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DETERMINANTS IMPACTING TRADE DEFICIT IN PAKISTAN; EVIDENCE FROM 1980-2020

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Article Info

Abstract

The research examines major factors which affect Pakistan's trade deficit while using quantitative methods to analyze secondary data. The data collection spans the years from 1980 to 2020 using World Bank's Development Indicators together with Pakistan Bureau of Statistics. The analysis incorporates unit root testing together with Ordinary Least Squares (OLS) regression as analytical tools.

This research examines the fluid relationship linking institutional elements like governance structures and trade policies to trade deficit changes in the developing country of Pakistan. The research analyzes three essential factors which include Gross Domestic Product (GDP) per capita and Foreign Direct Investment (FDI) and exchange rate as independent variables.

According to the gathered data the first hypothesis which suggested a negative correlation between GDP per capita and trade deficit did not receive statistical support. The statistical analysis demonstrated that FDI and exchange rate mechanisms produced significant changes in Pakistan's trade deficit values. A rise in Foreign Direct Investment led to diminished trade deficit but an increase in the exchange rate created a growth in the trade deficit. Research findings contribute to Pakistan's economic analysis by explaining trade deficit root causes in developing economies.

Keywords:

Trade Deficit, GDP per capita, Exchange Rate, FDI.

1. Background

The interchange of products and service across nations happens through trade which usually results in monetary transactions. A deficit in trade happens when a country buys more products from abroad than it sells to foreign countries thus indicating an unequal economic state. Pakistan faces a major challenge due to its ongoing trade deficit which requires thorough investigation about its origin and economic impact. The rise of world commodity prices during 2008 together with domestic supply constraints resulted in heavy import growth that increased the trade deficit dramatically. A US$3.5 billion increase in the trade deficit resulted in a worsened relationship of this deficit to GDP. The foreign financial dependence on IMF and World Bank institutions has risen because of persistent trade deficit imbalance. The trade deficit creates social problems in addition to economic issues by causing inflation together with increasing unemployment and creating income disparities. Pakistan and other developing nations need to implement strategic trade policies which will bolster their export-based businesses while lowering their dependence on foreign monetary help. The continuous development of the economy depends heavily on balancing international trade activities.

1.2. Operational Definitions:

GDP per Capita: Total GDP measurement divided by population provides the calculation for GDP per Capita which represents the average economic output of each individual (Haider et al., 2024).

Foreign Direct Investment: The definition of Foreign Direct Investment (FDI) describes ownership or control of foreign business or project elements by investors or governments or businesses coming from different countries according to Hayes et al. (2022).

Trade Deficit: A country experiences a trade deficit because its imports surpass its exports both for goods and services (Bloomenthal et al., 2024).

Exchange rate: Exchange rate defines how much one currency value equates to another currency value during direct or indirect calculation processes (Zahir, Hayat & Haider, 2020).

1.3. Problem Statement

The continuous trade deficit in Pakistan represents multiple dangers that challenge both the economic growth and stability of the nation. Since 2004 external debt and liabilities have remained at 30% of GDP (according to Pakistan Economic Survey, 2011–12) thus leading Pakistan to experience lower investments, increasing poverty levels and slow domestic growth rates. GDP per capita together with FDI and exchange rate influence Pakistan's trade deficit as this issue stands as a pivotal factor in determining its economic course. The history of Pakistan shows trade surplus generation occurred only twice during 1951–52 and 1972–73 following special conditions (Mohammad, 2010).

1.4. Research Gap

The assessment of trade deficit determinants in Pakistan needs to account for institutional aspects which include governance together with trade policy and regulatory quality because existing research ignores these critical elements. The research investigates economic indicators such as GDP per capita and FDI and exchange rates as well as wider institutional factors to address this gap. According to Ali et al. (2015) economic growth in the short-term develops through open trade policies together with adequate institutional structures. Acemoglu et al. (2005) demonstrated institutional quality impacts economic

results thereby demonstrating the requirement for advanced models which unite these variables to enhance trade deficit comprehension.

