 1
Pakistani Banks are working at the national and international level

1	ALBARAKA BANK (PAKISTAN) LTD.
2	ALLIED BANK LTD.
3	ASKARI BANK LTD.
4	BANK AL-HABIB LTD.
5	BANK ALFALAH LTD.
6	BANKISLAMI PAKISTAN LTD.
7	DUBAI ISLAMIC BANK PAKISTAN LTD.
8	FAYSAL BANK LTD.
9	HABIB BANK LTD.
10	HABIB METROPOLITAN BANK LTD.
11	JS BANK LTD.
12	MCB BANK LTD.
13	MEEZAN BANK LTD.
14	NIB BANK LTD.
15	SAMBA BANK LTD.
16	SILK BANK LIMITED
17	STANDARD CHARTERED BANK (PAKISTAN) LTD.
18	SUMMIT BANK LTD.

19	INDUSTRIAL DEVELOPMENT BANK LTD.	
20	SME BANK LTD.	
21	THE PUNJAB PROVINCIAL COOPERATIVE BANK LTD.	
22	DEUTSCHE BANK AG	
23	CITI BANK N. A.	
24	UNITED BANK LTD.	
	Total of 24 Pakistani Banks	

The researcher used Eviews 10 version to test the research hypothesis to know the capital structure determinants of Pakistani banks working at the national and international levels. In this regard, the researcher used descriptive, correlation, and regression analysis by the Ordinary Least Square (OLS) method.

Research variables descriptions

Independent variable

This research uses five independent variables (Profitability measured with Return on Assets (ROA), Tangibility, Growth, Size, and Inflation) to know the capital structure of Pakistani banks w

Dependent variable

In this research, the dependent variable is only leverage. It is the primary variable that helps to describe the accurate capital structure of Pakistani banks.

Table 2
Measurement of Research Variable, abbreviation, and its proxies:

Variables	Abbreviation	Measurement method
Independent variable:		
Profitability Measured by Return on Assets	ROA	Net Income / Total Assets
Tangibility	TGB	Fixed Assets /Total Assets
Growth	GTH	% Change in Total Assets
Size	SZ	Natural Log of Total Assets
Inflation	INF	(Ending CPI level - Beginning CPI level)
Dependent Variable:		
Leverage	LEV	Total Debt / Total Assets

The above table describes the variables, abbreviations, and measurements through which the researcher analyzed the research data to reach any conclusion in above table there are five independent (Profitability measured with Return on Assets (ROA), Tangibility, Growth, Size, and Inflation) and one dependent variable (leverage).

Results and Discussion

The descriptive study has been conducted by analyzing the data of Pakistan financial institutions working at national and international levels from 2010 to 2019. The data included for analysis has been taken from the Journals published by the State Bank of Pakistan and the Pakistan Stock Exchange (PSX) website. The State Bank of Pakistan is considered the most reliable source for the analysis.

This research is investigated and concluded with the help of Eviewssoftware. The following research techniques have been used in this study, i.e., descriptive statistics, correlation, and regression analysis.

Table 3
Descriptive Statistics

	ROA	TGB	GTH	SZ	INF	LEV
Mean	0.014870	0.023862	-0.049527	7.455868	7.547000	0.902144
Median	0.014450	0.021900	-0.123850	7.579800	7.440000	0.918050
Minimum	-0.073500	0.002600	-0.633400	5.813900	2.530000	0.628700
Maximum	0.078400	0.073200	15.26800	8.532800	12.94000	0.977600
Std. Dev.	0.018016	0.012934	1.094899	0.543548	3.466671	0.057912
Skewness	-0.323151	0.818976	13.79081	-0.375764	0.100487	-2.147689
Kurtosis	7.243258	3.687428	193.4572	2.426846	1.632215	8.331183
Jarque-Bera	153.5245	26.29537	308622.5	7.444168	15.92689	390.5981
Probability	0.000000	0.000002	0.000000	0.024184	0.000348	0.000000
Sum	2.973900	4.772400	-9.905400	1491.174	1509.400	180.4287
Sum Sq. Dev.	0.064592	0.033288	238.5620	58.79345	2391.544	0.667407
Observations	200	200	200	200	200	200

