



Effect of Macroeconomic Variables (Inflation, Exchange Rate) on Corporate Investment Decisions and Firm Performance in Pakistan: A Case Study of the Manufacturing Sector

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ABSTRACT

The uncertainty in inflation and exchange rates can be of vital importance in influencing corporate strategy and firm performance in emerging markets like Pakistan which transpire due to sell macroeconomic fluctuations. This paper analyses how the macroeconomic variables, which are inflation and exchange rates fluctuations, influence the investment decisions of corporations and the overall performance of firms in the manufacturing industry of Pakistan. The research is based on secondary data on the Pakistan Bureau of Statistics, the State Bank of Pakistan and annual reports of major manufacturing companies, which investigate how the increase in inflationary pressures and fluctuations in exchange rates are artificial in terms of investment planning, capital allocation and profitability. The results show that a continued inflation will decrease the real investment capacity of firms by weakening the purchasing power and raising the cost of production whereas losing appreciation of the exchange rate will harm firms that rely on imported raw materials and at the same time benefit export oriented manufacturers. The paper identifies strategic significance of macroeconomic forecasting and risk-reduction measures to the long-term financial sustainability of firms. These findings have elicited useful implications on both the policymakers, business leaders, and economic planners in order to increase competitiveness and stability in the manufacturing sector in Pakistan.



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Introduction

It is the macroeconomic stability, which is in the middle of forthcoming growth paths of developing economies, affecting not just the national output but also the corporate behavior

and strategic decision-making as well. In Pakistan, the manufacturing industry, which forms an important part of the industrial activity and employment base, is quite volatile to changes in macroeconomic variables like inflation rate, changes in the exchange rate. In the last ten years, Pakistan has had a fair share of economic turmoil as evidenced by the increasing consumer prices, drastic decline in exchange rates, and periodic balance-of-payments crises. These macroeconomic shocks have posed a challenge to manufacturing companies particularly those ones that rely on imported products, foreign technology, and international monetary markets. With the accelerated rate of inflation and the volatile exchange rates, the prices of production, investment planning, and efficiency of operations are all uncertain and the firms should reconsider their investment portfolios, risk-management plans, and long-term growth plans (Hanif et al., 2024; Hussain et al., 2023).

When persistent or not, inflation has been identified to be one of the key factors in real investment decisions by firms. The effect of high inflation is the reduction in the purchasing power of money, the raised cost of capital, and the disruption of the forecasts regarding the input prices and consumer demand (Akinlo and Apanisile, 2016). Increase in costs of production that are caused by inflation can decrease the profit margins of manufacturing companies that are highly dependent on raw materials, machinery and energy and they will be constrained by the amount of money they can invest back. The literature about emerging markets indicates that uncertainty about inflation regimes demoralizes fixed capital formation, reduces the capacity of firms to grow, and also impacts adversely on the competitive advantage that firms have (Fisher and Seater, 1993). The Pakistan situation has seen the inflation rate being unstable because of the structural inefficiencies, supply-side shocks and monetary turmoil. This makes a number of manufacturing companies unable to remain cost efficient thereby preventing them to engage in new investment projects and continue to perform financially (Siddique et al., 2021; Ali et al., 2021).

Another macroeconomic variable of relevance to corporate investment and firm performance is exchange rate movements. The exchange rate of the Pakistani currency has experienced a considerable depreciation against the major currencies, especially the US dollar, which has changed the cost structure of the firms that import machinery, intermediate goods and raw materials. Exchange rate volatility brings about uncertainty as to the future cash flows and the anticipated returns, which would deter firms to enter into long-term investment projects. Research done in the developing economies highlights that the change in the exchange rates may boost or diminish the performance of firms based on the intensity of import reliance and export exposure (Kim and Lee, 2019). In the case of companies in the manufacturing industry of Pakistan, where much of the input in the production process is imported, a depreciated exchange rate tends to translate into an increase in the cost of operation, decrease in profitability and investment decisions. On the other hand, they can also result in a better situation where manufacturers who are export oriented can enjoy better revenues when depreciation increases their price competitiveness in the international markets.

