Data Science in Finance and Economics

DSFE, 5(4): 557–576.
DOI: 10.3934/DSFE.2025022
Received: 11 March 2025
Revised: 01 October 2025
Accepted: 12 November 2025
Published: 15 December 2025

https://www.aimspress.com/journal/dsfe

Research article

Public trust and political landscape in Pakistan: Consumers' behavior through the lens of economic turbulence

Jawad Saleemi*

Finance Department, Westminster International University in Tashkent, Uzbekistan

* **Correspondence:** Email: jsaleemi@wiut.uz; Jasa1@doctor.upv.es.

Abstract: This study elucidates the nuanced relationship between consumer confidence and economic indicators, particularly amidst political instability. Prior to political uncertainty, consumer confidence reflected positive economic trends. However, political turmoil triggered a decline in confidence due to economic deterioration, inflationary pressures, and rising financing costs. The Prime Minister's disqualification due to corruption charges further eroded public trust and diminished economic activity. Post-pandemic, skepticism regarding the state's ability to address economic challenges has weakened confidence in governmental institutions and policies. Such insights are indeed crucial when evaluating consumer sentiment and its implications for market behavior.

Keywords: political upheaval; economic turbulence; consumers' confidence; market behavior

JEL Codes: D12, H12, D91

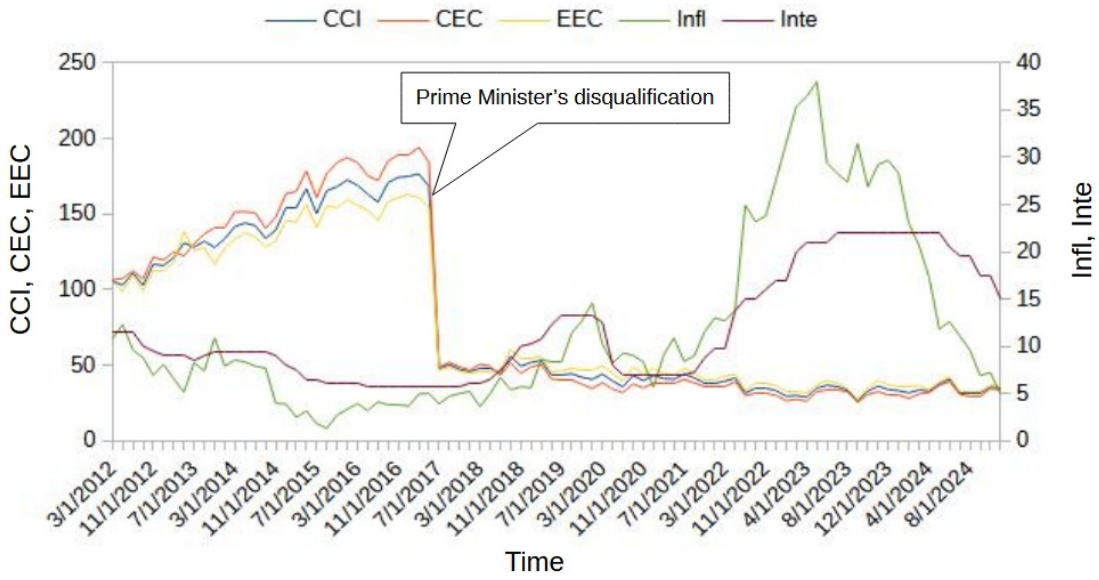
1. Introduction

Pakistan is currently facing significant political uncertainty, stemming from economic challenges, governance deficiencies, and social instability. This uncertainty is exacerbated by recurring political crises, which are eroding public trust and undermining the legitimacy of governmental institutions. Frequent leadership changes and allegations of corruption further contribute to this instability. The disqualification of former Prime Minister Nawaz Sharif in 2017, due to corruption allegations, triggered political turbulence and fragmentation, thereby impeding comprehensive economic reforms.

Political instability and a lack of transparency, exemplified by the Prime Minister's removal, have deterred foreign direct investment in Pakistan. This unpredictability has reduced investment inflows in key sectors, hindering economic expansion and resource allocation for development projects. Consequently, deferred public investment has decreased economic growth, exacerbated youth unemployment, and strained social services. Furthermore, instability has complicated negotiations for international loans and aid, placing Pakistan in a precarious position with institutions prioritizing stable governments.

Pakistan's economy is currently challenged by high inflation, currency depreciation, and increasing debt, leading to public discontentment and protests against the government's perceived ineffective policies. Political polarization, intensified by the ousting of Prime Minister Imran Ahmed Khan Niazi and subsequent power struggles, hinders long-term economic reforms, as political factions prioritize short-term survival. The historical influence of the establishment over civilian leaders complicates governance, while concerns regarding the judiciary's accountability and systemic inefficiencies further erode public trust in state institutions.

The Consumer Confidence Index (CCI) is a technique that gauges the overall trust of consumers in the economic performance of a country (Acuña et al., 2020; Caleiro, 2021). It reflects overall perceptions of financial standing, job prospects, and economic outlook. Derived from surveys on income, employment, and spending expectations, a rising CCI signals economic optimism and potential growth. Conversely, a declining CCI suggests pessimism and possible slowdown. Economists, policymakers, and investors monitor CCI fluctuations for insights into the economic trends (Matošec and Obuljen Zoricic, 2019).



Note: Consumer Confidence Index: CCI; Current Economic Conditions: CEC; Expected Economic Conditions: EEC; Inflation: Infl; Interest rate: Inte.

Figure 1. Graphical demonstration of variables.

Pakistan's economy is presently confronting considerable challenges, chiefly stemming from elevated inflation rates, which have eroded consumer purchasing power. The rising living expenses are forcing individuals to curtail discretionary spending, leading to a decline in consumer confidence. This phenomenon is shown in Figure 1, which illustrates a prevailing sense of unpredictability about

personal financial situations and economic prospects. Political instability can further exert a significant influence on economic behavior by cultivating uncertainty, diminishing public trust in governmental institutions, and promoting increased saving at the expense of immediate spending. These factors can collectively impede economic growth and development.

This study examines the impact of a Prime Minister's disqualification, primarily resulting from corruption charges, on public trust. Allegations of corruption against leadership figures may introduce economic uncertainty, potentially dampen consumer spending, and slow economic activity. The Prime Minister's disqualification heightened concerns regarding the integrity of political and legal institutions, as public perception of institutional corruption can erode confidence in the system. The erosion of confidence can have an authoritative role in spending and investment behavior.

The CCI is a critical metric for policymakers in evaluating the economic landscape. In instances where consumer sentiment declines due to political occurrences, such as the disqualification of a Prime Minister, strategic policy measures may be necessary to rebuild trust in the economy. A sustained decline in consumer confidence can lead to persistent economic difficulties. Consequently, an examination of consumer sentiment following the Prime Minister's disqualification is of paramount importance for comprehending its effects on Pakistan's economy. Such analysis can reveal the ways in which political instability influences consumer behavior and help identify potential informing strategies to promote public trust.

The remainder of this work is arranged as follows: In Section 2, the study provides a brief overview of the literature. Section 3 discusses the empirical frameworks, while Section 4 presents and discusses findings. Finally, Section 5 concludes the work with recommendations for future research.

2. Review of literature

North's (1991) definition of institutions as formal and informal norms structuring individual interactions has been widely adopted in economics. Acemoglu et al. (2005) further refined this definition by considering the interplay between economic institutions, political power, and political institutions. The dynamic interactions among these elements not only drive the evolution of institutions but also account for the reciprocal impact of economic conditions on institutional development.

