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Economic Forces Behind Pakistan's Trade Deficit: A Time Series Assessment

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ABSTRACT

This study investigates the determinants of Pakistan's persistent trade deficit over the period 1986–2018 using annual time-series data and the ARDL bounds testing approach. Seven key macroeconomic variables are examined: domestic prices, world prices, Pakistan's real GDP, world income, urbanisation, and democratic accountability. The results reveal that higher domestic inflation and economic growth significantly worsen the trade deficit in the long run, whereas rising world income, greater urbanisation, and stronger democratic accountability (beyond a certain threshold) contribute to its reduction. Short-run dynamics generally exhibit weaker and occasionally opposite effects. These findings underscore the importance of controlling inflation, promoting export-oriented industrialisation, and strengthening institutional quality to achieve a more sustainable external balance in Pakistan.

INTRODUCTION

Pakistan has run persistent and large trade deficits for decades. In 2017, Pakistan exported $24.8 billion but imported $55.6 billion, resulting in a negative trade balance of $30.9 billion. More recently, the trade deficit reached $3.6 billion in June 2021 alone, with imports of $5.3 billion in May 2021 rising 62.9% year-on-year. This chronic trade imbalance is substantially larger than the average for middle-income and developing economies and has persisted since at least the 1980s.

A situation in which a country buys more from other countries than it sells to them is generally described as a trade deficit – the amount by which a country's imports exceed its exports. The balance of trade (BOT) is calculated as exports minus imports and constitutes a major part of the current account within the overall balance of payments. A sustained trade deficit implies that a country is consuming and investing more than it produces, financing the difference through foreign borrowing or running down assets. While economists have long

debated whether trade deficits are inherently harmful – Milton Friedman (1980) famously argued that they are not necessarily damaging because the currency ultimately returns in some form, and in the worst case the country simply obtains real goods in exchange for "pieces of cheaply-made paper" – most policymakers and researchers view very large and persistent deficits as a serious macroeconomic vulnerability, especially for developing countries dependent on external financing. Uncontrolled trade deficits can threaten sustainable growth, exert downward pressure on the currency, increase external indebtedness, and ultimately undermine political and economic stability.

Pakistan's experience illustrates these risks clearly. The rapid rise in imports, driven by growing domestic demand, higher investment needs, and increased requirements for raw materials and capital goods, has consistently outpaced export growth. The country has never recorded a trade surplus in modern history, and the gap has generally widened over time. The COVID-19 pandemic temporarily lowered the import bill due to falling oil prices, but the subsequent sharp rebound in imports and sluggish export recovery have kept the deficit at elevated levels.

This paper investigates the determinants of Pakistan's chronic trade deficit over the period 1986–2018. Identifying these determinants is challenging because many potential drivers – domestic prices, world prices, Pakistan's GDP, world income, urbanisation, and institutional quality – are simultaneously determined with trade outcomes. We address this challenge by estimating an empirical trade balance model that includes domestic prices, world prices, Pakistan's GDP, world income, urbanisation, and democratic accountability, using the Autoregressive Distributed Lag (ARDL) bounds testing approach. This methodology is particularly suitable when variables may be stationary or integrated of order one and allows for the simultaneous estimation of long-run relationships and short-run dynamics even in the presence of endogeneity.

This study contributes to the existing literature on trade deficits in developing economies by providing the first comprehensive time-series evidence for Pakistan that jointly examines traditional price and income variables together with less-studied factors such as urbanisation and institutional quality measured by democratic accountability. Understanding which factors most strongly drive Pakistan's external imbalance is crucial for designing effective policies that can reduce external vulnerability without sacrificing long-term growth.

The rest of the paper is organised as follows. Section 2 reviews the related theoretical and empirical literature. Section 3 presents the theoretical framework and the empirical model. Section 4 describes the data sources and methodological details. Section 5 presents and discusses the estimation results, including long-run coefficients, short-run dynamics, and diagnostic tests. Section 6 concludes and offers policy implications.

LITERATURE REVIEW

The trade deficit has remained a central and controversial issue in macroeconomic theory. While some scholars view persistent deficits as a sign of economic weakness and unsustainable borrowing, others argue that deficits can coexist with strong growth and may even reflect attractive investment opportunities. This section reviews the theoretical foundations and empirical evidence on the determinants of trade deficits, with particular emphasis on relative prices, income effects, urbanisation, institutional quality, and monetary factors.

