

Analysing corruption, political influence, socioeconomic conditions, and living standards in Pakistan

Muhammad Ahmad Mazher¹, Asma Khan²,
Yasotha Nair Tramankuti³

Business School, University Kuala Lumpur,
MALAYSIA^{1,3}

Universiti Putra Malaysia, Selangor, MALAYSIA²

¹Email: dr.mian.mazher@gmail.com

Abstract - This study sets out with the objective of rigorously examining the interplay between select economic indicators and final household consumption expenditures (FHCE) in Pakistan, covering the extensive period from 1991 to 2023. The central focus is on how variables—including population size, the corruption perception index (CPI), political stability, and the absence of violence (PSVA)—shape FHCE dynamics within the country in household consumption. The study leverages time-series analysis, utilizing a comprehensive dataset spanning more than three decades. The analysis homes in on four principal variables: total population, CPI, political stability, and PSVA, acknowledging their respective roles in influencing socioeconomic outcomes. Regression modeling serves as the core analytical approach, facilitating the investigation of both short-term and long-term effects these variables exert on FHCE. The robustness and statistical significance of the models are stringently tested, ensuring the empirical validity and reliability of the findings. The results reveal several important insights. Firstly, total population demonstrates a consistently positive correlation with FHCE, both in immediate (short-term) contexts and over the long run. This suggests that population growth drives aggregate consumption, possibly due to increased aggregate demand and the expansion of consumer markets. Conversely, the corruption perception index (CPI) is shown to have a pronounced negative impact on FHCE: an increase in perceived corruption corresponds to a reduction in household consumption, with a coefficient indicating a decrease of approximately 0.44 units in the short term.

Keywords: final household, consumption expenditures, total population, corruption perception index, political stability

1. Introduction

Corruption in Pakistan stands as a formidable barrier to progress, influencing a host of persistent issues such as inflation, fiscal deficits, and widespread inadequacies within public infrastructure

(Khan et al., 2018). The challenge of eradicating corruption is, without question, daunting; nevertheless, even incremental reductions in corrupt practices can serve to alleviate the severe impact that systemic corruption renders on the daily lives of ordinary citizens (Urinboyev & Mustafoev, 2023). Corruption, particularly within tax agencies, disrupts revenue collection and precipitates excessive government spending, both of which strain fiscal health and undermine national development objectives (Amina & Sara, 2024). The consequences of corruption extend visibly into the public sphere – hospitals remain underfunded and poorly equipped, educational facilities are subpar, and the overall calibre of public services continues to suffer. The concentration of illicit wealth contributes not only to steep real estate prices but also to the widening chasm between the affluent and the poor, further entrenching socioeconomic disparities and impeding upward mobility (Glynn, 2022).

Efforts to curtail corruption have manifested through accountability campaigns and the operations of institutions such as the National Accountability Bureau (NAB) and the Federal Investigation Agency (FIA). However, fear of these agencies alone has proven insufficient in dismantling entrenched corrupt networks or changing institutional culture (Samo, 2020). The consequences of corruption are profound and far-reaching: economic growth is stunted, poverty reduction initiatives lose efficacy, and the very foundations of social cohesion are threatened (Agatha et al., 2023). The United Nations Convention Against Corruption (UNCAC), established in 2003, categorizes corruption in multiple forms – bribery, embezzlement, unlawful enrichment, and the laundering of proceeds derived from criminal activity. Sustainable socioeconomic progress, therefore, hinges on the removal of corruption – especially within the public sector – if genuine development is to be realized.

Over decades, both economists and social scientists have devoted considerable attention to unraveling the tangled relationship between corruption and macroeconomic stability, reflecting its heightened prominence as a research concern through the 20th and into the 21st century (Myint, 2000; Sandholtz & Koetzle, 2000; Shabbir & Anwar, 2007). The consensus is clear: eliminating poverty is integral to the economic aspirations of all nations, particularly those in the Global South. The quest to elevate living standards in developing countries requires the interconnection of economic, demographic, and institutional reform – corruption, in this context, emerges as a primary barrier to holistic advancement.

The persistent and multidimensional nature of poverty in Pakistan has stimulated widespread inquiry into the diverse factors perpetuating this condition. Notably, both policy discourse and empirical research have highlighted Pakistan's relative underperformance in the realms of prosperity and equitable growth (Ali Shah et al., 2020). Corruption serves as a particularly pernicious social dynamic, enabled by power imbalances and unchecked greed. In academic discourse, "quiet violence" encapsulates the often-overlooked but insidious forms of corruption that silently erode the fabric of society, from petty bribery to large-scale misappropriation of state funds.

