



## MACROECONOMIC FORCES AND THE SHADOW OF CORRUPTION: EVIDENCE FROM PAKISTAN'S PUBLIC SECTORS ORGANIZATIONS

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### **ABSTRACT**

*The core objective of this study is to empirically examine the impact of key macroeconomic indicators—Inflation, Gross Domestic Product (GDP), Government Expenditure, External Debt, Foreign Direct Investment (FDI), and Gross National Expenditure (GNE)—on corruption in public sector organizations in Pakistan, as measured by the Corruption Perception Index (CPI). The analysis is based on secondary data collected from the Pakistan Bureau of Statistics for the period 2010–2015. To assess the robustness of the model, the Durbin–Watson test was applied to detect the presence of serial correlation, and the results confirmed no evidence of autocorrelation. The model further demonstrated strong predictive validity. Empirical findings indicate that inflation, GDP, government expenditure, and FDI exert a statistically significant and positive influence on corruption perception, suggesting that increases in these variables heighten perceived corruption levels. Conversely, external debt and GNE were found to have a significant but negative relationship with corruption perception, implying that higher levels of these indicators are associated with reduced corruption perceptions in the Pakistani context. These results underscore the complex interplay between macroeconomic dynamics and corruption, offering critical insights for policymakers seeking to strengthen governance and enhance transparency in public sector organizations.*

**Keywords:** *Inflation, Gross Domestic Product, Government Expenditure, External Debts, Foreign Direct Investment, Gross National Expenditure, and corruption.*

### **1. Introduction**

I intend to investigate the interesting interplay of macroeconomic fundamentals in association to corrupt practices in the public sector firms operating in Pakistan. Corruption has long been recognized as one of the biggest impediments to sustainable development, effective institutions and public confidence in government. In Pakistan's case, corruption within public sector institutions isn't an unfortunate epiphenomenon of weak governance but a structural problem intimately tied to the broader macro-economic situation. Economic theory postulates that with declining purchasing power as a result of inflation, excessive borrowing by government or when the economy is braked-monies public office holders are motivated to engage in corruption to supplement personal income or to preserve institutional privilege (Ibrahim, 2021). Poor regulation of FDI and inefficient utilization of national budget may also generate rent seeking opportunities that align with worsened governance. Pakistan, being an underdevelopment country, it experiences all these scenarios at the same time. In 2024, the GDP of the country was almost 373 USD billion, the inflation increased in double digits at 12.6% and the foreign debt rose almost to USD 131 billion (Wikipedia, 2025; Transparency



International, 2024). Pakistan was also downgraded 133rd out of 180 countries with a score of 27/100 on the Corruption Perceptions Index (CPI), indicating deep-rooted fears regarding transparency, accountability, and the misuse of public funds (Transparency International, 2024). This background explains why Pakistan's public sector serves as a relevant example to explore the magnitude to which inflation, GDP, government spending, foreign debt factor, foreign investment and GNE influence corruption trends in its public organizations.

The macroeconomic indicator of Pakistan is an intimidating and complex economic terrain. GDP in Pakistan has continued to be unpredictable hovering at an average of 2.7% in 2024–25, far lower than the 3.6% initially estimated by the government (Reuters, 2025; Times of India via ANI, 2025). Inflation, which reached almost 40% in mid-2023, declined to 4.6% by the end of FY25, but its impact on household buying power and on public sector wage systems has been severe (Reuters, 2025). External debt is still a major issue increasing to USD 87.4 billion and affecting 1.9% of GDP for repayment (Mehmood et al., 2021; Mehmood, U. to date-Rashid, Aman-Ullah, UHard Koparal, & Zin Ong, 2021). The government's spending priorities have veered toward debt service payment and defense budgets, curbing the fiscal space for social development and institutional strengthening. FDI inflows, even though proven in the globe for contributing economic growth and governance reform, have been erratic and low over the years as compared with their regional counterparts (Hakimi & Hamdi, 2017). Gross national consumption (household consumption plus private sector investment plus government spending) has been unbalanced, favoring consumption and rising accumulation of fiscal vulnerability. These indicators not only presented a statistical profile of Pakistan's economy but also laid bare on how macroeconomic pressures could lead directly or indirectly to corrupt practices in public sector which were included, but not limited to, bribes in procurement, abuse of budget allocations, and manipulation of contracts.

Although corruption has been extensively studied in the context of economic growth the literature lacks a study reporting about joint impact of macroeconomic indicators on corruption in Pakistan. For example, Wairooy (2024) studied the role of bureaucratic corruption and political regimes, and concluded that autocratic environments generally had less corruption and inflation variability, although this work did not incorporate other macroeconomic factors such as debt or FDI. Likewise, Kennedy (2018) used ARDL approach to investigate how GDP per capita is associated with corruption, it found long run corruption has negative implications for growth, consequently ruled out macroeconomic fiscal and external variables. Recent studies like Oladokun (2015) found a longrun association between inflation, corruption and GDP using VECM model and that both inflation and corruption are inimical to growth. In a similar vein, other international studies present mixed conclusions: Transnational Corporations Review 4 While there are mixed results, for example, between inflation and corruption and type of FDI (marketoriented vs. resource-seeking FDI) Studies also effects, ... (2021), there are significant relationships where corruption rises with inflation, GDP growth lowers corruption, and public expenditures are statistically insignificant. Kırşanlı (2023) emphasized how the investment and FDI inflows are discouraged by corruption however, it has yet to be empirically examined in Pakistan using a multivariate framework. The current gap, thus, is the absence of any country-specific empirical model that simultaneously scrutinizes how inflation, GDP, government spending, the external debt, FDI and gross national expenditure determine the outcome of the corruption of Pakistan's public sector organizations.