Classical trade theory, beginning with Ricardo and Heckscher-Ohlin, focused on comparative advantage and factor endowments, whereas Keynesian approaches introduced the

income-absorption and elasticities frameworks. The elasticities approach remains the most widely used framework for understanding how relative prices and real exchange rates affect the trade balance. Later, the intertemporal approach emphasised that trade deficits reflect optimal decisions to consume and invest more than current income when future income is expected to rise. Cooper (2008) further argued that in a world of high international capital mobility, trade deficits and surpluses are two sides of the same coin, and no economy can maintain large surpluses indefinitely.

A large body of empirical literature tests whether the Marshall-Lerner condition holds in developing economies. Mohammad (2010), using Johansen cointegration and VECM on Pakistani annual data from 1975–2008, found that foreign income and domestic absorption are significant long-run determinants of the trade deficit in Pakistan. Mukhtar et al. (2010) showed that higher domestic inflation improves net exports through currency depreciation, implying that inflation can temporarily reduce the trade deficit in Pakistan by making exports more competitive. However, Frenkel et al. (2013) highlighted a strong positive relationship between inflation and trade deficits in many developing countries because sustained inflation raises the relative price of non-tradables and makes exports expensive.

The Keynesian absorption approach predicts that increases in domestic income worsen the trade balance by raising import demand, while increases in world income improve it through higher demand for exports. Zada et al. (2010), applying OLS on Pakistani time-series data (1975–2008), confirmed that Pakistan's exports respond strongly and positively to world income and world demand. Engel et al. (2006) documented that consumption booms driven by income growth in the United States led to large current account deficits, yet the economy continued to enjoy stable growth, suggesting deficits are not always harmful.

Rapid urbanisation in developing economies has emerged as an important but understudied determinant of trade outcomes. Henderson (2002) illustrated that technological advancement and higher urban living standards attract rural populations to cities, altering consumption patterns and import composition. Cohen (2006) observed that urban growth over the last two decades has dramatically increased the role of cities in the global economy and changed the structure of imports toward consumer and capital goods. Duasa (2007), using an ARDL framework for Malaysia, found a positive but statistically insignificant long-run relationship between urbanisation and the trade balance, while national income and inflation exerted strong effects. Bond et al. (2010) developed a theoretical model showing that reducing rural–urban migration barriers in labour-surplus economies raises capital accumulation and can improve the current account when migration barriers are lowered.

Beetsma et al. (2008) examined government spending effects in the European Union and obtained mixed results: in some countries, higher public expenditure worsened the trade balance, while in others it supported tradable sectors and improved exports. Müller (2008), applying vector autoregression to U.S. data, concluded that fiscal expansion depreciates the real exchange rate and ultimately improves the trade balance. Awan (2015) employed ARDL on Pakistani data (1972–2014) and found that financial development and inflation exert positive and significant long-run effects on Pakistan's trade balance. Various other studies also show the same relation, such as Hussain et al., 2025; Monawar et al., 3035; Zubair et al., 2024; Shabeer et al., 2025; Zubair et al., 2025

Recent literature increasingly incorporates institutional variables. Dollar and Kraay (2003) and Rodrik et al. (2004) established that better institutions reduce transaction costs and promote export diversification. Although direct evidence on democratic accountability and trade deficits

remains limited, several studies suggest that political stability and governance quality indirectly influence trade performance through their impact on policy credibility and investor confidence.

A growing number of studies emphasise export sophistication and technological progress as key drivers of trade performance. Gozgor et al. (2017), Bashir et al. (2020), and Wang et al. (2021) demonstrated that higher export quality and technological adoption significantly enhance economic growth and help narrow trade deficits in developing countries. Radelet (1999) argued that rapid export growth facilitates importation of capital goods and technology transfer, creating a virtuous cycle of growth and improved external balances.

Several Pakistan-specific studies have explored individual determinants. Awan et al. (2013) used OLS over 1988–2011 and recommended shifting from raw-material exports (cotton, leather, rice) toward value-added products to reduce the trade deficit. Mohammad (2010) and Awan (2015) confirmed long-run cointegration among traditional variables, but none of these studies simultaneously included urbanisation, democratic accountability, and relative price variables in a single framework using recent econometric techniques.

