Innovation & Technology Centre

State of the Pakistan Economy

Quarter Two Based Estimates of Annual Growth in Pakistan
Financial Year 2023

LAHORE SCHOOL OF ECONOMICS

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Executive Summary

GDP Growth

The Lahore School of Economics macro model for the Pakistan economy projects that GDP growth over the fiscal year July 2022 – June 23, (FY2023), will be 0.82 percent. This projection for the annual growth rate of GDP for FY2023, has been weakened by two quarters of falling GDP growth.

Our projection of GDP growth is comparable to the IMF and World Bank's estimate of GDP growth of 2.0 percent for FY2023.

Our model's estimates show that the flood damage to lives, livelihoods and incomes, over just the first quarter (Q1) of the fiscal year, from July to September 2022, have taken a devastating toll.

This loss has been followed in Quarter two (Q2) by sectoral growth being hit by import constraints and economic uncertainty. A Balance of Payments (BOP) crisis, with a depreciating exchange rate, and falling Reserves for the State Bank of Pakistan (SBP), have resulted in these import constraints. Especially weakening manufacturing growth. The coefficient for the import content of capital goods, intermediate goods, and energy, contributing to value added in manufacturing being quite high.

Giving two supply shocks in all.

Our model also uniquely estimates supply shocks, positive or negative, which then feed into demand shocks. To give a final change in GDP for FY2023.

On the demand side, the first shock for Q1 plus Q2 for FY 2023, is the reduced income from the supply shock, feeding into reduced demand.

The second demand side shock, in Q1 plus Q2 for this FY2023, has been a continued drop in the Current Account (CA) balance. The CA balance has been in deficit, despite the fall in imports, based on a fall in export demand. With the first six months of successively observed deficits, ranging between $0.3 billion and $1.2 billion.

These twin demand shocks, add to the twin supply shocks, of the floods, and the import constraints, to lower our model's projection of GDP growth for FY 2023.

Inflation for the Fiscal year 2023

Inflation for FY 2023 is estimated by our model at 26.1%, as shown in Table 2. This is year on year, for FY 2023, compared to FY 2022.

Our estimate of inflation at 26.1% for FY 2023, is quite comparable to GOP's estimate of 27%.

Our model estimates inflation as being driven by four factors i.e. an output gap, the budget deficit, depreciation of the exchange rate and global commodity prices.

For FY 2023, the overwhelming driver of inflation has been the huge depreciation of the exchange rate. By some 32% as observed over Q1 and Q2 of FY 2023. Contributing to near two thirds of the inflation rate. Note that after Q2, the exchange rate is assumed to have reached its equilibrium value, and therefore is not estimated to depreciate any further over Q3 and Q4.

GOP Emergency Economic Policy over FY 2023

GOP faces a near flattened growth rate of 0.8% over FY 2023. Its forex reserves have dwindled to approximate $3 billion, giving half a month's worth of imports.

With the extension of the IMF's EFF to calendar year 2023, covering virtually all of FY 2023, its fiscal stance is extremely limited by the terms of the agreement with the IMF.

That does leave GOP monetary policy to generate growth and support welfare. Monetary policy is primarily occupied with controlling inflation raging at 26% per annum. Largely using the interest rate peaking at 17% per annum.

However, we have shown here that two thirds of this inflation rate is being contributed to by the massive depreciation of the exchange rate.

Further, research at the Lahore School shows that depreciation of the exchange rate sets in place depreciationary expectations, leading increase capital outflows, (Mahmood and Chaudry, Lahore Journal of Economics, 2020). Which of course Pakistan's weak Current and Capital Accounts can ill afford. Nor can a weak investment rate of 16% of GDP.

Therefore, on all these counts, GOP needs to arrest the depreciation of the exchange rate urgently.

If GOP has to choose between import controls, which are shown here to lower growth, and some modicum of capital controls, then capital controls may be more efficacious.

And the full use of the inter-bank market for exchange rates, has proved effective in the past.

State of the Pakistan Economy

Quarter Two Based Estimates of Annual Growth in Pakistan

Fiscal Year 2023

GDP Growth for Fiscal Year 2023

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Our projection of GDP growth is comparable to the IMF and World Bank's estimate of GDP growth of 2 percent for FY2023.