Economic institutions profoundly shape societal incentives and resource allocation. These institutions exert a significant influence on economic performance and the distribution of wealth within a society. The distribution of political power among groups with conflicting interests is a critical determinant of a society's economic institutions. Unequal distribution of political power can lead to institutions that favor specific groups, potentially resulting in inefficiencies and inequities. Political institutions serve as the framework through which political power is distributed among various groups within a society. These institutions are intrinsically linked to the fundamental characteristics of a government and the overall design of its constitution, shaping the political landscape and influencing policy outcomes.

Institutions exert a significant influence on both individual and collective attitudes, shaping individual choices and fostering expectations regarding the behavior of others within a shared societal context (Acemoglu et al., 2005). While institutions inherently constrain behavior, these constraints can paradoxically unlock novel opportunities, enabling choices and actions previously unattainable. Consequently, a substantial body of economic literature has focused on evaluating the impact of institutions on various dimensions of economic development (Acemoglu et al., 2014; Donges et al., 2023).

Perry's (2021) study highlighted the detrimental effects of diminished institutional trust, particularly within developing nations. In these contexts, institutional trust is not merely a desirable attribute but a critical component for the successful consolidation of democratic governance. The erosion of such trust, as observed in post-colonial African regimes, can precipitate democratic backsliding and potentially lead to a resurgence of authoritarian systems. This underscores the importance of cultivating and maintaining institutional trust as a safeguard against political instability in emerging democracies.

(Chuah et al., 2020) highlighted the pervasive issue of corruption within developing countries as a significant factor impacting public trust. Their research suggested that widespread corruption erodes confidence in public institutions. This phenomenon precipitates a pervasive perception among citizens that state resources are not being utilized for the collective benefit but rather are being illicitly diverted for the personal enrichment of individuals in positions of power. Such a perception can have far-reaching consequences on economic development (Mattes and Moreno, 2018).

Consumer confidence serves as a key indicator of economic sentiment, influencing spending habits and, ultimately, gross domestic product (Matošec and Obuljen Zoricic, 2019). Fluctuations in the CCI can signal impending shifts in economic conditions, prompting stakeholders to prepare for potential economic contractions or expansions. Consequently, the CCI functions as a valuable instrument for various stakeholders within the economic ecosystem and is closely observed by policymakers, investors, and economists alike.

Paradiso et al. (2014) revealed a positive long-term correlation between the CCI, inflation rates, and interest rates, particularly when accounting for significant political events. Their research further elucidated an asymmetrical response by consumers to varying disequilibrium errors. This behavior aligns with the psychological bias perspective commonly observed and analyzed within the field of consumer behavior. The analysis suggests that psychological factors play a crucial role in shaping reactions to economic signals.

Eyuboglu and Eyuboglu's (2018) study on Turkey provided evidence that the CCI is an indispensable tool for policymakers. Their findings emphasize the CCI's crucial function in informing policy decisions and improving the precision of economic predictions. Consequently, the study reinforced the need to carefully monitor consumer sentiment as a significant indicator of economic trends and potential future outcomes.

Matošec and Obuljen Zoricic (2019) investigated the interplay between consumer confidence and macroeconomic performance. Their analysis, incorporating the CCI alongside data on consumption, GDP, and savings, demonstrated that the CCI Granger-causes these key macroeconomic variables. This finding implies that fluctuations in consumer confidence, as reflected by the CCI, exert influence on subsequent changes in consumption levels, GDP growth, and savings behaviors. Consequently, the research underscores the value of tracking consumer sentiment as a leading indicator for broader economic developments.

Acuña et al. (2020) established a statistically significant positive correlation between the CCI and consumer spending, indicating that higher consumer confidence levels are associated with increased consumption. This finding positions the CCI as a potentially useful metric for predicting consumer behavior and broader economic trends. Similarly, Juhro and Lyke (2020) found that consumer confidence is a significant predictor of consumption growth within the Indonesian economy, even when accounting for traditional predictors such as labor income, stock prices, and interest rates. These studies collectively emphasize the importance of consumer confidence as an indicator of economic activity.

Ghosh (2021) explored the relationship between consumer confidence, consumer spending, and macroeconomic variables in Brazil. The study revealed asymmetric effects of consumer spending on the CCI. Short-term interest rates also exhibited negative asymmetries with the CCI. Conversely, unemployment rates, stock market performance, and interest rates positively influenced the CCI in the long run. These findings underscore the intricate and diverse determinants of consumer sentiment within the Brazilian economic landscape.

Aberu's (2023) research provides valuable insights into the drivers of consumer confidence, focusing on the impact of key macroeconomic variables. The study revealed that inflation and economic growth exert a statistically significant positive influence on consumer sentiment. This suggests that periods of rising inflation and economic expansion are associated with increased consumer confidence, highlighting the complex interplay between macroeconomic conditions and consumer behavior.

Trang and Hang (2023) investigated the influence of public governance on the relationship between consumer confidence and stock market indices in middle-income countries. The research demonstrated a notable positive correlation between effective public governance and consumer confidence, particularly in high-middle-income economies. However, this effect was not observed in low-middle-income economies. The authors' findings highlight the importance of governmental accountability in establishing a stable political environment, which is crucial for stimulating economic growth, bolstering investor confidence, and improving stock market investment results.

Durrani et al. (2023) examined the influence of political and economic factors on consumer confidence within Pakistan. Their findings indicate that political events, policy shifts, and the effectiveness of governmental actions exert a considerable influence on consumer trust and economic perceptions. The research emphasizes the pivotal function of consumer confidence in determining purchasing patterns, saving rates, and investing choices. Therefore, it is essential for policymakers to focus on strengthening political stability and improving economic conditions to enhance consumer confidence.

Saleemi's (2023) article explains the complex role of rumors in shaping political outcomes. The research argues that emotionally resonant narratives, aligning with pre-existing beliefs, gain traction and subsequently influence public opinion and governance. The author urges greater scrutiny of misinformation and advocates for policies to monitor its spread, particularly within Pakistan. The study concluded a scholarly investigation into the impact of rumors on democratic processes.

Extensive research links consumer confidence to the macroeconomic factors. This association is also reasonably explored within the domain of a political environment. However, a gap remains concerning contemporary public trust in the political system, particularly following the Prime Minister's disqualification for corruption. The present research addresses this gap by examining the repercussions of such events on public sentiment. Meanwhile, it also contributes further to the discourse on consumer behavior by analyzing economic sentiment alongside key economic indicators. The analysis offers a comprehensive understanding of how political developments impact public perception and behavior within the economic sphere. Furthermore, the outcomes can enrich the discourse on governance and trust within the region.

A discernible gap in the existing literature motivates the subsequent testable hypotheses.

Hypothesis 1 (H1): A decline in present household financial stability, negative economic outlook, and reduced purchasing power correlate with decreased consumer confidence, especially within an environment of political instability. This proposes a direct relationship between prevailing economic conditions and consumer sentiment under specific political conditions.

Hypothesis 2 (H2): Pessimistic future expectations concerning household finances, the economic climate, and employment prospects correlate with a reduction in consumer confidence, especially during periods of political instability. This assertion provides a basis for empirical testing to ascertain the relationship between these variables.