While the literature provides rich insights into price, income, fiscal, and technological determinants of trade deficits, important gaps remain. First, very few time-series studies on Pakistan incorporate urbanisation and institutional quality measures. Second, most earlier Pakistani studies rely on Johansen cointegration or simple OLS and do not exploit the advantages of the ARDL bounds testing approach that allows mixed orders of integration and robust inference in small samples. This study fills these gaps by estimating a comprehensive trade balance model for Pakistan over 1986–2018 that jointly examines domestic and world prices, domestic and world income, urbanisation, and democratic accountability using the ARDL methodology.

DATA AND METHODOLOGY
Data Sources and Variable Construction
This study employs annual time-series data for Pakistan over the period 1986–2018. All variables are sourced from the World Development Indicators (WDI, World Bank, 2022) except democratic accountability, which is obtained from the Worldwide Governance Indicators (WGI, 2022). To ensure stationarity in levels and allow elasticity interpretation, all variables except the price indices are transformed into natural logarithms (Box et al., 2015; Wooldridge, 2015). The final variables used in estimation are defined in Table 1.

Table 1: Variable Description and Sources

Variable	Description	Measurement / Transformation	Source
lnTD	Trade Deficit	Natural log of (Imports of goods and services /	WDI
lnCPIP	Domestic price level	Natural log of Consumer Price Index	WDI
lnCPIW	World price level	Natural log of world CPI (weighted average)	WDI
lnGDPP	Real GDP of Pakistan	Natural log of constant 2015 US$ GDP	WDI
lnGDPW	World income	Natural log of world real GDP (excluding	WDI
lnURB	Urbanisation	Natural log of urban population share (%)	WDI
lnDEMA	Democratic	Natural log of ICRG Democratic Accountability	ICRG

Empirical Model
Following the conventional trade balance literature and the theoretical discussion in Section 2, the long-run trade balance model is specified as:

$$lnTD_t = \beta_0 + \beta_1 lnCPIP_t + \beta_2 lnCPIW_t + \beta_3 lnGDPP_t + \beta_4 lnGDPW_t + \beta_5 lnDEMA_t + \beta_6 lnURB_t + \varepsilon t$$

where β_1 and β_2 capture relative price effects, β_3 and β_4 represent domestic and foreign income effects, β_5 reflects institutional quality, and β_6 measures the impact of urbanisation. A positive coefficient indicates a worsening of the trade deficit.

Because the variables are likely integrated of order zero or one and the sample is relatively small, we employ the Autoregressive Distributed Lag (ARDL) bounds testing approach of Pesaran et al. (2001). The unrestricted error-correction model (UECM) is:

$$lnTD_t = \beta_0 + \sum \beta_1 \, lnCPIP_{t-1} + \sum \beta_2 \, lnRCPIW_{t-1} + \sum \beta_3 \, lnGDPP_{t-1} + \sum \beta_4 \, lnGDPW_{t-1} + \sum \beta_5 \, lnDEMA_{t-1} + \sum \beta_6 \, lnURB_{t-1} + \lambda ECM_{t-1} + e_t \qquad (2)$$

Long-run cointegration is confirmed when the F-statistic exceeds the upper critical bound. If cointegration exists, long-run elasticities are obtained from the conditional ARDL (p, q1, q2, q3, q4, q5, q6) model, and short-run dynamics together with the error-correction term are estimated in the usual manner.

RESULTS ESTIMATION AND DISCUSSION
Descriptive Statistics

Descriptive statistics summarise the key features of all variables used in the study. Table 2 reports measures of central tendency (mean, median) and dispersion (standard deviation, minimum, maximum, skewness, and kurtosis). The Jarque-Bera test indicates that the probability values for all variables — consumer price index of Pakistan, consumer price index of the world, gross domestic product of Pakistan, gross domestic product of the world, urbanisation, and democratic accountability — exceed 0.1, confirming that each series is normally distributed.