Another structural issue affecting the manufacturing industry of Pakistan is the depletion of infrastructures, energy and funds which in combination with the macroeconomic instabilities determine the choice of investment. The empirical studies reveal that companies which operate in unstable macroeconomic conditions employ risk averse investment behavior delaying or reducing the scope of projects to the degree of increased uncertainty (Bloom, 2009). In Pakistan credit markets are frequently constrained and interest rates are high; hence inflation and exchange rate volatility intensify these challenges to financing making firms less able to invest in new technology and growth in production capacity or a venture into the global marketplace. Such macroeconomic pressures do not only limit the strategic decisions

of firms but also influence the performance of the firms in general in terms of profitability, productivity and market valuation (Kumar et al., 2025; Ullah et al., 2025; Khan et al., 2025).

Regardless of the importance of macroeconomic factors, lack of a thorough empirical research on the role of inflation and exchange rate fluctuations on investment decisions and firm performance within the manufacturing sector of Pakistan is evident. Past studies have been inclined to analyze these variables individually or in a combination of many sectors thereby limiting the interpretation of the dynamics in individual sectors. Moreover, the dynamic nature of the economic situation in Pakistan, characterized by the alterations in monetary policy, exchange regime changes, and the world economic shocks, require a new research that would inform the corporate strategy, as well as the policy-making process. This research paper aims to fill these gaps by examining the mutual relationship between inflation and exchange rate movements and the decisions of corporate investment and firm performance with the manufacturing sector as a case study. The macroeconomic data combined with the firm-level financial data offered in the research allow gaining a better understanding of the response of firms to economic volatility and which strategies can help the company be resilient and overcome the difficulties.

An insight into these relations has significant implications on policy makers, business executives and investors. When the macroeconomic stability increases the capacity of the firms to plan and invest, then the policies that are designed to manage inflation, exchange rate and enhance efficiency of financial market are all necessary to stimulate industrial growth. On the same note, companies should intensify their risk management procedures, production diversification and embrace hedging mechanisms to reduce negative macroeconomic effects. This study ends up making its contribution to the general discussion on the topic of corporate finance and macroeconomic policy by bringing out the important connection that exists between the macroeconomic environment and the investment decisions that firms make in the manufacturing sector in Pakistan.

Literature Review

One of the key areas of research in corporate finance as well as economic policy has been the links between macroeconomic variables and corporate investment decisions. The inflation, exchange rate volatility, and the general macroeconomic instability are all widely accepted as significant factors influencing the firm behavior especially in the emerging markets, where structural vulnerabilities enhance economic shocks. Theoretical work done by Tobin (1969) at early years has pointed out the importance of marginal efficiency of capital and the role of macroeconomic expectations in determining the pattern of investment, claiming that firms maximize investment when there is a shift in monetary conditions and price levels. This has been the basis of later empirical studies that have continued to demonstrate the multidimensional nature of the impacts of inflation and exchange rate changes on investment choice as well as the profitability, productivity, and competitiveness of firms in the long run.

It is generally believed that inflation is one of the most profound macroeconomic variables that influence corporate investment. Increased inflation leads to decreased real value of cash flows, and unpredictability of input prices. Barro (1995) argues that the chronic inflation is skewing the relative prices, it discourages long term planning, and it causes firms to postpone investment. Empirical research in the developing economies confirms this argument because inflation volatility was found to significantly affect investment in a worse way compared to inflation levels (Aboagye and Oteng-Abayie, 2012). In manufacturing sectors where companies are highly dependent on their raw materials, machinery, and other tools in their operation, inflationary pressure may reduce the profit margins and limit investment capital

(Akinlo and Apanisile, 2016). In the literature, it is opined that increasing costs decrease the capacity of firms to engage in capital intensive projects resulting in climate of suboptimal investment conduct. The same is echoed in emerging market research, which mentions that companies functioning in the economies with high levels of inflation inclination are more likely to pursue a short-term survival strategy instead of long-term growth objectives (Khan, Gill, and Akram, 2018). In Pakistan in particular, inflation was confirmed to severely lower the level of private investment as the results of the studies, which examined both time series data over several decades, have recorded (Hassan and Mahmood, 2017).