Hypothesis 3 (H3): Rising inflationary pressures and increased financing costs are associated with diminished consumer confidence. This association is particularly hypothesized in a climate of political unrest and suggests that adverse economic factors exacerbate the impact of political instability on consumer attitudes.

Hypothesis 4 (H4): The disqualification of the Prime Minister due to corruption allegations precipitates a decline in both public trust and economic activity. This hypothesis suggests a direct correlation between leadership integrity, societal confidence, and economic stability. The removal of the Prime Minister under such circumstances is theorized to undermine faith in governance and negatively impact economic development.

3. Materials and methods

This study utilizes secondary data from a comprehensive household survey conducted by the State Bank of Pakistan (SBP) between March 1, 2012, and November 1, 2024. The survey, initiated prior to January 2023 with a bi-monthly cadence during the first half of odd-numbered months, has since transitioned to a monthly administration. A single-stage stratification design, based on geographical region, ensures proportional representation across all demographic segments. Employing a rotating panel methodology, the survey revisits 33% of respondents from six months prior, with the remaining 67% constituting newly selected households.

3.1. Construction of the consumer confidence index

The Consumer Confidence survey results are presented as a Diffusion Index (DI), which reflects the overall sentiment of respondents regarding specific survey aspects. The survey questionnaire provides five response options for each question, allowing participants to express a range of viewpoints as presented in Table 1.

Table 1. Allocated scores based on each response.

Sr. No.	Viewpoints	Allocated score
(a)	SI = Significant improvement	1
(b)	I = Improvement	0.5
(c)	N = Neutral	0
(d)	D = Deterioration	-0.5
(e)	SD = Significant deterioration	-1

The diffusion index is calculated through a two-step process. Initially, a net response (nr) is computed based on predetermined set of options. This initial calculation serves as the foundation for the subsequent steps in determining the overall index value.

$$nr = (1 * SI) + \left(\frac{1}{2} * I\right) + \left(\frac{-1}{2} * D\right) + (-1 * SD) \quad (1)$$

The DI, as constructed in Equation (1), is used to analyze the responses.

$$Diffusion\ Index = \frac{(100+nr)}{2} \tag{2}$$

The Diffusion Index serves as a quantitative measure of sentiment, with a scale ranging from 0 to 100. A value of 50 represents a neutral outlook, 100 defines an extreme level of confidence, and 0 indicates no confidence.

DI $>$ 50: Suggests a prevalence of positive sentiments. Thus, positive views outweigh negative views.

DI $<$ 50: Denotes a dominance of negative sentiments. This signifies that negative views are more prominent than positive views.

DI $=$ 50: Positive opinions and negative opinions are balanced.

The DI offers a concise and effective approach for gauging participants' opinions and sentiments. By aggregating individual responses into an interpretable metric, the DI effectively captures the overall direction and breadth of sentiment within a group. This aggregated view provides an efficient identification of prevailing trends and shifts in opinion.

The consumer confidence index is derived from two sub-indices: the Current Economic Conditions (CEC) Index and the Expected Economic Conditions (EEC) Index. Table 2 illustrates the construction of sub-indices, which are derived from the specific survey data. These sub-indices are tailored to the parameters of the survey, enabling a focused analysis of the collected information. The CEC index reflects present concerns regarding household finances, national economic conditions, and durable goods purchasing power relative to the past 12 months. Conversely, the EEC Index gauges household expectations for their financial situations, the economic environment, and unemployment trends over the subsequent 23 months. The CCI, as the average of these two indices, provides a holistic outlook on consumer sentiment.

Table 2. Survey questionnaires.

Index	Questionnaires
CEC	✓ Prevailing financial position of your family relative to the last 12 months. ✓ Current economic situations relative to the last 12 months. ✓ Prevailing purchasing power ability for durable goods relative to the last 12months.
EEC	✓ Expectations about your family's financial situation over the next 12 months. ✓ Anticipation of the overall economic outlook over the next 12 months. ✓ Expectations about employment opportunities over the next 12 months.

3.2. Benchmark models

3.2.1. Multiple linear regression (MLR)

The analysis begins with Equation (3), which models consumer confidence as a linear function of present and expected economic situations. This formulation offers valuable insights into how consumers perceive the current and anticipated economic landscape.

$$CCI_t = \alpha + \gamma_1 CEC_t + \gamma_2 EEC_t + \epsilon_t \tag{3}$$

Subsequently, Equation (4) investigates consumer confidence as a linear function of inflation and interest rate. This reveals consumers' behavior in response to time-varying inflation and borrowing costs.

$$CCI_t = \alpha + \eta_1 Infl_t + \eta_2 Inte_t + \epsilon_t \quad (4)$$

where $Infl_t$ reflects the inflation rate of day t, and $Inte_t$ indicates the borrowing cost of day t.

3.2.2. Bayesian theorem analysis

Bayesian methodology further enhances the robustness of linear regression results through the incorporation of prior knowledge. Therefore, this approach offers a more comprehensive assessment of model uncertainty and the credibility of estimated parameters. Equation (5) employs the Bayesian Theorem to determine the posterior probability of consumer confidence based on current and expected economic conditions. This equation models a probable occurrence of consumer confidence, taking into account the validity of economic conditions.

$$p(CCI|CEC, EEC) = \frac{p(CEC,EEC|CCI)p(CCI)}{p(CEC,EEC)} \quad (5)$$

where $p(CCI|CEC, EEC)$ represents a probable occurrence of consumer confidence in response to prevailing and anticipated economic conditions; $p(CCI)$ represents the likelihood that consumer confidence is indeed a valid measure of economic sentiment; $p(CEC, EEC)$ posits that the existing and expected economic conditions are accurate representations of the economic landscape; and $p(CEC, EEC|CCI)$ indicates the probability of existing and anticipated economic conditions by conditioning the analysis on the assumption that consumer confidence is true. Equation (5) purportedly provides a tool for economists and policymakers to better anticipate the economic landscape driven by consumer sentiments.

Equation (6) elucidates the conditional probability of consumer confidence in response to key macroeconomic indicators, including inflation and interest rates. This probabilistic approach anticipates consumers' behavior in light of prevailing living and borrowing costs. Therefore, the analysis enables more informed decision-making and policy design.

$$p(CCI|Infl, Inte) = \frac{p(Infl,Inte|CCI)p(CCI)}{p(Infl,Inte)} \quad (6)$$

where $p(CCI|Infl, Inte)$ suggests a conditional probability of consumer confidence based on the economic indicators, such as inflation and interest rates; $p(CCI)$ states the plausibility of consumer confidence being true; $p(Infl, Inte)$ represents the probability of economic indicators being accurate; and $p(Infl, Inte|CCI)$ considers the plausibility of economic indicators by conditioning the analysis on the assumption that consumer confidence is accurate.

4. Analysis and discussion

Table 3 presents descriptive statistics, indicating a positive skewness and platykurtic distribution. Data points are concentrated to the right of the mean, with fewer extreme outliers. The distributional characteristics suggest significant deviations from normality, which is further supported by the Shapiro–Wilk test's rejection of the normality hypothesis. Consequently, the dataset may contain extreme values, resulting in a flattened or steep distribution profile.

The economic landscape of Pakistan, as illuminated by Figure 1, reveals a concerning decline in consumer confidence. This erosion may be a reflection of prevailing economic conditions, anticipated future challenges, elevated inflation, and escalating interest rates. The conviction of the Prime Minister

on corruption charges further seems to be a significant catalyst in this trend. This study takes the disqualification of the Prime Minister as a pivotal event to analyze the interplay between consumer confidence and economic realities.

