

# THE IMPACT OF PUBLIC AND PRIVATE INVESTMENT ON THE GROWTH OF SMALL AND MEDIUM-SIZED ENTERPRISES

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## Abstract

*This study illustrates the impact of Public and Private Investment on small and medium-sized enterprises (SMEs) in Pakistan. The study observes the relationship of public and private investment on the growth of SMEs and it also investigates the association of Government expenditure with SMEs in the short run and long run respectively. For achieving the purpose of the study Auto Regressive Distributed Lag approach is employed. The results show that the impact of public and private investment on the growth of SMEs is significant and positive. Moreover, government expenditures also have a positive and significant contribution to the growth of SMEs. Investment and government expenditures are supposed to be the most important determinants in SME growth for Pakistan.*

**Keywords:** SMEs, Investment, GDP Growth, Capital, Government Expenditures

## INTRODUCTION

"Small and Medium-sized Enterprises (SMEs)" holds varied interpretations globally. In Pakistan, as defined by the National SME Policy of 2007, SMEs are characterized by having up to 250 employees, a paid-up capital of PKR 25 million, and annual revenue of PKR 250 million. The SME sector in Pakistan, comprising over 5 million industries, contributes significantly to the nation's GDP (40%) and exports (25%), playing a pivotal role in employment generation (Ahmad & Khan, 2023). SMEs play a crucial role in the economic growth of nations, fostering employment, wealth creation, and poverty alleviation. They contribute substantially to global economies through imports, commodity pricing, and enhancement of GDP. Unlike larger organizations, SMEs provide more job opportunities, aiding in poverty reduction, particularly in Pakistan (Lal et al., 2023).

In the contemporary era, SMEs cover a substantial portion of the market, constituting 90% of various sectors and driving financial development (Rao et al., 2023). Developing countries, including Pakistan, rely heavily on SMEs for economic growth, technological advancement, and social progress. SMEs can be established in both urban and rural areas, promoting employment, income, and poverty reduction. Despite facing challenges such as limited financial opportunities, high-interest loans, inadequate infrastructure, and technology constraints, SMEs continue to be a vital force in job creation and societal welfare. In Pakistan, they represent 90% of private businesses and contribute significantly to the non-agricultural labor force (Andlib & Zafar, 2023). Research on the relationship between SMEs and economic conditions in various states has been conducted, but there is a shortage of studies specifically analyzing the impact of SMEs on the economy in developing countries like Pakistan.

Throughout history, economic theories, including Mercantilist and neoclassical perspectives, have influenced government policies and the growth of SMEs (Chatzinikolaou & Vlados, 2024). The

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development strategy adopted by Pakistan, particularly the import substitution policy, favored large, capital-intensive industries in the initial decades. However, the emphasis on large industries led to resource concentration and limited employment creation. In the 1970s, a significant devaluation of the Pakistani Rupee and increased remittances from abroad spurred the growth of SMEs, diversifying the industrial landscape (Ali & Mohsin, 2023).

The nationalization process in the 1970s gave way to a shift in the late 1970s, favoring a mix of public and private investment (Bulfone, 2023). Deregulation and privatization occurred from 1983-88, followed by increased support for small-scale industries in the early 90s. The establishment of the Small and Medium Enterprise Development Authority (SMEDA) in 1998 further facilitated the growth of SMEs in Pakistan, marking a pivotal moment in the nation's economic landscape. The pivotal role of Small and Medium Enterprises (SMEs) in a nation's progress, prosperity, and technological innovation forms the foundation of this study. While this sector has garnered attention from researchers, there remains a scarcity of research analyzing the correlation between small and medium enterprises and the economic growth in Pakistan.

Investment emerges as the key factor supporting the SME sector, necessitating a thorough examination to inform policy-making (Idrissi & Castonguay, 2024). This research aims to investigate the impact of both public and private investment on SMEs, addressing a gap in existing analyses within the context of Pakistan. Notably, this study uniquely analyzes the impact of public and private investment on SMEs in the specific context of Pakistan.