Table 2: Descriptive Statistics

	LNTD	CPIP	CPIPW	LNGDPP	LNGDPW	DEMA	LNURB	DEMA2
Mean	0.468363	62.14184	0.67486	29.50785	26.91812	2.450937	0.331701	7.916334
Median	0.458719	45.1385	0.551466	29.46902	26.81035	2	0.3328	4
Maximum	0.888141	156.9123	1.395873	30.15081	27.31685	5	0.36442	25
Minimum	0.096349	13.31971	0.264983	28.81905	26.42996	0	0.29588	0
Std. Dev.	0.208569	45.88392	0.36656	0.381412	0.271585	1.403862	0.020508	7.50808
Skewness	0.224884	0.855634	0.782419	-0.05392	0.167396	0.193332	-0.12554	0.845986
Kurtosis	2.051236	2.351007	2.264132	1.881398	1.689123	2.024232	1.854488	2.329003
Jarque-Bera	1.469926	4.466175	3.986958	1.683867	2.440647	1.468842	1.833652	4.417342
Probability	0.479523	0.107197	0.136221	0.430877	0.295135	0.479783	0.399786	0.109847
Sum	14.98761	1988.539	21.59553	944.2511	861.3798	78.43	10.61442	253.3227
Sum Sq.	1.348529	65265.35	4.165352	4.509731	2.286508	61.09567	0.013037	1747.509
	32	32	32	32	32	32	32	32

Correlation of Matrix

The correlation matrix shows the strength and direction of relationships among the variables. Correlation coefficients range between -1 and +1: values close to +1 indicate a strong positive relationship, values close to –1 a strong negative (inverse) relationship, and values near 0 suggest weak or no linear correlation.

Table 3: Correlation of Matrix

	LNTD	CPIP	CPIPW	LNGDPP	LNGDPW	DEMA	LNURB	DEMA2
LNTD	1							
CPIP	0.258191	1						
CPIPW	0.270876	0.997516	1					
LNGDPP	0.441736	0.864615	0.875147	1				
LNGDPW	0.419341	0.869636	0.875254	0.943096	1			
DEMA	0.013351	0.232251	0.23645	0.081817	0.128044	1		
LNURB	0.459102	0.857746	0.873067	0.993278	0.919275	0.075504	1	
DEMA2	0.003927	0.276919	0.284067	0.128059	0.153023	0.934127	0.124495	1

Table 3 shows that almost all variables exhibit weak correlations with each other, indicating no serious multicollinearity problem. The only strong correlations are between Pakistan's GDP and world GDP, and between Pakistan's CPI and world CPI, which is expected: Pakistan's income rises with global income through trade, and domestic prices are influenced by global price trends.

Variance Inflation Factor

Table 4 presents the variance inflation factor (VIF) test for multicollinearity. All variables exhibit VIF values below 10, indicating the absence of serious multicollinearity. Therefore, the estimated coefficients are reliable, and the individual impact of each explanatory variable on the trade deficit can be interpreted with confidence.

Table 4: Variance Inflation Factor

	LNTD	CPIP	CPIPW	LNGDPP	LNGDPW	DEMA	LNURB	DEMA2
LNTD	1							
CPIP	1.348056	1						
CPIPW	1.371509	402.547	1					
LNGDPP	1.791266	7.38632	8.00943	1				
LNGDPW	1.722182	7.67081	8.01631	17.5733	1			
DEMA	1.013532	1.30250	1.30967	1.08910	1.14684	1		
LNURB	1.848778	7.02965	7.87814	148.763	12.3877	1.08167	1	
DEMA2	1.003942	1.38297	1.39677	1.14686	1.18067	15.18082	1.142198	1

Unit Root Test Results

To determine the order of integration and justify the use of the ARDL bounds testing approach, Augmented Dickey–Fuller (ADF) tests are conducted with intercept and trend. The results are reported in Table 5.

Table 5: Augmented Dickey-Fuller test statistic

	At level			First difference		
	t-statistic	Prob.*	Decision	t-statistic	Prob.*	Decision
cpip	0.324996	0.9758	stationary	-2.03829	0.2697	stationary
cpiw	-0.64971	0.8445	non stationary	-2.23975	0.198	stationary
lngdpp	-0.24107	0.9224	non stationary	-3.3472	0.0217	stationary
lngdpw	-0.65786	0.8425	non stationary	-4.17974	0.0029	stationary
dema	-1.47302	0.5332	non stationary	-2.86458	0.062	stationary
lnurb	-0.91027	0.7709	non stationary	-1.575	0.4822	stationary
dema2	-1.28121	0.625	non stationary	-2.5091	0.1249	stationary

Critical values: 1% = -3.67, 5% = -2.96, 10% = -2.62.