Table 3. Summary of descriptive statistics.

Variables	CCI	CEC	EEC	Infl	Inte
Median	44.195	40.840	46.640	8.400	9.500
Mean	77.334	79.009	76.079	11.827	11.801
Std. Deviation	53.019	59.107	47.674	9.330	5.740
Skewness	0.7360	0.7744	0.6982	1.2807	0.7133
Kurtosis	1.8086	1.8945	1.7331	3.4619	2.0429
Shapiro–Wilk	0.769 <0.001	0.766 <0.001	0.774 <0.001	0.814 <0.001	0.846 <0.001
Minimum	26.200	25.400	27.100	1.320	5.750
Maximum	176.510	194.070	162.610	37.970	22.00

Note: Significance level codes: *** < 0.001; ** < 0.01; * < 0.05.

4.1. Interpretation of MLR findings

Table 4 quantifies the linear associations among key variables. Before the Prime Minister's disqualification, consumer confidence showed a positive correlation with current and expected economic conditions. This finding suggests that improvements in household finances, national economic conditions, and purchasing power significantly contribute to higher consumer confidence. Likewise, optimistic household expectations concerning financial status, the economic landscape, and employment prospects tend to elevate consumer confidence levels.

Table 4. Quantification of linear association.

Variables		Estimates	p-value
Pre-conviction			
CCI	Intercept	−0.0000409	0.995
	CEC	0.4661	0.000 ***
	EEC	0.5339	0.000 ***
CCI	Intercept	231.7229	0.000 **
	Infl	−0.4571	0.687
	Inte	−10.5472	0.000 ***
Post-conviction			
CCI	Intercept	−0.0807	0.000 ***
	CEC	0.4991	0.000 ***
	EEC	0.5025	0.000 ***
CCI	Intercept	50.0531	0.000 ***
	Infl	−0.2483	0.007 **
	Inte	−0.5136	0.001 **

The absence of a statistically significant negative association between inflation and consumer confidence posits that the prevailing inflationary environment does not critically erode the consumer's decision-making process. This lack of significant impact may be due to the moderate level of inflation,

which does not substantially undermine consumer confidence. Conversely, financing costs exhibit a significant negative correlation with consumer confidence. Elevated interest rates appear to erode consumer confidence, likely due to the increased financial strain associated with expenditure financing. This inverse relationship suggests that monetary policy can significantly impact the consumer sentiment.

Despite the Prime Minister's disqualification, the positive association between consumer confidence and economic perception remains. However, this relationship is overshadowed by widespread pessimism. As depicted in Figure 1, consumer confidence exhibits a notable decrease, coinciding with a marked decline in both current and anticipated economic conditions. The erosion of consumer confidence is significantly influenced by negative perceptions surrounding household financial stability, the broader national economic environment, and the affordability of durable goods. This decline in trust is further exacerbated by pessimistic expectations regarding future household finances, the overall economic health of the nation, and employment opportunities. These interconnected factors contribute to a climate of uncertainty, leading to a reduction in consumer confidence and a subsequent reluctance to engage in economic activity.

The inverse relationship between consumer trust and key macroeconomic indicators such as inflation and interest rates warrants careful consideration. As illustrated in Figure 1, elevated levels of inflation and increased financing costs exerted a detrimental negative effect on consumer confidence. This discernible erosion in trust underscores the intrinsic sensitivity of consumer sentiment to prevailing macroeconomic conditions and exogenous economic shocks. Consequently, the judicious monitoring and proactive management of these aforementioned macroeconomic indicators are crucial for maintaining a stable and positive consumer outlook. This, in turn, is critical for fostering sustainable economic growth and overall market stability.

4.2. Interpretation of Bayesian theorem results

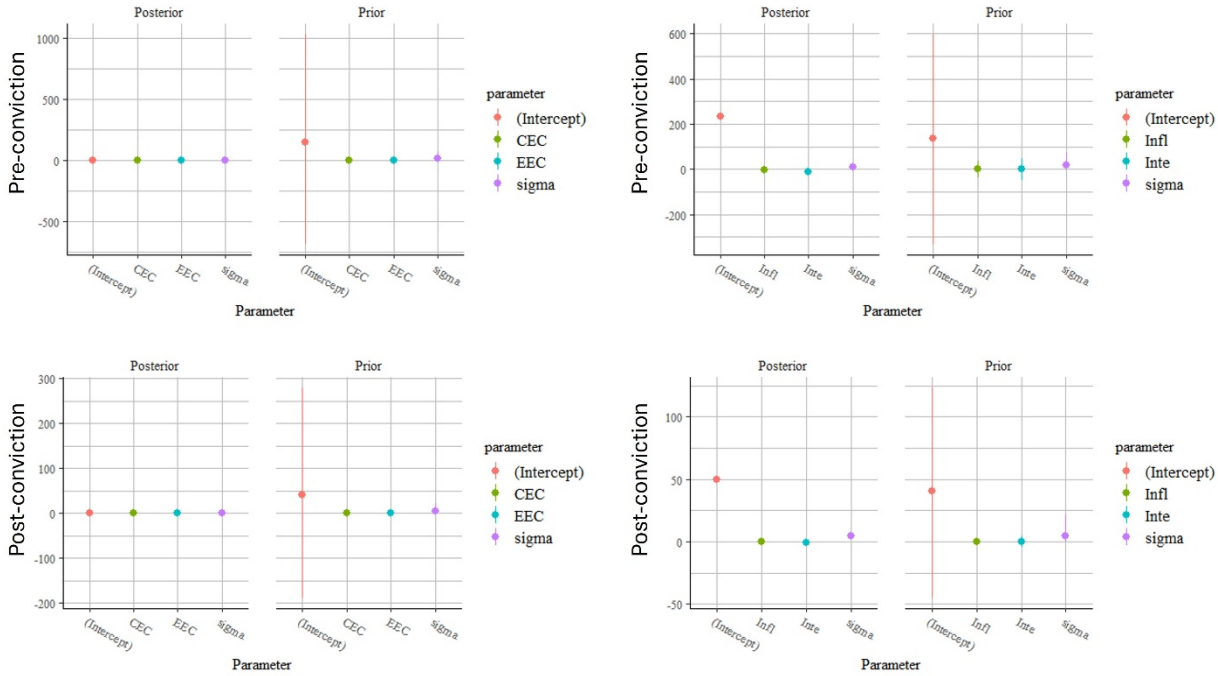


Figure 2. Posterior vs. prior illustration of parameters.

In Bayesian statistical analysis, prior and posterior distributions are central to updating beliefs about parameters with new evidence. The prior distribution reflects initial beliefs, while the posterior distribution represents revised beliefs after incorporating data. Figure 2 indicates that the prior and posterior distributions are unchanged. This finding suggests that the data provided no new information to modify the established prior beliefs. Consequently, confidence in the initial assumptions, derived from the multiple linear regression analysis, remains intact. It indicates that the observed evidence did not substantially alter the foundational understanding of the parameters under consideration.

The trace plots, depicted in Figure 3, serve as a critical assessment tool for evaluating convergence issues in the Bayesian model. The absence of breaks or substantial spikes within these plots indicates robust convergence and stability in the estimation process. Furthermore, the effective sample size (ESS) values in Table 5, all above 400, confirm the robustness of the Bayesian estimates. This, in conjunction with the trace plots analysis, demonstrates the stability of parameters and the efficacy of the Bayesian approach.