The literature and past empirical studies show various associated impacts of SME development exhibit both direct and indirect relationships with the enhancement of the economy and the alleviation of poverty. The expansion of SME opportunities and output contributes to the three fundamental economic linkages of production, investment, and consumption, connecting the economy to the global arena (Manning & Vavilov, 2023). However, the focus of the review of past empirical investigations would be on the role of investment in SMEs.

The World Bank's key arguments supporting the SME sector in emerging countries align with contemporary perspectives on the sector's significance in the economy (World Bank, 2018). Firstly, Small and Medium-sized Enterprises (SMEs) foster entrepreneurship and competition, thereby promoting growth, innovation, and overall economic production. Secondly, despite often being more competitive than larger companies, SMEs face challenges in expansion due to issues within the banking system, systemic weaknesses, and an unfavorable macroeconomic environment. Thirdly, as the SME sector is more labor-intensive, the growth of SMEs generates job opportunities more rapidly than larger businesses. The World Bank emphasizes that direct government support for SMEs can enable developing countries to harness the social benefits of heightened entrepreneurship and competitiveness, thereby boosting overall economic growth (World Bank, 2018).

SMEs have been associated with both direct and indirect effects on economic improvement and poverty reduction. The World Bank emphasizes the role of SMEs in promoting entrepreneurship, competition, and job opportunities, contributing to overall economic growth. Oyelana and Adu (2015) and Ilegbinosa and Jumbo (2015) discussed the socioeconomic impact of SMEs in South Africa and Nigeria, respectively. Prasetyo (2020) evaluated the impact of public spending and investment on SME expansion in Indonesia, revealing that higher organizational levels positively affect financial management and working capital. Uchegara et al. (2022) explored SME growth for long-term rural development in Nigeria, highlighting the potential of SMEs to open up rural areas. Shah et al. (2011) investigated the influence of SMEs on Pakistan's export development and economy, revealing concerns over economic

issues, particularly political instability. Olawale (2010) examined obstacles to new SMEs in South Africa, emphasizing finance, criminality, and market-related factors.

In another study, Folorunso et al. (2015) delved into the relationship between SMEs and economic growth in Nigeria. Their analysis underscored that the growth of SMEs in Nigeria serves as an effective solution for reducing unemployment and poverty, with limited access to financing identified as a significant barrier to SME expansion. Moreover, the substantial contribution of micro and SMEs to economic growth was highlighted, creating over four million job opportunities annually, particularly benefiting unskilled and semi-skilled rural residents and improving the standard of living in rural areas. As a result, the commendable impact of SMEs on the country's overall GDP, exports, and industrial output was emphasized (Perwaiz, 2015). Karadag (2016) asserted that SMEs are recognized as a major global driver of socioeconomic development. Lam & Liu (2020) and Ma et al. (2013) also found a large gap in financing SMEs in China.

Government spending plays a pivotal role in the fiscal policy tools commonly utilized to stimulate economic growth and income through investments and consumption. Various economists associated with this study, including Adolf Wagner (1835–1917), Peacock and Wiseman (1961), Baumol and Bowen (1965), developed a theory in line with Musgrave's government spending, as well as Neo-Keynesian and classical economists. Wagner's law, forming the basis for specific literature studies, posits that the expansion of the public sector fundamentally influences economic performance. The law illustrates the correlation between government spending and economic expansion, asserting that expenditures are initially executed at an accelerated rate, gradually contributing to increased income growth and contention, closely linked to the imperative for industrialization and economic development. Despite encountering objections, the core concept of the idea has evolved significantly.