2. Research objectives:

RO1: To research how FDI affects the trade deficit

RO2: To research how GDP per capita affects the trade deficit

RO3: To research how the exchange rate affects the trade deficit in Pakistan.

2.1. Research hypothesis:

H1: There is a negative effect of GDP per capita on trade deficit.

H2: There is affect a positive of exchange rate on the trade deficit in Pakistan

H3: There is a negative effect of FDI on the trade deficit in Pakistan.

2.3 Research questions:

1. What affect does GDP have on Trade deficit in Pakistan?

2. What affect does Exchange rate have on trade deficit in Pakistan?

3. What affect does FDI have on trade deficit in Pakistan?

2.4. Significance

Knowledge of Pakistan's trade deficit determining factors helps create better policies to advance the economy and promote social economic development. The trade deficit produces major impacts on worldwide trading connections as well as investment environment stability and the currency market and foreign exchange stocks and broader economic policies. The research purpose is to identify trade deficit drivers so policy makers can develop specific economic development plans to lower inflation rates and unemployment levels and maintain trade equilibrium. The obtained findings will assist Pakistan in drawing foreign capital investments while boosting its global trading position and international market competitiveness. The findings from this study serve to develop evidence-based national policies which will be crucial for Pakistan's endurance as a nation. The researchers from Elahi et al. (2011) emphasize that Pakistan requires novel policy-making strategies to import capital equipment and adopt innovative technical solutions. Such technological advancements create stronger industrial value which leads to economic stability and growth.

2.5 Limitations

This research study has an important drawback because it assesses only a restricted group of variables that shape Pakistan's trade deficit. The method ignores crucial economic system dynamics that develop through multiple interdependent elements. The formation of trade deficits depends on multiple internal and external factors which demonstrate dynamic characteristics and non-linear behaviors and respond to external disturbances and circular feedback loops.

3. Theoretical framework and Literature Review

3.1.1. Purchasing Power Parity (PPP) Theory:

Gustav Cassel established this theory through his 1918 work by describing how prices of identical goods should be equivalent in different countries following currency conversion except for barriers to trade or transportation expenses. The theory implies that exchange rates automatically shift to maintain equal purchasing strength between different national economies. The theory helps clarify trade effects stemming from currency exchange rate adjustments thus supporting our research variables investigation.

3.1.2. Income Effect Theory:

Each time Alfred Marshall introduced his income effect theory during the late 1800s it examined the impact of rising and falling income levels on consumer spending choices. Rising personal earnings result in increased purchasing of merchandise and services that simultaneously expands trade markets and economic growth in the economy. Spending and trade operations decrease when incomes experience a reduction. The theory demonstrates that national trade balance responds to changes in GDP per capita levels.

3.2 Literature Review

Fatima et al. (2011) investigated macroeconomic policy effects on Pakistan's economic growth across the 1980 to 2009 period. The existing program targets poverty reduction and job creation alongside investments but Pakistan still faces ongoing problems mainly from inadequate financial management and unclear systems and deficient institutional controls. Sustainable development faces obstacles because of these factors while creating problems for the connection between fiscal policy and private sector investment. Fiscal deficit has seriously damaged both development targets and total economic results. The research indicates that Pakistan should promote the expansion of its private sector while implementing measures to control trade deficits and fostering export development. The enhancement of GDP per capita and acquisition of foreign investments will lead Pakistan toward economic equilibrium and sustainable development.

The research team at Mukhtar and Awan (2019) investigated the roots and consequences of Pakistan's trade deficit on economic expansion through 1980 to 2017 data analysis. This research applied FDI, GDP and trade volume as their main variables throughout the analysis. The research indicates FDI generates a positive impact on trade deficit performance although this effect becomes noticeable only during the longer periods. Trade balance shows mixed reaction to both trade volume and Gross National Income in both short-term and long-term periods. The current GDP level of Pakistan is limited because the nation does not maximize its natural resource potential. The decline in exports occurs because Pakistani companies lack competitiveness along with insufficient innovation. The export market structure in Pakistan heavily depends on exporting raw materials. The authors propose Pakistan should focus on developing technical exports and strengthening diplomatic relationships to enhance trade activities. (Mukhtar & Awan, 2019).