Originality The contributions of the study are its theoretical and practical policy implications. The theoretical contribution is that the research contributes to the literature in at



least two ways: it stipulates a theoretical model that integrates a full set of macroeconomic proxies as corruption determinants instead of the traditional narrow, one or two-variables studies. Policy implications in terms of policy implications, the results of this study will offer pragmatic evidence-based suggestions to policy-makers in Pakistan, particularly in institutions such as the Ministry of Finance, Planning Commission and the National Accountability Bureau (NAB). Once the most influential macroeconomic variables of public sector corruption are identified, the government can channel their reforms on monetary policy, debt restructuring, and on controlling foreign investment. Further, this work has relevance for other developing countries experiencing governance and fiscal predicaments of a comparable nature, and provides insights for constructing anti-corruption strategies in South Asia and elsewhere. Finally, this study is expected to contribute in terms of policy development to strengthen institutions, enhance fiscal transparency and achieve sustainable economic growth in Pakistan by filling the void between macroeconomic policy and governance outputs.

The second chapter of this paper presents a detailed literature review related to the underlying variables and their interrelationships. The third section outlines the methodology employed to achieve the research objectives. The fourth section discusses the empirical findings of the study, while the fifth section provides the discussion and conclusion, highlighting the practical implications, limitations, and potential avenues for future research.

## **2. LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT.**

Corruption in public sector organizations has been a central theme in economic and governance research, as it undermines institutional performance, discourages investment, and hampers sustainable growth. A large body of literature has attempted to explain the economic determinants of corruption, with particular attention to macroeconomic indicators such as inflation, GDP, government expenditure, external debt, foreign direct investment, and national spending.

### **2.1. Inflation Rate (INR) and Corruption Perception Index (CPI).**

Inflation has a very significant effect on the dynamics of corruption in Pakistan especially as measured in Corruption Perceptions Index (CPI). Double-digit inflation, which in Nigeria has now lasted several decades in some cases, undermines the buying power of government workers in ways that make bribery, embezzlement, and rent-seeking increasingly appealing — or even the only options for survival. Especially in Pakistan, the problem of corruption is even more serious where Pakistan ranked 133/180 on CPI 2024 with a score of 27/100, this shows that the citizens trust is lost across the all-public institutions (Nauman, Shahid, Naheed, & Muhammad, 2024). Inflation increases real wages in the public sector (Laursen and Williams, 1994), and according to the classical economic model, this suggests that officials solicit payments under the table in order to maintain their standards of living (Tanzi, 1998). This argument is also strengthened by empirical studies; for example, Ojeka et al. (2019) found that inflation is associated with a statistically higher level of corruption in Pakistani bureaucratic and political environments. Similarly, Kpegba et al. (2024) indicated based on the model of VEC, that inflation does not only has a negative impact on the economic growth but also in a long run it would escalate corruption by making the credibility of governance institutions weak. There was also some cross-country evidence in favor of this trend, as Wairooy (2024) pointed out that inflation pressures strengthen the incentive to pursue rent seeking, especially in less developed countries with weak institutions. Continuous inflation leading to excessive and repeated inflationary shocks has led the misuse of government subsidies and procurement contracts, adding to perceptions of systemic corruption as well, in the context of Pakistan. Consequently, inflation becomes a direct and indirect stimulant of corruption in Pakistan with



large influence even as evidenced by continued weak CPI performance of Pakistan (Apergis & Apergis, 2019).

**Hypothesis (H1):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by Inflation Rate (INR).*

### **2.2. Gross Domestic Product (GDP) and Corruption Perception Index (CPI).**

Gross Domestic Product (GDP) is considered as a key variable that determines the level of the institutional quality and corruption, and that higher GDP growth is usually associated with stronger institutions and lower levels of corrupt opportunities (Mongi and Saidi, 2024). In case of Pakistan, there has been significant effect of variations in GDP growth on corruption as indicated by corruption perception index (CPI) scores in Pakistan (Iqbal, Shahid, & Nauman, 2025). In times when growth is slow or negative, fiscal stress and low revenues have limited the ability of government agencies to enhance accountability mechanisms, generating widely-held perceptions of inefficiency and corruption (Cooray, Dzhumashev & Schneider, 2017). Thus, Pakistan was unable to achieve GDP growth of over 3% in 2024–25 and GDP cuisine with ongoing CPI stagnation at an abysmally low-level of 27/100 points, yet 133rd in the world (Transparency International, 2024). Low GDP growth limits job opportunities and public investment in social infrastructure, elevating the dependence of citizens on the bureaucratic institutions that serve as a hotbed for rent seeking (Owusu-Nantwi & Owusu-Nantwi, 2023). Alternatively, when GDP growth is high, countries often possess more fiscal space to increase wages, reinforce supervision mechanisms, and bolster institutional mechanisms for oversight, which ultimately serves to reduce the risks and rewards for corruption (Olamide & Maredza, 2023). Studies conducted on cross-country basis also demonstrated that long-term economic growth leads to a better quality of government and reduced corruption (Rubakha, Tkachyk, & Horodniak, 2023). Above all, the evidence points toward low and unstable GDP growth in Pakistan as having reinforced weak CPI performance here and shows that economic stagnation perpetuates systemic corruption in government-run organizations (Ibrahim, 2021).