Beck (2007) indicates that small businesses face more restrictions due to financial and institutional barriers, as demonstrated by the funding constraints experienced by SMEs. According to Chavis et al. (2010), who utilized data from the World Bank Enterprise Survey 2006–2009, 31 per cent of the surveyed businesses identified access to capital as their primary challenge, with 40% of companies having less than three years of industry experience. Further investigation into the connection between a firm's age and its access to financing revealed that younger businesses tend to rely more on informal finance than on bank financing, based on empirical findings.

This research focuses on public and private investment and assesses their impact on the growth of the small-scale manufacturing sector in Pakistan, a previously unexplored area. The empirical results, presented in the following section, demonstrate the positive impact of public and private investment on SME growth in Pakistan.

### MODEL AND METHODOLOGY

To achieve the study's objectives, this study is basically following the model developed by Prasetyo (2020), which has taken SME as dependent variable while independent variables were public investment, government expenditure and working capital. However, with modification, we have taken the following model.

$$\ln\text{SMEs} = \beta_0 + \beta_1\ln\text{GE} + \beta_2\ln\text{GDP} + \beta_3\ln\text{IN} + \beta_4\ln\text{WC} + \mu \quad (1)$$

Where,

- SME is the dependent variable, which is proxied through the growth of Small Scale Manufacturing Sector.
- Furthermore, the following are the independent variables

- GE is the growth of government expenditure
- GDP is the economic growth
- IN is the level of public and private investment
- WC is the level of working capital

Working capital is a financial metric which represents operating liquidity available to a business. Meanwhile,  $(\beta)$  is the desired parameter value of the linear regression coefficient while the quantity  $\mu$  is a random residue in the model. Since the objective of the study is to assess the impact of total as well as private and public investment, separately, on SME growth, the model is further redefined as under, whereby  $IN(p)$  and  $IN(pr)$  represent the public and private investment, respectively

$$\text{Model-1: } \ln\text{SMEs} = \beta_0 + \beta_1\ln\text{GE} + \beta_2\ln\text{GDP} + \beta_3\ln\text{IN(P)} + \beta_4\ln\text{IN(PR)} + \beta_5\ln\text{WC} + \mu \quad (2)$$

$$\text{Model-2: } \ln\text{SMEs} = \beta_0 + \beta_1\ln\text{GE} + \beta_2\ln\text{GDP} + \beta_3\ln\text{IN(P)} + \beta_4\ln\text{WC} + \mu \quad (3)$$

$$\text{Model-3: } \ln\text{SMEs} = \beta_0 + \beta_1\ln\text{GE} + \beta_2\ln\text{GDP} + \beta_3\ln\text{IN(PR)} + \beta_4\ln\text{WC} + \mu \quad (4)$$

**Data Sources**

This work consists of yearly time series data using the period of 1980 to 2020 in Pakistan. The data for Small and Medium Enterprises (SMEs) growth is taken from the Pakistan economic survey, public and private investments are collected from the Pakistan statistical yearbook, while the data for other variables i.e., working capital, growth rate of Government expenditure and GDP are collected from WDI.

**Estimation**

We employed ARDL techniques developed by Pessaran et al. (1999) to check the validity of long-term association. For this purpose, it is recommended to test the order of integration, which is called the Unit root test and then the bound test to confirm the existence of co-integration. The result of the Unit root test is given in the table 1:

