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The Relationship between Fiscal Policy and BOP Constraints: A Crisis is a Terrible Thing to Waste

Moazam Mahmood*, Azam Chaudhry and Shamyla Chaudry*****

Abstract

Pakistan's current crisis converges on balance of payments (BOPs). Several factors contribute to this crisis, including a significant and growing Current Account (CA) deficit, debt repayments, dwindling foreign exchange reserves, a depreciating rupee and a high budget deficit. These issues are further compounded by rising inflation, stagnating output growth and the stringent requirements of the International Monetary Fund (IMF) program on macro fundamentals. At the core of this crisis lies an acute shortage of foreign exchange reserves. Consequently, the current economic predicament is often characterized as a balance of payments crunch, with primary analytical and policy focus on the current account deficit. This paper looks at fiscal expenditures to establish two propositions: Firstly, there is a strong positive relationship between Pakistan's fiscal deficit and current account deficit, where the fiscal deficit further exacerbates the current account deficit and capital financial account deficit on account of tradeables and global capital flows. Secondly, to accurately reflect this relationship, the National Income Accounting framework needs revision.

The Root of The Crisis: Our Theoretical Argument

The economic crisis in Pakistan arises from the inability of the government to meet its external debt obligations, a direct consequence of the country's persistent trade imbalance.

*Professor, Faculty of Economics, Lahore School of Economics.

** Professor & Dean, Faculty of Economics, Co-Director, Innovation and Technology Center, Lahore School of Economics and WTO Chair for Pakistan.

*** Assistant Professor, Faculty of Economics, Lahore School of Economics.

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The State Bank of Pakistan's (SBP) foreign exchange reserves plummeted from US\$20.1 billion in August 2021 to US\$2.9 billion in February 2023. Global economic uncertainty, rising commodity prices, and debt repayments exacerbated this situation. This lack of external funds strained the country's external account, negatively impacting the entire economy. Although the Government of Pakistan successfully met its external debt obligations, a decline in the SBP's foreign exchange reserves and negative market sentiment led to a considerable depreciation of the Pakistani Rupee (PKR) by 28.5 percent during the fiscal year 2023. Consequently, the current crisis is primarily seen as a BOP crunch with the primary analytical and policy focus on the CA deficit.

Selected Economic Indicators

During the fiscal year 2023, external financing was a cause for major concern: The worsening external account discouraged and hindered the inflow of public and private investment, leading to significant delays in scheduled debt repayments.

Table 1 summarizes key economic indicators for Pakistan over the past few years. Real GDP growth plummeted to 0.3 percent in FY 2023, the third-lowest level since fiscal year 1952. While the current account deficit decreased significantly, this did not alleviate Pakistan's financial woes. Insufficient foreign inflows put the external account under immense pressure, leading to a sharp decline in SBP's foreign exchange reserves to US\$4.5 billion. By the end of FY 2023, the rupee had depreciated by 28.5 percent.

Higher interest payments coupled with substantial subsidies and lower tax collections, resulted in a significantly larger fiscal deficit in FY 2023 compared to previous years.

**Table 1: Debt repayments, Reserves,
Exchange Rate Depreciation and Budget Deficit**

	FY 21	FY 22	FY 23
	Growth rate¹ (percent)		
Real GDP	5.8	6.1	0.3
Tax revenue –FBR	19.2	28.9	16.7
Exchange rate (+app/-dep)	-1.3	-9.8	-28.5
	Billion US dollars		
SBP's reserves (end-period)	17.3	9.8	4.5
Workers' remittances	29.5	31.3	27.0
Current account balance	-2.8	-17.5	-2.4
	Percent of GDP		
Fiscal balance	-6.1	-7.9	-7.7
Current account balance	-0.8	-4.7	-0.7
Investment	14.5	15.7	13

Source: SBP

¹ Real GDP growth rates are as per constant basic prices of the 2015-16 period

Propositions for Pakistan's Case

This paper examines fiscal expenditures to investigate the following two propositions:

- 1) A strong positive relationship exists between the fiscal budgetary deficit and the CA deficit. In other words, the fiscal deficit exacerbates pressures on both the CA and KA deficits, primarily through tradeables and global capital flows.
- 2) Further research is necessary to modify the National Income Accounting framework to accurately reflect this relationship.