Comparisons with other developing nations, such as Bangladesh and the Philippines, underscore that resilience against climate change, disaster risk, and pervasive poverty is substantially compromised by corruption. Addressing these critical societal challenges necessitates anti-corruption measures as a foundational prerequisite for long-term effectiveness and sustainability (Lewis, 2017). Pakistan, akin to many low- and middle-income countries, finds its macroeconomic performance weakened and its social inequalities exacerbated by the pervasiveness of corruption. This study is anchored on the pivotal intersection of poverty and corruption within Pakistan, drawing empirical connections between these phenomena. Statistical evidence consistently demonstrates that poverty rates in Pakistan are positively correlated with both inflation and corruption. Meanwhile, labor force participation appears inversely related to poverty, suggesting some counterbalancing dynamics within the population (Raza Bukhari et al., 2022).

The salience of this research is amplified by the persistent challenges posed not just by corruption but also by the instability of political institutions and deep-seated socioeconomic

inequities. A significant body of literature documents how corruption undermines public trust, distorts resource allocation, and incapacitates the very institutions tasked with fostering development—all of which conspire to entrench poverty and restrict economic opportunity (Raza Bukhari et al., 2022; Shabbir & Anwar, 2007). Furthermore, political instability—characterized by frequent government turnover, ineffective accountability mechanisms, and disjointed policy interventions—further deters domestic and foreign investment, undermining prospects for sustained development (Batool & Sieg, 2012; Shakoor, 2022).

It is also worth highlighting that as Lewis (2017) observes in comparative cross-country analyses, the broader societal consequences of corruption—such as diminished resilience, increased inequality, and curtailed access to essential services—are systematically underappreciated, yet critical for any paradigm of sustainable development. In Pakistan, where the convergence of rising income inequality, endemic corruption, and deteriorating public services (spanning health care, education, and housing) has an especially deleterious effect, these issues are both urgent and interconnected (Guo & Wang, 2024; Mehdipanah, 2023). Supporting this view, Chetwynd et al. (2004) demonstrate that countries exhibiting pronounced income inequality also report higher instances of corruption—a mechanism that perpetuates cycles of poverty and exclusion.

The present study is distinctive in its aim to empirically assess how institutional and structural weaknesses—rooted in corruption and compounded by political and socioeconomic instability—shape both household expenditure patterns and subjective well-being within Pakistan. By drawing on recent literature and supplementing with comparative insights, this research intends to fill critical gaps in our understanding. In doing so, it sets the stage for more targeted interventions that integrate macroeconomic, demographic, and institutional perspectives, recognizing that only a multifaceted approach can disrupt the self-reinforcing cycle of corruption, inequality, and poverty that continues to afflict Pakistan.

Corruption, as Lewis (2017) identifies through his extensive cross-country analysis, has ramifications that extend well beyond what is immediately obvious—social impacts such as diminished resilience, deepening inequality, and restricted access to basic services are consistently underestimated. Yet, these dimensions are essential if we’re seriously considering the pathway to sustainable development. Especially in developing nations like Pakistan, the socioeconomic toll is particularly staggering. The country faces ballooning income divides and disintegrating public provisions—think healthcare, education, housing—where corruption and institutional failure are constant shadows (Guo & Wang, 2024; Mehdipanah, 2023).

Chetwynd et al. (2004) offers empirical backing to a widely observed pattern: higher income inequality is persistently entwined with higher corruption, and the result is a recursive cycle—poverty leads to exclusion, exclusion feeds further corruption, and on and on. The study at hand seeks to bridge a critical gap in existing literature by examining how these institutional and structural deficits shape household spending and subjective well-being. By retaining variables akin to the Corruption Perceptions Index (CPI), Political Stability and Absence of Violence (PSAV), and population size, the framework allows for a nuanced understanding of the nexus between governance, corruption mitigation, and the socioeconomic outlook for citizens.

Pakistan’s political history is, to put it mildly, tumultuous. Civil wars, periods of military rule, ongoing political turbulence—these have been recurring themes. Fragmentation and instability appear practically embedded in the country’s recent past, driven by a matrix of foreign involvement, corruption, ethnic and sectarian strife, economic volatility, and the persistent threat of extremism. At times, the loosening of military dominance paves the way for escalated conflict; at others, deeply entrenched ethnic and religious rifts push the country toward political crisis. Economic shocks—high rises in unemployment, inflation, and public debt—do nothing to stabilize the situation. At present, terrorism and extremism are particularly acute, threatening the very foundations of political order and government continuity.

Against this backdrop, the delivery of basic services—health, education, infrastructural amenities—inevitably weakens. Societal well-being deteriorates further, leaving the broad

population worse off. While the focus here is Pakistan, one should not overlook the global resonance of these trends: extremism and terrorism flourish where instability reigns, and these are not issues confined by borders. The route forward, though arduous, necessarily involves bolstering democratic institutions, enhancing economic opportunity, rooting out corruption, and fostering social inclusion. These are indispensable steps if the aim is to achieve a safer and more equitable society, even if straightforward solutions are elusive.