Table 1  
*Unit Root Test (ADF)*

|          | Unit root             |                      |                      |                      |                      |                   | Decision |
|----------|-----------------------|----------------------|----------------------|----------------------|----------------------|-------------------|----------|
|          | Level                 |                      |                      | 1st Difference       |                      |                   |          |
|          | None                  | Intercept            | Trend & Intercept    | None                 | Intercept            | Trend & Intercept |          |
| lnSMEs   | -1.65485<br>(0.0919)  | -5.83853<br>(0.0000) |                      |                      |                      |                   | I(0)     |
| lnIN(P)  | 1.883222<br>(0.9841)  | -1.15166<br>(0.6856) | -2.80139<br>(0.2052) | -6.29444<br>(0.0000) |                      |                   | I(1)     |
| lnIN(PR) | 6.688763<br>(1.00000) | -1.58123<br>(0.4825) | -2.44006<br>(0.3546) | -1.34874<br>(0.1614) | -9.28769<br>(0.0000) |                   | I(1)     |
| lnGE     | 7.74006<br>(1.0000)   | -0.71522<br>(0.8314) | -2.87405<br>(0.1813) | -1.19104<br>(0.2094) | -7.20679<br>(0.0000) |                   | I(1)     |
| lnGDP    | 2.439743<br>(0.9957)  | -1.98913<br>(0.2902) | -2.03659<br>(0.5636) | -1.73634<br>(0.0782) | -3.03707<br>(0.0402) |                   | I(1)     |
| lnWC     | -0.66682<br>(0.4219)  | -1.7048<br>(0.4212)  | -2.73626<br>(0.2284) | -5.92097<br>(0.0000) |                      |                   | I(1)     |

Values in parenthesis are Prob-values

The unit root test is carried out to verify the data's stationarity and to demonstrate if variables are integrated of order I(0), I(1), or a combination of both. The Augmented Dickey Fuller (ADF) test shows that the growth of SMEs is stationary at a level while all other variables; Public investment, financial development, working capital, Private investment, Government expenditure and GDP are found stationary at 1st difference. The model variables appear stationary in a mixture of I(0) and I (1). Such phenomenon strongly suggests using the Autoregressive Distribution lag approach for co-integration estimation (Pesaran et al., 2001). Therefore, we choose the ARDL technique for estimation.

***Model-1: Public and Private Investment (Both are Included)***

In this model private and public investment both are incorporated in order to examine their impact on Small and Medium enterprises growth.

Table 2  
*ARDL Bound Test*

| <b>ARDL Bounds Test</b>                                 |                 |                 |
|---|-----------------|-----------------|
| <b>Null Hypothesis: No long-run Relationships Exist</b> |                 |                 |
| <b>Test Statistic</b>                                   | <b>Value</b>    | <b>K</b>        |
| <b>F-statistic</b>                                      | 8.96892         | 6               |
| <b>Critical Value Bounds</b>                            |                 |                 |
| <b>Significance</b>                                     | <b>I0 Bound</b> | <b>I1 Bound</b> |
| 10%   | 1.75            | 3.92            |
| 5%  | 2.16            | 4.73            |
| 2.50%   | 2.6             | 5.51            |
| 1%  | 3.19            | 6.56            |

The aforesaid table 2 depicts the result of the ARDL bound test by using Naryan (2004) critical values. The greater value of F-statistics than the upper bound value (I1) confirms the existence of a long run relationship in the model. The ECM can be used to determine the rate of convergence towards the long-run equilibrium after the above results.

Table 3  
*Long Run Result Public and Private Investment*

| <b>Long Run Coefficients</b> |                    |                   |                    |              |
|------------------------------|--------------------|-------------------|--------------------|--------------|
| <b>Variables</b>             | <b>Coefficient</b> | <b>Std. Error</b> | <b>t-Statistic</b> | <b>Prob.</b> |
| lnIN(P)                      | 10.194             | 2.60199           | 3.91777            | 0.001        |
| lnIN(PR)                     | 1.86514            | 2.90513           | 0.64202            | 0.529        |
| lnGE                         | 4.556722           | 2.02129           | 2.25436            | 0.038        |
| lnGDP                        | 1.075825           | 0.30236           | 3.55805            | 0.002        |
| lnWC                         | 0.4024             | 0.21501           | 2.87156            | 0.079        |

Table 3 discusses the results of the first model which is examined the determinants of SME growth with the components of public and private investment. The results reveal a positive and statistically significant relation at the 1% level between public investments and SMEs growth. The findings indicate that a 1% increase in public investment in the SME sector leads to a substantial 10.12%

growth in the SME sector. This underscores the long-term positive impact of public investment on SMEs, where increased public investment not only boosts employment opportunities but also fosters additional investment opportunities. Ultimately, this positively influences GDP growth, contributing to the overall promotion of the SME sector.