**Hypothesis (H2):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by Gross Domestic Product (GDP).*

### **2.3. Government Expenditure (GEN) and Corruption Perception Index (CPI).**

Largess of the government and the corruption in the country Government Expenditure The cost of budget and non-budget grants of economic and non-economic services has a significant effect on the country's level of corruption, especially as measured by CPI. For emerging economies such as Pakistan, high public spending tends to open more space for inefficiencies and stealing of funds and rent-seeking activities (Del Monte & Pennacchio, 2020). Pakistan continues to spend a high percentage of its budget on non-developmental expenditures-scripts such as arms and amortization on debts, leaving little fiscal space for both social and institutional reform-something which is conducive to the sustenance of corruption in public organizations (Nauman, Shahid, Naheed, & Muhammad, 2024). According to Transparency Internationals (TI) CPI 2024, Pakistan stands on 133rd position out of 180 countries with a CPI score 27/100 result weak accountability arrangement despite significant spending of the government on various sectors (Ahmad, Afzal, & Ullah, 2024). It has been proved empirically that size of government expenditure not matters the quality of government expenditure that influences the level of corruption as the poor allocation and absent of supervision in public works of Pakistan build up opportunity for "epistemic corruption" that may involve bribery, kickbacks, and favoritism (Mehmood, Mohd-Rashid, Aman-Ullah, & Zi Ong, 2021). International evidence also reveals there to be some form of variation in behavior, where

corruption is more likely to occur in countries where institutional controls are ineffective, where larger government budgets ferments high levels of corruption (Zouaoui, Ben Arab & Alamri, 2022). In Pakistan, consistent use of supplementary budgets, opaque public procurement processes and political targeted development spending has exacerbated governance deficits and eroded public confidence (Sassi & Gasmi, 2017). Hence, while we accept that government spending is needed for material and social growth, for Pakistan the reality is that it perpetuates rather than curtails corruption, when poorly managed, which is repeatedly reflected in its low CPIs (Kennedy, 2018).

**Hypothesis (H3):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by Government Expenditure (GEN).*

#### **2.4. External Debts (EXD) and Corruption Perception Index (CPI).**

When we consider from the standpoint of CPI (Corruption Perception Index) External debt has been found to be playing significant role in corruption in case of Pakistan. Over dependence of external borrowing provides the opportunity for misapplication of funds, opacity in loan utilization and politicization of rent to serve all of which reinforce corrupt practices in public institutions (Oladokun, 2015). At one level Pakistan's external debt exceeded 131 billion USD in 2024, much of which has to be often set aside for debt servicing rather than making productive investment, leading to fiscal pressures and resource management being less efficient (Ahmad, Afzal, & Ullah, 2024). Poor control of projects sponsored by foreign aid agencies frequently leads to cost overruns, corruption in the procurement process, and embezzlement of funds, and which will only increase the challenge of governance (Khasawneh, Hailat, & Alqudah, 2025). According to Transparency International (2024) Pakistan is 133rd out of 180 countries rated on the CPI with a score of 27/100, which demonstrates a perception of systemic as opposed to sporadic corruption, rising at the same time that the external debt level and dependence grow. According to the empirical researches, debt addiction supports the corruption in the countries in development by reducing the power of the institutions and by pushing the erroneous utilization of the foreign aids and loans (Kırşanlı, 2023). Cross-country studies also reveal that corruption tends to rise in heavily indebted economies, because debt servicing obligations curtail fiscal space and encourage public officials to behave opportunistically (Olarinde & Jonathan, 2021). In Pakistan, repeated IMF program and bilateral borrowing have frequently been seen as funding that is not put to good use, with the political elite and bureaucrats being the major beneficiaries of loan inflows, while the general public is left to pay the costs back (Sedgo & Omgba, 2023). Thus, the long-term increase in the external debt not only undermines the fiscal discipline but also facilitates corruption, which has been repeatedly reflected in Pakistan's weak CPI rankings (Ben Ali & Al Yahya, 2019).

**Hypothesis (H4):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by External Debts (EXD).*

#### **2.5. Foreign Direct Investment (DFI) and Corruption Perception Index (CPI).**

The relationship of Foreign Direct Investment (FDI) with corruption is intricate and complicated in case of Pakistan especially when it is viewed through the lens of the Corruption Perceptions Index (CPI). Foreign Direct Investment (FDI) can theoretically have positive impacts on economic growth, capacity building and governance, but in a country such as Pakistan with high levels of corruption, it can create barriers to entry for investors or incentivize rent-seeking activities which nullify the positive effects of capital inflow over time (Karasaç & Kete, 2022). Pakistan has long faced difficulties in sustaining FDI inflows as a result of weak regulations, political instability, and bureaucratic red-tapism, where corruption is perceived as a significant anti-FDI factor by MNCs (Ramesh & Vinayagathan, 2024). Where FDI does

