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LEVERAGE FINANCING AND FINANCIAL COMPETITIVENESS OF A FIRM: A STUDY OF LISTED COMPANIES IN PAKISTAN

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ABSTRACT

Purpose- The core purpose of this study explores the nexus of financial competitiveness, the liquidity position of a firm, and leverage financing.
Methodology- This analysis is based on 7 years of data from 398 listed companies in Pakistan, while panel least square (PLS) techniques have been applied to estimate the parameters.
Findings- The financial position of a firm is also affected by macroeconomic indicators. The intangible assets and cost of debt are also important determinants. It was noted that the return on equity in small and medium enterprises is higher than in large-scale industrial units despite very low return on assets in small and medium enterprises.
Conclusions- The study concludes that the size of a firm, debt financing, and liquidity position are important, significant, and robust determinants of financial competitiveness. The real source of this differentiation is the magnitudes of leverage financing and liquidity position of enterprises.

Keywords: Dividend policy, intangible assets, leverage financing, SMEs, Pakistan.
JEL Codes: G32, G35, L16

1. INTRODUCTION

Despite an admirable history of economic growth, ample natural resources, fertile land, big market size, and strategic location, Pakistan is facing a severe crisis in its current economic scenario. The risk of default, mounting domestic and external debts, high inflation, declining rate of GDP growth, and growing unemployment and poverty are those issues that are reflected in the social life of common people. The burden of repayment and interest on external debt is the primary cause of the outflow of foreign exchange which depreciates Pakistani rupee (PKR) in terms of other currencies. The higher cost of import of goods and services (including oil, industrial raw materials, medicines, traveling, and edible products) in terms of Pakistani currency (PKR) is an outcome of the depreciation of Pakistani rupee (PKR). The unanticipated higher rate of inflation and the need for more taxes to run the government are the ultimate consequences of this problem, while social and political unrest is an offshoot of economic miseries. Business enterprises and common people are the ultimate sufferers of these problems.

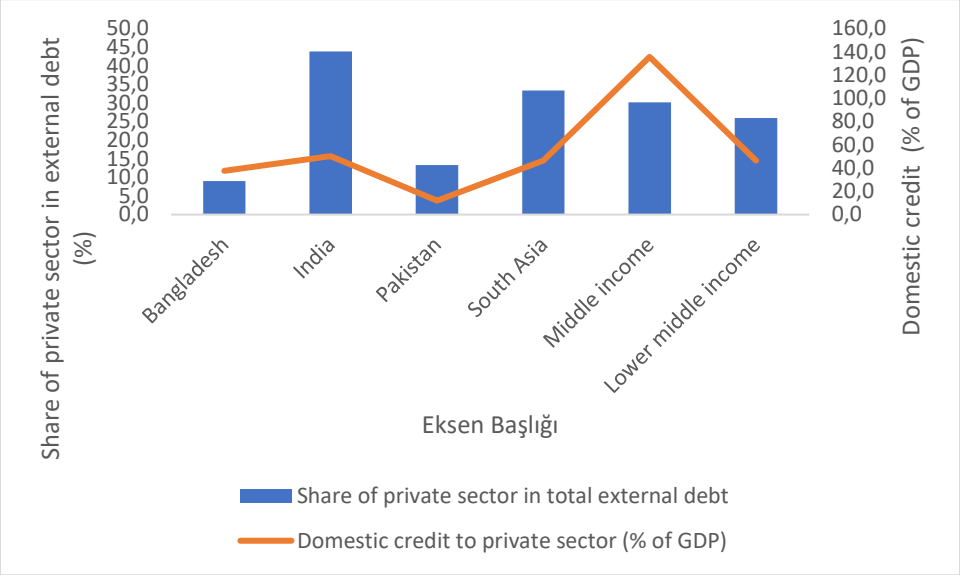
Several countries are facing similar issues in post COVID-19 scenario. Klaus and Saadia (2020) have pointed out high-level debts in selected economies, widening inequalities, and eroding tax bases after COVID-19. They suggested supporting measures for highly indebted low-income countries on a priority basis. The higher taxes on productive activities in the private sector are a consequence of the debt repayment burden on the public sector. Moreover, the lower spending on infrastructure development and logistic facilities is also an outcome of the repayment burden. The adverse effect of higher taxes and inadequate infrastructure on business competitiveness is quite obvious. For improvement of infrastructure, Klaus and Saadia (2020) have recommended that governments should ensure the regaining of public trust and the priority should be on upgrading infrastructure.

However, the nature of the problem in Pakistan is entirely different from the rest of the world. Here, economic indicators depict (Table: 2) that the private sector is not responsible for economic miseries in the country. More than 70% external debt of Pakistan is payable by the government or public sector enterprises. It is 33% in the case of India, and 45% in South Asia on aggregate. The

industrial or manufacturing sector takes the major burden of taxes in Pakistan. More than 90 percent of direct taxes are collected from the industrial sector and salaries of employees. The collection of taxes from salaries is ultimately paid by the corporate sector. Because companies pay the gross amounts of salaries including taxes, while employees consider their net take-home salaries in bargaining for their employment contracts.

Another important aspect of financing the private sector belongs to the domestic credit to the private sector. The domestic credit from commercial banks to the private sector is the lowest in Pakistan as compared to the regional and global average. The domestic credit to the private sector as a percentage of GDP is less than 12% in Pakistan (Table: 1), while it is more than 50% in India and around 40% in Bangladesh. The world average of domestic credit to the private sector as a percentage of GDP is 144%. Various studies have shown the corruption and incompetency in the public sector as root causes of the economic miseries in Pakistan. Figure: 1 shows the share of the private sector in external and domestic borrowing. It depicts that the share of the private sector in external and domestic borrowing is negligible in Pakistan in regional and global comparison.

Figure 1: Share of the Private Sector in Debt Financing (2023)



Source: Author's depiction based on World Bank (2024)

Because of insufficient fiscal space and mounting debt, the progress and development of the private sector have become extremely important for the growth and sustainable development of the economy of Pakistan. The development of the corporate sector is associated with the survival and competitiveness of firms. Now, the question of the competitiveness of a firm is directly associated with the economic survival of Pakistan. The higher burden of taxes, lower domestic credit, increasing cost of production due to inflation, additional cost to adjust the insufficiency of infrastructure facilities, and endless growth in the prices of imported raw materials because of unpredictable devaluation of domestic currency are affecting the financial competitiveness of the corporate sector.

In this context, this study attempts to identify the factors of financial competitiveness. A firm will be considered financially competitive if it can pay a competitive return on investment to the investors. Otherwise, the investors will prefer to withdraw their capital which indicates the collapse of the firm. It is hypothesized that macroeconomic conditions, leverage position (debt financing), financial liquidity, and size of a firm are the determinants of financial competitiveness.

The next section of this study covers the various aspects of competitiveness in economic literature. The assessment, scope, and limitations of financial competitiveness are explained in section 3. Section 4 describes the methodology to test the impact of explanatory variables on financial competitiveness. The results and empirical pieces of evidence are described in section 5 while section 6 recommends some policy measures.