Syed et al. (2016) analyzed what macroeconomic elements impact the trade balance results for South Asian nations from 1985 to 2015. Economic growth in manufacturing and business sectors primarily results from globalization together with trade. Most South Asian nations operate with trade deficits because they export comparable goods to the same export destinations. The research analyzes the influence of fiscal balance, FDI and exchange rates, remittances, currency reserves and financial consumption by determining them as independent variables against trade balance as the dependent measure. The study obtained its information from U.S. international macroeconomic databases and

Brueghel. The study utilizes pooled OLS regression methods to analyze which macroeconomic variables influence trade balances. The paper strives to recommend trade stability policies that would support SAARC nations. (Syed et al., 2016).

Abbas et al. (2020) studied the effect of trade deficit along with external debt on Pakistan's economic performance during the period from 1980 to 2017 where GDP served as the dependent variable. The analysis included four key variables which were trade deficit alongside gross capital formation and exchange rate together with labour force and manufacturing value added. The continuous fiscal imbalances in Pakistan generated a major fiscal deficit according to research findings. Economic management requires external debt for stable operations but excessive usage prevents future national development. The twin deficit hypothesis stands validated within the short-term period yet the twin divergence proposition remains valid during long-term periods. The analysis indicated that external debt combined with trade deficit reduce GDP values. Currency devaluation together with better control of money supply and increased per capita income serve as recommended economic strategies. Fiscal policies that expand should produce growth over the long term. (Abbas et al., 2020).

4. Material methods:

To understand the effect of trade deficit along with external debt on Pakistan's economic performance researchers have chosen a quantitative research design. The research employs GDP as its outcome measure to analyze its connections with trade deficit alongside variables such as gross capital formation and exchange rate and labour force and manufacturing value added. The main goal of this research is to assess immediate and long-run impacts of measured variables on GDP alongside the verification of hypotheses regarding the twin deficit hypothesis and twin divergence proposition. The research bases its analysis on secondary data obtained from official publications and trustworthy economic sources throughout the period from 1980 to 2017. The Pakistani economy represents the population where researchers analyze critical macroeconomic indicators for fiscal wellbeing and economic growth. The research data contains 38 complete years which define the complete sample information. The analysis adopts GDP as its dependent measure but uses trade deficit together with external debt based on gross capital formation and exchange rate alongside labour force and manufacturing value added as essential independent variables. The analysis establishes long-term fiscal imbalance consequences and offers policy guidance that involves both monetary control management and income distribution elevation through active fiscal expansion for continuous economic development (Abbas et al., 2020).

S.NO	**HYPOTHESIS**	**VARIABLES**		**BASED ON OBJECTIVES**	**TECHNIQUE**
		INDEPPENDANT VARIABLE	**DEPENDANT VARIABLE**		
1	H1	FDI	TRADE DEFICIT	RO1	Unit Root TEST, OLS Regression
2	H2	EXCHANGE RATE	TRADE DEFICIT	RO2	Unit Root TEST, OLS Regression

3	H3	GDP PER CAPITA	TRADE DEFICIT	RO3	Unit Root TEST, OLS Regression

5. Results and Interpretations

5.1. Unit Root Analysis

Prior to analysis it is necessary to verify stationary in time series data since the data usually displays trends which make it non-stationary. EViews provides visualization features to detect these patterns. To prevent erroneous regression output the data passed through the Augmented Dickey-Fuller (ADF) test in multiple stability conditions that include various levels (level, first difference, second difference) and trend execution modes (trend, trend with intercept) until the data stabilized.