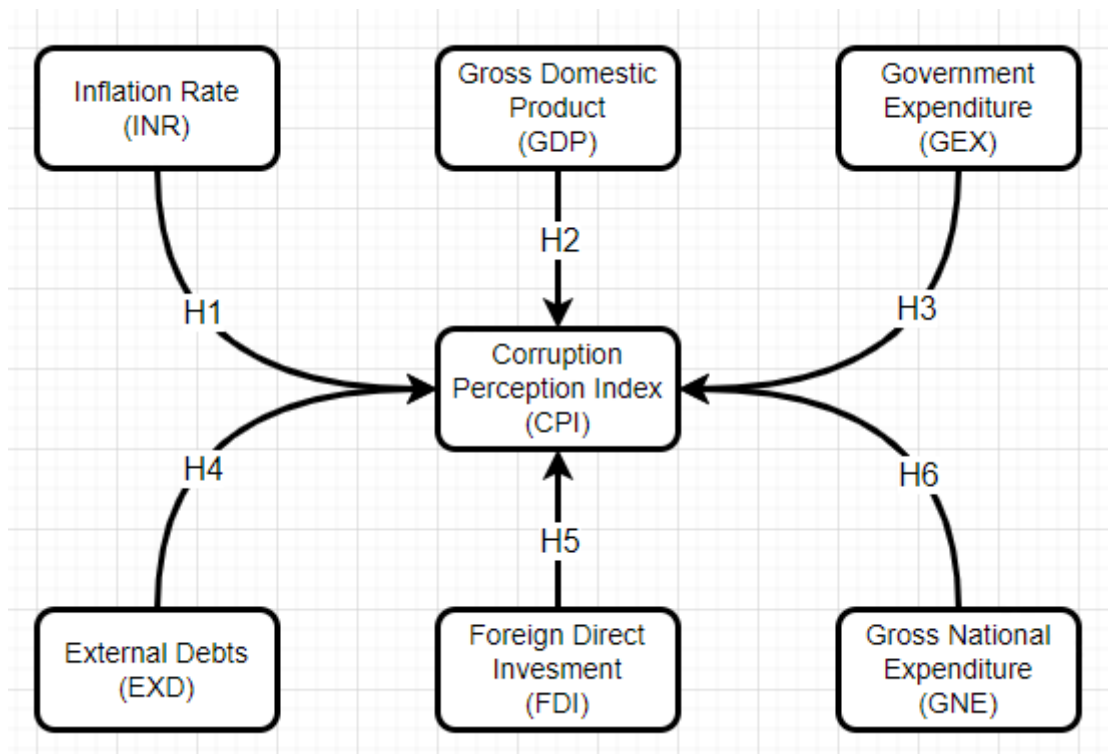
enter the economy, it is often allocated through patronage networks and bribery in licensing, land acquisition, and contract approvals, undermining investor confidence and further reducing efficiency (Ojeka et al., 2019). It has been empirically proven that very corrupt countries tend to receive less FDI as corruption can be considered as an informal tax and that it would increase the cost of business (Tajaddini & Gholipour, 2018). In Pakistan, the upper mid of the CIPE index illustrative figure 133 out of 180 countries with score of 27 / 100 over all economy continue to divert the foreign investors and their interest (Hasran, Saputra, & Haque, 2023). Further, research has indicated that FDI inflows combined with ineffective institutional control might retard corruption by promoting rent-seeking behavior along lines of resource allotment and public procurement contracts (Moreno-Enguix & Lorente Bayona, 2017). This has also been the case in Pakistan, for example with foreign investments in energy and infrastructure leading to over invoicing of projects, tampering with contracts, and bias at the expense of home-grown politically connected firms (Wairooy, 2024). As a result, FDI in an extremely corrupt setting as that of Pakistan would rather support systemic inefficiencies and fail to flourish under the age of transparency, thereby being a reason why governments like Pakistan retain a low position vis-a-vis the 'CPI Rankings' (Apergis & Apergis, 2019).

**Hypothesis (H5):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by Foreign Direct Investment (FDI).*

### **2.6. Gross National Expenditure (GNE) and Corruption Perception Index (CPI).**

Gross National Expenditure (GNE) that signifies the aggregate demand of the households, business and government on the goods and services, has significant relationship with corruption in Pakistan when measured in form of Corruption Perceptions index (CPI). And higher national expenditures without appropriate accountability tend to lead to rent seeking behavior, misuse of public resources and resource diversion towards personal or political priorities (Iqbal, Shahid, & Nauman, 2025). In Pakistan, where task development and/or public procurement Statement of the Problem The weakness of governance system, and corruption-prone regulatory enforcement situation, has created by onerous and costly implementation of regulations that not only is met with incompetence and fraud, bribery, favoritism and embezzlement of funds in most instances of significant spending in development projects/public procurement (Ibrahim, (2021). Research indicates that uncontrolled, excessive spending leads to inefficiencies in service delivery and gig-corruption costs inflate prices and make public policies less effective, which has adverse effects on economic growth and the quality of the rule of law (Nauman, Shahid, Naheed, & Muhammad, 2024). Moreover, under situations of high spending and fiscal indiscipline, political elites may use national expenditure a means of patronage, granting contracts and subsidies to politicians belong firms and not on a competitive or merit basis (Ahmad, Afzal, & Ullah, 2024). In Pakistan, similar tendency has appeared in infrastructure, and social sector areas, which have become heavily costly and opaque followed by poor CPI performance resulting to keeping the country ranked poorly in the global corruption perception index (Zouaoui, Ben Arab, & Alamri, 2022). In addition, the literature suggests that high GNE with no proper principles tends to get the systemic corruption entrenched, as corrupt practices in procurement and distribution systems get habituated and difficult to reform (Khasawneh, Hailat, & Alqudah, 2025). Consequently, despite the fact that GNE is an important or strategic driver of economic activity, in a country such as Pakistan with GNE remains relatively low, it operates paradoxically as a yardstick of developmental spending and even a potential predictor of risk factors for corruption induced by flawed institutional arrangements (Kırşanlı, 2023).

**Hypothesis (H6):** *Corruption Perception Index (CPI) in Pakistan is significantly influenced by Gross National Expenditure (GNE).*



**Figure-1:** Conceptual Framework

### 3. Methodology

Secondary data for the dependent and explanatory variables - INF, GDP, GNE, EXD, FDI and GNE was collected from various credible sources i.e., SBP, PBS, World Bank, IMF databases from 2010 to 2025 to support the precision of study as video is shown in World Bank (2022). The use of secondary data is common in empirical studies of the analysis of macroeconomic relationships, as it opens up the opportunity to study these relationships over the long-run, a prerequisite for rigorous econometric analysis (Das & Sethi, 2020). To account for serial correlation in the time-series data, the Durbin-Watson (DW) test was used as it is one of the most widely applied diagnostic tools in econometrics for testing for autocorrelation in residuals and confirming the correctness of statistical claims (Durbin & Watson, 1971). To evaluate the explanatory and predictive performance of the econometric model, a standard measure in applied economics based on the proportion of the variation in the dependent variable that is predictable from the independent variables was used, the  $R^2$  (Wooldridge, 2016). Additionally, OLS regression was performed to test the magnitude and the sign of the effect of remittances, FDI, foreign aid, and GDP because of its popularity as one of the most used techniques in econometrics, capable of delivering unbiased, consistent, and efficient estimates under the Gauss-Markov assumptions (Güvenek & Khatir, 2021). This methodological model is beneficial in a sense that it does not compromise the statistical rigor but also corresponds to earlier empirical studies that scrutinize the role of external financial inflows in economic growth in emerging economies like Pakistan (Hasan, Suborna, & Urbee, 2025). Nonetheless, we have given details for the regression lines and the variables below.