2. IMPORTANT ASPECTS OF COMPETITIVENESS IN ECONOMIC LITERATURE

Competitiveness can be defined in several ways. It is a multidimensional concept that varies in different situations. It reflects the ability of a firm, sector, or country to sell and supply goods and services in a given market, in comparison to the ability of other firms, sectors, or countries in the same market. It means that competitiveness can be measured at firm, sector, and country levels. At the firm level, a business can deliver better value to customers than competitors. The market share of a firm in total sales volume, customer satisfaction, services, interactions with the customers or clients, and brand awareness are the common yardsticks to assess the competitiveness of a firm. In this study, we are mainly concerned with competitiveness at the firm level. However, the concern of this study is not related to the relationship between a firm and its clients or customers. The concern of this study is another type of competitiveness which mainly belongs to the relationship between a firm and its investors. This type of competitiveness has not been discussed at large. This is one of the least discussed areas in the literature on competitiveness.

Several studies have established the links between competitiveness, globalization, and industrialization. Though industrial policy can improve competitiveness it is not comparable with competitiveness policy. Only a small number of studies distinguish between competitiveness policy and industrial policy. Some studies have considered industrial policy as a subset of the competitiveness policy. Competitiveness policy means building an environment to improve the capability of all industries, while industrial policy usually favors selected industries. The objective of favoring the selected industries may be to promote exports or provide import substitution to save foreign exchange. Enhancing employment opportunities or GDP growth may be the focus of an industrial policy. The integration of industrial and competitiveness policies can create an environment to promote learning, innovation, and technological advancement. Industrial policy can empower competitiveness. Even the competitiveness of specific industries can define the overall national competitiveness. However, according to a large number of studies when government policies defend specific interest groups to empower industrial competitiveness, they can weaken the economies of advanced nations. Similarly, globalization affects technological and industrial competitiveness, but it cannot be defined as industrialization.

Another important aspect of financial competitiveness belongs to the leverage choice. Gordon (1971), Myers and Majluf (1984), Hamada (1972), Hart (1996), and Levy and Hennessy (2007) provided the theoretical basis to decide the leverage choice in determining the financing for corporate entities. The role of leverage in investment decisions in the contemporary corporate world was recognized by Umutlu (2010), Billett, King, and Mauer (2007), Eriotis, Vasiliou, and Ventoura-Neokosmidi (2007), Frank and Goyal (2009) and Guizani (2017).

Financial competitiveness can be defined as the payment of a competitive return to the investors for the sustainable viability of enterprises. After recognizing the financial competitiveness, policymakers, regulatory authorities, and multilateral institutions have developed their strategies to facilitate the firms and financial institutions in achieving competitiveness. The World Economic Forum, the World Bank Group, and the Asian Development Bank have focused their strategies on assessing competitiveness and recommending policy measures for improvement in competitiveness. The World Economic Forum publishes a competitiveness report regularly to report the country-wise changes in the patterns of competitiveness and its components and factors (Klaus Schwab: 2019; Klaus Schwab; Mehar: 2021 and Saadia Zahidi: 2020) The Finance, Competitiveness & Innovation Global Practice (FCI) is an organizational unit in the World Bank Group, which combines expertise in the financial sector with expertise in private sector development to foster private-sector led growth. The FCI works with governments to create an enabling environment where financial stability, access to finance, and risk management provide a foundation to crowd in private sector investment, create capital markets, and accelerate equitable growth. One of the thematic areas of this institution is to create the enabling environment for businesses to be competitive, efficient, and cutting-edge (World Bank: 2023).

Some studies have discussed the effect of competitiveness on profitability and employment. Tiep, Ngo, Tran, and Gordon (2021) explored the factors that affect the competitiveness of small and medium enterprises (SMEs). According to their study, global integration is an important concern of competitiveness. According to Ajitabh and Momaya (2004), the firm level of competitiveness is the most important concern. Ajitabh and Momaya (2004) have analyzed the competitiveness-related problems of software firms in India. They identified that the success of the firm in difficult times demands new perspectives on competitiveness while weaknesses in understanding the real issues are the root cause. Their analysis was based on the 'Asset, Processes, and Performance (APP)' framework. Barkham (1994) has concluded that the entrepreneurs who create the most jobs are those who are highly motivated, have managerial skills, and whose firms are in the manufacturing sector. The role of several types of financing constraint in the growth of a firm has been identified by Bhama, Jain and Yadav (2018), Carvalho (2018), Gebauer, Setzer and Westphal (2018), and Mehar (2023).

One common conclusion of these studies is that competitiveness is the primary requirement for the survival of a firm in perfect competition. The degree of perfect competition is determined by the location of the supplier of goods and services, the number of sellers, barriers to entry, product features, and information availability. However, in financial markets, the frictionless availability

of information and the ability of investors to use this information to determine the price of capital is defined as informational efficiency. This is the founding assumption of financial economics, while the majority of studies in this area are based on the assumption of an 'Efficient market'. The investors' required rate of return is the price of capital, while a firm will be considered financially competitive if it can pay the required rate on a sustainable basis. Sharpe (1964) and Lintner (1965) have identified that investors' required rate of return is determined by the level of risk associated with the investment, the risk-free rate of return in the financial market, and the rate of return on the other risky assets in the market. Initially, the asset pricing theory established by Sharpe (1964) and Linter (1965) provided the base of the capital assets pricing model. Based on this famous work, Sharpe has been awarded a Nobel Prize in 1990. This model is widely used in academia and practice to estimate the investors' required rate of return. The finance textbooks recommend using the Sharpe-Linter CAPM risk-return relation to estimate the cost of equity. However, according to Fama and French (2004), the volatility in the prices of financial assets is not enough to calculate relative risk. The prices of consumer durables, real estate, and human capital should also be considered. The empirical record of Sharp's (1964) and Linter's (1965) model is poor enough to invalidate the way it is used in applications (Fama and French: 2004). Moreover, in determining the required rate of return or price of capital, the liquidity preference (Tobin: 1958) should not be ignored.

3. ASSESSING THE FINANCIAL COMPETITIVENESS

Due to these academic and realistic issues, this study does not apply the concept of investors' required rate of return. The study is based on the concept of competitive return on investment.

From shareholders' point of view, a competitive return is required for investment in a firm. A firm will be financially competitive if it can pay the competitive return to the shareholders. Financial competitiveness is defined by Mehar (2024b) as the payment of a competitive return to the shareholders for the sustainable viability of enterprises. The competitive return on investment is a return on shareholders' equity which is greater than the average cost of debt. The average cost of debt is the weighted average of interest on debts. The debt instruments are risk-free assets of the investors, while equities are risky assets. So, return on risky assets will always be greater than the rate of interest on risk-free assets. The return to investors (shareholders) is aggregation of the dividend yield and capital gain. Furthermore, the competitive rate of return on investment must also be greater than the rate of inflation.

Mathematically, the return on equity will always be greater than the return on assets (or equal to return on assets, in unlevered firm). It implies that the difference between the return on equity (risky assets) and weighted average cost of debt (return on risk-free assets). This rate of return ignores the capital gain on financial assets which is determined by the market. The competitive rate of return does not mean a required rate on investment or an 'efficient' rate of return which indicates one of the highest rates of return in the market. This concept can be explained through the following expressions:

$$ROA = \frac{EAT}{TOTAST} \tag{1}$$

$$ROE = \frac{EAT}{EQTY} \tag{2}$$

$$While, \quad TOTAST = EQUITY + LTDBT + CURLBL \tag{3}$$

$$\therefore ROE \geq ROA \tag{4}$$

$$\therefore ROD = ROE - ROA \tag{5}$$

While 'ROA' is the return on total assets, 'ROE' is the return on equity, 'ROD' is the employed cost of debt including cost of short-term financing if any. 'EAT' is earnings after tax, 'TOTAST' is total assets of a firm, 'EQUITY' is owners' equity, 'LTDBT' is long-term debt and 'CURLBL' is current liabilities. This model is subject to positive earnings after tax.