Research in the Pakistani context has demonstrated, with considerable evidence, that corruption aggravates poverty, widens income disparities, and weakens economic fundamentals (Ajaz & Ahmad, 2010; Myint, 2000; Raza Bukhari et al., 2022; Sandholtz & Koetzle, 2000; Shabbir & Anwar, 2007). The ripples extend to inflation, persistent unemployment, entrenched wealth inequality, and deteriorating fiscal systems. Nevertheless, much remains unexplored regarding the entangled impacts of corruption on both the country's long-term economic resilience and its social stability. Despite persistent discussion at the international level, few studies have rigorously interrogated the social fallout of corruption: the weakening of democratic processes, the erosion of public trust, and the exacerbation of political instability, particularly in Pakistan (Lewis, 2017).

Moreover, there has been an evident lack of critical evaluation on the effectiveness of anti-corruption institutions, such as the Federal Investigation Agency (FIA) and the National Accountability Bureau (NAB), in actually alleviating poverty or bolstering governance. Most research remains at the macroeconomic level, neglecting the practical implications of weak policy and structural inefficiency. Analyses of how corruption undercuts essential public sectors such as health and education are surprisingly thin, despite the clear consequences for infrastructure and service delivery. While some comparative studies involving nations like Bangladesh or the Philippines yield valuable insights and potential policy models, these remain relatively rare and their lessons underapplied. Furthermore, most longitudinal research focuses only on short-term correlations, failing to illuminate the deeper, causal mechanics by which corruption continues to undermine economic and social development in Pakistan. Hence, a sustained, multidimensional research agenda is necessary to fully understand and confront the enduring challenges posed by corruption within the Pakistani context.

Addressing the existing research gaps is crucial for a more nuanced and complete understanding of how corruption shapes the political, social, and economic realities in Pakistan. A deeper analysis—not just a surface glance—would allow us to really grasp how corruption entrenches poverty and aggravates economic disparity, while also opening new avenues to critique and potentially reform ineffectual policies. If policymakers and scholars could systematically evaluate current anti-corruption measures, they might even chart out more robust and context-sensitive frameworks for governance that actually deliver.

It is important to clarify, too, that Pakistan is not unique in its battle against corruption. Like a number of developing states, it faces systemic issues where illegitimate practices undermine macroeconomic stability and accelerate the climb of poverty and inequality. As highlighted by Guo & Wang (2024), utilizing provincial panel data to observe demographic shifts reveals that improvements in local conditions and greater disposable income can notably increase per capita household consumption. The behaviour of household spending functions almost as a barometer for broader economic health—population data may map spending trends and purchasing power, but it's the aggregate consumption that really signals how an economy is performing. Madudova and Corejova (2024) reinforce this point: consistently, population size emerges as a major driver for quality of life and overall consumption growth within a society.

The analysis by Raza Bukhari et al. (2022) provides further evidence of corruption's corrosive effect on Pakistan's impoverished. The relationship is clear: variables such as a higher number of household earners, possession of physical assets, remittances from abroad, as well as educational attainment of the head of the household, home ownership, and spouse participation,

all serve as powerful levers for lifting people out of poverty. Nevertheless, in places such as Southern Punjab, persistent factors – like a high dependency ratio, disability, large households, or predominance of primary-sector (often low-wage) occupations – paint a much bleaker picture. For these communities, targeted anti-poverty interventions must go further than simply increasing assets; they must meaningfully widen access to education and employment, in line with recommendations by Ali Shah et al. (2020). Shabbir & Anwar’s cross-sectional study (2007) further complicates the picture: most economic variables (with the exception of income distribution) appear to correlate negatively with perceived corruption, hinting at complex, interlocking dynamics between perception, reality, and lived experience.

Of course, economic indicators alone don’t tell the full story. Karstedt (2001), examining data from thirty-five nations, mapped the intricate links between corruption, poverty, and inequality. Their findings strongly indicate that societies marked by extreme income disparity are also those where corruption flourishes, which in turn reinforces divides and stagnates economic advancement. In the Pakistani context, Chetwynd et al. (2004) find a non-linear relationship: rising corruption not only exacerbates inequality but also drags down investment and overall economic growth – essentially trapping the most vulnerable in cycles of deprivation.

Lewis (2017) offers further international perspective, studying the social fallout of corruption in countries as diverse as China, Italy, Bangladesh, the Philippines, Nepal, and numerous African states. Across these contexts, the impacts are similarly severe, with corrupt societies often displaying resistance to empirical critique and facing mounting societal and economic challenges – including resilience crises and deepening poverty. The conclusion is almost inescapable: not only does corruption reduce national income, it precipitates social collapse, increasing mismanagement, undermining governance, and closing off opportunities for marginalized populations. The resulting effects – prejudice, displacement, and restricted access to fundamental necessities – stretch far beyond economics, affecting the social fabric itself.

Rahayu and Widodo (2012) invest in quantitative analysis by studying ASEAN corruption data from 2005–2009, using econometric and dynamic panel methods to interrogate secondary data. Measuring poverty through the Human Development Index (HDI), they establish a one-directional relationship: corruption generates poverty, with no evidence for causality in the opposite direction. This vital insight reinforces the need to situate anti-corruption strategies at the centre of any comprehensive poverty alleviation program. The data and literature overwhelmingly support the conclusion that corruption in Pakistan (and similarly affected states) is not just a barrier to prosperity but, quite literally, a root cause of persistent poverty and inequality. The complex interplay between economic structures, governance quality, and social outcomes underscores the urgency of serious, multifaceted responses – without which hopes for sustainable development will remain elusive.