The private sector investment exhibits an insignificant relationship with SME growth. This paradoxical result is attributed to the primary issue of insufficient financial assistance, particularly in terms of credit availability for the private sector. This constraint has a more pronounced negative effect on SME growth compared to the public sector, as highlighted in Meyer et al. (2017) findings.

Government expenditures also show a positive and significant effect on SME growth. The coefficient value explains that a 1% increase in government expenditure has resulted in 4.5% growth in SMEs. This indicates that increased government spending enhances investment opportunities, stimulates the emergence of new industries, and creates more employment and growth opportunities across sectors, contributing substantially to GDP growth. This result aligns with the conclusions drawn by Bauchet and Morduch (2013) and Manzoor and Longbao Wei (2021).

Furthermore, working capital is also identified as having a significant and positive impact on the SME sector. This finding underscores the critical role of working capital in maximizing profits, aligning with the perspective presented by Braimah et al. (2021) and Teruel et al. (2010). These studies emphasize that the growth and expansion of SMEs are intricately linked to the sufficient cash requirement to facilitate day-to-day transactions.

**Model-2: With Public Investment**

This model has taken public investment and excluded private investment from the first model. The reason is to assess the impact of public investment along with other variables on the SME growth. The model is explained as equation (3) above is reproduced below:

Table 4  
*ARDL Bounds Test*

| <b>ARDL Bounds Test</b>                                 |                 |                 |
|---|-----------------|-----------------|
| <b>Null Hypothesis: No long-run relationships Exist</b> |                 |                 |
| <b>Test Statistic</b>                                   | <b>Value</b>    | <b>K</b>        |
| F-statistic   | 15.0257         | 4               |
| <b>Critical Value Bounds</b>                            |                 |                 |
| <b>Significance</b>                                     | <b>I0 Bound</b> | <b>I1 Bound</b> |
| 10%   | 1.75            | 3.92            |
| 5%  | 2.16            | 4.73            |
| 2.50%   | 2.6             | 5.51            |
| 1%  | 3.19            | 6.56            |

Table 4 shows the result of the ARDL bound test for the second model. The outcome depicts that the F-statistics which is carried out by calculation is greater than the upper bound at a 1% level of significance. This ensures the long-run amalgamation amid the variables.

Table 5  
*Long Run Result of Public Investment*

| Variables | Long Run Coefficients |            |             |        |
|-----------|-----------------------|------------|-------------|--------|
|           | Coefficient           | Std. Error | t-Statistic | Prob.  |
| lnIN(P)   | 22.4381               | 3.278961   | 6.84305     | 0.0000 |
| lnGE      | 6.164231              | 0.83366    | 7.394175    | 0.0000 |
| lnGDP     | 2.261993              | 0.509238   | 4.441915    | 0.0001 |
| lnWC      | 0.226139              | 0.078463   | 2.882102    | 0.0077 |

Table 5 illustrates that public investment and SME growth have positively and highly significant association in the long run. The coefficient value explains that a 1% increase in public investment will impact the SME sector by 22.43%. This indicates SME sector witnesses more responsiveness to a particular change in public investment. Furthermore, Government Expenditures have a positive and significant impact on the SME sector. Estimation result ensures that a 1% rise in expenditures of the Government will affect the SME sector by 6.16%. Like the result of the first model the possible reasons of this positive relationship are the same.

When it comes to GDP growth association with SMEs in the long run, it is absorbed that it has a positive and significant amalgamation with SMEs as a 1% rise in GDP growth will affect the SMEs by 2.26%. An increase in the growth of GDP helps in poverty alleviation Onuoha (2013). On the other hand, Working Capital and SMEs have significant and positive affiliation in the long run as a 1% rise in the availability of working capital will cause a growth of 0.22% in SME sector.