To establish a strong positive relationship between the fiscal budgetary deficit and the CA deficit, this paper will conduct an empirical study of the fiscal account and correlate its empirical findings with theoretical predictions.

During fiscal year 2023, total expenditures increased by 21.5 percent, compared to 29 percent in 2022. This slower growth in expenditure can be attributed primarily generally to a sluggish rise in non-interest expenditures, coupled with reduced grants, subsidies, reduction in overall development spending and net lending.

Within the current expenditure structure, the substantial rise in interest payments on debt had a more significant impact than the reduction in subsidies and grants. The growing debt stock and increasing interest rates drove up interest rates on both domestic and external debts.

A Theoretical framework to Examine Fiscal expenditures

We begin our accounting framework by examining the current fiscal constraints and their implied policy implications.

We use the basic aggregate demand equation by adding to it:

$$Y = C(Y - T) + I(r) + G(T + D) + Nx(e) \quad (1)$$

The fiscal relationships are captured by the expression that government expenditures (G) equal taxation (T) plus a deficit (D) :

$$G = (T + D) \quad (2)$$

Table 2 estimates equation 2 for FY 2022, where total government expenditure is PKR 13.3 trillion , consisting of total government revenue of PKR 8 trillion and a government deficit of PKR 5.3 trillion.

Table 2: Government Expenditure, Revenues and Deficit

Equation 2: $G = (T+D)$				
	Description	FY22 (PKR billion)	% of Total	% GDP
T	Total Revenue	8,035.4	60.4%	12 %
D	Deficit	5,259.9	39.6%	8%
G	Total government Expenditure	13,295.3	100%	20%

Source: SBP, 2022

As a percentage of total government expenditure, total revenue accounted for 60.4 percent, while 39.6 percent needed to be financed due to the shortfall between revenue and government expenditure.

The fiscal account is defined by three terms: Government expenditures (G), Taxation (T), and the Deficit (D). As we are not analyzing taxation, we will focus on decomposing the remaining two terms: government expenditures (G) and the deficit (D).

One way to categorize government expenditures is by dividing them into recurrent and development components. Annual recurrent expenditures are those incurred to maintain the government's day-to-day operations such as wages, salaries, subsidies, interest payments and transfers.

Development expenditures, on the other hand, are government spending directly related to the social and economic development of the country. Examples include expenditures on agriculture, health, and education.

$$G = G_c + G_d \quad (3)$$

Table 3: Government Expenditure

Equation 3: $G = G_c + G_d$			
Description	FY22 (PKR billion)	% of Total	% GDP
Current expenditure	11,521.4	86.7%	17%
Development Expenditure & Net Lending	1,657.4	12.5%	2%
Total government Expenditure	13,295.3	99.1%	20%
Current Federal expenditure	8,451.6	-	13%

Source: SBP, 2022

Table 3 estimates this equation 3 for FY 2022, where *Total Government Expenditure* was PKR 13.3 trillion, consisting of the government's current expenditure of PKR 11.5 trillion and *Development Expenditure & Net Lending* of PKR 1.7 trillion.

As a percentage of *Total Government Expenditure*, *Current Expenditure* contributes to 86.7 percent while *Development Expenditure & Net Lending* accounted for 12.5 percent.

Focusing initially on government's *Current Expenditure* (G_c), it can be decomposed into debt servicing (rd), subsidies (sub), defense (def), provincial grants ($prov$), civil government (CSP), and pensions (pen), as stated in equation 4 below.

$$G_c = rd + sub + def + prov + CSP + pen \quad (4)$$

Table 4 estimates equation 4 for FY 2022 at the federal level. The share of each expenditure item is given in nominal terms as well as a proportion of the total current federal expenditure.