The leverage position of a firm indicates the share of debt in the employed capital of a firm. The leverage ratio of a firm can be calculated in different ways. The equity multiplier which is calculated by dividing a company's total asset by its total equity is one of the widely used measures to calculate the leverage ratio. A high equity multiplier indicates that a company is using a high amount of debt to finance its assets. A low equity multiplier means that the company has less reliance on debt. Similarly, long-term debt-to-equity ratio and total debt-to-equity ratio are also used to measure the leverage position of a firm. In this study, we applied 'Equity multiplier' as an indicator of leverage position. The higher share of debt in employed capital indicates the liability of repayments of principal amount, interest payment, and other financial services attached to the debt financing. It may be an indicator of default risk.

Financial liquidity is defined as the ease at which an asset can be converted into cash. Fixed assets, inventories, and receivables cannot be easily converted into cash, so they are not considered liquid assets. However, liquid and illiquid current assets constitute the working capital that is required for day-to-day payments for running business activities. It is hypothesized in this study that a lower level of liquid assets affects the dividend payment negatively. Consequently, the shareholders will receive a lesser dividend on their investment. It will affect the financial competitiveness of the firm.

In this study, we have not considered capital gain (or market value of shareholders' equity). The return on investment is estimated through return on equity (ROE) and cash dividend (DVDND) as a percentage of equity (EQTY). The return on assets (ROA) has been estimated to compare the return on risky assets (equity) with the return on risk-free assets (lending). A firm will be financially competitive if its return on equity (ROE) is greater than the return on debt (ROD) subject to a rate of inflation that should be lower than the return on equity. Ideally, cash dividends as a percentage of owners' equity should be greater than return on debt financing (ROD). However, if a firm requires its expansion through internal financing (retained earnings), then cash dividend (DVDND) will be lower. In this case, the firm will be classified as 'uncompetitive' from the short-term investors' point of view. However, for long-term investors, this classification will be based on return on equity (ROE). The higher positive difference between return on equity (ROE) and return on debt (ROD) will mobilize the investors to equity participation, which is a good indicator of expansion in businesses.

The lower amount of equity (EQTY) as compared to the size of the firm (total assets) indicates higher leverage (LVRG) or debt financing. In this study, we have explored also the determinants of leverage ratio (LVRG) and long-term borrowing (LTBWRNG).

Table 1: Origin of Debt Financing: 2023

Country/ Region/ Group	Share of private sector in total external debt	Domestic credit to private sector (% of GDP)	Domestic credit to private sector by banks (% of GDP)
Bangladesh	9.0	37.6	37.5
India	43.8	50.1*	50.1*
Pakistan	13.3	12.0	11.9
South Asia	33.4	46.4*	46.4*
Middle income	30.2	135.6	128.8
World		146.5	94.3
Lower middle income	25.9	46.5*	46.0*
High income		153.0	75.3
*' 2021			