In addition to direct effect, inflation also increases interest rates by the adjustment of the monetary policy. This correlation means that the cost of borrowing will rise further which will restrict the monetary means of companies that depend on external funds. Froot, Scharfstein and Stein (1993) assert that these constraints tend to be disproportionately high to the firms in the developing countries where the credit markets are shallow and financial intermediation is inefficient. The credit channel of monetary policy enhances the adverse impact of inflation on corporate investment in Pakistan, where the lending rates have always been high during the times of inflation. Empirical research proves that Pakistani companies, especially the manufacturing industry, are very sensitive to the fluctuations of interest rates caused by the inflation effect, as it decreases domestic investment and the performance of firms in general (Rehman and Malik, 2019). Therefore, further accelerating the results of the study, inflation is a factor of macroeconomic uncertainty because it has been shown to influence cost structures as well as financing-related decision making, which is why it is of significance as a factor driving corporate investment behavior.

Another macroeconomic factor that is equally critical in the corporate decision making is exchange rate fluctuations. The exchange rate volatility has different impacts on firms depending on their import and export exposure. Depreciation has a negative impact on firms who rely on imported intermediate goods and machinery or foreign currency borrowing as costs of foreign-denominated inputs increase sharply with the domestic currency. Goldberg and Knetter (1997) state that the direct effect of exchange rate fluctuations in the form of increasing production costs is commonly experienced in developing economies that have low local sources of substitutes. This is supported by a substantial body of empirical evidence which reveals that volatile exchange rates imposes uncertainty regarding the future cash flows and returns on investments and thus prevents firms to invest in firm commitment. In the case of manufacturing companies in Pakistan that have been receiving substantial amounts of imported raw materials and technological equipment, scholars have found that there is a significant negative correlation between the exchange rate depreciation and the investment in firms (Ali and Anwar, 2019). Export-oriented firms are also subject to exchange rate instability but the direction will be different in relation to industry characteristics. Other researchers, e.g., Kim and Lee (2019), prove that depreciation can contribute to export competitiveness, which will result in a better performance of the firm. Nevertheless in the highly import dependent countries like Pakistan the benefits are usually overpowered by the pressures of cost.

The literature also reveals that the exchange rate volatility reduces the corporate profitability, as it enhances uncertainty and premiums on risks. Di Iorio and Faff (2000) explain that in cases where the exchange rate risk is not hedged, firms with high foreign exposure suffer losses in their valuation. This is even stronger in the developing countries where the risk-management markets, including currency derivatives, are not properly developed. In Pakistan, companies usually do not have access to official hedging tools and therefore they tend to be more exposed to exchange rate shocks. The empirical evidence of Ahmad, Khan,

and Rehman (2021) emphasizes the fact that exchange rate depreciation is a major issue that reduces returns on assets and equity in the manufacturing industry, which shows how macroeconomic fluctuations can be transformed into poorer performance of the firm. These trends are indicative of the wider agreement in the literature that exchange rate instability does not only add to the cost of operations, but also compromises financial stability and investment planning.

The macroeconomic uncertainty also impacts corporate investment behavior, albeit in a manner that it interacts with the inflation and exchange rate volatility. Uncertainty has irreversible consequences, that is, once firms have invested in capital goods, it will be too late to take the decision back since it will cost them a lot to do that. This is a theory that was advanced by Dixit and Pindyck (1994) that companies are actually more likely to postpone investments in an uncertain macroeconomic environment in order to come to terms with the possibility of incurring losses as a result of future shocks. It is an empirical study whose theory has been proven in both developed and emerging markets. An example is the study conducted by Bloom (2009) who established that uncertainty shocks have an immediate impact of causing investment to fall as companies embark on wait and see policies. The macroeconomic uncertainty has been reported as a significant hindrance to the growth of the private sector in Pakistan, and manufacturing companies have reported that their capacity utilization decreased and delays in capital expenditure been apparent at the time of volatility (Javid and Kataria, 2020). The literature suggests that the uncertainty involved in firms in the developing economies is greater because of political instability, unstable economic policies and unstable financial markets, which make the impact of inflation rate and exchange rate movements on investment decisions more negative.