Above table describes descriptive statistics of this research study variables from the 2010-2019 period about Pakistani banks working at national and international levels. Above table discovered that there are 200 observations of profitability (ROA), TGB, GTH, SZ, INF, and LEV. This table describes the values: mean, median, maximum and minimum, standard deviation, skewness and kurtosis, and so on. The mean value reflects the central tendency of the whole values in the data; mean values of ROA, TGB, GTH, SZ, INF, and LEV are 0.014870, 0.023862, -0.049527, 7.455868, 7.547000 and 0.902144 respectively. The median value in the table is median in table shows values of ROA, TGB, GTH, SZ, INF, and LEV are 0.014450, 0.021900, -0.123850, 7.579800, 7.440000 and 0.918050 respectively, and mean value of LEV is 0.918050 (91.85%). Pakistani banks working at national and international levels are supported by debt financing from 2010-2019. Minimum and maximum values describe the minimum and maximum values in the related variables; minimum values of ROA, TGB, GTH, SZ, INF, and LEV are-0.073500, 0.002600, -0.633400, 5.813900, 2.530000 and 0.628700, maximum values of ROA, TGB, GTH, SZ, INF, and LEV are 0.078400, 0.073200, 15.26800, 8.532800, 12.94000 and 0.977600. Standard deviation describes the variations in the data Std. deviation of ROA, TGB, GTH, SZ, INF, and LEV are 0.018016, 0.012934, 1.094899, 0.543548, 3.466671 and 0.057912. Skewness values always show data; zero values show the average skewness, and sign + and – show the positive and negative skewness in the data. It can be seen that TGB and INF have average skewness, negative skewness in ROA, SZ, and LEV, and positive skewness in GTH.

Ordinary correlation covariance coefficient analysis:

The "correlation coefficient" was first introduced by Karl Pearson in 1896. The proper name for correlation is Pearson Product-Moment Correlation. And it is called correlation. Now a day's, correlation is the more useable tool of statistics. Correlation is a statistical measurement that shows how much variables correlate with each other or how they fall and rise with changes in the value of each other. A positive correlation indicates that the variables are directly proportional to each other or they are rising and falling in the same direction. A negative correlation shows that the variables are inversely proportional; if one variable falls, the other will increase in the opposite direction. According to (PALLANT, 2002)The Pearson correlation coefficient can take only values from -1 to +1. It is scarce and hard to find absolute values like 0, -1, and 1, but you will find the values between those numbers.

Table 4
Correlation result values and their relationship

+1	Perfect positive correlation.
0	No correlation.

-1	Perfect negative correlation.
0 and 0.30 (0 and -0.30)	Weak positive (negative) correlation.
0.30 and 0.70 (-0.30 and -0.70)	Moderate positive (negative) correlation.
0.7 and 1 (-0.70 and - 1)	Strong positive (negative) correlation.

The results of the correlation analysis are as under:

Table 5
Correlation Analysis

	ROA	TGB	GTH	SZ	INF	LEV
ROA	1.000000					

	200					
TGB	-0.409393	1.000000				
	0.0000	-----				
	200	200				
GTH	-0.034340	0.101369	1.000000			
	0.6293	0.1532	-----			
	200	200	200			
SZ	0.225518	-0.066889	-0.205823	1.000000		
	0.0013	0.3467	0.0035	-----		
	200	200	200	200		
INF	-0.120024	0.255786	-0.098413	-0.041502	1.000000	
	0.0905	0.0003	0.1656	0.5596	-----	
	200	200	200	200	200	
LEV	**-0.308897**	**0.007316**	**-0.345048**	**0.525859**	**-0.055693**	1.000000
	0.0000	0.9181	0.0000	0.0000	0.4335	-----
	200	200	200	200	200	200

The above table describes the correlation among variables; above table shows that negative relationship among ROA, GTH, and INF with LEV (-0.308897, -0.345048 and-0.055693), respectively, and a positive relationship between TGB, SZ with LEV (0.007316 and 0.525859). There is a moderate negative relationship between ROA, GTH, and LEV. There is a weak negative relationship between INF and LEV. There is a fragile positive relationship between TGB and LEV. There is a moderate positive relationship between SZ and LEV.