Based on the revised text above, several key points and overarching themes emerge regarding the impact of corruption, governance, political dynamics, and socioeconomic factors on development across various countries. To extend and elaborate while maintaining an academic tone, it is necessary to unpack these issues further by drawing out the complexities and their broader implications. Research unequivocally indicates that countries confronting high levels of corruption must adopt comprehensive and substantial measures to address this pervasive issue. The need for rigorously developed and executed anti-corruption policies is paramount to improving macroeconomic conditions and meeting critical social needs – particularly in sectors such as healthcare and education, which are frequently undermined by systemic corruption.

The study focusing on Sub-Saharan Africa offers a nuanced analysis utilizing data from 37 countries over a period spanning 2005 to 2018. Employing the Generalized Method of Moment, the researchers shed light on how various factors, including lagged human development indices, the effectiveness of governance, economic growth rates, and governmental expenditures on health, positively influence the trajectory of human development. Interestingly, the analysis

reveals that corruption and government effectiveness, while perhaps expected to play outsized roles, exhibit a less significant impact than projected. This finding complicates the traditional narrative that emphasizes the primacy of corruption as a developmental constraint, and suggests that multifaceted policy interventions—such as the retraining and redeployment of government personnel, strategic economic diversification, increased and well-monitored funding for critical sectors like health, and robust oversight of public service delivery—are essential for meaningful progress (Akinbode et al., 2020).

Turning to the context of Pakistan, the implications of endemic corruption and weak institutional frameworks are particularly stark. Shakoor (2022) underscores the mutually reinforcing relationship between corruption and the inadequacy of institutional capacity, which together sustain a persistent cycle of political volatility and economic stagnation. This dynamic is further complicated by the politicization of economic management noted by Batool and Sieg (2012), who detail how pre-electoral manipulation of fiscal indicators—including unemployment and inflation rates—undermines both economic stability and public trust. The resultant inefficiencies, as well as politically motivated resource allocation and policies, have direct and deleterious effects on the education system, hindering youth development and the cultivation of human capital (Akbar et al., 2021). Nonetheless, Chaudhry and Mazhar (2018) present evidence that inclusive political competition can contribute positively to economic performance and improvements in living standards, highlighting the potential upside of democratic rivalry. However, the broader economic climate remains fragile, beset by external shocks, chronic inflation, mounting debt, and entrenched socioeconomic inequities (Belokrenitsky, 2022).

Socioeconomic variables also play a significant role in shaping food security and public well-being. According to Rasheed et al. (2022), factors such as educational attainment, access to remittances, livestock ownership, and the economic contributions of homemakers positively influence the availability of food. Conversely, poverty exerts an overwhelming negative effect, making the reduction of poverty a prerequisite for enhanced food security. The destabilizing influences of inconsistent leadership, institutional deficiencies, and political uncertainty further exacerbate economic vulnerability (Fahmida & Ali Baloch, 2012). Accordingly, a suite of policy recommendations emerges: reducing national debt obligations, upholding strict adherence to the rule of law, pursuing stable and coherent economic policies, and advancing democratic governance are all cited as necessary steps forward.

Access to adequate housing and healthcare also surfaces as a critical determinant of public health, with research such as Mehdipanah (2023) illuminating the way inequitable housing exacerbates financial and health disparities. Socioeconomic status—particularly income level—plays an outsized role in influencing personal health outcomes, a pattern accentuated among populations with specific health challenges such as spinal cord injuries (Oña & Pacheco Barzallo, 2022). This dynamic extends beyond healthcare utilization to encompass broader patterns of social integration. Latt et al. (2019) further substantiate the connection between income, healthcare preferences, and the perceived accessibility of health services. The evidence collectively reinforces the importance of ensuring universal access to affordable, high-quality housing and healthcare in the pursuit of social equity.

Regional studies continue to highlight the inextricable links between economic growth, corruption, and poverty. For example, Zahia and Mohamed (2025) demonstrate that, in the context of seven MENA countries, economic growth has a “pro-poor” orientation but is meaningfully undermined by the persistence of corruption, which slows the rate at which poverty can be alleviated. In Nigeria, research by Ossai (2025) and Okolie & Egbon (2025) elucidates the myriad ways in which corruption deters investment, limits productivity, increases operational costs, fosters inefficient resource allocation, and entrenches poverty and inequality. The effectiveness of public administration in combating corruption is constrained by political interference, insufficient institutional capacity, and coordination failures—highlighting the necessity of comprehensive reform. Similarly, Vhutali & Saba’s (2024) analysis of South Africa substantiates a significant long-term correlation between corruption, poverty, and income

disparity, while finding that corruption exacerbates short-term economic inequality in particular.