Source: World Bank (2023 and 2024)/ Author's calculations

Figure 2: Liquidity and Dividend on Equity

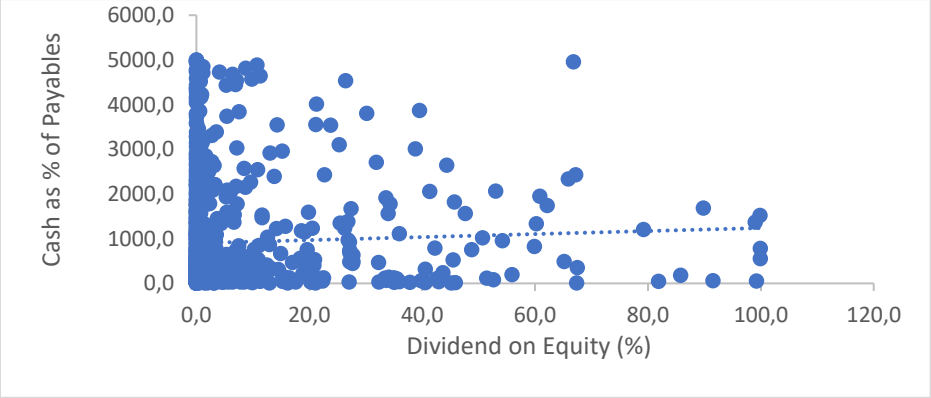


Figure 3: Liquidity and Leverage

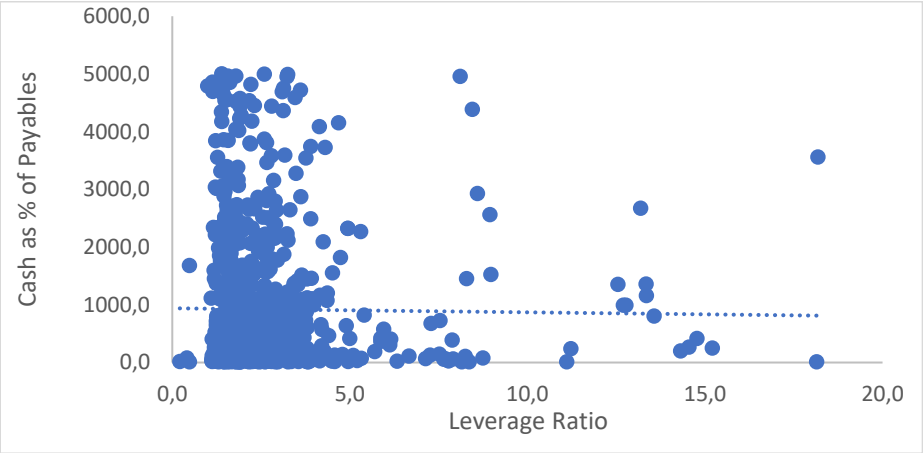


Figure 4: Dividend on Equity and Leverage

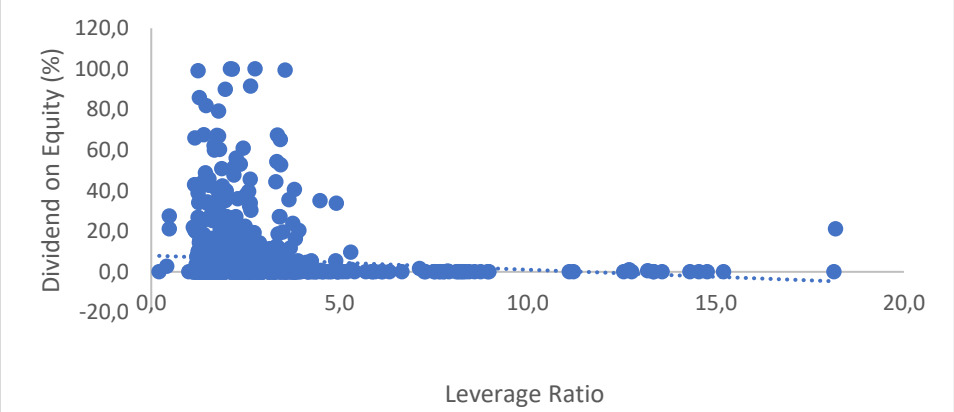


Figure 5: Return on Equity and Leverage

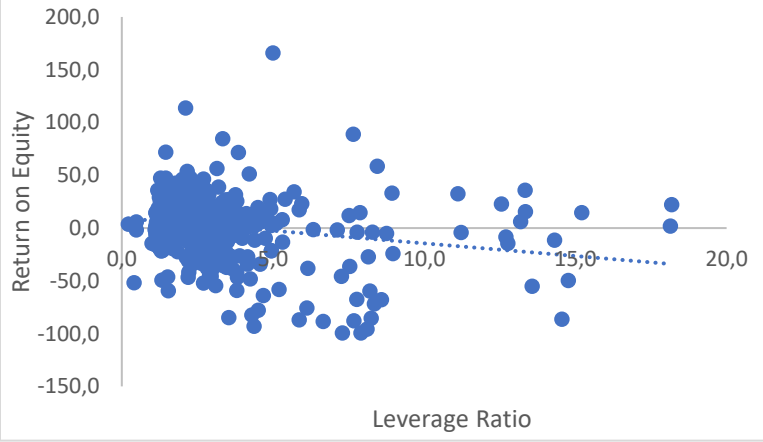
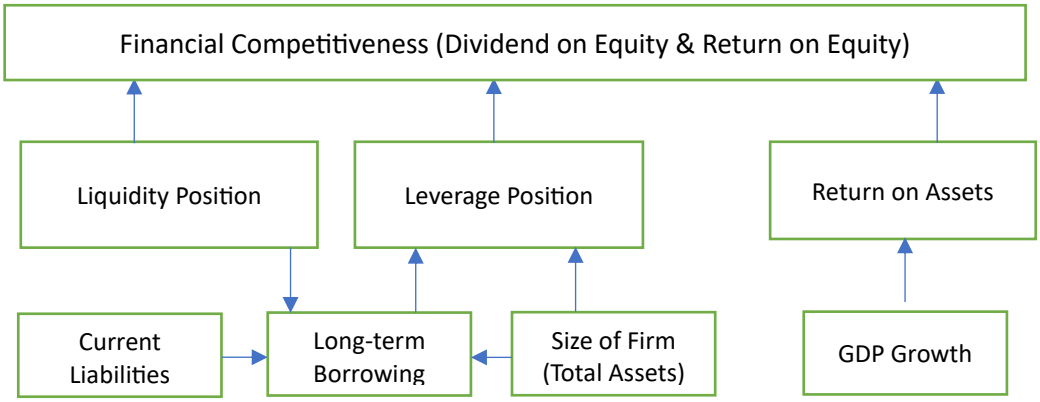


Figure 6: Impacts of Leverage and Liquidity on Financial Competitiveness



4. METHODOLOGY TO DETERMINE THE FACTORS OF FINANCIAL COMPETITIVENESS

This analysis is based on 6 years data from 398 listed companies in Pakistan. The data has been extracted from the annual reports of those companies (SBP: 2023). The reported data in annual accounts are based on standard accounting policies and procedures. The definitions of some variables in accounting procedures are different from finance theory. So, before applying the statistical techniques for empirical findings, some variables have been re-calculated. In this analysis, preference shares capital is not a part of owners' equity. Similarly, a surplus on the revolution of assets has been treated as a separate variable that is not included in equity.

Table: 2 shows the classification of companies in the sample. This table shows that 116 out of 398 companies are classified as small and medium enterprises. The classification of companies is based on the definition of small and medium enterprises (SME) in the latest SME policy formulated by the Government of Pakistan (2021). According to this definition, a company will be considered a small or medium enterprise if its annual sale is less than 800 million Pak rupees (PKR). In this case, the company will be qualified to avail those advantages which are available to small and medium enterprises in Pakistan. The ease of compliance with regulatory and listing requirements and concessional borrowing from commercial banks are included in these advantages. To capture the effect of SME status on financial competitiveness, a dummy variable has been created. The numeric value of this dummy variable is equal to '1' if a company is classified as small or medium enterprise (SME) and '0' otherwise.

The data for some variables is not available in some cases. The number of observations for each regression has been reported in the results. All data has been reported in thousands of rupees (PKR) unless specified.

Table: 3 summarizes the macroeconomic situation from 2016 to 2021. The higher fluctuation in GDP is envisaged in Table: 5, while the rate of inflation also highly fluctuated during the period (2016 to 2021). The Covid-19 pandemic is one of the causes of fluctuation in growth and inflation. However, no significant improvement in domestic credit was observed.

The descriptive statistics in Table: 4 summarize the structure of the data. This table shows the differences in the financial positions of large-scale companies and small and medium enterprises (SMEs). It is envisaged that differences in leverage financing affect profitability. The list of variables with their abbreviated names and sources of data has been presented in Table: 5.

The association between liquidity position, leverage financing, and payments of dividends have been shown in Figures: 2 and 3, while Figures: 4 and 5 show the relation of leverage position with dividend and return on equity. These charts show the apparent relations among these variables. However, statistical inferences have been ascertained in section 5. In the presentation of graphic sketches of data, we have excluded the outliers. We have not included the observations where the annual return on equity or dividend payment is more than 100% of the equity. Similarly, we have not included the observations where net losses in a year are greater than the equity of a firm. The observations where the leverage ratio is greater than 20 or cash is more than 5000% of payables are not included in the analysis.

It is mentioned in the earlier section that financial competitiveness has been measured through return on equity (ROE) and cash dividend to equity (DVDND/EQTY) ratio. For a competitive firm, the return on equity (ROE) and cash dividend to equity (DVDND/EQTY) ratio should be higher than the cost of debt (ROD). It is hypothesized that the returns on equity (ROE) and the cash dividend (DVDND) are affected by leverage financing (LVRG and LTBWRNG) and the liquidity position of a firm (CASH).

We have tested how return on equity (ROE) and dividend on equity (DVDND/EQTY) are determined by leverage (LVRG) financing and the size of the firm. The total assets (TOTAST) indicate the size of a firm. The large size in terms of total assets (TOTAST) requires more financing. So, total assets (TOTAST) are included in the explanatory factors of leverage financing (LVRG) and long-term borrowing (LTBWRNG). The available cash and bank balance (CASH), current liabilities (CURLBL), and short-term payables (PAYBL) are also included in the explanatory factors of cash dividend (DVDND), leverage financing (LVRG), and long-term borrowing (LTBWRNG).