### *Model-3: With Private Investments*

The third model has included private investment and excluded public investment from the first model. The reason is to assess the impact of private investment along with other variables on the SME growth. The model is explained as equation (4) above is reproduced below:

Table 6  
*ARDL Bound Test Result*

| ARDL Bounds Test                                 |          |          |
|--|----------|----------|
| Null Hypothesis: No long-run relationships exist |          |          |
| Test Statistic                                   | Value    | K        |
| F-statistic                                      | 8.26417  | 4        |
| Critical Value Bounds                            |          |          |
| Significance                                     | I0 Bound | I1 Bound |
| 10%  | 1.75     | 3.92     |
| 5%   | 2.16     | 4.73     |
| 2.50%  | 2.60     | 5.51     |
| 1%   | 3.19     | 6.56     |

The above table 6 describes that the results of bound test of the private investment model. The outcome illustrates that the calculated F-statistics value is greater than the upper bound at 1% that ensures the long run affiliation among the variables.

Table 7  
*Long Run Result Private Investment*

| <b>Long Run Coefficients</b> |                    |                   |                    |              |
|------------------------------|--------------------|-------------------|--------------------|--------------|
| <b>Variables</b>             | <b>Coefficient</b> | <b>Std. Error</b> | <b>t-Statistic</b> | <b>Prob.</b> |
| lnIN(PR)                     | 12.748             | 1.786235          | 7.13683            | 0            |
| lnGE                         | 8.35328            | 1.428205          | 5.848796           | 0            |
| lnGDP                        | 3.48803            | 0.856787          | 4.07106            | 0.0003       |
| lnWC                         | 0.216817           | 0.057646          | 3.761174           | 0.0008       |

The above table 7 shows that long run relationship among the variables. All the variables are found to be significant. It shows that private investment is to be significant and positively impacted on the SMEs sector. The result shows that a 1% increase in private investment increases the SMEs growth by 12.7%.

On the other hand, 1% rise in Government expenditures will positively increase the growth of SMEs by 8.3%, and a 1% rise in GDP growth will tend to increase the SME growth by 3.4%. Like second model, again Working Capital has significant impact on SME growth, which explains that a one per cent increases, would cause SMEs to grow by 0.2 per cent in the long run.

Table 8  
*Estimates of Short Run of All Models*

| <b>Variables</b> | <b>Model-1</b>         | <b>Model-2</b>      | <b>Model-3</b>      |
|------------------|------------------------|---------------------|---------------------|
| D(lnIN(P))       | 15.16977<br>(3.30647)  | 0.68501<br>(0.299)  |                     |
| D(lnIN(P)(-1))   | 40.87827<br>(6.195006) | 23.20106<br>(3.183) |                     |
| D(lnIN(P) (-2))  |                        | 17.95849<br>(2.911) |                     |
| D(lnIN(PR))      | 34.3561<br>(2.03791)   |                     | 13.4102<br>(5.912)  |
| D(lnIN(PR) (-1)) | 30.37141<br>(3.096658) |                     |                     |
| D(lnIN(PR) (-2)) | 20.5064<br>(2.608)     |                     |                     |
| D(lnGE)          | 16.94266<br>(5.901)    | 12.05105<br>(2.593) | 16.3634<br>(32.727) |
| D(lnGE (-1))     | -31.2373<br>(-6.437)   | 20.3075<br>(2.997)  | 19.4121<br>(7.561)  |
| D(lnGE (-2))     | 17.9318<br>(5.172)     |                     |                     |



|                    |                       |                       |                     |
|--------------------|-----------------------|-----------------------|---------------------|
| D(lnGDP)           | 0.355114<br>(1.045)   | 2.782632<br>(3.747)   | 41.8185<br>(0.913)  |
| D(lnGDP(-1))       | -0.6685<br>(-3.080)   |                       | 24.0689<br>(6.208)  |
| D(WC)              | 0.533175<br>(0.541)   | -0.40945<br>(1.625)   | 0.94203<br>(5.791)  |
| D(WC(-1))          | -2.73036<br>(-9.355)  |                       |                     |
| ECM <sub>t-1</sub> | -1.11828<br>(-16.617) | -1.23017<br>(-16.167) | -1.052<br>(-26.295) |
| R-squared          | 0.815012              | 0.820689              | 0.83744             |
| Adjusted R-squared | 0.797379              | 0.801315              | 0.789748            |