Regression Analysis

The researcher uses regression analysis to forecast the value of the variables related to other variables. The variables predicted by the researcher are called the dependent variable, and using value to forecast the additional variable value is known as an independent variable.

Table 6
Regression Analysis by Ordinary Least Square Method

Dependent Variable: LEV				
Method: Least Squares				
Included observations: 200				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.488783	0.040723	12.00250	0.0000
ROA	-1.622821	0.174629	-9.292990	0.0000
TGB	-0.510961	0.245811	-2.078674	0.0390
GTH	-0.012703	0.002650	-4.793238	0.0000
SZ	0.061694	0.005409	11.40571	0.0000
INF	-0.001448	0.000843	-1.718188	0.0874
R-squared	0.547309	**Mean dependent var**		0.902144
Adjusted R-squared	0.535641	**S.D. dependent var**		0.057912
S.E. of regression	0.039464	**Akaike info criterion**		-3.597340
Sum squared resid	0.302129	**Schwarz criterion**		-3.498391

Log-likelihood	365.7340	Hannan-Quinn criteria.	-3.557297
F-statistic	46.90963	Durbin-Watson stat	0.620685
Prob(F-statistic)	0.000000		

Profitability proxied as ROA had a negative effect on Leverage (β= -1.622821), and this relationship is proved statistically significant (p=0.0000). ROA has a substantial negative impact on leverage as co-efficient value is negative (-1.622821) with leverage; it is influenced upto 162.28%.TGB has a moderate negative effect on Leverage (β= -0.510961), proving this relationship statistically significant (p=0.0390).GTH has a weak negative impact on Leverage (β= -0.012703), establishing this relationship is statistically significant (p=0.0000).SZ has a soft positive impact on Leverage (β= 0.061694), proving this relationship is statistically significant (p=0.0000).INF has a weak negative effect on Leverage (β= -0.001448); establishing this relationship is statistically insignificant (p=0.0874).

R square value describes the independent variables forecasting to the dependent variable as this study R square value is 0.547309 (54.73%), which means ROA, TGB, GTH, SZ, and INF are forecasting (54.73%) to the Leverage. Durbin Waston DW test indicated the autocorrelation in the data; in this research, the DW value is more significant than two, which means there is a negative autocorrelation among variables. Prob (F-statistic) value tells the model's fitness, and this research Prob(F-statistic) value is 0.00000, which means the model is fit.

Conclusion

The study is based on the determinants of the capital structure of Pakistani Banks working at national and international levels. The data were taken from the report published by SBP and downloaded financial statements from each company website and the Pakistan Stock Exchange (PSX) website. The data period was from 2010 to 2019. The research has used the variables of previous studies. The research concludes that all variables have a negative relationship except size with leverage which is related to firm operations. The research concluded that ROA has a substantial negative impact on leverage; as ROA increase, it will reduce the leverage. TGB has moderate negative, GTH and INF have a weak opponent, and SZ has a weak positive impact on leverage.