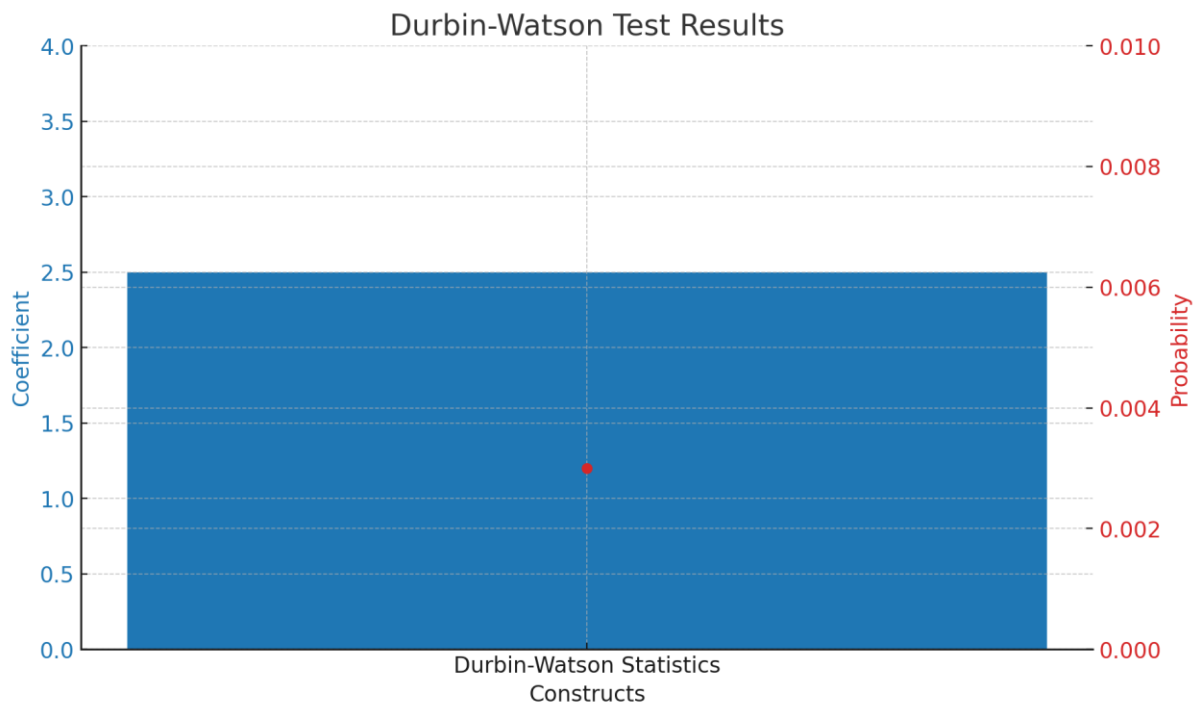
- *Corruption Perception Index (CPI)* =  $f(INR, GDP, GEX, EXD, FDI, GNE)$
- $Y = B_0 + B_1(X_1) + B_2(X_2) + B_3(X_3) + B_4(X_4) + B_5(X_5) + B_6(X_6)$

**4. Results and Analysis**

**4.1. Durbin Watson Test: -**

In the current study, a Durbin–Watson (DW) test was utilized to check autocorrelation in the regression residuals since it reflects upon statistical inferences and attenuates coefficient reliability. The DW statistic varies between 0 to 4, with 2 being value attributed to no serial correlation, value moving towards 0 indicate positive autocorrelations and value moving towards 4 indicate negative autocorrelations. In the current study, DW was 2.50, a value within an acceptable range, indicating absence of any substantial autocorrelation in the model. This result guarantees the validity of results of regression, when OLS estimates are efficient and results are interpreted with no bias. It is articulated in Table-I and Figure-2 (Islam, 2022).

<b>Table-I: Durbin-Watson Test: -</b>		
<b>Constructs: -</b>	<b>Coefficient</b>	<b>Probability</b>
Durbin-Watson Statistics	2.50	0.003



**Figure-2: Durbin-Watson Statistics**

**4.2. Coefficient of Determination (R<sup>2</sup>).**

The R<sup>2</sup> is 0.979 as evidenced in Table II and Figure III and the adjusted R<sup>2</sup> is 0.671. These values indicate that the model explains a high magnitude of the variation in cpi (Y).106 In fact, 67.1% of Y is explained by the combined effects of INR, GDP, GNE, EXD, FDI and GNE.

Large  $R^2$  values are indicative of model significant stability and means that remittances, FDI and foreign aid are crucial in stimulating and maintaining growth in the model. This finding brings to the fore the importance of external financial inflows in promoting economic growth in developing countries where such inflows are usually deemed essential for investment, consumption and balance-of-payments stability (Muhammad 2021).