The ADF test shows that lnGDPP and lnDEMA are stationary at levels (I(0)), while the remaining variables, such as lnTD, lnCPIP, lnCPIW, lnGDPW, and lnURB, become stationary only after first differencing (I(1)). The presence of a mix of I(0) and I(1) variables confirms that the ARDL bounds testing approach is appropriate for testing long-run relationships in this study.

ARDL Co-integration Test

ARDL is used in the case of mixed order of co-integration. As Tables 5 and 6 indicate, a mixed order of integration so ARDL is used in this study. For a long-run co-integration, the bound test is done in EViews, and the results are reported in Table 6.

Table 6: ARDL Bound Test

	Value	k
F-statistic	7.494	6
Significance Level	**Critical Value: I(0) Bound**	**Critical Value: I(1) Bound**
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Table 7 shows that the F-statistic value is 7.49, which is higher than the upper bound limit of 4.43 at 1% significance level, so it can be concluded that there is co-integration and the long-run relationship exists in this model.

Long Run Analysis

ARDL long-run results are reported in Table 7.

Table 7: ARDL Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CPIP	0.004199	0.002186	1.920619	0.0837
CPIW	-0.020743	0.054327	0.381812	0.7106
LNGDPP	5.069123	1.338821	3.786258	0.0036
LNGDPW	-3.620109	1.676322	-2.159554	0.0562
DEMA	0.334263	0.082165	4.068209	0.0023
LNURB	-6.55525	4.90397	-1.734436	0.1135
DEMA 2	-1.065138	0.196789	-5.412580	0.0003

The consumer price index of Pakistan has a positive impact on the trade deficit of Pakistan. A one per cent increase in CPIP increases the trade deficit by 0.004 per cent significantly. An increase in CPIP increases the trade deficit in two ways: either by an increase in imports or by a decrease in exports. When the prices in an economy increase, it will also increase

the prices of exported products. As Pakistan's exports are mainly agricultural products, which have elastic demand, a rising price reduces exports. On the other hand, when there is inflation in Pakistan, imports become relatively cheaper, so people tend to buy more imported products, which increases total imports, and the trade deficit rises. This conclusion is similar to Mukhtar and Zakaria (2010), Frenkel and Johnson (2013), Johnson (2013) Proso et. al (2016).

World inflation has a negative and insignificant impact on the trade deficit of Pakistan. When world prices increase, it reduces the trade deficit by reducing imports and increasing exports. The rise of world prices increases the price level of imported products, which reduces consumer willingness or ability to buy them. Export also becomes relatively cheaper, so its volume increases, which reduces the trade deficit of Pakistan. Cohen (2006) , Bader (2006), Duasa (2007), Zada et al (2010), and Mohammad (2010) have shown similar results.

The gross domestic product of Pakistan has a positive impact on the trade deficit. When the GDP of Pakistan increases by one per cent, it increases the trade deficit by 5.06%, significantly. When the economy moves upwards, there are a lot of factors that stimulate imports and cause an increase in the trade deficit. Higher GDP means higher income and higher imports. Imports also increase because of the higher demand for capital equipment that is to be used in the production process. Homemade products have more local demand because of higher income, so exports fall, which increases the trade deficit. Such results are also drawn by several scholars, like Awan and Aslam (2013), Jayachandran (2013), and Awan (2015).

Contrary to Pakistan's GDP, the world GDP has a negative impact on the trade deficit of Pakistan. A one per cent increase in world GDP decreases the trade deficit of Pakistan by 3.26 per cent. If world income rises, they buy more products from Pakistan because of their higher income, which will lead to an increase in Pakistan's exports and reduce the trade deficit. Various scholars have shown the inverse relationship between world GDP and trade deficit.

Urbanisation hurts the trade deficit of Pakistan. Urban population seems more productive, and they are working in exportable industries, which leads to an increase in exports and reduces trade deficit. The results show that a one per cent increase in urbanisation reduces the trade deficit by 6 per cent. These results are matched with Henderson (2002), Bond, Riezman and Wang (2010).