A considerable body of evidence supports the contention that corruption and political dysfunction are deeply intertwined with developmental outcomes across multiple domains. Effective reform must be holistic: targeting the roots of corruption, bolstering institutional frameworks, and ensuring equitable access to resources and opportunities. Otherwise, progress will remain painfully incremental, and the transformative potential of economic growth will go unrealized.

2. Method

This study investigates the determinants of Quality of Life (QoL), proxied with final household consumption expenditure, using an empirical model that is based on observations collected from the World Development Indicators (WDI) for the period 1996 to 2023. The research framework considers the Corruption Perception Index (CPI), Political Stability and Absence of Violence (PSAV), and Socioeconomic Factors (SEF), including population, as significant explanatory variables determining QoL across countries. The information, placed in the form of time-series information, integrates annual observations for institutional quality (CPI), governance (PSAV), and socioeconomic indicators such as GDP per capita, unemployment rate, education level, and demographic indicators, all harmonized with WDI and other sources wherever necessary.

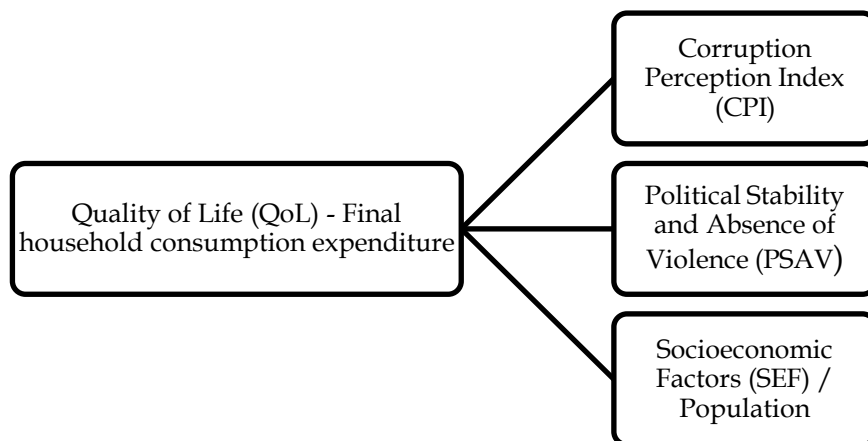


Figure 1 - Theoretical Framework

Econometric Model and Hypothesis

QoL = Final household consumption expenditure (FHCE)

CPI = Corruption perception index

PSAV = Political Stability and Absence of Violence

SEF = Total Population (TP)

Quality of life index (QoL) measured through composite indicators like income level, education attainment, health status, household consumption expenditures, and subjective well-being. Corruption Perception Index (CPI) is the quantitative measure showing the perceived corruption levels in Pakistan. Political Stability and Absence of Violence (PSAV) is the quantitative measure of the frequency and severity of the cases of political violence in Pakistan. While socioeconomic factors (SEF) measured by total population (TP). Through employing a multiple regression analysis, study confirms the relation between corruption, political stability and absence of violence, and quality of life while holding other relevant covariates in control. The model equation is depicted as follows:

$$\text{Quality of Life (FHCE)} = \beta_0 + \beta_1(\text{CPI}) + \beta_2(\text{PSAV}) + \beta_3(\text{SEF}) + \varepsilon \dots\dots (A)$$

Based on the above established model and framework, the following hypotheses need to be estimated.

- i. H_0 : There is a negative and significant impact of CPI on FHCE.
- ii. H_0 : There is a positive and significant impact of PSAV on FHCE.
- iii. H_0 : Socioeconomic factor (population) has a positive and significant impact on FHCE.

4. Results and Discussion

4.1 Results

Table 1: Unit Root Results

Variable	ADF	
	I(0)	I(1)
Corruption perception index (CPI)	0.4035	0.0000
Final Household Consumption Expenditure (FHCE)	0.0898	0.0003
Political Stability and Absence of Violence (PSAV)	0.4439	0.0278
Total Population (TP)	0.0271	-

According to the unit-root test results, the Corruption Perception Index (CPI), Final Household Consumption Expenditure (FHCE), and Political Stability and Absence of Violence (PSAV) variables demonstrate non-stationarity at their levels (I(0)), as indicated by their ADF test p-values exceeding the conventional 0.05 significance threshold. This clearly signals that, in their raw form, these variables are influenced by stochastic trends, common in macroeconomic series, and lack a constant mean and variance over time. One immediate implication is that any statistical analysis performed on these variables without appropriate transformation could easily suffer from issues such as spurious regression.

Interestingly, once these variables are subject to first differencing, their p-values fall below 0.05, indicating that stationarity is achieved and confirming the presence of a unit root. This also suggests that any meaningful econometric modelling must recognize and address this underlying integration order to ensure valid inference. The need for differencing reflects a pervasive reality in macroeconomic datasets, where many variables only become interpretable after removing their stochastic trends, as emphasized by foundational works like Dickey & Fuller (1981) and Said & Dickey (1984). Meanwhile, the Total Population (TP) variable stands in contrast, showing stationarity at its level, as its ADF p-value is less than 0.05. In practical terms, this means no differencing is needed and the variable can be included in models in its raw form, a somewhat less common but not unprecedented outcome in such datasets.