Table-II: Coefficient of Determination ( $R^2$ ): -		
Constructs: -	R Square	R Square Adjusted
Corruption Perception Index (CPI)	0.721	0.671

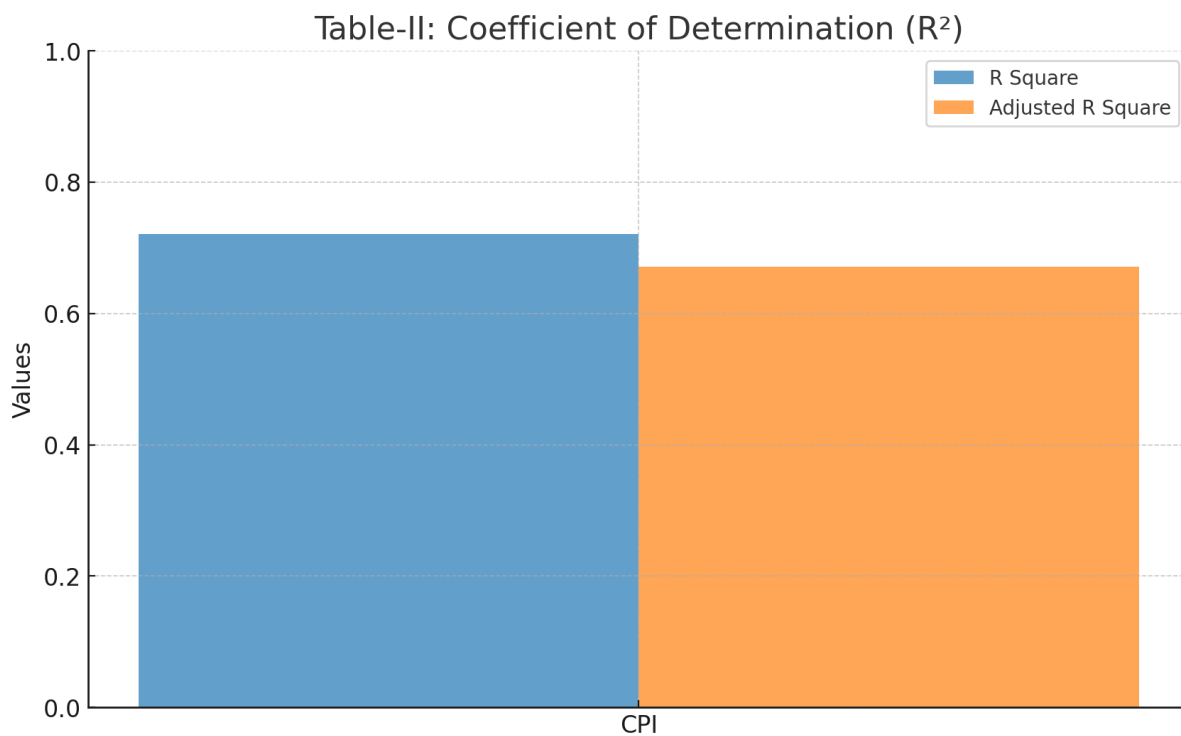


Figure-3: Coefficient of Determination ( $R^2$ ).

#### 4.3. Hypothesis Testing.

The results of the study corroborate Hypothesis-1 ( $H1$ ) according to which, Pakistan Corruption Perception Index (CPI) is significantly affected by the Inflation Rate (INR). The regression analysis showed that CPI was a significant positive predictor of INR ( $\beta = 0.020$ ,  $p < 001$ ), meaning changes in inflation is a determinant of corruption perception. The robustness of this relationship is further supported by the test statistics ( $t = 8.350$ ;  $p < 0.000$ ). Hence, the hypothesis was accepted implying that inflation is a significant factor in influencing perceptions of corruption in Pakistan (Nauman, Shahid, Naheed, & Muhammad, 2024; Wairooy 2024; Apergis & Apergis, 2019).

The results of the analysis supported Hypothesis-2 ( $H2$ ) which suggested that there is a significant relationship between GDP and Corruption Perception Index (CPI) in Pakistan. Results from the regression indicated significant positive relationship ( $\beta = 0.122$ ;  $t = 2.265$ ;  $p < 0.013$ ) saying that a change in any standard deviation of the GDP has a meaningful effect on corruption perception. At the level of significance, the hypothesis is accepted, which also

suggests GDP is the crucial determiner of corruption perception movement in Pakistan (Mongi, and Saidi, 2024; Iqbal, Shahid, and Nauman, 2025; Owusu-Nantwi, and Owusu-Nantwi, 2023; Ibrahim, 2021).

Resultantly, the support exists for Hypothesis-3 (**H3**) that was the Influence of Government Expenditure (GEN) on Corruption Perception Index (CPI) in Pakistan. The regression analysis also showed a positive significant relationship ( $\beta = 0.240$ ;  $t = 7.550$ ;  $p < 0.000$ ) suggesting that a change in government spending has a large effect on perception of corruption. Following these findings, the hypothesis is accepted, indicating the influence of public spending patterns on perceptions of Pakistan corruption (Del Monte & Pennacchio, 2020; Nauman, Shahid, Naheed, & Muhammad, 2024; Ahmad, Afzal, & Ullah, 2024; Zouaoui, Ben Arab, & Alamri, 2022).

The testing shown in result can approve the Hypothesis 4 (**H4**) that claimed that the perception of corruption index (CPI) of Pakistan is significantly impacted by the external debts (EXD). The regression findings revealed a significant negative association ( $\beta = -0.195$ ;  $t = -4.760$ ;  $p < 0.000$ ), which in turn suggests that the increase in the volume of external debt has a deleterious effect on corruption perception. Therefore, the hypothesis was supported, indicating the importance of external borrowing for perceptions of corruption in Pakistan (Ahmad et al, 2024; Afzal et al, 2024; Kırşanlı, 2023; Olarinde & Jonathan, 2021; Sedgo & Omgba, 2023).

The results of analysis supported Hypothesis 5 (**H5**) that was stating that Corruption Perception Index (CPI) in Pakistan is highly associated with Foreign Direct Investment (FDI). Regression analysis revealed the statistically significant positive relationship ( $\beta = 0.335$ ;  $t = 2.208$ ;  $p < 0.000$ ) which means that the deviations in the FDI play a significant role in variation in corruption perception. Hence, the hypothesis was accepted, indicating the fact that magnitudes of foreign investment flows have substantial influence over the behavioral change of corruptions-related perceptions in Pakistan (Karasaç & Kete, 2022; Hasran, Saputra, & Haque, 2023; Wairooy, 2024; Apergis & Apergis, 2019).