Variables	**Dickey-Fuller Test**		**Phillips-Perron**	
	Level	**1st Diff.**	**Level**	**1st Diff.**
FDI	-1.6475	-5.8511***	-1.6695	-5.8732***
REER	0.2419	-2.069*	0.4247	-3.7909***
GDP	-0.6692	-6.3518***	0.6166	-6.8149***
TRADE	-6.1828***	-7.3433***	-6.1770***	-36.4915***

5.2. OLS Regression

Variable	**Beta cofefficient**	**T-value**	**P-value**	**Adj. R-squared**
GDP	-3.2939	0.6364	0.5282	0.1660
FDI	-0.1961*	1.9912	0.0658	
ER	1.1141*	1.8855	0.0785	
C	-0.0588	-0.7465	0.6521	

Note: "*,**,***, shows significance level at 10%, 5% and 1% respectively"

Interpretation of Result

The first step requires unit root analysis to determine if data is stationary since this is vital for all subsequent procedures. The research relies on Ordinary Least Squares regression analysis to evaluate the relationship between trade deficit and independent variables after verifying data stationarity through confirmation tests. Both Beta coefficient values indicate the relationship direction between variables and the P-value determines statistical significance through detection of 5% or 10% thresholds. R-squared demonstrates the extent to which independent variables successfully decode trade deficit changes. The study results demonstrate that FDI and currency exchange rate have significant statistical influence on the trade deficit but GDP shows no meaningful impact.

H1: There is a negative impact of GDP per capita on Trade Deficit.

Variable	**Beta Co efficient**	**T value**	**P value**	**Adj. R squared**
GDP	-3.2939	0.6364	0.5282	0.1660

According to the results of our analysis, the null hypothesis is accepted whereas the alternative hypothesis is rejected, because the beta co efficient of the GDP per capita is negative but P-value of the GDP per capita exceeds 10% which makes the result insignificant. Therefore, the alternative hypothesis is rejected.

H2: There is a negative impact of FDI on Trade Deficit

Variable	Beta co efficient	T value	P value	Adj. R squared
FDI	-0.1961*	1.9912	0.0658	0.1660

According to the result of our analysis, the above hypothesis is accepted because the Beta coefficient of FDI is negative and the P-value of the FDI is smaller than 10%, making the results of our finding significant. Therefore, the alternative hypothesis is accepted and null hypothesis is rejected.

H3: There is a positive impact of the Exchange Rate on Trade Deficit.

Variable	Beta co efficient	T value	P value	Adj. R squared
ER	1.1141*	1.8855	0.0785	0.1660

According to the result of our analysis, the above hypothesis is accepted because the Beta coefficient of exchange rate is positive and the P-value of the exchange rate is smaller than 10%, making the results of our finding significant. Therefore, the alternative hypothesis is accepted and null hypothesis is rejected.

6. Conclusion

This study analyzes Pakistan's trade deficit drivers by studying the three-element market relationship between GDP per capita and Foreign Direct Investment and exchange rates. The study examines Pakistan's trade balance trends through 1980 to 2020 using Unit Root testing for data stationarity and Ordinary Least Squares (OLS) regression to establish correlations. The research employs reliable secondary dataset from World Development Indicators and Pakistan Bureau of Statistics (PBS) to verify the accuracy of its results. An analysis has been conducted to provide policy makers critical information which will help them develop sustainable trade deficit reduction policies for economic development. This study provides critical information for creating policies that reinforce Pakistan's economic stability alongside sustainable long-term growth.

7. Suggestions

The examination in this study investigates the economic reasons that cause Pakistan's trade deficit.

1. Governance together with political stability emerged as essential factors requiring increased research focused on their correlation with trade deficits.
2. The research had to limit its focus on economic factors because time constraints included an exclusion of political conditions and institutional strength related to trade variables.
3. Trade policies together with exchange rates and foreign investment significantly suffer from adverse effects caused by poor governance and political instability and weak trade institutions.
4. The inability to attract foreign investors along with difficulties in maintaining consistent trade policies becomes possible because of instability.
5. Policies designed to create strong economic changes face challenges when poorly performing governments are involved.
6. Further research needs to delve deeper into political and institutional factors that affect trade.
7. The study of Pakistan's trade imbalance would benefit through a deeper analysis to reveal the complete factors behind the trade balance situation.
8. More effective trade solutions would emerge if we obtain better comprehension of how stability and proper governance systems impact international trading activities.

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