It has been noted (Mehar: 2007, 2022) that the majority of large-scale units in Pakistan produce industrial raw materials and intermediate products (like fibers, yarn, gray cloth, plastic, and basic chemicals, etc.) while small and medium enterprises convert these intermediate goods into finished products. In this way, small and medium enterprises (SMEs) have to invest their capital in current assets: inventories (INVNTRY), and trade credits (RCVBLS), while large-scale industries focus mainly on the acquisition of fixed assets (FXDAST). So, lower-level liquid assets (CASH) in small and medium enterprises (SMEs) are a natural phenomenon. To capture the impact of this phenomenon, the dummy variable (SME) is included in the explanatory variables. The impacts of explanatory factors on return on assets (ROA), return on equity (ROE), cash dividend to equity (DVDND/EQTY) ratio, leverage ratio (LVRG), and long-term borrowing (LTBWRNG) can be explained in the following equations:

$$ROE_{it} = \beta LVRG_{it} + \gamma GROW_{it} + \Omega SME_i + \delta X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

$$\left(\frac{DVDND}{EQTY}\right)_{it} = \beta LVRG_{it} + \gamma\left(\frac{CASH}{PAYBL}\right)_{it} + \Omega SME_i + \delta X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

$$LVRG_{it} = \beta TOTAST_{it} + \gamma INTRPMT_{it} + \Omega SME_i + \delta X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

$$LTBWRNG_{it} = \beta TOTAST_{it} + \gamma CURLBL_{it} + \Omega CASH_{it} + \delta X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

$$ROA_{it} = \beta GROW_{it} + \gamma DCPS_{it} + \Omega SME_i + \delta X_{it} + \mu_i + \tau_t + \epsilon_{it}$$

It is mentioned earlier that return on equity (ROE) and payment of cash dividends to investors (DVDND/EQTY) are the primary indicators of the financial competitiveness of a firm. The above-mentioned equations show the direct effects of leverage financing (LVRG) on return on equity (ROE) and cash dividend to equity (DVDND/EQTY) ratio while the indirect effects of the size of a firm (TOTAST) on return on equity (ROE) and cash dividend to equity (DVDND/EQTY) ratio can be expressed as follows:

$$\frac{dROE}{dTOTAST} = \frac{\partial ROE}{\partial LVRG} \cdot \frac{\partial LVRG}{\partial TOTAST}$$

$$\frac{d\left(\frac{DVDND}{EQTY}\right)}{dTOTAST} = \frac{\partial\left(\frac{DVDND}{EQTY}\right)}{\partial LVRG} \cdot \frac{\partial LVRG}{\partial TOTAST}$$

Where 'ROA' is the return on assets of company 'i' in year 't', 'ROE_{it}' is the return on equity of company 'i' in year 't', '$LVRG_{it}$' is leverage ratio of company 'i' in year 't', 'SME_i' is a dummy variable equal to '1' if a company 'i' is classified as a small or medium enterprise, and '$EQTY_{it}$' is the owners' equity of company 'i' in year 't'. '$GROW_t$' is the annual growth of GDP in percentage in year 't' and '$DCPS_t$' is the domestic credit to the private sector in year 't'. '$CASH_t$' indicates the cash and bank balance of a company at the end of the year of company 'i' in year 't', '$TOTAST_{it}$' is the total assets of company 'i' in yer 't', and '$DVDND_{it}$' indicates cash dividend paid by company 'i' in year 't' to its shareholder. '$PAYBL_{it}$' is accounts and notes payable by company 'i' in year 't', '$LTBWRNG_{it}$' is long-term borrowing of company 'i' in year 't', '$INTRPMT_{it}$' is interest payment by company 'i' in year 't' and '$CURLBL_{it}$' is current liabilities of company 'i' in year 't'.

'X_{it}' is a vector of exogenous control variables; 'μ_i' denotes unobserved time-invariant heterogeneity at the country level; 'τ_t' is a country-fixed effect; and 'ε_{ijt}' is an independent disturbance term. The descriptions of variables and sources of data have been shown in Table: 5.

Several control variables to estimate the net effects of the size of a company (TOTAST), leverage financing (LVRG), and liquidity position (CASH/PAYBL) on return on equity (ROE) and dividend to equity ratio (DVDND/EQTY) have been included in the estimations. These relations can be expressed in the following 5 equations:

$$ROE_{it} = \propto_i + \beta_1 LVRG_{it} + \beta_2 GROW_{it} + \beta_3 SME_i + \varepsilon_{it} \quad (5)$$

$$(\frac{DVDND}{EQTY})_{it} = \propto_i + \beta_1 LVRG_{it} + \beta_2(\frac{CASH}{PAYBL})_t + \beta_3 SME_i + \varepsilon_{it} \quad (6)$$

$$LVRG_{it} = \propto_i + \beta_1 TOTAST_{it} + \beta_2 INTRPMT_{it} + \beta_3 SME_i + \beta_4 SURVULTN_{it} + \varepsilon_{it} \quad (7)$$

$$LTBWRNG_{it} = \propto_i + \beta_1 TOTAST_{it} + \beta_2 CASH_{it} + \beta_3 CURLBL_{it} + \beta_4 INTNGBL_{it} + \varepsilon_{it} \quad (8)$$

$$ROA_{it} = \propto_i + \beta_1 GROW_{it} + \beta_2 DCPS_{it} + \beta_3 SME_i + \varepsilon_{it} \quad (9)$$

$INTNGBL_{it}$ indicates intangible assets of company i in year t and $SURVULTN_{it}$ is the surplus on the revolution of assets of company i in year t.

Panel least square (PLS) techniques have been applied to estimate the parameters. The Hausman (Cross-section random chi-square) and Lagrange Multiplier (Breusch-Pagan, Honda, King-Wu) tests have been applied to test the appropriateness of panel least square (PLS) techniques. Based on these criteria, the fixed effect models have been used for the estimation of return on equity (ROE), return on assets (ROA), leverage ratio (LVRG), and long-term borrowing (LTBWRNG), while the common effect model was suggested for the estimation of dividend to equity ratio (DVDND/EQTY). Every equation has been estimated in 3 alternative scenarios. The objective of estimation in alternative scenarios is to check the robustness of parameters.

For the selection of an appropriate model to minimize the information losses, the Akaike, Schwarz, and Hannan-Quinn information criteria have also been reported in the results.

Table 2: Sample Specification (Year: 2016-22)

Sector/ Category	No. of Companies
Total	398
Large-scale Enterprises	282
Small and Medium Enterprises (SMEs)	116
Manufacturing Sector	381
Services Sector	17

Source: State Bank of Pakistan (2023 and 2024)/ Author's presentation

Table 3: Macroeconomic Factors

Year	Domestic Credit to Private Sector (% of GDP)	GDP growth (%)	Rate of inflation-Consumer Prices (%)
2016	14.68	5.53	3.77
2017	15.31	4.43	4.85
2018	16.63	6.15	5.79
2019	15.69	2.50	1.58
2020	15.33	-1.27	9.74
2021	15.35	6.49	9.50
2022	14.80	4.78	19.9
2023	12.00	-0.04	30.8

Source: World Bank (2024)

Table 4: Financial and Operational Indicators (Descriptive Statistics (In million PKR unless specified)

Variable	Large Scale Companies			Small and Medium Enterprises		
	Mean	Median	Std.Error	Mean	Median	Std.Error
Return on assets	3.5	2.4	0.7	0.2	1.4	0.4
Return on equity	13.1	9.0	2.9	13.3	3.1	12.8
Dividend paid: cash	831.1	68.9	95.3	219.1	17.7	39.1
Dividend paid: Bonus shares	194.3	29.3	58.4	48.1	13.2	15.0
Earning after tax	1024.1	96.7	213.8	256.8	2.6	117.1
Owners' equity	6657.3	1295.0	1178.3	1619.4	232.2	216.6
Total assets	21653.6	3453.1	2231.7	4626.8	569.5	1041.2