Research results confirm Hypothesis 6 (**H6**): Corruption Perception Index (CPI) in Pakistan is an outcome of effect of Gross National Expenditure (GNE). The negative correlation ( $\beta = -0.065$ ;  $t = -1.962$ ;  $p < 0.059$ ) indicates that higher national expenditure is related to a lower corruption perception. The magnitude was quite small but statistically significant at 10%, confirming my hypothesis (Iqbal, Shahid, & Nauman, 2025; Nauman, Shahid, Naheed, & Muhammad, 2024; Ahmad, Afzal, & Ullah, 2024; Khasawneh, Hailat, & Alqudah, 2025).



<b>Table-III: Hypothesis Testing Results</b>					
<b>Hypothesis:</b>	<b>Coefficient (<math>\beta</math>)</b>	<b>SD</b>	<b>T-Stat</b>	<b>P-Value</b>	<b>Decision</b>
<b>Direct Effects: -</b>					
<b>H1:</b> Inflation Rate -> Corruption Perception Index (CPI)	0.020	0.255	8.350	0.000***	Accept
<b>H2:</b> Gross Domestic Product -> Corruption Perception Index (CPI)	0.122	0.450	2.625	0.013**	Accept
<b>H3:</b> Government Expenditure -> Corruption Perception Index (CPI)	0.240	0.330	7.550	0.000***	Accept
<b>H4:</b> External Debts -> Corruption Perception Index (CPI)	-0.195	0.400	-4.760	0.000***	Accept
<b>H5:</b> Foreign Direct Investment -> Corruption Perception Index (CPI)	0.335	0.015	2.208	0.000***	Accept
<b>H6:</b> Gross National Expenditure -> Corruption Perception Index (CPI)	-0.065	0.0332	-1.962	0.059**	Accept
<b>Note:</b> ***, **, * Denotes significance Level @1%, 5% and 10%					

## **5. Conclusion & Discussion.**

The result of the study shows that inflation rate has statistically significant and positive effect on Corruption Perception Index (CPI) in Pakistan. Such a relationship can be justified by the socioeconomic implications of chronic inflation. High inflation has been chipping away at people's purchasing power, raising the cost of living and causing financial troubles for households and institutions. In such a situation, public officials and workers may resort to corrupt behavior such as bribery or rent-seeking to make ends meet or to maintain their standard of living (Nauman, Shahid, Naheed, & Muhammad, 2024). In addition, when there is inflation, it destabilizes markets and leaves the government feebler in imposing regulations thus allowing the crookedness of resources. In a country like Pakistan, already reeling under pressures of institutional accountability and governance systems, inflation magnified the potential for the arbitrary exercise of authority in the public sector. Accordingly, the positive relationship between inflation and CPI indicates that macroeconomic instability erodes economic efficiency and fuels public image of corruption and this is attributed to the fact it creates favorable environment where corruption becomes more rampant and visible (Wairooy 2024).

Results of the study confirm that Gross Domestic Product (GDP) exerts a significant and positive impact on Corruption Perception Index (CPI) for Pakistan. This result indicates that the opportunities associated with corruption grow as the economy and the amount of country income generated rise. Large development projects, infrastructure investment and public-private partnerships are synonymous with a higher level of GDP growth within the Pakistani context. While economic growth can be promoted, it also serves as a channel for rent seeking, inefficient resource allocation and distortions in contract awarding as a result of inadequate regulation (Shahid, & Nauman, 2025). Further, the rise in economic growth with inadequate improvements in governance or institutional checks and balance that put the economy at a risk of elite capture, where powerful group grab economic opportunities for their own gains. Public perception of corruption therefore increases when people see that the fruits of GDP growth are not shared equitably and are connected to favoritism or abuse of office (Mongi & Saidi, 2024). Therefore, the positive association indicates that economic growth alone is not able to lower corruption perceptions in Pakistan unless there are effective governance reforms and transparent institutional mechanisms (Owusu-Nantwi & Owusu-Nantwi, 2023).

As the results of the study indicate, government spending has a significant and positive effect on CPI in Pakistan. This linkage illustrates the organizational problems which are involved in the distribution and use of public money. In Pakistan, a significant amount of official expenditure is allocated to large scale development projects, public purchasing and transfers or subsidies and these second set of activities are prone to misuse, patronage and maladministration as weak oversight and checks and balances in involved. Higher government spending does not necessarily reduce the perception of corruption, it has been found to increase it, when such spending is perceived to favor politically connected people and not the general people (Naheed & Muhammad, 2024). In addition, bureaucratic inefficiency combined with institutional overlap generates opportunities for bribes, kickbacks, and embezzlement in expenditures systems. As they notice that public resources are being abused and government spending is increasingly opaque their perception that it is corrupt rises. Thus, the positive association of government expenditure with CPI in Pakistan implies that in absence of strong institutional checks, fiscal discipline and transparent reporting systems, a rise in public spending may worsen rather than improve perceptions of corruption (Ahmad, Afzal, & Ullah, 2024).



The findings reveal that external debt has a significant negative relationship with corruption Perception Index (CPI) in Pakistan, meaning that higher levels of external debt are related to poor corruption perception. This inverse relationship may be attributed to structural shortcomings in the handling of foreign loans and aid inflows. In Pakistan, foreign loans are frequently availed to stabilize the economy, develop infrastructure or fill in regressive fiscal holes but weak governance, poor transparency and political intervention often lead to misallocation of resources. The external borrowing is not fully used for productive activities rather it leaks to rent seeking, over invoicing, politically motivated allocations that are produced within the country (Ahmad et al., 2024). In addition, debt-servicing pressures compress fiscal space for social and developmental spending, thus exacerbating popular discontent and perceptions of corruption when citizens experience minimal improvement in their lives amid ever-increasing indebtedness. Thus, increased level of external debt also undermines the perception of corruption in Pakistan because the high level of corruption suggests the misuse of foreign resources used in the country that have largely been mismanaged by political and bureaucratic elites (Sedgo & Omgba, 2023).