Table 8 is showing the results of short run Error Correction of each model. In each case the value of Error Correction Term (ECM) is significant but coefficient value is between -1 and -2. This implies that the speed of adjustment in the long run is not monotonic but in a dampened manner. Such results appeared in various studies like, Narayan and Smyth (2006) and Alam and Quazi (2003).

These findings suggest that, rather than converging directly and steadily to the equilibrium path, the error-correction process exhibits dampened oscillations around the long-term value before quickly settling into the equilibrium path. The statistical significance and the correct sign of the ECT coefficients further validate the existence of a long-run equilibrium relationship between SME growth and Public Investment, Private Investment, Government Expenditure and Working Capital.

Table 9

*Diagnostic Tests of All Three Models*

| Models Under Investigation | Diagnostic Tests Statistics       |                        |
|----------------------------|-----------------------------------|------------------------|
|                            | White General Test<br>F-statistic | LM test<br>F-statistic |
| Model:1                    | 1.434153<br>(0.2331)              | 0.050783<br>(0.9506)   |
| Model:2                    | 1.31851<br>(0.1188)               | 0.039547<br>(0.9613)   |
| Model:3                    | 1.696123<br>(0.1313)              | 0.036688<br>(0.964)    |

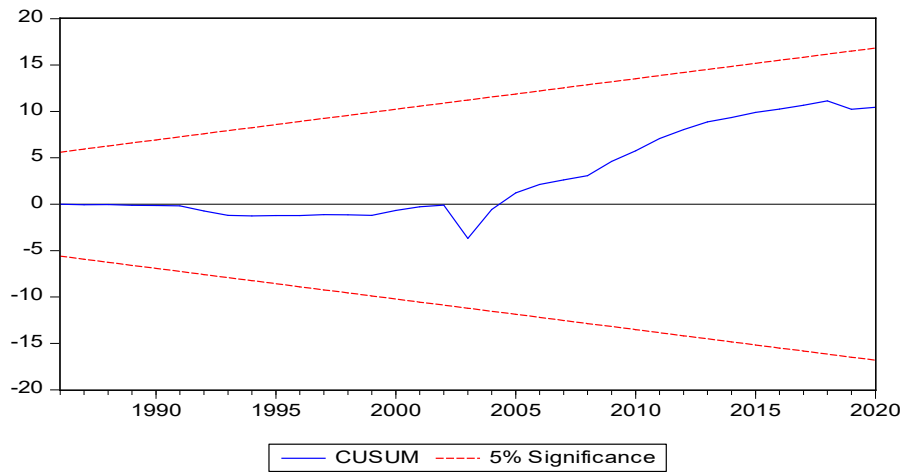


Figure 1: Parameter Stability Test of Model 1

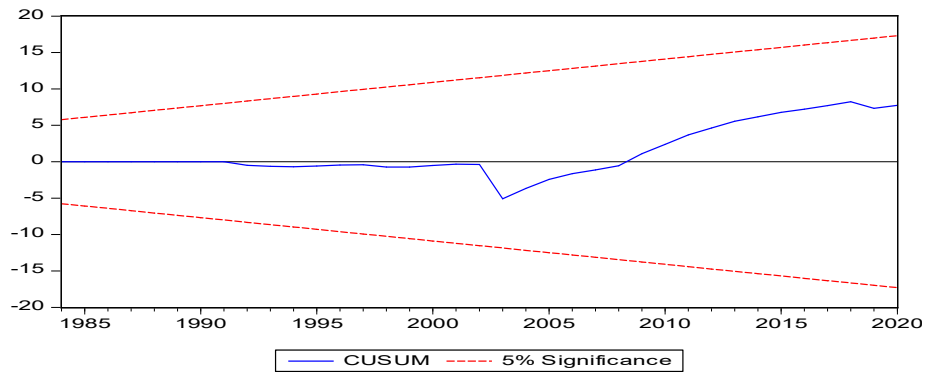


Figure 2: Parameter Stability Test of Model 2

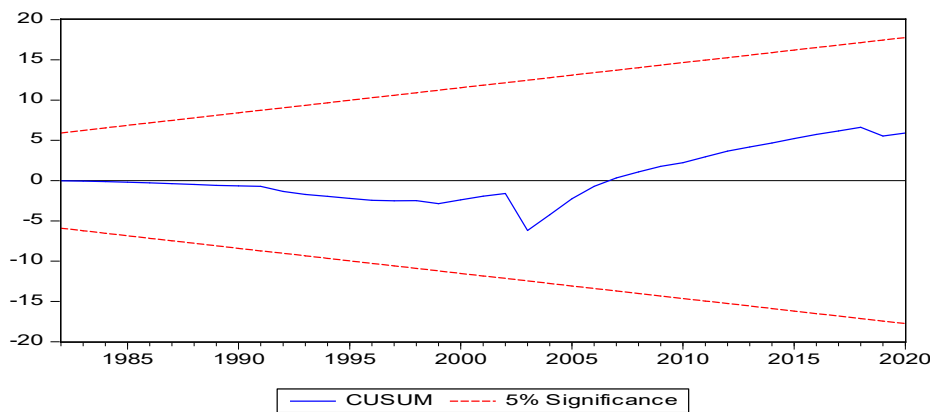


Figure 3: Parameter Stability Test of Model 3

Table 9 shows the result of diagnostic test. In this test we used the well know diagnostic test for finding the problem of autocorrelation, heteroscedasticity, misspecification and normal distribution. This

test depict that the F-statistic values are insignificant of all the three models which ensures that the models of this study don't have the above-mentioned problems. The above Figures 1, 2 and 3 shows the cumulative sum and Cumulative sum of for the parameter stability. It is clearly depicted that the observed parameter is stable.