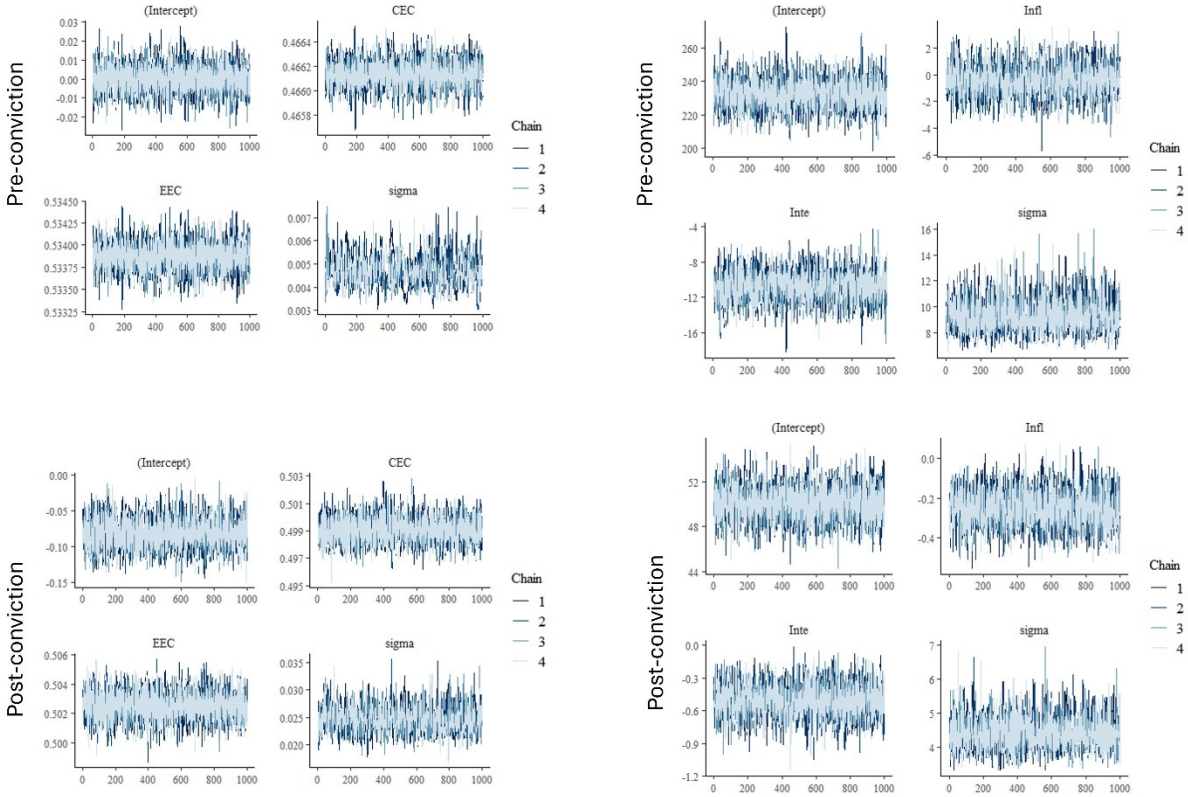


Figure 3. Inspecting convergence issues in the Bayesian model.

Table 5 meticulously delineates the posterior probability of consumer confidence in relation to the prevailing economic conditions, anticipated economic states, inflation, and interest rate. Before the Prime Minister's disqualification, a higher posterior probability of consumer confidence emergence is noted in response to the current economic realities, anticipated future perceptions, and interest rate. This suggests that improvements in household financial situations, the national economic climate, and the purchasing power for durable goods are likely to bolster consumer confidence.

Table 5. Summary of the Bayesian theorem.

Variables	Parameters	Median	PD	ESS
Pre-conviction				
CCI	Intercept	0.000193	51.18%	3806
	CEC	0.47	100%	3307
	EEC	0.53	100%	3324
CCI	Intercept	231.42	100%	2888
	Inf	−0.48	65.33%	2056
	Inte	−10.48	100%	2112
Post-conviction				
	Intercept	−0.08	100%	3870
CCI	CEC	0.50	100%	3562
	EEC	0.50	100%	3679
CCI	Intercept	50.04	100%	3924
	Inf	−0.25	99.60%	2279
	Inte	−0.51	100%	2312
Post-pandemic	Intercept	−0.10	99.40%	4320
	CEC	0.50	100%	3784
CCI	EEC	0.50	100%	3563
CCI	Intercept	44.41	100%	4143
	Inf	−0.13	97.22%	2224
	Inte	−0.39	99.88%	2377

Note: ESS, effective sample size; PD, probability distribution.

Furthermore, public trust is expected to rise in response to favorable household expectations regarding financial circumstances, the broader economic environment, and employment opportunities. As individuals face greater challenges in financing their expenditures, the rising interest rates are likely to erode consumer confidence. However, the posterior probability of consumer trust in response to inflation stands at 65.33%. This suggests that consumer confidence is less susceptible to fluctuations in inflation rates, likely due to a moderate inflationary context in an atmosphere of political stability. Thus, it results in a lesser impact on overall trust levels.

In the aftermath of the Prime Minister's disqualification, the Bayesian theorem provides a valuable lens for understanding the posterior probability of public trust formation, particularly in relation to both prevailing and anticipated economic conditions, alongside the challenges posed by elevated inflation and rising interest rates. This analysis is especially pertinent in a climate characterized by pervasive pessimism, as illustrated in Figure 1, which reveals a marked decline in consumer confidence concomitant with a significant deterioration in current economic conditions, expected economic outlooks, inflationary pressures, and financing costs.

The Bayesian data reveals a 100% positive posterior probability between consumer confidence and current economic conditions. It suggests that pessimistic opinions surrounding household financial circumstances, overall national economic climate, and the purchasing power for durable goods likely contribute to declining consumer confidence levels. This erosion of confidence can have significant repercussions for overall economic stability and growth. A higher posterior probability between consumer confidence and expected economic states indicates that consumer confidence is likely to diminish in parallel with pessimistic expectations regarding financial prospects, broader economic landscape, and employment opportunities.

Furthermore, the Bayesian analysis highlights a 100% negative posterior probability between consumer trust and macroeconomic factors. A rising inflation rate is highly likely to induce a reduction in consumer confidence. Negative posterior probability between consumer trust and interest rates suggests that rising financing costs are also likely to adversely affect consumer confidence. Therefore, economic stability and consumer sentiments are inextricably linked with a dynamic and often precarious economic environment.

The COVID-19 pandemic imposed significant challenges for governments in maintaining efficient economic activity. On March 11, 2020, the implementation of lockdowns and social distancing protocols precipitated significant disruptions. These measures triggered a contraction in supply chains, a reduction in consumer expenditure, and a rise in unemployment rates. Consequently, the global economic stability was a serious concern among policymakers.

This study delves into the potential ramifications of the pandemic on a government's capacity to effectively manage economic activities. The analysis focuses primarily on the impact of governmental inefficiencies on public trust. It seeks to evaluate the degree to which these inefficiencies contribute to a decline in consumer confidence. The assessment is crucial for understanding the broader implications of operational shortcomings within the public sector, especially post-pandemic.

In the post-pandemic environment, the Bayesian theorem further provides a useful framework for assessing public trust formation, considering prevailing economic conditions, anticipated economic outlook, inflation, and interest rates. Figure 1 highlights a prevalent pessimism, demonstrating significantly reduced consumer confidence levels subject to deteriorating economic conditions, bleak outlook, inflationary pressures, and rising financing costs.