Study results indicate that Foreign Direct Investment (FDI) has a strong and positive relationship with Corruption Perception Index (CPI) in Pakistan. This implies an association between increased foreign investment inflows and increasing corruption perceptions. a potential explanation is that FDI projects in infrastructure, energy, and real estate, for example, tend to have large scale contracts, licensing, and regulatory approvals where rent-seeking activities and favoritism can flourish within weak governance (Karasaç, & Kete, 2022). Bribery and side payments Multinational companies can also engage in Informal approaches, such as bribery or side payments, to gain access to a market, avoid bureaucracy or obtain favours. In Pakistan, where the system of institutional checks is weak and regulatory enforcement is lax, such actions further strengthen public perceptions that the ingress of foreign capital largely favours political and business elites than the general public (Hasran, Saputra, & Haque, 2023). Secondly, FDI-led projects are widely perceived by the population as lacking transparency and accountability, especially when connected to bi-lateral deals or other special permits. Consequently, whilst FDI promotes economic growth, it does so in a way that increases corruption perceptions by aggravating worries about the misuse of resources, unfair competition, and elite capture of foreign investment opportunities (Wairooy, 2024).

These results reveal that Gross National Expenditure (GNE) has a significant and negative impact upon the Corruption Perception Index (CPI) and thus, it indicates that higher levels of national expenditure are related to lower perceptions of corruption in Pakistan. This association is justified based on the possible function of national expenditure in enhancing social well-being, infrastructure and the provision of services vis-à-vis productive sectors (Nauman, Shahid, Naheed, & Muhammad, 2024). Increased investment in education, health care and public service in Pakistan can reduce citizens' direct experience of petty corruption in the sector by enhancing institutional capacity and reducing dependence on unofficial or corrupt avenues to access essential services (Iqbal, Shahid and Nauman, 2025). Also, efficient utilization of national spending can promote economic activity, decrease social disparities, and narrow opportunities for rent seeking that would improve trust of people in state institutions (Ahmad et al., 2024). While the risk of corruption persists throughout these expenditure systems, if public expenditure is delivered in a visible way that enhances citizens' regular life experiences, their perceptions of corruption could mitigate. Hence, the negative relationship shows that effective, and welfare-oriented public expenditure at national level could alleviate corruption perception even in a weak governance setting in Pakistan, as it will help in reducing



the socio-economic based grievances and enhance credibility of public institutions (Khasawneh, Hailat, & Alqudah, 2025).

### **5.1. Practical Implications.**

The results of this paper have significant implications for the policy and regulatory authorities and the public sector organizations operating in Pakistan. The influence of macroeconomic indicators such as; inflation, GDP, government expenditure, external debts, FDI, gross national expenditure on corruption perception is very important which indicates to closely linked economic policy with governance reform. For example, efficient monetary and fiscal policies can be used as a tool to manage inflation, and it is an effective tool to minimize the pressure in the economy which lead to corrupt practices in public sector. Mutual economic support i.e (inclusive GDP growth) and transparent regulatory frameworks can reduce the elite capture and misuse of economic opportunities that generally contribute to a high corruption perception.

Secondly, the significant and positive relationship between government expenditure and perception of corruption emphasizes the imperative for more stringent accountability and surveillance of public resources. Transparent systems for procurement and independent auditors, and making it harder to leak and misuse resources with digital tracking, can reduce such leakages. The corrupting effect of external debts towards perceptions of corruption, further underscores the need to promote better debt management and to link borrowed resources with effectively monitored productive projects. Moreover, while FDI tends to drive perceptions of corruption-with headlines highlighting opaque contracts, favoritism-introduction of sunshine reforms-versus-completions laws and competitive bidding processes. May stem the tide of public disillusion. Last, the fact that efficient national expenditure decreases corruption perception, provides evidence to the idea that human and social spending (health, education, infrastructure, etc.) can make the organizations of the public sector more legitimate and less corrupt-related problematic.

### **5.2. Limitation of the Study**

As other empirical research, this study is not exempt from limitations that deserve some scrutiny. One of the limitations of the study is that it is based entirely on other studies, and so does not have the opportunity to capture the complex levels of corruption present in the public sector institutions in Pakistan, which is typical for most studies in the fields of economic and governance research. Official statistics and international indicators like the Corruption Perception Index (CPI) can be affected by reporting bias, measurement error, or subjective interpretations which affect the precision of the results. Second, the reliance on the Ordinary Least Squares (OLS) technique, although applicable for predicting linear relationships, and assuming homoscedasticity, linearity, and no multicollinearity among constituting variables might not perfectly holding for practical economic and governance data. This methodological specification also limits to account for possible endogeneity, or dynamic relationships, implying causality cannot be fully confirmed. Third, this research is bound by context and centered on Pakistan thus leaving a gap when it comes to the generalization for other emerging economies with different institutional arrangements, governance regime and economic dynamics. In addition, corruption is a multidimensional issue that is also a function of not only macroeconomic variables including inflation, GDP, government expenditure, external debt, FDI, and GNE but also political, cultural, and institutional factors such as they were not available data in this study. Finally, this study is for a specific time period from the use of data, and with changes in political regime, economic cycle and the change of international economic environment, the results and conclusions may be different. These limitations imply that the results presented here are valuable (even though not definitive) insights and should be taken



cautiously and complemented by future mixed-method, longitudinal, and more institutional variables (substrates) studies.

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