Democratic accountability exhibits a nonlinear relation with trade deficit. Initially, when accountability improves, it increases imports, which is a cause of the trade deficit. Imports rise because accountability leads growth in an economy, and Pakistan needs more machinery and capital equipment for economic development, but in the later stage, such growth leads to higher production and exports that reduce the trade deficit significantly. One unit improvement in democratic accountability increases the trade deficit by 0.33 per cent, and one per cent improvement in DEMA^2 decreases the trade deficit by 1.06 per cent significantly.

Short Run Analysis

Short-run ARDL analysis of the model is given in Table 8.

Table 8: Short Run Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CPIP)	0.011132	0.013458	0.827198	0.4274
D(LNGDPP)	-3.800262	1.903707	-1.996243	0.0738
D(LNGDPW	2.912403	1.048165	2.778573	0.0195
D(DEMA)	0.136057	0.067159	2.025898	0.0703
D(LNURB)	-4.114678	3.146703	-1.045260	0.3205
DEMA2	-0.021150	0.012324	-1.716163	0.1169

C	-24.67710	42.20344	-0.584718	0.5717

Here, the short-run impact of the consumer price index is positive but insignificant, and its coefficient value is 0.011, which shows that a one per cent increase in the consumer price index of Pakistan increases trade deficit by 0.011 per cent. This result is matched with the long-run impact of CPIP. So there is no difference between short-run and long-run impact in terms of sign.

The gross domestic product of Pakistan has a negative impact on the trade deficit. The trade deficit reduces in the short run because of higher economic growth. Higher economic growth will lead to higher export that reduces the trade deficit. The coefficient is 3%, which shows that a one per cent increase in growth will reduce the trade deficit by three per cent.

The gross domestic product of the world has a positive impact on the trade deficit of Pakistan in the short run, and a one per cent increase in world gross domestic product increases trade deficit by 2.9 per cent. Higher economic growth in the world increases the world supply of goods and services, which reduces their prices, and imports of Pakistan rise.

Urbanisation is the relocation of people from the countryside to cities, and it has an insignificant negative impact on the trade deficit. A one per cent increase in urbanisation reduces the trade deficit by four per cent. Urbanisation causes industrialisation, which helps to increase exports and reduce trade deficits.

Democratic accountability has a significant relation in the short run, but the square of democratic accountability has an insignificant impact. Initially, an increase in democratic accountability leads to an increase in better management of the economy, which fosters economic activities and income of people, which increases imports and consequently, the trade deficit. When democratic accountability improves further, it creates a better business environment that increases production and export, which decreases the trade deficit.
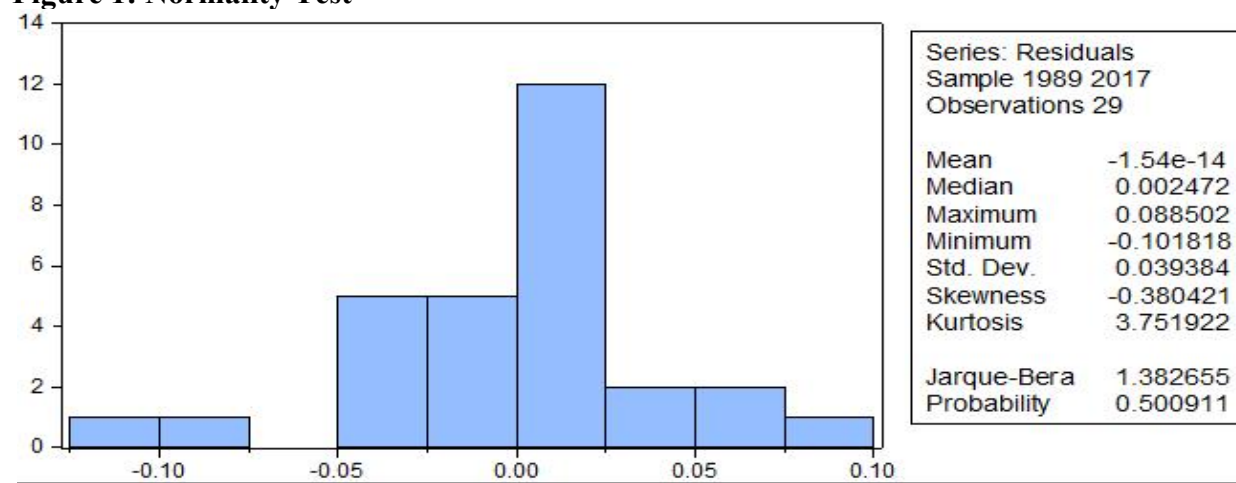
Diagnostic Tests