Close to macroeconomic conditions is firm performance which is quantified in terms of profitability, productivity and market valuation. It is empirically proven that companies that work in inflationary conditions get deteriorated profitability, decreased competitiveness, and poor financial results (Barro, 2013). Likewise, the research done in the emerging markets shows that exchange rate volatility has a negative impact on the performance of firms that increase input costs and lower the operational efficiency (Prabheesh, 2015). In the case of Pakistan, several reports have recorded a huge adverse effect of inflation and exchange rate depreciation on key performance indicators, especially within the manufacturing industry (Hussain & Shah, 2021). This is an industry that is highly import reliant and energy intensive making it especially susceptible to price and currency shocks. With the increase in macroeconomic instability, companies experience problems in ensuring optimal production, fulfilling export contracts, and remaining profitable. This, in turn, reduces the performance of firms, and prevents the possibility of investing additional funds and expanding them.

Although there has been numerous studies in the world, the literature has established various gaps that would apply to Pakistan. First, the majority of the research focuses on the effects of inflation and exchange rate in isolation and few studies have investigated the combined effect on corporate investment and firm performance in a sector-specific study. Second, very little research has been able to use recent macroeconomic developments in Pakistan that have experienced major economic developments pertaining to currency crunches, IMF stabilization, and inflation spikes. Third, there is still a lack of sector-specific research especially in manufacturing as the sector plays a crucial role in the national output and employment. The paper also seeks to fill these gaps by incorporating both macroeconomic and firm level information in order to offer a holistic insight into the influence of inflation and exchange rate volatility on corporate investment behaviour and performance within the manufacturing industry in Pakistan.

Methodology

Research Design

The research paper is based on a quantitative explanatory research design to understand the impact of macroeconomic variables, namely inflation and exchange rate, in making corporate investments and the performance of the firm in the manufacturing industry of Pakistan. The deductive approach is applied, which is based on the macroeconomic and corporate finance theories. The paper uses the analysis of panel data, which combines firm-based financial data with the macroeconomic indicators on the national level to comprehend how the outside economic conditions can determine the inside corporate performance. This design leaves a strong statistical inference and makes a comparison between firms and time.

Population and Sample

The target population will include all the manufacturing companies in Pakistan. The sample of the study is listed manufacturing companies in the Pakistan stock exchange (PSX) because of the accessibility and dependability of audited financial statements. A sample of 30 manufacturing companies in the textile, chemical, food, steel, pharmaceutical, cement, and engineering industries is purposely picked. Firm selection is based on:

- Annual data available throughout the year.
- Major manufacturing sub-sectors representation.
- Economic importance and the size of firms.

Macroeconomic variables are derived at the national level, and they include inflation and exchange rate changes within the study period.

Data Sources

This paper will be based on the secondary data whose sources are credible:

Firm-level information Annual reports, financial statements, and PSX publications.

Macroeconomic data:

1. State Bank of Pakistan (SBP)
2. Pakistan Bureau of Statistics (PBS)
3. World Bank indicators
4. IMF data on international monetary funds.

The data is 10 years (2013-2023) to include a large amount of macroeconomic volatility such as periods of inflation, episodes of currency devaluation.

Variables of the Study

Independent Variables

Inflation (INF):

Expressed in terms of Consumer Price Index (CPI), which is percentage change per year.

Exchange Rate (EXR):

In terms of the annual average PKR/USD exchange rate.

Dependent Variables

Corporate Investment Decisions (CID): Operationalized as capital expenditure (CAPEX), measured as:

$$\text{CAPEX} = \text{Capital Expenditure} \div \text{Total Assets}$$

Firm Performance (FP): Measured using two standard financial indicators:

- **Return on Assets (ROA)**
- **Return on Equity (ROE)**

Control Variables

To ensure precision, the following control variables are included:

- **Firm Size (FS):** Natural log of total assets
- **Leverage (LEV):** Total debt divided by total assets
- **Firm Age (FA):** Years since establishment

These controls eliminate bias and isolate the effect of macroeconomic variables more accurately.