References

Afza, T., & Nazir, M. S. (2014). Audit quality and firm value: A case of Pakistan. *Research Journal of Applied Sciences, Engineering, and Technology*, *7*(9), 1803–1810. https://doi.org/10.19026/rjaset.7.465

Authors, F. (2015). *Corporate Communications : An International Journal Article information :* https://doi.org/10.1108/CCIJ-02-2015-0009

Babcock, R. C., Kelly, S., Shears, N. T., Walker, J. W., & Willis, T. J. (1999). Changes in community structure in temperate marine reserves. *Marine Ecology Progress Series*, *189*, 125–134. https://doi.org/10.3354/meps189125

Bae, S. C., & Noh, S. (2001). Multinational corporations versus domestic corporations: A comparative study of R&D investment activities. *Journal of Multinational Financial Management*, *11*(1), 89–104. https://doi.org/10.1016/S1042-444X(00)00044-X

Borchardt, M., Ndubisi, N. O., Jabbour, C. J. C., Grebinevych, O., & Pereira, G. M. (2020). The evolution of base of the pyramid approaches and the role of multinational and domestic business ventures: Value-commitment and profit-making perspectives. *Industrial Marketing Management*, *89*(January), 171–180. https://doi.org/10.1016/j.indmarman.2019.05.013

Burgman, T. A. (1996). An empirical examination of multinational corporate capital structure. *Journal of International Business Studies*, *27*(3), 553–570. https://doi.org/10.1057/palgrave.jibs.8490143

Cahyono, S. B., & Chawla, A. S. (2019). The determinants of firm financing structures across sectors: an evidence from Indonesian listed companies. *Investment Management and Financial Innovations, 16*(1), 100-118.

CEIC Express. (2020, December 22). *Pakistan Policy Rate*. https://www.ceicdata.com/en/indicator/pakistan/policy-rate

CHEN, N. -F, Low, P. Y., & Chen, K. H. (1991). Diversification and capital structure: Some international evidence. *The Journal of Finance*, *23*(2), 55–71. https://doi.org/10.1111/j.1540-6261.1991.tb02673.x

Graham, J. R., Lemmon, M. L., & Wolf, J. G. (2002). *Destroy Value ?LVII*(2), 695–720.

Master of Science in Management-Finance - Weatherhead. (n.d.). Retrieved 1 23, 2022, from https://weatherhead.case.edu/degrees/masters/ms-management/finance/

Nhleko, A. S., & Musingwini, C. (2016). Estimating cost of equity in project discount rates using the capital asset pricing model and Gordon's wealth growth model. *International Journal of Mining, Reclamation, and Environment*, *30*(5–6), 390–404. https://doi.org/10.1080/17480930.2015.1093675

Sajid, M., Mahmood, A., & Sabir, H. M. (2016). Does Financial Leverage Influence Investment Decisions? Empirical Evidence From KSE-30 Index of Pakistan. *Asian Journal of Economic Modelling*, *4*(2), 82–89. https://doi.org/10.18488/journal.8/2016.4.2/8.2.82.89

Sharma, N., & Kamalanabhan, T. J. (2012). Internal corporate communication and its impact on internal branding: Perception of Indian public sector employees. *Corporate Communications*, *17*(3), 300–322. https://doi.org/10.1108/13563281211253548

Singh, M., & Nejadmalayeri, A. (2004). Internationalization, capital structure, and cost of capital: Evidence from French corporations. *Journal of Multinational Financial Management*, *14*(2), 153–169. https://doi.org/10.1016/j.mulfin.2003.07.003

Wai, S. L., & Kwok, C. C. Y. (2000). Domestic and international practice of deposit insurance: A survey. *Journal of Multinational Financial Management*, *10*(1), 29–62. https://doi.org/10.1016/s1042-444x(99)00018-3

Wang, Z., Ettinger, M., Xie, Y., & Xu, L. (2020). The cost of capital: U.S.-based multinational corporations versus U.S. domestic corporations. *Global Finance Journal*, *44*. https://doi.org/10.1016/j.gfj.2018.07.002

Wang, Z., & Mathur, I. (2011). Return on capital analysis: U.S.-based multinational corporations versus U.S. domestic corporations. *Journal of Multinational Financial Management*, *21*(4), 191–207. https://doi.org/10.1016/j.mulfin.2011.04.003

Younus, S., Ishfaq, K., Usman, M., & Azeem, M. (2014). Capital structure and financial performance: Evidence from the sugar industry in Karachi stock exchange Pakistan. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 4*(4), 272-279.