These findings reinforce the importance of diagnosing the properties of time series data before advancing to further econometric modeling. The mixed orders of integration among the variables (some stationary at level, others only after differencing) underscore the necessity for using flexible analytical frameworks. Techniques such as the Autoregressive Distributed Lag (ARDL) bounds test procedure, which can robustly accommodate both I(0) and I(1) variables, become especially relevant here, as highlighted by Pesaran et al. (2001). This capacity for handling mixed integration is essential to avoid spurious regression and to establish the reliability and validity of empirical results, as discussed in detail by Enders (2014).

Overall, the observed integration patterns are entirely consistent with established econometric literature regarding the typical behavior of macroeconomic time series (Banerjee et al., 1993; Harris & Sollis, 2003). Recognizing and accounting for stationarity is not simply a statistical technicality, but a foundational step that safeguards the reliability of any subsequent empirical analysis. Without this attention to integration order and potential unit roots,

econometric models risk generating misleading or invalid inferences, underscoring the centrality of proper time series diagnosis and transformation.

Table 2. Johansen Cointegration and Lag-Length Results

Johansen Cointegration Results		
Test Name	Cointegration Eqs.	Level of Significance
Trace Test	4 cointegration equations	5%
Max-eigen value test	4 cointegration equations	5%
Lag-Length Criteria		
Maximum Lag-length criteria	2	AIC(-23.39), SC(-21.63)

Evidence derived from the Johansen cointegration test indicates the presence of four statistically significant cointegrating relationships at the 5% level, as validated by both the Trace test and the Maximum Eigenvalue test. This consistent identification across both metrics signals the existence of multiple long-run equilibrium linkages among the variables considered. In other words, despite observable divergences in the short run, these variables tend to co-move and maintain stable associations in the long run, pointing to robust cointegration across the system examined.

Expanding further, the selection of lag length, guided by the model selection criteria – specifically, the Akaike Information Criterion (AIC = -23.39) and the Schwarz Criterion (SC = -21.63) – suggests that a maximum of two lags effectively captures the underlying dynamics without risking model overfitting. This careful calibration is crucial in time series analysis; excess lags can introduce unnecessary complexity and noise, whereas too few may overlook relevant temporal dependencies. The congruency of both the AIC and Schwarz Criterion not only lends confidence to the chosen model specification but also helps ensure the integrity of subsequent inference.

These findings collectively provide a strong empirical foundation for the application of a Vector Error Correction Model (VECM). Employing the VECM framework facilitates comprehensive analysis of both the short-run adjustments and long-run equilibrium behaviours of the system, allowing for the intricate examination of how deviations from long-run relationships are corrected over time. Furthermore, the concurrence of results from the Trace and Max Eigenvalue tests regarding the number of cointegrating vectors enhances the robustness of the model, aligning well with established econometric theory concerning the behaviour of integrated time series and their propensity to move together due to shared stochastic trends.

Taken together, this multifaceted analysis affirms the existence of significant, stable, and multiple cointegrating relationships among the variables. This not only strengthens the validity of the adopted econometric approach but also offers a solid platform for further dynamic modelling, forecasting, and policy analysis within the system. The evidence thus substantiates the theoretical and empirical grounds on which deeper investigation can proceed.

Table 3. Final Empirical Results

Variable	Short-Run Coefficient	Long-Run Coefficient
C	-12.95242**	-10.61322**
Total Population (TP)	3.342475**	2.738827**
Corruption perception index (CPI)	-0.443092*	-0.002574
Political Stability and Absence of Violence (PSAV)	-0.285204	-0.096410
F-Bounds Test		
Test Statistic	Value	
F-statistic	9.454747*	

Error Correction Term	
CointEq(-1)	-1.2204**
R ² = 0.8560, Adj. R ² = 0.7967	Durnin-Watson = 2.58
Serial Correlation Results	
Breusch – Godfrey Test	Prob. Chi-square 0.055
Heteroskedasticity Test	
Breusch-Pagan-Godfrey	Prob. Chi-square 0.584
*** represent 5% while ** represent 10% level of significance	
Dependent Variable: Final Household Consumption Expenditure (FHCE)	