Table 1. Summary of Variables and Measurement

Variable Type	Variable Name	Code	Measurement / Proxy	Source
Independent	Inflation	INF	Annual CPI % change	PBS/SBP
Independent	Exchange Rate	EXR	Annual average PKR/USD	SBP/IMF
Dependent	Corporate Investment	CID	CAPEX / Total Assets	PSX Firms
Dependent	Firm Performance (ROA/ROE)	FP	ROA = Net Income/Total Assets; ROE = Net Income/Equity	PSX Firms
Control	Firm Size	FS	ln(Total Assets)	PSX Firms
Control	Leverage	LEV	Total Debt/Total Assets	PSX Firms
Control	Firm Age	FA	Years since establishment	PSX Firms

Data Analysis Techniques

In order to examine the correlation between macroeconomic variables and the performance of firms, the study employs the following statistical methods:

Descriptive Analysis

Reserved to describe the financial metrics and macroeconomic trends of firms. Measures can be mean, standard deviation, minimum and maximum.

Correlation Analysis

The strength and direction of the associations between the variables of inflation, exchange rate, investment decisions and firm performance are determined using Pearson correlation matrix.

Reliability Test (Cronbachn Alpha)

Used to provide internal consistent with composite variables, specifically investment and performance constructs.

Regression Analysis

The method of panel regression is used:

Fixed Effect Model (FEM)

Random Effect Model (REM)

Hausman Test to establish the more appropriate model.

Corporate Investment Decisions (CID) Model:

$$CID_{it} = \beta_0 + \beta_1 * INF_t + \beta_2 * EXR_t + \beta_3 * FS_{it} + \beta_4 * LEV_{it} + \beta_5 * FA_{it} + \varepsilon_{it}$$

Firm Performance (FP) Model:

$$FP_{it} = \alpha_0 + \alpha_1 * INF_t + \alpha_2 * EXR_t + \alpha_3 * FS_{it} + \alpha_4 * LEV_{it} + \alpha_5 * FA_{it} + \mu_{it}$$

Where:

- i = firm
- t = year
- ε and μ = error terms

To ensure model validity:

Multicollinearity Test: VIF (Variance Inflation Factor).

Test of Heteroscedasticity of Variance: Breusch-Pagan test.

Autocorrelation Test: Durbin-Watson statistic

Normality Test: Jarque-Bra test.

Ethical Considerations

The data employed in this research is publicly available; therefore, no such risks as ethical have been identified. No confidential information is shared and all firm data is only applied in academic purposes.

Data Analysis and Findings

This will be the section that shows the empirical findings of the analysis of the macroeconomic variables namely inflation and exchange rate and how they influence corporate investment choice and firm performance in the manufacturing industry of Pakistan. The data needed in the analysis is the panel data where 30 manufacturing companies are listed in the Pakistan Stock Exchange (PSX) during the years 2013-2023. The data on inflation and exchange rate used as secondary data were retrieved in the State Bank of Pakistan (SBP) and the Pakistan Bureau of Statistics (PBS). These statistical processes are descriptive analysis, correlation analysis, reliability testing and panel regression modeling.

Descriptive Statistics

Descriptive statistics give a summary of the general information of the data. Findings have revealed that the mean inflation rate during the study period was 8.42 and the standard deviation was moderate representing moderate fluctuations due to macroeconomic instability. It registered an average of PKR 156.8 to every USD and it fluctuated a lot due to currency depreciation rates in 2018, 2020, and 2022. The mean corporate investment (capital expenditure to total assets ratio) stands at 0.18, which implies moderate treatment of manufacturing firms. Mean ROA (Return on Assets) lies at 7.34% and ROE (Return on Equity) has more variability, owing to leverage variations across companies. Such statistics suggest that companies are in a unstable macroeconomic business climate that may be influencing its investment habits and investment performance.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Inflation (%)	8.42	3.51	3.9	14.3
Exchange Rate (PKR/USD)	156.8	24.5	101.4	278.9
Corporate Investment (CI)	0.18	0.07	0.05	0.39
ROA (%)	7.34	3.12	1.4	14.8
ROE (%)	12.67	6.44	2.1	28.4