Table 4: Federal Expenditure

Equation 4: $G_{CF}=rd + Arm + Pen + CSP + sub + prov_g$		
Description	FY22 (billion rupees)	% Of Total
Debt servicing	3,182.4	37.7%
Subsidies	1,529.6	18.1%
Defense affairs and services	1,411.6	16.7%
Grants to provinces and Others	1,239.3	14.7%
Running of civil govt	546.7	6.5%
Pension	541.9	6.4%
Current Federal expenditure	8,451.6	100%

Source: SBP, 2020

A theoretical framework to examine deficit

Focusing on the second fiscal term we wish to examine, the deficit (D). We can decompose it as shown in equation (5). The *primary balance* (P_b) is the remaining deficit (D) after subtracting *debt servicing* (r_d).

$$P_b = D - r_d \quad (5)$$

The *primary balance* represents the returns that institutional entities receive for their contributions to the production process, provision of financial assets, or leasing of natural resources. Table 5 estimates equation 5 for FY 2022.

Table 5: Total Deficit

Equation 5: $P_b=D - r_d$			
Description	FY 22 (billion rupees)	% of Total	% GDP
Total Deficit	5,259.9	100%	8%
Debt servicing	3,182.4	60.5%	5%
Primary Balance	2,077.5	39.5%	3%

Source: SBP, 2022

Debt servicing is the largest component of the total deficit, which highlights one of the reasons for Pakistan's economic challenges. The crucial equation for our analysis is the financing of the deficit (D). This deficit can be financed both domestically and externally, as shown in equation (6).

$$D = D_{dom} + D_{ext} \quad (6)$$

Domestic Debt is debt owed to creditors who are residents of the same country as the debtor. It can be categorized as either sovereign (borrowed by a government) or non-sovereign (borrowed by the corporation).

Table 6: Deficit Financing

Deficit Decomposition by Financing (FY2022)				
Equation 6: $D = D_{ext} + D_{dom}$				
	Description	FY22 (billion rupees)	% of Total	% GDP
D_{dom}	Domestic financing	4,081.5	77.6%	6%
D_{ext}	External financing	1,178.4	22.4%	2%
D	Deficit	5,259.9	100.0%	8%

Source: SBP, 2022

Table 6 estimates equation 6 for FY 2022. *Total debt* was PKR 5259.9 billion, consisting of *domestic debt* of PKR 4,081.5 billion and *external debt* of PKR 1,178.4 billion. The table also provides the dollar value of the externally financed portion of the deficit, which was equivalent to US\$6.473 billion. This externally financed deficit of US\$6.473 billion must be financed through Pakistan's global capital flows.

Table 7 : Net Financing (FY 2022)

Net Financing (FY 2022)									
Equation 7: $D_{ext} = \text{Inflows} - \text{Outflows}$									
	Net			Inflows			Outflow		
	US\$ (Millions)	PKR (Billions)	%	US\$ (Millions)	PKR (Billions)	%	US\$ (Millions)	PKR (Billions)	%
External Debt	6,473	1,178	21%	16,461	2,996	10%	9,988	1,818	8%
Domestic Debt	24,089	4,384	79%	141,491	25,751	90%	117,403	21,367	92%
Total Debt	30,562	5,562	100%	157,952	28,747	100%	127,390	23,185	100%

Source: Ministry of Finance, 2022

Another critical equation that demonstrates the financing of the deficit is equation 7, which shows that the net financing of external debt is based on *inflows* minus *outflows*.

$$D_{ext} = Inflows - Outflows \quad (7)$$

Table 7 estimates equation 7 for FY 2022. It shows a deficit of US\$6.473 billion, consisting of inflows of US\$16.461 billion and outflows of US\$9.988 billion.