The Bayesian analysis discloses that a higher posterior distribution of both prevailing and anticipated economic parameters is linked to a declining public trust. This suggests a prevailing pessimistic sentiment regarding the economic climate. Consequently, a decline in consumer confidence level is significantly influenced by governmental inefficiencies in economic management. It leads to an adverse outlook on household finances, economic stability, and employment prospects.

Furthermore, a higher posterior distribution of both inflation and interest rate parameters is associated with an erosion of public trust, which suggests a widespread pessimistic outlook. The pessimistic environment is driven by inflationary pressures and escalating financing costs. Consequently, this highlights governmental inefficiencies in the management of fiscal and monetary policies, which significantly undermine the public trust.

4.3. Interpretation of causal inference results

The causal inference methodology rigorously investigates the extent to which the observed association between the Prime Minister's disqualification on corruption charges and particular variables may signify a genuine cause-and-effect relationship. Such analysis is critical for accurately understanding the ramifications of the Prime Minister's disqualification. The application of causal inference technique enriches the discourse surrounding political accountability and governance within the context of corruption allegations. This facilitates a more precise and informed evaluation of the consequences.

Table 6. Summary of cause-and-effect relationship between variables.

Posterior inference causal impact	Average	Cumulative
(CCI, CEC)		
Actual	39	2190
Prediction	48	2705
95% CI	[34, 62]	[1903, 3482]
Absolute effect	−9.2	−514.7
95% CI	[−23, 5.1]	[−1292, 287.1]
Relative effect	−17%	−17%
95% CI	[−37%, 15%]	[−37%, 15%]
Posterior tail-area probability p: 0.0994		
Posterior prob. of a causal effect: 90%		
(CCI, EEC)		
Actual	39	2190
Prediction	32	1817
95% CI	[15, 49]	[853, 2720]
Absolute effect	6.7	373.7
95% CI	[−9.5, 24]	[−529.8, 1337]
Relative effect	34%	34%
95% CI	[−19%, 157%]	[−19%, 157%]
Posterior tail-area probability p: 0.2211		
Posterior prob. of a causal effect: 78%		
(CCI, Infl)		
Actual	39	2190
Prediction	86	4797
95% CI	[71, 101]	[3953, 5679]
Absolute effect	−47	−2607
95% CI	[−62, −31]	[−3488, −1762]
Relative effect	−54%	−54%
95% CI	[−61%, −45%]	[−61%, −45%]
Posterior tail-area probability p: 0.0012		
Posterior prob. of a causal effect: 99.87%		
(CCI, Inte)		
Actual	39	2190
Prediction	79	4450
95% CI	[67, 93]	[3734, 5205]
Absolute effect	−40	−2259
95% CI	[−54, −28]	[−3015, −1544]
Relative effect	−50%	−50%
95% CI	[−58%, −41%]	[−58%, −41%]
Posterior tail-area probability p: 0.0016		
Posterior prob. of a causal effect: 99.83%		

Table 6 reveals that the association between consumer trust and sentiments regarding current economic conditions remains unaffected by the observed event. Post-intervention period, the average value of the response variable is approximately 39. In the absence of any intervention, the anticipated average response would have been 48. The 95% confidence interval for the counterfactual prediction is delineated as [34, 62]. By subtracting this counterfactual estimate from the observed response, we

derive an estimated causal effect of the intervention on the response variable, which is calculated to be −9.2. This effect is accompanied by a 95% confidence interval of [−23, 5.1], indicating the range within which the true causal effect is likely to fall. Post-intervention period, the observed response variable reached an overall value of 2190. In the absence of intervention, the anticipated total is projected to be 2705, with a 95% confidence interval ranging from [1903, 3482]. In relative terms, the response variable exhibited a decrease of −17%, accompanied by a 95% confidence interval of [−37%, 15%]. While the intervention may appear to have a detrimental impact on the response variable over the entire intervention period, this observation lacks statistical significance. Thus, there is no sufficient evidence to draw meaningful conclusions regarding the interventions' efficacy. The probability of obtaining this effect by chance is p = 0.099, further supporting the notion that the effect is not statistically significant. This interpretation is reinforced by the graphical representation in Figure 4.

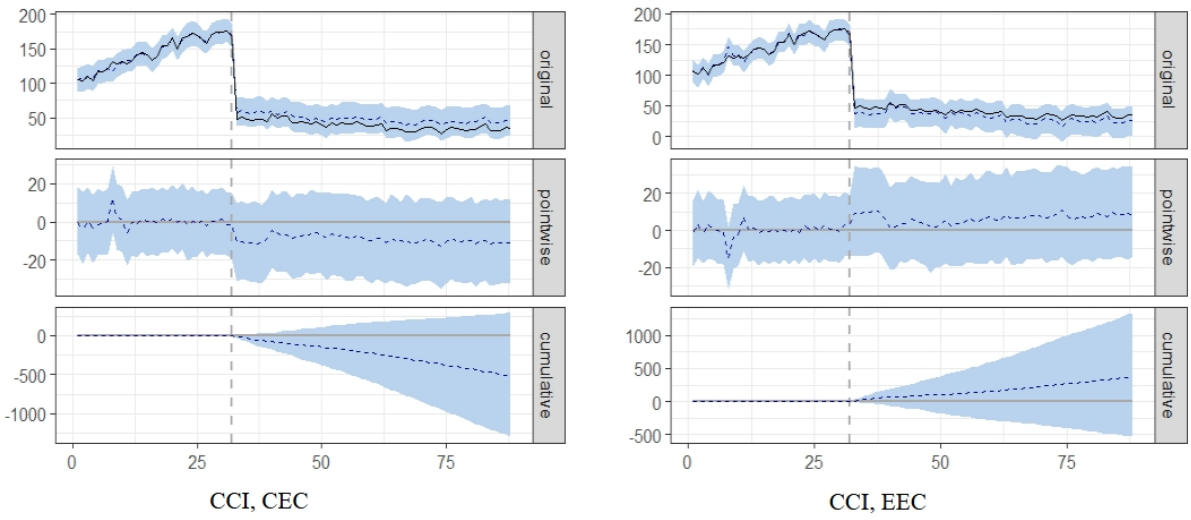


Figure 4. Cause-and-effect association between CCI and CEC or EEC.

Table 4 demonstrates that the relationship between consumer trust and sentiments concerning anticipated economic conditions is not influenced by the event in question. Post-intervention period, the average value of the response variable is approximately 39.12. In the absence of intervention, the anticipated average response is projected to be 32.44. The 95% confidence interval for this counterfactual prediction ranges from 15.24 to 48.58. The subtraction of the predicted value from the observed response provides an estimate of the causal effect that the intervention exerted on the response variable. This analysis indicates a causal effect of 6.67, accompanied by a 95% confidence interval ranging from [−9.46 to 23.88]. Such a range suggests the need for further examination to understand the intervention's true impact. Aggregating the individual data points during the post-intervention period, the response variable has an overall value of 2190. In the absence of the intervention, the anticipated sum would have been 1817, with a 95% confidence interval for this prediction ranging from [853, 2720]. The aforementioned findings are presented in absolute terms. In relative terms, the evaluation of the response variable indicates an increase of 34%. The 95% confidence interval for this change ranges from −19% to 157%. While the intervention may appear to have a detrimental impact on the response variable, this observation lacks statistical significance during the entire post-intervention period. The probability of obtaining the observed effect by chance

is quantified as p = 0.221, further supporting the notion that the effect is not statistically significant. This conclusion is further substantiated by a graphical depiction in Figure 4.