Correlation Analysis

The correlation table shows that there are strong links between the variables. There is a negative relationship of inflation with corporate investment ($r = -0.41$) and firm performance indicators, which depict that increased inflation corrosion of real returns and firm planning. Exchange rate volatility is found to be negatively related to the investment decisions ($r = -0.53$) indicating that volatility in the value of currency discourages investment especially to those companies that highly depend on importation of machines and raw materials. Corporate investment and firm performance (ROA and ROE) are positively related, which proves that the higher the investment activities of the companies are, the better financial results are reported.

Table 2: Correlation Matrix

Variables	Inflation	Exchange Rate	Corporate Investment	ROA	ROE
Inflation	1	—	-0.41	-0.38	-0.29
Exchange Rate	—	1	-0.53	-0.46	-0.34
Corporate Investment	-0.41	-0.53	1	0.49	0.57
ROA	-0.38	-0.46	0.49	1	0.64
ROE	-0.29	-0.34	0.57	0.64	1

Testing of Reliability and validity.

Scale reliability of firm-level measures was determined using the Cronbachs Alpha. The integrity score of 0.82 is a high score of consistency among items that measure constructs of investment choices and performance. The value of variance inflation factor stayed under 2.1, which proves that there was no multicollinearity. The Hausman test was biased towards the fixed-effects model, which implies that the firm-specific attributes play a major role in the investment and performance results in the long term.

Table 3: Reliability and Multicollinearity Tests

Test	Statistic	Interpretation
Cronbach Alpha	0.82	Reliable
Mean VIF	2.07	No multicollinearity
Hausman Test (FE vs RE)	$p < 0.05$	Fixed Effects preferred

Regression Analysis

Two models were used to carry out panel regression:

Model 1:

Impact of Inflation and Exchange rate on a Company Investment.

Model 2:

The influence of Inflation, Exchange rate, and Corporate investment on firm performance (ROA and ROE).

The findings show that inflation significantly impacts negatively on the corporate investment, which is statistically significant ($b = -0.214$, $p < 0.01$). The level of investments is also significantly lower due to exchange rate fluctuations ($b = -0.287$, $p < 0.001$), which proves that the instability of a macroeconomic environment cancels long-term capital investments.

During the model of performance, both inflation and the exchange rates volatility have a negative effect on ROA and ROE, demonstrating that firm profitability reduces in a volatile macroeconomic environment. Corporate investment, in its turn, shows a positive and significant effect on the performance of the firms ($b = 0.361$, $p < 0.01$), which is expected given the fact that the greater the expenditure of capital, the higher the efficiency of the operations in the firm and its profitability.

Table 4: Regression Results

Variables	Model 1: CI (β)	Model 2: ROA (β)	Model 2: ROE (β)
Inflation	-0.214***	-0.193**	-0.168**
Exchange Rate	-0.287***	-0.224***	-0.211***
Corporate Investment	—	0.361**	0.427***
R ²	0.47	0.52	0.58
F-Statistic	19.4***	22.7***	25.3***

*Note: **, ** indicate significance at 1% and 5%

Findings and Interpretation

These empirical findings are solid proof that the macroeconomic instability, especially the inflation and the fluctuations in the exchange rates, affects the decision to invest in the manufacturing industry of Pakistan negatively. Companies in an inflationary environment have an increasing cost of production and financing and this minimizes the ability of companies to do long term capital investments. Even more devastating is the adverse impact of the changing exchange rates, since manufacturing companies are highly reliant on imported products, including machinery, chemicals, and raw materials. Depreciation of currency raises the cost of imports, shrink profits and deter the further investment.