Leverage ratio	2.3	2.2	0.4	1.6	1.9	0.6
Long-term borrowing	3182.6	232.5	545.6	554.8	78.3	82.7
Cash and bank balance	758.6	62.8	86.1	124.1	9.8	19.4
Payables	5576.7	553.1	731.4	654.1	122.3	99.7
Receivables	5162.3	289.3	800.8	490.8	48.6	147.8
Interest expenses as % of EAT*	42.8	13.7	2280.1	9.0	0.2	562.0
Interest expenses as % of long-term borrowing*	16.9	14.2	697697.6	6.2	18.6	6375.3
Fixed Assets at cost	9461.7	1754.7	862.4	2186.9	422.6	245.2
Intangible assets	482.6	6.4	90.9	71.3	2.9	22.9
Operating assets after depreciation	6375.1	1436.5	566.1	1717.4	309.6	187.5
Paid up capital	1582.1	122.7	173.6	469.2	28.7	85.0
Surplus on the revolution of assets	1512.1	358.2	190.6	649.9	214.9	77.3
*’ Including other financial charges and Ignoring negative EAT or EBT						

Table 5: List of Variables and Sources of Data (Million PKR, if not specified)

Abbreviation	Description	Source
CASH	Cash and bank balance	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
CURLBL	Current liabilities	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
DCPS	Domestic credit to private sector as % of GDP	International Financial Statistics, International Monetary Fund (2023)
DVDND	Cash dividends	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
EAT	Earing after tax	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
EQTY	Shareholders' equity (excluding preference shares capital)	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
FB	The dummy variable is equal to '1' if a company belongs to fibers manufacturing (including silk, synthetic, rayon, nylon and polyester) and '0' otherwise	Author’s depiction based on State Bank of Pakistan (2023)
FXDAST	Fixed assets at cost	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
GR	The dummy variable is equal to '1' if a company belongs to garments manufacturing and '0' if otherwise	Author’s depiction based on State Bank of Pakistan (2023)
GROW	GDP growth (annual %)	World Development Indicators; World Bank (2023)
ICT	The dummy variable equal to '1' if a company belongs to information and communication technology and '0' otherwise	Author’s depiction based on State Bank of Pakistan (2023)
INFLCPI	Rate of inflation based on consumer prices (annual %)	World Development Indicators; World Bank (2023)
INTNGBL	Intangible assets are defined as assets that cannot be seen, touched, or physically measured. These are created through time and/or effort. Copyrights, patents, goodwill, trademarks, and software accounts are included in these assets.	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
INTRPMT	Interest payment (Total interest paid)	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)

LTBWRNG	Long-term borrowing including bonds, debentures, and institutional borrowing	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
LVRG	Leverage ratio: Ratio of total assets to shareholder's equity	Author's calculations
OPRASTN	Operating fixed assets after deducting accumulated depreciation	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
PAIDUP	Paid-up capital (Ordinary shares capital)	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
PAYBLS	Trade credit and other accounts payables	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
PAYOUT	Cash dividend to earning after tax	Author's calculations
ROA	Return on Assets (Earning after tax as % of total assets)	Author's calculations
ROE	Return on equity (Earning after tax as % of equity)	Author's calculations
SME	The dummy variable is equal to '1' if the annual sales revenue of the company is less than Rs.800 million, and '0' otherwise.	Author's depiction based on the Government of Pakistan (2021)
SP	The dummy variable is equal to '1' if a company belongs to textile spinning and/or weaving and '0' if otherwise	Author's depiction based on State Bank of Pakistan (2023)
SRV	The dummy variable is equal to '1' if a company belongs to the services sector and '0' if otherwise	Author's depiction based on State Bank of Pakistan (2023)
SRVLUTN	Surplus on revaluation of fixed assets	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
TAX	Tax provision	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)
TOTAST	Total Assets (Equity & Liabilities)	Financial Statement Analysis; State Bank of Pakistan/ Pakistan Stock Exchange (2023)

5. RESULTS AND EMPIRICAL PIECES OF EVIDENCE

Tables: 6 to 10 present the statistical results of the above-mentioned equations. These results quantify the impacts of explanatory variables and indicate the significance of parameters and overall goodness of fit in the equations. To conduct the falsification test, additional control variables have been added. The results are confirmed by 3 alternative scenarios. Another, objective of testing the models in alternative scenarios by adding and subtracting the control variables is to test the robustness of the estimated parameters.

The adjusted R-squares and F-statistics show the goodness of fit in all estimated equations, indicating that the explanatory variables included in the models significantly explain the effects of independent variables. All the equations in the models are well-fitted, as confirmed by the adjusted R-squares and F-statistics. The magnitudes of the Akaike information criterion, Schwarz criterion, and Hannan-Quinn criterion have also been reported. The Lagrange Multiplier Tests (Breusch-Pagan, Honda, and King-Wu) and Hausman justify the selection of panel least square (PLS).

Based on empirical analysis, it is concluded that leverage financing (LVRG) and liquidity position (CASH) play important and significant roles in determining financial competitiveness. Table: 6 depicts that higher leverage financing (LVRG) is a major cause of diluting the financial competitiveness. Though theoretical pieces of evidence support the favorable role of debt financing in improving the value of a firm (Miller and Modigliani: 1958; Miller and Modigliani: 1961; Mehar: 2005a; Mehar: 2005c), it is not supported by the empirical pieces of evidence in this study. However, the estimation of dividend to equity ratio (DVDND/EQTY) reconciles the empirical evidence with the theory of finance.

Table: 7 shows a positive impact of debt financing (LVRG) on the dividend-to-equity ratio (DVDND/EQTY). Similarly, the liquidity position (CASH/PAYBL) is a cause of improvement in dividend payment (DVDND/EQTY). The reconciliation of these two results

corroborates that debt financing dilutes the return on equity (ROE) but it provides a substitute for internal financing (retained earnings). So, in the presence of debt financing, companies can use their earnings (EAT) for payment of cash dividends (DVDND).

Tables: 8 and 9 show that the size of a firm in terms of its total assets (TOTAST) is a significant factor in debt financing (LVRG). Large companies prefer more debt financing (LVRG). This conclusion was confirmed through two different equations. In Table: 8 the dependent variable was leverage ratio (LVRG), which is a ratio of total assets (TOTAST) to equity (EQTY). The higher leverage ratio indicates the higher investment by a firm about its equity (EQTY). The dependent variable is long-term borrowing (LTBWRNG) in Table: 9. The long-term borrowing (LTBWRNG) is a part of employed capital which is used for investment in fixed assets. The effect of total assets (TOTAST) was the same in both cases.

Empirical pieces of evidence show that current liabilities (CURLBL) are used as a substitute for long-term borrowing (LTBWRNG). Interestingly, current liabilities (CURLBL) are those short-term obligations that are due within the year. These liabilities are generated through buying on credit or delay in the payments of employees' benefits, utility bills, and notes payables. The higher magnitude of these short-term liabilities (CURLBL) is negatively associated with long-term borrowing (LTBWRNG). The good liquidity position (CASH) of a firm is also negatively associated with long-term borrowing (LTBWRNG). Interestingly, the impact of intangible assets (INTNGBL) on long-term borrowing (LTBWRNG) is negative.