### CONCLUSION

SMEs have a vital role in a country's progress and prosperity and innovation and modern technology are the pillars of this structure. This sector has drawn the attention of many researchers but still, there is a dearth of research analyzing small and medium enterprises and the growth of the economy in Pakistan. Investment is the key factor which supports the SME sector. There is a need for time to examine and evaluate this sector which will be helpful in policy making. The objective of this research is to examine the impact of public and private investment on SMEs. This study has analyzed the impact of public and private investment on SMEs which has not been analyzed in Pakistan. For this purpose, different models were developed where SME growth was taken as the dependent variable, while public investment, private investment, government expenditures, GDP growth and Working Capital, of Pakistan for a period of 40 years (1980-2020). All the models have confirmed long-run association, which is tested via ARDL bound test. In the model where both public and private investment are included as dependent variables; the coefficient values indicate a significant impact of public investment and government expenditure as positive and significant relationship with the SME growth in the long run however, in the short run private investment also showed a significant impact on the SME growth.

However, when public and private investments are taken separately, both have shown a positive and significant relationship. The Government Expenditure, GDP growth and working capital were found to be significant in all the models. In the short run, all variables show the same results except working capital which was found to be insignificant. When the model was substituted the public investment with private investment, all the independent variables showed a positive and significant relationship with the dependent variable in the long run, however in the short run, GDP growth was found to be insignificant. Overall Investment and government expenditures are proved to be the most important determinants in SME growth for Pakistan.

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