Table 6 demonstrates that the correlation between consumer trust and inflation is influenced by the particular event being analyzed. Post-intervention period, the observed average value of the response variable is approximately 39. Conversely, the expected average response in the absence of intervention is 86, with a corresponding 95% confidence interval for this counterfactual prediction ranging from 71 to 101. This significant disparity highlights the impact of the intervention on the response variable. The calculation of the causal effect of the intervention on the response variable is obtained by subtracting the predicted value from the observed responses. The resulting estimate indicates a significant negative impact, quantified at −47, with a 95% confidence interval ranging from −62 to −31. This interval suggests a robust and definitive effect of the intervention, thereby reinforcing the validity of the findings. The aggregate value of the response variable during the post-intervention period reached 2190. In the absence of the intervention, the anticipated total would have been 4797, with a 95% confidence interval ranging from 3953 to 5679. These figures are presented in absolute terms, highlighting the impact of the intervention on the measured outcomes. In relative terms, the response variable exhibited a notable decrease of −54%, with a 95% confidence interval ranging from −61% to −45%. This observation underscores the statistical significance of negative effect recorded during the intervention period. The posterior probability of this effect is 99.87% with a Bayesian one-sided tail-area probability of p = 0.001. Consequently, the causal effect can be confidently regarded as statistically significant. This conclusion is further substantiated by Figure 5, which highlights the causal impact of the event on the relationship between consumer confidence and inflation.

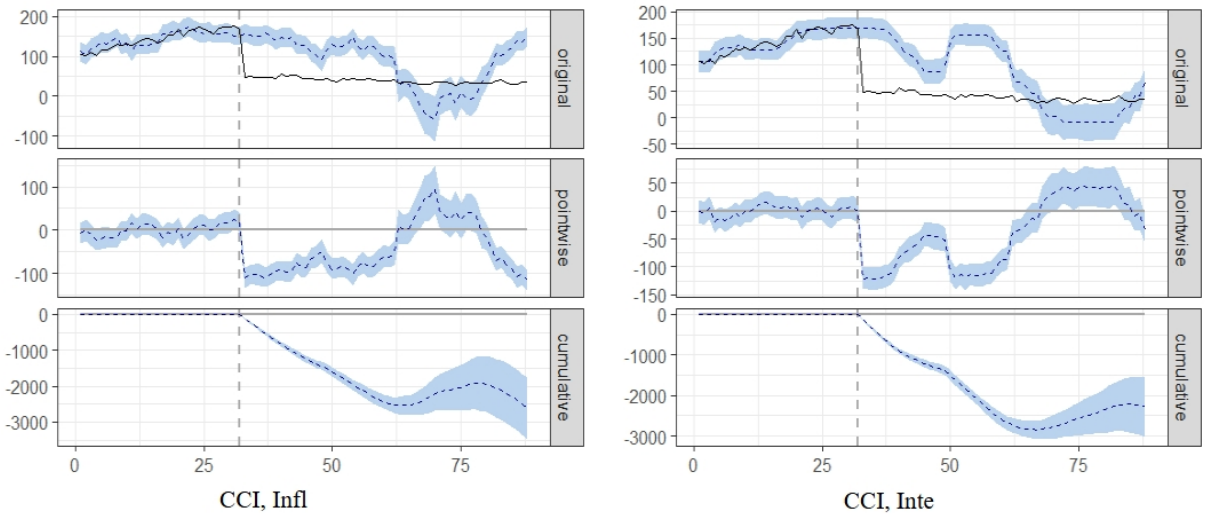


Figure 5. Cause-and-effect association between CCI and inflation or borrowing costs.

Table 6 illustrates that the correlation between consumer trust and borrowing cost is contingent upon the specific event under consideration. Post-intervention period, the observed average value of the response variable is approximately 39. However, the expected average response in the absence of intervention is 79, with a corresponding 95% confidence interval for this counterfactual prediction ranging from 67 to 93. This significant disparity highlights the impact of the intervention on the response variable. The calculation of the causal effect of the intervention on the response variable is

obtained by subtracting the predicted value from the observed responses. The resulting estimate indicates a significant negative impact, quantified at −40, with a 95% confidence interval ranging from −54 to −28. This interval suggests a robust and definitive effect of the intervention, thereby reinforcing the validity of findings. The aggregate value of the response variable during the post-intervention period reached 2190. In the absence of intervention, the anticipated total would have been 4450, with a 95% confidence interval ranging from 3734 to 5205. These figures are presented in absolute terms, highlighting the impact of intervention on the measured outcomes. In relative terms, the response variable exhibited a notable decrease of -50%, with a 95% confidence interval ranging from −58% to −41%. This observation underscores the statistical significance of the negative effect recorded during the intervention period. The posterior probability of this effect is 99.83% with a Bayesian one-sided tail-area probability of $p = 0.001$. Consequently, the causal effect can be confidently regarded as statistically significant. This assertion is further supported by Figure 5, which elucidates the causal relationship between consumer confidence and interest rate in the context of the event analyzed.

5. Conclusions

This paper aims to understand consumer confidence within the framework of prevailing economic sentiments, anticipated economic conditions, inflation, and borrowing costs, especially within the context of political instability. The investigation concentrates on the economic turmoil stemming from the Prime Minister's disqualification due to corruption allegations. By employing multivariate techniques, the study aspires to yield a nuanced understanding of these dynamics and propose measures to enhance political stability, including initiatives to bolster public trust.

The analysis highlights the complex relationship between consumer confidence and economic realities within the context of the Prime Minister's disqualification. Despite a persistent positive association, the analysis revealed a dramatic drop in consumer confidence levels. This decline is attributed to a pervasive sense of pessimism among consumers regarding the instability of household finances, future economic uncertainty, and the erosion of purchasing power. These factors have collectively undermined consumers' optimism, leading to a cautious outlook on spending and investment. The confluence of key macroeconomic factors, most notably inflation and interest rates, exerted a palpable negative influence on consumer sentiments. This illustrates the inherent fragility of confidence during periods of economic stress. Consequently, the current environment necessitates the implementation of calibrated policy measures to effectively restore and bolster confidence in the overall economic outlook.

The Bayesian theorem elucidates the intricate relationship between consumer confidence and various economic factors, especially within the context of the Prime Minister's disqualification. Findings identified the critical posterior influence of current and anticipated economic conditions on consumer sentiments, particularly in a climate of widespread pessimism. This suggests that negative economic outlooks can erode consumers' morale, which in turn would likely influence their spending habits and overall economic activity. Consequently, maintaining consumer confidence emerges as a crucial factor in sustaining economic stability and growth. The posterior negative effect of increasing inflation and borrowing costs on consumer sentiments underscores the critical need for policymakers to prioritize economic stability. Such insights are vital for navigating the complexities of consumer behavior during periods of political instability and economic uncertainty. Effective policy decisions

that address inflation and borrowing costs are essential to maintaining consumer confidence and fostering a stable economic environment.