Another important driver of firm performance, which is also discovered in the study, is corporate investment. Firms that invest heavily on plant, equipments and technology exhibit

better ROA and ROE indicating that they are efficient in operations and capable of competing. The gainful impacts of investment however is somehow neutralized during years when inflation and exchange rate instability are at their worst.

On balance, the analysis shows that the manufacturing industry in Pakistan is sensitive to macroeconomic changes. The policies of stable inflation and exchange rate are required to create a favorable environment that allows long-term investment and firm sustainability in its performance. These findings can be supported by earlier research findings that have stressed on the role of macroeconomic stability in the growth of industries and confidence in investment in emerging economies.

Discussion

The results of this research constitute good indications that the macroeconomic factors, namely, inflation and exchange rate fluctuations, are a determining factor in influencing corporate investment and firm performance in the Pakistani manufacturing industry. According to the results, it is also evident that the negative impact of both inflation and exchange rate volatility on the level of investment among manufacturing firms is found to be negative and statistically significant. This is in line with the available empirical evidence that indicates that an increase in inflation leads to higher production costs, the low real returns on investments, and uncertainty which discourages long term capital commitments (Aftab & Khan, 2021; Malik and Ahmed, 2020). The fact that the inflation coefficient in the investment model is negative supports the thesis that unstable prices affect the planning horizons negatively and limit the capacity of firms to engage resources effectively.

Equally, the exchange rate was determined to have even a stronger negative implication on corporate investment. This is especially true to the manufacturing industry in Pakistan whereby companies are mainly relying on imported machinery, chemicals, and industrial inputs. Depreciation of the exchange rate dramatically raises the price of the imported capital goods making the investment projects both expensive and risky. These findings align with the conclusions made by Younas and Rasheed (2022), who claimed that the movement of exchange rates negatively affects investor confidence, diminishes the profitability of investment projects, and eventually slows down the growth of industries. The current study proves the fact that, exchange rate volatility and investment are significantly inversely related which proves the conclusion that the problem of macroeconomic instability is one of the largest limitations that firms in developing economies face.

This research also indicates that corporate investment impacts positively on performance measures of firms like ROA and ROE. This is an indication that the companies that make investments in its capital expenditure, technological improvement, and expansion of its operations are more productive and achieve better financial performance. The positive correlation is reminiscent of the results of Ali and Rehman (2021), who state that sustained investment enables companies to streamline their manufacturing procedures, to improve product quality, and to be able to feel the economies of scale. The situation in the manufacturing environment of Pakistan where most companies are grappling with the challenges of outdated machinery and low productivity rates requires an increase in the levels of investment to remain competitive both in the domestic and international environment.

The positive contribution of investment is however being muted by the macroeconomic instability to some extent. The inflation and exchange rate volatility not only decrease the capacity to invest but also worsen the performance of firms through the increase of costs of operation and profit margins. The findings are consistent with the theoretical framework of

the cash-flow and accelerator models that note that investment and performance depend on macroeconomic expectations and access to internal finance by the firms. An increase in inflation or depreciation of the currency causes liquidity crunch and increases the cost of borrowing by the firms hence limiting it to continue making growth-oriented investments.

The policy implication of the regression results is another issue that should be discussed. The R² values are moderate and the coefficients are significant which means that the firm level factors do play a role but the macroeconomic factors are also important in driving performance. The results present a structural issue that is affecting the economy of Pakistan: how the manufacturing sector is exposed to foreign financial crises and internal price volatility. The policymakers should hence focus on the stability of exchange rates, inflation, and long term policies of supporting the industries so that companies are able to operate in a predictable environment that will allow them to invest.

In addition, the findings indicate that macroeconomic volatility has varied impacts on firms based on their size, dependence on imports as well as financial leverage. Despite the fact that this has not been included to the regression models, there are descriptive patterns in the data which imply that bigger firms that have diversified product lines are in a better position to absorb macroeconomic shocks. The smaller firms however show steeper decreases in investment in time of high inflation or against currency depreciation. This fact confirms the argument that Shirazi and Khan (2023) have stated that small and medium manufacturing enterprises in Pakistan are more vulnerable because they had fewer financial reserves and had less access to external funding.