It is noted that growth in GDP (GROW) is the only significant factor of return on assets (ROA). The return on assets reflects the earning power of its assets. It implies that the earnings of a firm regardless of its size are mainly determined by the economic conditions. It recognizes the importance of macroeconomic conditions.

We have tested the impacts of specific characteristics of different industrial sectors by incorporating their dummy variables. The textile spinning and weaving sector (SP), textile fiber (FB), information and communication services (ICT), garments manufacturing (GR) and services industries (SRV) have been incorporated into the equations through their respective dummy variables. However, it is noted that the effects of the special characteristics of these industries are not significant. Similarly, the special status of small and medium enterprises (SMEs) is not an important factor in determination of the financial competitiveness. It is the leverage financing, size of the firm, and liquidity position that determines the financial competitiveness of a firm.

It is evident in summary statistics (table: 4) that the return on equity in small and medium enterprises is higher than in large-scale industrial units despite very low returns on assets in small and medium enterprises. It is corroborated by a comparison of their leverage ratios. The leverage financing of large-scale enterprises is higher than small and medium enterprises. In interpreting the summary statistics and regression results it is noteworthy that it is not the size of enterprises that differentiates financial competitiveness. The real source of this differentiation is the magnitudes of leverage financing and liquidity position of enterprises. In the case of alternative arrangements for leverage financing and liquidity management, there will be no difference between large-scale units and small and medium enterprises.

Table 6: Dependent Variable: Return on equity (ROE)

Method: Panel Least Squares (Fixed Effect Model)
Sample: 2016-2022
Periods included: 7; Cross-sections included: 331; Total panel (unbalanced) observations: 1957

Independent Variable/ Option	**I**	**II**	**III**
Constant	22.344***	-5.690	-5.609
	(3.252)	(-0.066)	(-0.065)
SME: Dummy variable equal to '1' for SMEs	14.062	14.096	14.521
	(1.565)	(1.568)	(1.592)
SME*ICT: Dummy variable for SMEs*Dummy variables for ICT companies	36.056	36.290	35.872
	(0.783)	(0.788)	(0.778)
LVRG: Leverage ratio	-12.597***	-12.596***	-12.596***
	(-52.279)	(-52.255)	(-52.235)
FXDAST: Fixed assets at cost	2E-07	2E-07	2E-07
	(1.146)	(1.150)	(1.147)
GROW: GDP growth (%)	1.822	1.761	1.765
	(1.517)	(1.450)	(1.452)
DCPS: Domestic credit to private sector as % of GDP		1.822	1.821
		(0.328)	(0.328)

SME*SRV: Dummy variable for SMEs*Dummy variable for companies in the services industry			-15.297 (-0.280)
Overall Significance			
R-squared	0.718	0.718	0.718
Criteria for Model Selection			
Akaike information criterion	12.795	12.797	12.798
Schwarz criterion	13.779	13.783	13.788
Hannan-Quinn criterion	13.159	13.161	13.164
Testing for Fixed/ Random/ Common Effect			
Lagrange Multiplier Test: Breusch-Pagan	21.029***	21.051***	21.060***
Lagrange Multiplier Test: Honda	4.5857***	4.5881**	4.589**
Lagrange Multiplier Test: King-Wu	4.5857***	4.5881**	4.589**
Hausman Test (Cross-section random Chi-Square)	41.872***	41.912***	41.961***
#T-Statistics in parenthesis *p < 0.1; **p < 0.05; ***p < 0.01			

Table 7: Dependent Variable: Cash Dividend to Equity (DVDND/EQTY)

Method: Panel Least Squares (Common Effect Model)
Sample: 2016-2022
Periods included: 7; Cross-sections included: 236; Total panel (unbalanced) observations: 972

Independent Variable/ Option	**I**	**II**	**III**
Constant	1.750 (1.973)	0.135 (0.116)	-1.413 (-0.071)
ROE: Return on equity (after tax)	0.009 (0.993)	0.046** (2.431)	0.007 (0.734)
CASH/PAYBLS: Cash and bank balance to Trade credit and other accounts payables	0.194*** (11.311)	0.194*** (11.333)	0.228*** (11.344)
SME: Dummy variable equal to '1' for SMEs	-0.786 (-0.550)	-0.507 (-0.353)	0.047 (0.027)
ICT: Dummy variable equal to '1' for ICT companies	-5.378 (-1.508)	-5.250 (-1.474)	-8.312* (-1.933)
SRV: Dummy variable equal to '1' for companies in the services industry	-3.544 (-0.802)	-3.137 (-0.710)	-4.952 (-0.917)
GR: Dummy variable equal to '1' for companies in garment manufacturing	-1.065 (-0.176)	-0.968 (-0.160)	-1.434 (-0.211)
SP: Dummy variable equal to '1' for companies in textile spinning and weaving	-1.541 (-0.974)	-1.297 (-0.816)	-1.721 (-0.961)
FB: Dummy variables equal to '1' for companies in fiber manufacturing	-1.511 (-0.270)	-1.063 (-0.190)	-1.879 (-0.263)
TOTAST: Total Assets		-2E-10 (-0.025)	
INTRPMT/LTBWRNG: Interest payments to long-term borrowing			3E-07 (0.070)
LVRG: Leverage ratio		0.369** (2.225)	
DCPS: Domestic credit to private sector as % of GDP			0.200 (0.155)
Overall Significance			
R-squared	0.122	0.126	0.150
Criteria for Model Selection			
Akaike information criterion	8.830	8.829	8.959
Schwarz criterion	8.875	8.884	9.027

Hannan-Quinn criterion	8.847	8.850	8.985
Testing for Fixed/ Random/ Common Effect			
Lagrange Multiplier Test: Breusch-Pagan	0.293	0.051	0.234
Lagrange Multiplier Test: Honda	0.541	0.227	0.484
Lagrange Multiplier Test: King-Wu	0.541	0.227	0.484
#T-Statistics in parenthesis *p < 0.1; **p < 0.05; ***p < 0.01			

Table 8: Dependent Variable: Leverage ratio (LVRG)

Method: Panel Least Squares (Fixed Effect Model)
Sample: 2016-2022
Periods included: 7; Cross-sections included: 192; Total panel (unbalanced) observations: 1089

Independent Variable/ Option	**I**	**II**	**III**
Constant	3.642 (0.215)	1.007 (0.047)	2.136 (0.125)
SME: Dummy variable equal to '1' for SMEs	-2.812* (-1.668)	-3.288 (-1.599)	-2.738 (-1.615)
TOTAST: Total Assets	2E-07*** (4.741)	1E-07*** (4.059)	1E-07*** (4.532)
DCPS: Domestic credit to private sector as % of GDP	-0.140 (-0.129)	0.002 (0.001)	-0.051 (-0.046)
INTRPMT/EAT: Interest payments to earnings after tax	0.002* (1.722)		
INTRPMT/LTBWRNG: Interest payments to long-term borrowing		3E-04*** (4.751)	
SURVLUTN: Surplus on revaluation of fixed assets	-6E-08 (-0.254)	-1E-07 (-0.436)	-3E-09 (-0.012)
ICT*EQTY: Dummy variable for companies in ICT*Equity			6E-08 (1.101)
SP*EQTY: Dummy variable for companies in textile spinning and weaving*Equity			2E-07 (0.768)
SRV*EQTY: Dummy variable for companies in the services industry*Equity			5E-08 (0.084)
Overall Significance			
R-squared	0.238	0.287	0.237
Criteria for Model Selection			
Akaike information criterion	8.949	9.154	8.955
Schwarz criterion	9.880	10.180	9.896
Hannan-Quinn criterion	9.304	9.549	9.314
Testing for Fixed/ Random/ Common Effect			
Lagrange Multiplier Test: Breusch-Pagan	3.448*	1.934	3.438*
Lagrange Multiplier Test: Honda	1.856	1.390	1.854
Lagrange Multiplier Test: King-Wu	1.856	1.390	1.854
Hausman Test (Cross-section random Chi-Square)	46.344***	124.743***	47.403***
#T-Statistics in parenthesis *p < 0.1; **p < 0.05; ***p < 0.01			