In the post-pandemic era, the Bayesian theorem further provides a framework for understanding consumer pessimism regarding governmental management of economic growth. The probability of increased consumer pessimism rises with deteriorating economic conditions, anticipated financial strain, inflationary pressures, and escalating financing costs. This situation underscores concerns about the government's ability to effectively manage the economy and implement appropriate policies for mitigating inflationary pressures and borrowing costs. Consequently, governmental inefficiencies are demonstrably diminishing public trust. The protracted delays, bureaucratic complexities, inefficient distribution of resources, and a lack of transparency are contributing to public frustration and disillusionment. Ultimately, these inefficiencies are undermining the perception of effective governance and weakening the bond between citizens and their government.

A rigorous causal inference methodology was employed to investigate the cause-and-effect relationship between the Prime Minister's disqualification on corruption charges and economic variables. The analysis disclosed that the association between consumer confidence and sentiments regarding both current and anticipated economic conditions is not largely affected by the disqualification event. However, the aforementioned event significantly impacted the association between consumer confidence and key macroeconomic indicators, including inflation and borrowing costs. This nuanced relationship highlights the intricate interplay between political developments and economic perceptions. Consequently, a careful and contextualized interpretation of consumer confidence is necessary to fully understand its relationship with broader economic dynamics.

The aforementioned findings provide compelling evidence supporting the stated hypotheses. Specifically, data indicate that political instability engenders a pervasive atmosphere of pessimism regarding both prevailing and anticipated economic conditions. This instability further precipitates inflationary pressures and a concomitant escalation in borrowing costs. Moreover, the removal of a Prime Minister following allegations of corruption has demonstrably undermined public faith in governance, thereby exerting a detrimental impact on overall economic development.

First, a combination of carefully calibrated policies is suggested to build consumer confidence and optimism. Monetary policy should focus on maintaining price stability through adjusting interest rates, which in turn can help to control inflation and provide a predictable economic environment. Simultaneously, fiscal policy may aim to stimulate demand through targeted government spending on infrastructure projects, education, health, and renewable energy. Tax incentives for investments can further encourage economic activity. It is important that these policies are implemented in a coordinated manner and clearly communicated to the public. This may enhance their effectiveness and build trust in the government's commitment to economic stability and growth.

Second, government transparency and accountability are pivotal in enhancing consumer confidence and optimism. When governmental processes are transparent and readily accessible, citizens gain insight into decision-making, resource allocation, and policy implementation. This visibility cultivates trust, assuring consumers that their interests are being considered and protected. The accountability mechanisms ensure that government actions are responsible and ethical. This enhances consumer confidence, which in turn encourages economic activity and fosters a sense of future optimism.

In conclusion, it is incumbent upon policymakers to meticulously evaluate the prospective consequences of political events on both consumer sentiment and the overall trajectory of economic

activity. Such assessments should encompass a comprehensive analysis of potential risks and opportunities, enabling proactive measures to mitigate adverse effects and foster a stable economic environment. A nuanced understanding of these intricate relationships is crucial for effective governance and the promotion of sustainable economic growth.

While the potential economic contributions of such research are important, geographical limitations may pose difficulties in generalizing the findings across developed economies. The author delineates promising avenues for future inquiry, emphasizing the importance of examining the long-term ramifications of political shifts and psychological effects on consumer behavior. This may develop a more nuanced comprehension of the complexities inherent in household financial decision-making.

Use of AI tools declaration

The author declares he has not used Artificial Intelligence (AI) tools in the creation of this article.

Acknowledgments

The author gratefully acknowledges the insightful and constructive feedback provided by the anonymous reviewers.

Conflict of interest

The author declares no conflicts of interest in this paper.

References

Aberu F (2023) Headline Inflation and Consumers' Confidence in Nigeria. *J Ekonomi Dan Bisnis Airlangga* 33: 30–39. https://doi:10.20473/jeba.V33I12023.30-39

Acemoglu D, Gallego F, Robinson J (2014) Institutions, human capital, and development. *Annu Rev Econ* 6: 875–912. https://doi:10.1146/annurev-economics-080213-041119

Acemoglu D, Johnson S, Robinson J (2005) The rise of Europe: Atlantic trade, institutional change, and economic growth. *Annu Rev Econ* 95: 546–579. https://doi:10.1257/0002828054201305

Acuña G, Echeverría C, Pinto-Gutiérrez C (2020) Consumer Confidence and Consumption: Empirical Evidence from Chile. *Int Rev Appl Econ* 34: 75–93. https://doi:10.1080/02692171.2019.1645816

Caleiro A (2021) Learning to Classify the Consumer Confidence Indicator (In Portugal). *Economies* 9: 125. https://doi:10.3390/economies9030125

Chuah L, Loayza N, Myers C (2020) The Fight against corruption: taming tigers and swatting flies. *Research & Policy Brief No. 27. World Bank Group, Washington, DC*: 1–4. https://hdl.handle.net/10986/33171

Donges A, Meier J, Silva R (2023) The impact of institutions on innovation. *Manage Sci* 69: 1951–1974. https://doi:10.1287/mnsc.2022.4403

Durrani N, Fatima K, Ahmed J (2023) The role of economic and political factors in shaping consumers' confidence in Pakistan. *J Soc Sci Rev* 3: 718–735. https://doi:10.54183/jssr.v3i2.237

Eyuboglu S, Eyuboglu K (2018) Examining the Relationship between Consumer Confidence Index and Borsa Istanbul Sector Indices. *Dokuz Eylul Universitesi Iktisadi ve Idari Bilimler Dergisi* 33: 235–259. https://doi:10.24988/deuiibf.2018331715

Ghosh S (2021) Consumer Confidence and Consumer Spending in Brazil: A Nonlinear Autoregressive Distributed Lag Model Analysis, Arthaniti. *J Econ Theory Pract* 20: 53–85. https://doi:10.1177/0976747919898906

Juhro S, Lyke B (2020) Consumer confidence and consumption expenditure in Indonesia. *Econ Model* 89: 367–377. https://doi:10.1016/j.econmod.2019.11.001

Matošec M, Obuljen Zoricic Z (2019) Identifying the Interdependence between Consumer Confidence and Macroeconomic Developments in Croatia. *Interdiscip Descr Complex Syst* 17: 345–354. https://doi:10.7906/indecs.17.2.10

Mattes R, Moreno A (2018) Social and political trust in developing countries: sub-Saharan Africa and Latin America. *In: E. M. Uslaner (Ed.), Oxford Handbook of Social and Political Trust,* Oxford University: 357–382. https://doi:10.1093/oxfordhb/9780190274801.013.10

North D (1991) Institutions. *J Econ Perspect* 5: 97–112. https://doi:10.1257/jep.5.1.97

Paradiso A, Kumar S, Margani P (2014) Are Italian Consumer Confidence Adjustments Asymmetric? A Macroeconomic and Psychological Motives Approach. *J Econ Psychol* 43: 48–63. https://doi:10.1016/j.joep.2014.04.006

Perry J (2021) Trust in public institutions: trends and implications for economic security. *Department of Economic and Social Affairs, Policy Briefs*, 108: 1–4. https://doi:10.18356/27081990-108

Saleemi J (2023) Political-obsessed environment and investor sentiments: pricing liquidity through the microblogging behavioral perspective. *Data Sci Financ Econ* 3: 196–207. https://doi:10.3934/DSFE.2023012

Trang LX, Nga PTH. Trang L, Hang N (2023) Relationship between Consumer Confidence and Stock Market Index in Vietnam: Research Impacts of the Passion of COVID-19. *J Financ Mark* 14: 25–34. https://doi.org/10.52932/jfm.vi3.404

AIMS Press