The results from the Vector Error Correction Model (VECM) estimate reveal important short-run and long-run dynamics affecting Final Household Consumption Expenditure (FHCE). The constant terms (C) are significantly negative in both short-run (-12.95242) and long-run (-10.61322) models, serving as intercept adjustments. Total Population (TP) shows a strong and statistically significant positive effect on FHCE, with coefficients of 3.342475 in the short run and 2.738827 in the long run, indicating that increases in population correspond to higher household consumption both immediately and over time. The Corruption Perception Index (CPI) exhibits a significant negative short-run impact (-0.443092), while its long-run coefficient is negative but not statistically significant (-0.002574), suggesting that higher perception of corruption adversely affects household consumption in the short term, but this effect diminishes over time. Political Stability and Absence of Violence (PSAV) coefficients are negative but not statistically significant in both periods, indicating no strong effect on consumption. The F-Bounds Test produces a significant F-statistic value of 9.454747, supporting the presence of a cointegrating (long-run equilibrium) relationship among the variables. The Error Correction Term (CointEq(-1)) is negative and highly significant (-1.2204), confirming the system's tendency to correct deviations from long-run equilibrium at a relatively rapid speed after short-run shocks. The model explains a substantial portion of variance in household consumption, with R² = 0.8560 and adjusted R² = 0.7967, and diagnostic checks support model adequacy as indicated by the Durbin-Watson statistic of 2.58 (implying no autocorrelation), and non-significant Breusch-Godfrey (p=0.055) and Breusch-Pagan-Godfrey tests (p=0.584) that suggest absence of serial correlation and heteroskedasticity, respectively.

These findings align with existing literature, which similarly reports total population as a key driver of household consumption expenditure (Bonsu & Muzindutsi, 2017; Mishra et al., 2015). The short-run adverse effect of corruption on consumption repeats Canning & Pedroni (2008), who note that corruption can introduce economic uncertainty and reduce consumer confidence. The strong error correction term suggests swift reversion to equilibrium consistent with studies on household consumption dynamics (Mishra et al., 2015; Monirul Alam et al., 2018). The insignificance of political stability aligns with mixed findings in previous research, reflecting possible contextual variations in governance impact on consumption behavior.

Overall, the results substantiate a robust long-term equilibrium relationship where population growth drives consumption increases, while governance-related variables have more nuanced short-term effects. The model diagnostics affirm the reliability of these insights for policy formulation aimed at enhancing household consumption through demographic considerations and anti-corruption measures.

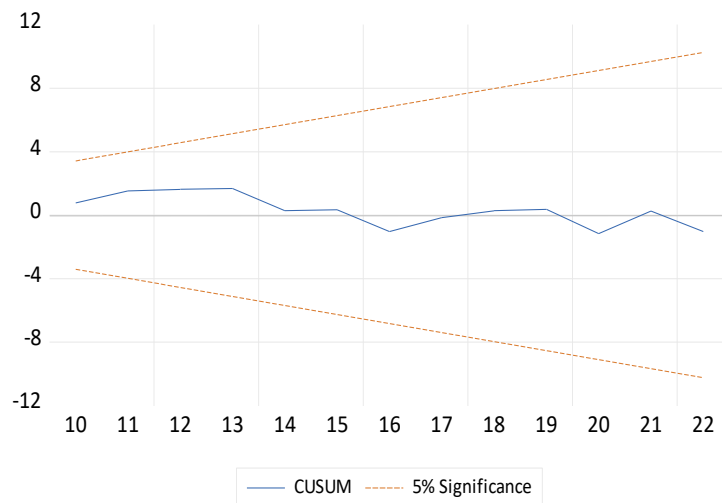


Figure 2. CUSUM Test

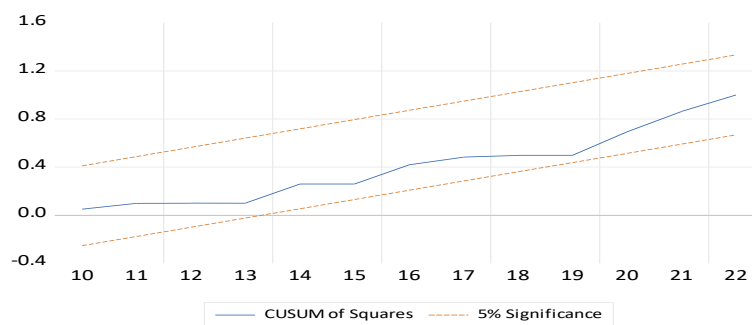


Figure 3. CUSUM Square Test

3.2 Discussion

The empirical analysis in this study firmly substantiates that corruption, political instability, and strained socioeconomic factors exert considerable downward pressure on Pakistan’s living standards—an outcome that both adheres to established theories and mirrors a broad spectrum of recent and classic literature. The data, to put it plainly, reveal a consistently negative and highly significant association between the prevalence of corruption and household consumption rates. In other words, the more deeply rooted the corruption, the less purchasing power families have. This finding is directly aligned with the work of Shabbir and Anwar (2007), who provided empirical proof that systemic corruption actively impedes access to public resources, undermines the effectiveness of public programs, and outright deters productive investment, especially within vulnerable and low-income segments of the population. Not only is access to essential services diminished, but capacity for socioeconomic mobility is also severely restricted, creating a vicious cycle that is incredibly difficult to break.

Additionally, corroborating findings from Chetwynd et al. (2004), as well as the more recent assessment by Guo & Wang (2024), this research clearly demonstrates that surging corruption levels systematically erode the overall quality of life. The principal mechanisms at play involve unequal allocation of resources—so-called “elite capture”—and institutional failures that leave everyday citizens marginalized. These empirical realities are echoed and reinforced by Raza Bukhari et al. (2022), who made it abundantly clear that entrenched corruption in Pakistan siphons funds away from critical sectors such as education, healthcare, and core infrastructure.