Additions to existing Theoretical Framework

Expanding our theoretical framework, we have an endogenously given fiscal account consisting of *government expenditure, taxation and deficit*. The unfinanced portion of *government expenditure* is represented by the deficit, which is logically financed both domestically and externally. Empirically, we observed a significant externally financed deficit of US\$6.473 billion for FY 2022.

Consequently, the domestically financed portion of the fiscal account must be related to the external account in our macroeconomic equations. However, standard macroeconomic equations often fail to capture this relationship.

The fundamental macroeconomic equation linking the domestic economy to the external economy states that *investment (I)* minus *savings (S)*, known as the savings gap, is equal to the CA deficit, as shown in equation 8.

$$I - S = CA \quad (8)$$

However, this standard model falls short in terms of relating the externally financed deficit to the external account. Given this externally financed deficit, we may need to reconsider our main macro equation (see Equation 1)2.

Rewriting equation 1 to reflect this:

$$Y = C(Y - T) + I(r) + G(T + D) + Nx(e)$$

The domestically financed part of the deficit can remain in the fiscal account expression of government expenditure:

- i) Possibly as an additive term to output (Y) on the left-hand side.
- ii) However, the externally financed portion of the deficit must be subtracted from the CA.
- iii) Consequently, it will need to be subtracted from *output (Y)* on the left-hand side.

$$Y = C(Y - T) + I(r) + G(T + D_{dom}) + X - M - D_{ext} \quad (9)$$

2 Macro equation 1 adds the deficit D to output Y on the right-hand side but Deficit (D) is financed from Internal sources and External sources.

Equation 9 combines the two propositions of our analysis. Therefore, the externally financed portion of the deficit must be paid for by the external CA or KA annually. However, this analysis leaves aside the domestically financed portion of the deficit, which also must be paid for annually.

To determine the annual contribution of the externally financed portion of the deficit to the balance of payments crisis, we have empirically estimated equation 9. This is crucial, given our primary concern with the balance of payments crunch.

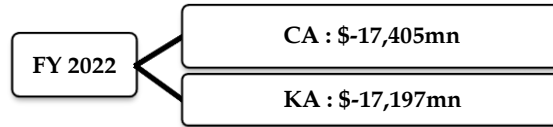
Therefore, D_{ext} has to be subtracted from Y just like M in equation 9;

$$X - M - D_{ext} = CA \quad (10)$$

However, the BOPs always balance annually. Therefore, if there is a CA deficit, it must be offset by a KA surplus, which involves adjusting claims to the country's assets held abroad.

$$CA = KA \quad (11)$$

CA must be paid annually by KA.



For FY 2022, the CA balance stood at -US\$17,405 million whereas the capital account stood at -US\$17,197 million. However, both the CA and KA deficit are negative values, which raises the fundamental question of how they were paid for.

$$KA = FA + Reserves + (\bar{e} + capacc) \quad (12)$$

The KA combines the *financial account (FA)* and foreign reserves held by the SBP, as well as some adjustments, where the *financial account* comprises *net borrowing*, *net foreign direct investment (FDI)* and *net portfolio investment*.

$$FA = NetBorrowing + NetFDI + NetPortfolio \quad (13)$$

Recalling the externally financed part of the deficit for FY 2022 stood at US\$6.473 billion, approximately 38 percent of KA. From equation 11, we put this in perspective by proposing that nearly 40 percent of the current BOP crisis is based on the government's deficit.