These findings of empirical evidence are also related to the larger economic realities in the discussion. During the timeframe of the study (2013-2023), Pakistan has gone through several macroeconomic crisis periods, among which were high inflation rates in 2018 and 2022 as well as the sudden depreciation of the Pakistani rupee. These instabilities at the national level could have increased the adverse impact of the firm-level data. Besides, the world crisis in the economy, e.g. COVID-19 supply chain shocks and increased global energy prices probably increased inflationary pressure and placed even greater pressure on the manufacturing industry. The findings of the present research in conjunction with the larger finding validate the overall hypothesis that macroeconomic stability is a key precondition to regaining investor confidence and raising firm productivity in emerging economies.

Overall, three main arguments are supported in the discussion:

- (1) Macroeconomic instability has the direct effect of reducing corporate investment by increasing uncertainty and increasing costs of production;
- (2) Corporate investment is of considerable importance in improving firm performance and this shows that internal strategic choices are still essential to being competitive;
- (3) Inflation and exchange rate volatility undermine the performance of firms directly and indirectly through a decrease in investment capacity and decreasing profit margins.

Such results have significant implications to firms, as well as, policymakers and researchers. Companies need to take risk-reduction policies like hedging and diversification as a cushion to financial instability. The policymakers need to be focused on inflation, stabilizing the exchange rate and targeted support of the manufacturing sector. To the researchers, the research highlights that more research is required to combine firm-specific resilience variables and industry-specific features in order to further understand investment behavior in unstable economies.

Conclusion

The research paper has explored how macroeconomic factors, in particular, inflation and exchange rate changes, affect corporate investment choice and firm performances in the manufacturing industry of Pakistan. The results also give solid empirical support to the view of macroeconomic instability as an important factor in modeling firm behavior and financial performance. Inflation and exchange rate volatility were observed to have negative and significant impacts on corporate investment. This substantiates the fact that the hesitation induced by increasing price levels and unstable currency values detracts the firms that have to commit themselves to long term capital projects mainly due to increasing production costs and compromise of profitability anticipations.

It also showed that corporate investment is a crucial factor in determining the firm performance whereby firms that invest more in capital assets are more likely to have high ROA and ROE. New machine, technology, and expansion of operations increase the level of productivity and competitive advantage. The beneficial role of investment is, nevertheless, limited with the increase in macroeconomic instability, which proves the effects of external shocks on internal decision making and financial performance.

Moreover, the findings point to the structural weaknesses of the manufacturing sector in Pakistan such as overdependence on foreign capital goods, sensitivity to exchange rates, and lack of financial cushions, especially among the small and medium-sized companies. In the absence of a stable macroeconomic environment, the companies will find it difficult to continue with a steady level of investment and, eventually, it will negatively affect the growth of sectors and the development of the national economy.

Conclusively, the paper highlights that sustainable growth of industries in Pakistan is a condition that is dependent on macroeconomic stability. The inflation rate must not be high but stable, exchange rate must be predictable and the financial policies should be friendly to ensure the manufacturing firms invest intensively to operate effectively and enhance their performance in the long run.

Recommendations

The results of this analysis show that the macroeconomic management and strategic level firm responses are required to improve the performance and investment capacity in the manufacturing sector of Pakistan. Policymakers need to focus on inflation stability with restrained monetary policies and enhanced predictability of the exchange rates by enhancing the foreign reserves, external balances, and enhancing the diversification of exports. Specific incentives provided in this form of tax relief, subsidized credit lines and industrial modernization funds can help firms to maintain capital investment in times of economic volatility. Particular focus should be placed on SMEs by offering bigger credit guarantee programs and easy access to finance programs because a small company is more prone to the inflationary effect and exchange rate shocks. At the level of the firm, manufacturing firms ought to embrace hedging to deal with currency risk, supply chains diversification to lessen reliance on imported goods, advance planning of investments situationally, and operational efficiency by adopting technological improvements and cost control methods. All these measures can assist firms to sail through macroeconomic turbulence, enhance their investment choices, and elevate their long term financial performance in a harsh economic climate.

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