There are various tests that are conducted to check different aspects of model results, and some of such tests and their outcome are listed below.

Normality Test

Figure 1 represents the normality test of the model, and the Jarque-Bera probability shows that it is normally distributed at 1 and 5% significance levels, as its value is higher than 5%.

Figure 1: Normality Test

Auto-Correlation Test

Table 10 shows auto auto-correlation LM test, using EViews. Here, the null hypothesis is that the model has serial correlation, and the alternative hypothesis is that there is no problem of serial correlation. The probability value of the F-statistic is higher than 0.1, which shows that there is no problem of serial correlation in this model.

Table 9: Correlation LM Test

Correlation LM test			
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.415872	Prob. F(1,9)	0.2645
Obs*R-squared	3.942088	Prob. Chi-Square(1)	0.0471

Heteroskedasticity Test

The null hypothesis is that the model is homoskedastic, and the alternative is that it is heteroskedastic. As the probability value of the test is higher than 0.1, this shows that there is no problem of Heteroskedasticity.

Table 10: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.9793	Prob. F(18,10)	0.5361
Obs*R-squared	18.50317	Prob. Chi-Square(18)	0.423
Scaled explained SS	3.027307	Prob. Chi-Square(18)	1

Ramsey test for omitted variable

Table 11 shows the Ramsey reset test to check omitted variables, and again the probability value is higher than 0.1, which indicates that there is no problem of omission of some important variable that should be included in the model.

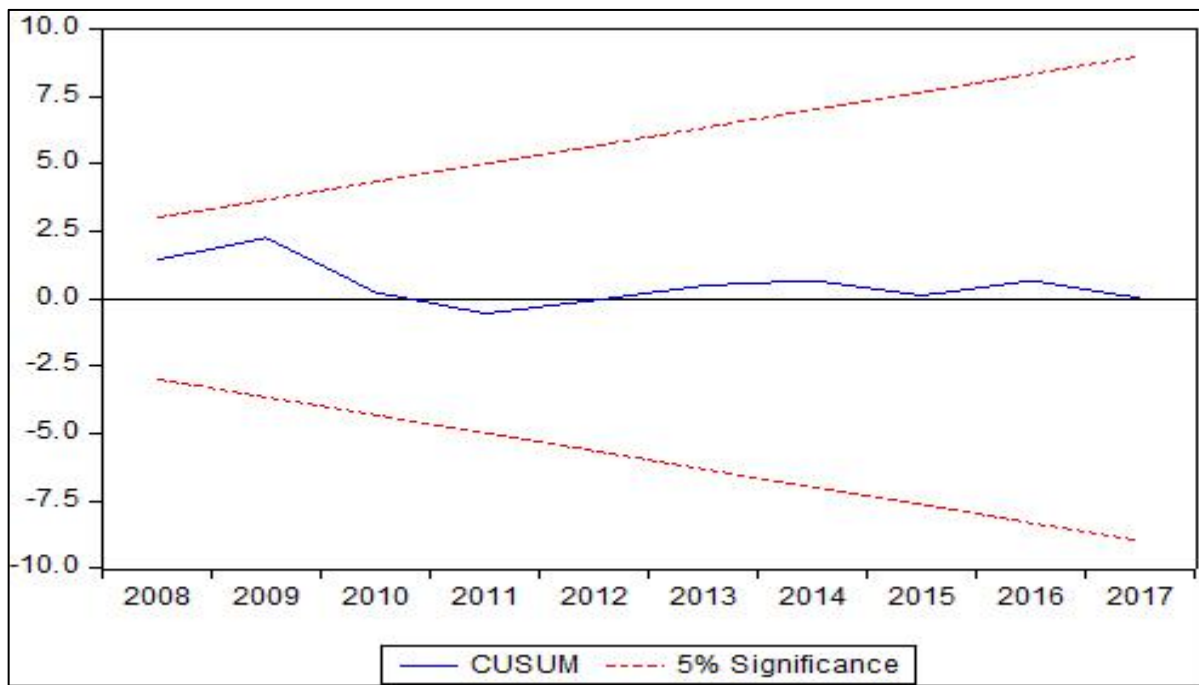**Table 11: Ramsey RESET Specification Test**