Table 8 estimates equation 12 for FY 2022:

$$KA = FA + Reserves + (\bar{e} + capacc)$$

$$-\$17,197mn = -\$11,149mn - \$6,316mn + (\$268mn)$$

Table 8 : Decomposition of the Capital Account (FY 2022)

	US \$ (Million)
KA	-17,197
FA	-11,149
Net Borrowing	-9,567
Net FDI	-1,635
Net Portfolio	54
Reserves	-6,316
$\bar{e} + cap\ acc$	268

Source: SBP, 2022

Table 8 also estimates Equation 13 for fiscal year 2022 that shows that *FA* of US\$11,149 million constitutes *net borrowing* of US\$9,567 million added to *net foreign direct investment* of US\$1,635 million and *Net Portfolio* of US\$54 million.

$$FA = NetBorrowing + NetFDI + NetPortfolio$$

$$-\$11,149mn = -\$9,567mn - \$1,635mn + \$54mn$$

Therefore, in the year 2022, a CA deficit of US\$17.197 billion was financed by the KA through net borrowing worth US\$9.567 billion from external sources, and resulting in the depletion of reserves by US\$6.316 billion. Within this KA, we locate the component of the deficit-financed externally of US\$ 6.473bn. Now *net borrowing* externally comprises *inflows* minus *outflows* as in equation 14.

$$Netborrowing = Net\ liabilities - Net\ Acquisitions \quad (14)$$

Using data for fiscal year 2022, Table 9 estimates equation 14 for FY 2022

$$-\$9,567mn = -\$12,057mn + \$2,490mn$$

Table 9: US\$ (Million)

Net Borrowing	-9,567
Net Liabilities	-12,057
Net Assets bought	2,490

Source: SBP, 2022

This table shows *net borrowing* of -\$9,567 million equals *net liabilities* of -\$12,057 million if *net acquisitions* of \$2,490 million are subtracted.

From equation 14:

Net Liabilities by Pakistan in FY 2022 are incurred, as in Equation 15

$$\text{Net Liabilities} = \text{Govt} + \text{Sectors} + \text{SDRs} + \text{Corps} \quad (15)$$

Table 10 estimates Equation 15.

$$\$12,057mn = \$6,073mn + \$2,333mn + \$2,773mn + \$879mn$$

Table 10: Net Liabilities (FY 2022)
(\$ million)

FY 2022	US \$ (Million)
Net Liabilities	12,057
By Govt	6,073
Sector	2,333
SDRs	2,773
Corps	879

Source: SBP, 2022

Table 10 estimates equation 15. It highlights that the government's externally financed deficit of US\$6.473 billion was primarily based on the government's incurrence of *net liabilities*, specifically borrowing of US\$6.073 billion.

Therefore, in our equation 10, where:

$$(X - M - D_{ext}) = CA \quad (10)$$

The (X-M) component makes for only 60 percent of the BOP crisis today, while the D_{ext} component adds another 40 percent to it.

This *net government borrowing* of US\$6,073 billion is based on *higher gross borrowing* comprising *disbursements of loans* (by others to the Government), incurrence of further *net liabilities*, and *debt servicing* called *amortization*, as in equation 15.

So,

$$\text{Net. Govt. Borrowing} = \text{Disbursements} + \text{Other Net Liabilities} - \text{Amortization} \quad (15)$$

Table 11 estimates this for FY 2022.

$$6,073 = 11,230 + 3,176 - 8,333$$

This makes the ratio of debt servicing to the KA of $\frac{8,333}{17,197} = 48\%$

Table 11: Government Liabilities (FY 2022)

FY 2022	US \$ (Million)
Govt Liabilities	6,073
Disbursement	11,230
Other Liabilities	3,176
Amortization	-8,333

Source: SBP, 2022

Policy Recommendations

To alleviate future BOP crises, we primarily need a policy that acknowledges the dual nature of the problem: 60 percent lies in the tradeable sector, while a substantial 40 percent stems from the need to curb the annual government budget deficit. In FY 2022, government expenditure reached 8 percent of GDP with 2 percent financed externally. Additionally we advocate for further research to conceptualize macro equation 1. Instead of adding the externally financed deficit (D) to aggregate output (Y), it should be subtracted from Net Exports (NX).

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