Table 9: Dependent Variable: Long-Term Borrowing (LTBWRNG)

Method: Panel Least Squares (Fixed Effect Model)
Sample: 2016-2022
Periods included: 7; Cross-sections included: 163; Total panel (unbalanced) observations: 709

Independent Variable/ Option	**I**	**II**	**III**
Constant	5614568.0***	5709274.0***	5291863.0
	(9.995)	(8.900)	(0.428)
CURLBL: Current liabilities	-0.164***	-0.164***	-0.164***
	(-8.196)	(-8.193)	(-8.151)
CASH: Cash and bank balance	-1.615***	-1.615***	-1.618***
	(-5.734)	(-5.727)	(-5.731)
TOTAST: Total assets	0.037***	0.037***	0.036***
	(3.208)	(3.207)	(3.186)
INTNGBL: Intangible assets	-0.728*	-0.730*	-0.727*
	(-1.838)	(-1.840)	(-1.830)
SME*LVRG: Dummy variable for SMEs*Leverage ratio	-1290.1	40899.9	-7362.3
	(-0.005)	(0.142)	(-0.029)
SME: Dummy variable equal to '1' for SMEs		-423857.7	
		(-0.307)	
INFLCPI: Rate of inflation based on consumer prices			94908.1
			(0.626)
DCPS: Domestic credit to private sector as % of GDP			-15909.1
			(-0.020)
Overall Significance			
R-squared	0.668	0.668	0.668
Criteria for Model Selection			
Akaike information criterion	35.546	35.548	35.550
Schwarz criterion	36.623	36.632	36.641
Hannan-Quinn criterion	35.962	35.967	35.972
Testing for Fixed/ Random/ Common Effect			
Lagrange Multiplier Test: Breusch-Pagan	239.727***	241.358***	239.397***
Lagrange Multiplier Test: Honda	15.483***	15.535***	15.472***
Lagrange Multiplier Test: King-Wu	15.483***	15.535***	15.472***
Hausman Test (Cross-section random Chi-Square)	306.183***	304.784***	303.870***
#T-Statistics in parenthesis *p < 0.1; **p < 0.05; ***p < 0.01			

Table 10: Dependent Variable: Return on assets (ROA)

Method: Panel Least Squares (Fixed Effect Model)
Sample: 2016-2022
Periods included: 7; Cross-sections included: 328; Total panel (unbalanced) observations: 1930

Independent Variable/ Option	**I**	**II**	**III**
Constant	8.091	8.565	8.673
	(1.435)	(1.505)	(1.522)
SME*ICT: Dummy variable for SMEs*Dummy variables for ICT companies	-0.190	-0.108	-0.108
	(-0.064)	(-0.037)	(-0.037)
GROW: GDP growth (%)	0.390***	0.431***	0.432***
	(4.867)	(5.358)	(5.363)
DCPS: Domestic credit to private sector as % of GDP	-0.420	-0.464	-0.468
	(-1.148)	(-1.257)	(-1.266)
OPRASTN/TOTAST: Operating asset after depreciation to total assets	-3E-04**	-0.002	-0.002
	(-2.063)	(-0.214)	(-0.215)

TAX/TOTAST: Tax to total assets		0.009 (0.178)	0.009 (0.179)
SME*SP: Dummy variable for SMEs*Dummy variables for companies in textile spinning and weaving			-0.410 (-0.375)
Overall Significance			
R-squared	0.543	0.549	0.549
Criteria for Model Selection			
Akaike information criterion	7.354	7.341	7.342
Schwarz criterion	8.335	8.333	8.337
Hannan-Quinn criterion	7.717	7.708	7.711
Testing for Fixed/ Random/ Common Effect			
Lagrange Multiplier Test: Breusch-Pagan	683.503***	664.520***	602.774***
Lagrange Multiplier Test: Honda	26.143***	25.778***	24.551***
Lagrange Multiplier Test: King-Wu	26.143***	25.778***	24.551***
Hausman Test (Cross-section random Chi-Square)	31.859***	39.583***	59.972***
#T-Statistics in parenthesis *p < 0.1; **p < 0.05; ***p < 0.01			

6. RECOMMENDATIONS FOR POLICY MEASURES AND LIMITATIONS

From a policy formulation point of view, it is important that the size of a firm in terms of its assets, debt financing, and liquidity position are important, significant, and robust determinants of financial competitiveness. The size of a firm does not affect its competitiveness directly. Its effects are transformed through leverage financing and the liquidity position of a firm. Large firms (in terms of assets) have to depend on debt financing. Debt financing dilutes the return on equity but improves dividend payment. The payment of more dividends will affect internal financing or expansion. This situation indicates short-term improvement in financial competitiveness. For sustainable improvement in financial competitiveness, the return on equity should be improved. In the estimation of the return on assets, it is concluded that GDP growth is a significant determinant of return on assets. After subtracting the cost of debt, the return on assets is transformed into return on equity. So, macroeconomic growth is a considerable factor in improving the financial competitiveness of a firm.

From investors' point of view, it is important that dividend on equity is a measure of short-term competitiveness. It can be used by short-term investors. However, the return on equity reflects long-term competitiveness. The difference between the return on equity and dividend on equity indicates the re-investment of investors' earnings for the growth and expansion of the firm.

Another notable point is the negative association between intangible assets and debt financing. To acquire intangible assets (patents, trademarks, goodwill, copyrights, etc.) firms do not use debt financing. In fact, in the context of Pakistan and other developing countries, it indicates the participation of foreign affiliates (or parent companies). The foreign affiliate or holding companies invest their equity through intangible assets. Debt financing will not be required to acquire those assets that have been added by the shareholders as their equity. It highlights the importance of foreign investment and collaboration with international business entities.

Before finalizing the conclusion, it is notable that these results and conclusions are based on the data of companies listed on the Pakistan Stock Exchange. The Panel Least Square (PLS) technique was applied to estimate the parameters.

For extension in this study, the capital gain can be incorporated into financial competitiveness. Importantly, the dividend yield (dividend as a percentage of the market value of equity) is another way to assess the financial competitiveness of a firm. Rather than book value, it considers the market value of equity which is important for those investors who bought the shares of a company from a secondary market. They calculate return on investment based on their out-of-pocket investment. This criterion incorporates the effect of capital gain (or loss) in return on investment. However, this is not a robust criterion because of the volatility in the stock market. The frequent changes in share prices can fluctuate the estimated financial competitiveness.

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