Test Statistic	Value	df	Probability
t-statistic	0.9289	9	0.3772
F-statistic	0.8629	(1, 9)	0.3772

The Ramsey RESET test fails to reject the null hypothesis of correct specification (p > 0.10). There is no evidence of omitted-variable bias or functional form misspecification in the estimated ARDL model.

Stability Tests

Figure 2 indicates CUSUM and CUSUM Square. CUSUM is used to check the stability of the model in terms of the mean of the error term, whereas CUSUM Square is used to check the stability of the variance of the error term. Both graphs show that there is stability as the blue trend line is between the upper and lower boundaries.

Figure 2: Cusum

CONCLUSION AND POLICY IMPLICATIONS

Conclusion

The results of this study show that the consumer price index of Pakistan has a significant positive impact on the trade deficit of Pakistan, and a rise in inflation will also increase the trade deficit because exports become costly and imports become relatively cheaper, to people to buy more imports, in the long run. In the short run, the impact is still positive but insignificant.

The consumer price index of the world has an opposite impact. It has a negative relation with the trade deficit of Pakistan. When world prices increase, exports of Pakistan become relatively cheaper, so export rises, and imports fall, which reduces the trade deficit. The short-run impact of CPIW is insignificant as imports and exports are relatively inelastic in the short period of time, so its results are not significant.

In the long run, the gross domestic product of Pakistan has a positive impact on the trade deficit. Trade deficit increases with an increase in economic growth of Pakistan, as economic growth requires a lot of capital goods to import, a rise in income level that boosts imports, so its net impact is a rise in imports and trade deficit. In the short run, the GDP of Pakistan has a negative impact on trade deficit, which indicates that economic growth increases export that reduces trade deficit.

The gross domestic product of the world has a negative impact on the trade deficit of Pakistan in the long run. As the income of the world rises, they tend to buy more products from Pakistan and Pakistan's exports increase, which reduces the trade deficit significantly. In the short run, the impact is positive and significant. In the short run, demand for exports and imports may be inelastic, so these tend to work in opposite ways.

In the long run, urbanisation has a negative impact on the trade deficit of Pakistan. Urbanisation is also a symbol of industrialisation, so when industry grows, there are more goods and services to export, which will lead to a decrease in trade deficit. In the short run, the impact of urbanisation is also negative and insignificant, but its magnitude is less compared to the long run.

Democratic accountability has a positive and significant impact on trade deficit in the long run as well as in the short run. Democratic accountability increases business opportunities that stimulate income and cause imports to rise. But the square of democratic accountability boosts further production of goods and services that are then exported, and the trade deficit falls significantly in the long run. In the short run, impact of square of democratic accountability is although negative as in the long run, but it's insignificant.

Policy Implications

In this study, the results and discussion highlighted various insightful nature of relationships of these major economic predictors, which can be used to formulate and implement different policies to better control this increasing trend of trade deficit. Some of these implications are discussed briefly.

The government of Pakistan should reduce the inflation rate to reduce the trade deficit so that exports become market competitive. This will also reduce imports, as imports will be relatively costly in such a scenario. Pakistan cannot influence the world GDP or world CPI, but if world GDP increases, it will increase Pakistan's exports, so it is in the interest of Pakistan to follow and suggest policies that can grow world income. Wars and conflicts reduce world income, so such things should be avoided.

The higher gross domestic product of Pakistan leads to an increase in trade deficit, and it is not desirable to reduce growth, but such should be export-oriented, and import substitution industries must be promoted to avoid a rising trade deficit.

Democratic accountability should be improved beyond the point where it becomes favourable for deficit reduction. Urbanisation that leads to industrialisation should be encouraged to counter the trade deficit.

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