The consequences of this misallocation are disproportionately endured by underprivileged communities, compounding already severe challenges related to poverty, health, and upward mobility. This study validates and elaborates upon these observations, providing up-to-date evidence from household-level data.

Political instability emerges as another salient driver of deteriorating living standards. Echoing the original work of Batool & Sieg (2012), this study underlines how frequent fluctuations in political leadership, sporadic civil unrest, chronic uncertainty, and deficient governance structures constrain the government's capacity for consistent policy implementation and long-term economic planning. The inability to maintain stable institutional structures results in failed policy follow-through and suboptimal growth trajectories. Shakoor (2022) further advances the argument that repeated power vacuums and declining trust in public institutions degrade the government's legitimacy, effectively crippling its ability to serve broad public interests. The present study's findings are congruent with—indeed, an expansion of—this narrative, providing empirical support that instability at the macro-political level feeds directly into household-level deprivation.

Another important dimension illuminated here involves demographic pressures—namely, general population growth and high urban density. The current findings amplify Mehdiapanah's (2023) warning that rapid, unplanned urbanization, when combined with ambiguous governance mechanisms, leads to substantial downstream problems: urban housing crises, deficient sanitation, severe infrastructural bottlenecks, and pronounced social inequalities. These issues are not mere abstractions; in cities like Karachi and Lahore, they translate to overcrowded living conditions, persistent informal settlements, and overburdened public utilities that cannot keep pace with demands. This research reinforces that the governance system's shortcomings are magnified under the increasing weight of urban populations—effectively transforming policy failures into everyday crises for city dwellers.

Crucially, where earlier studies may have treated variables like corruption and political instability in isolation or downplayed their interactive effects, the methodology here synthesizes multiple institutional and structural factors to depict a more nuanced—and frankly, more accurate—portrait of the real-world mechanisms behind declining living standards. This integrated approach allows for a multi-layered analysis that captures the complex feedback loops between macro-level governance failures and micro-level household outcomes. To illustrate, even as Lewis (2017) highlighted the sweeping negative consequences of widespread corruption on institutional trust, the present study advances this dialogue by directly correlating these adverse institutional dynamics with tangible outcomes—i.e., household-level consumption and welfare—leveraging robust indicators such as the Corruption Perceptions Index (CPI) and Political Stability and Absence of Violence (PSAV) measures.

Collectively, these findings substantiate a growing scholarly consensus: effective anti-corruption interventions, the enhancement of political accountability, and the implementation of targeted socioeconomic policies are not simply beneficial—they are essential for advancing living standards, particularly within emerging economies marked by fragile institutional ecosystems. The results emphasize the imperative to strengthen governance quality, improve public sector transparency, and fortify legal and regulatory frameworks if Pakistan is to address both the symptoms and the root causes of entrenched poverty and socioeconomic inertia. Without substantive reforms across these domains, efforts to uplift the general populace will remain stymied by the very structural impediments this research has so clearly documented.

4. Conclusion

The application of the blue economy principles, particularly those emphasizing natural resource efficiency, has demonstrated positive results. Key performance indicators across the board have been met, evidencing an effective strategy so far. That being said, future implementation could

be fine-tuned for greater impact, especially regarding tourist activities. For example, the provision of comprehensive facilities—such as clearly visible signage and informational boards outlining the specific rules and protocols for snorkelling and diving—would be beneficial. This ensures that tourists entering the area are not only aware but fully understand the operational guidelines, which could potentially lead to a reduction in accidental or uninformed breaches of conduct. Enhanced educational outreach and briefing sessions prior to activities might also be considered to further embed responsible behaviour among visitors.

Moving to the zero-waste principle, its incorporation has produced considerable benefits as well. Waste minimization targets have largely been achieved, and efforts to repurpose waste materials generated from tourism—turning them into economically valuable products—highlight the feasibility and scalability of circular economy practices within the blue economy framework. Nonetheless, on-the-ground observations reveal persistent challenges: a subset of individuals, including both tourists and small and medium enterprise (SME) operators, continue to engage in littering, which directly undermines the environmental and aesthetic quality of the destination. This not only has ecological repercussions but could also detract from the area's overall attractiveness to future visitors.

To address this persistent issue, more rigorous management interventions are required. For example, the distribution of disposable or reusable trash bags to all tourists on arrival serves as a practical preventive measure. Furthermore, imposing temporary suspensions or sanctions on SME operators found violating waste management rules sends a clear compliance signal. Consistently enforcing such policies not only promotes better behaviour among all stakeholders but reinforces the destination's commitment to sustainable tourism and the core tenets of the blue economy. Ongoing monitoring and periodic reviews of policy effectiveness should also be implemented to adaptively manage compliance and tackle emerging challenges as operational realities evolve.

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