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This loss has been followed in Quarter two (Q2) by sectoral growth being hit by import constraints and economic uncertainty. A Balance of Payments (BOP) crisis, with a depreciating exchange rate, and falling Reserves for the State Bank of Pakistan (SBP), have resulted in these import constraints. Especially weakening manufacturing growth. The coefficient for the import content of capital goods, intermediate goods, and energy, contributing to value added in manufacturing being quite high.

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These twin demand shocks, adds to the twin supply shocks, of the floods, and the import constraints, to lower our model's projection of GDP growth for FY 2023.

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The unique estimation of the supply cum demand shocks, accounts for the difference between our projection of 0.82%, and others.

The methodology of Lahore School's estimation of GDP growth is year on year. Which makes it globally comparable to most estimation.

So, Table 1 shows, output in fiscal year 2022-2023 as compared to output in fiscal year 2021-2022 to give annual GDP growth for FY 2023 for Pakistan of 0.82%.

Table 1: Estimates for GDP Growth Rate FY 2023		
	FY 2021	**FY 2022-23**
GDP ($ bn) **Supply plus Demand Shock Y (S+D)**	**347.70**	**350.56**
C		253.09
I		59.92
G		44.88
NXn		-7.33
Growth Rate (%)		**0.82**

Source: Lahore School Modeling Lab Estimates, 2023

This GDP growth for FY2023, is based on a trend expansion of the major macro drivers of growth, consumption, investment, government expenditure, and net exports over the year. But is moderated by the supply shocks of the flood damage and import constraints. And the demand shocks of the reduced income and continued deficits on the current account, based on falling export demand.

Inflation for the Fiscal year 2023

Inflation for FY 2023 is estimated by our model at 26.1%, as shown in Table 2. This is year on year, for FY 2023, compared to FY 2022.

Table 2: Price Model Estimated for FY 2019, FY 2020, FY 2021, FY 2022, and FY 2023

Time Period	Output Gap (% of GDP)	Budget Deficit (% of GDP)	Exchange Rate Depreciation (Growth Rate %)	Commodity Prices (Growth Rate %)	Inflation (Growth Rate %) *Model Estimate	CPI (Growth Rate %) **GOP estimate
FY 2019	-1.40	7.60	4.44	-1.74	10.30	10.30
FY 2020	-1.70	6.40	0.88	-2.00	5.28	9.30
FY 2021	-1.80	5.20	-0.78	9.07	13.49	8.20
FY 2022	-2.4	7.00	25.71	59.2	15.886*	11.00**
FY 2023	1.37	6.1	31.8	4.05	**26.076**	27.0

Source: Lahore School Modeling Lab Estimates, 2023

Our estimate of inflation at 26.1% for FY 2023, is quite comparable to GOP's estimate of 27%.

Our model estimates inflation as being driven by four factors. An output gap. The budget deficit. Depreciation of the exchange rate. And global commodity prices.

For FY 2023, the overwhelming driver of inflation has been the huge depreciation of the exchange rate. By some 32% as observed over Q1 and Q2 of FY 2023. Contributing to near two thirds of the inflation rate. Note that after Q2, the exchange rate is assumed to have reached its equilibrium value, and therefore is not estimated to depreciate any further over Q3 and Q4 of FY 2023.

The second major driver of inflation for FY 2023 has been the fiscal deficit. Projected to be 6.1% over the fiscal year.

Global commodity prices, from being the major contributor to inflation over FY 2022, have eased completely over FY 2023.

The output gap, which had been disinflationary over the previous three fiscal years on account of the Covid pandemic lockdowns, turned positive over FY 2023. But weakly so, because of the supply shock of the floods over Q1, and import constraints on manufacturing growth over Q2.

Methodology for supply and demand shocks

The annualized changes in GDP growth over FY2023 are given by a series of supply cum demand shocks to the baseline economy.

Negative Supply Shock in FY 2023 of the Devastating Floods as Observed over Q1

Table 3 gives the total impact of the floods on agriculture and non-agriculture, in Q1 of FY2023, at $11.7 billion.

Table 3: Reported Losses of Floods (Rs. And $)					
Category	Reported Loss (Prod. %)	Reported Loss (Prod. units)	Reported Loss (% of GDP)	Nominal Value (Share of GDP)	Nominal Value (Losses $)
Cotton	45%	3.1 mil	0.6%	$2.08bn	$0.9bn
Cotton Ginning	45%		0.42%	$1.45bn	$0.65 bn
Rice	31%	2.6 mil	0.7%	$2.42bn	$0.75bn
Minor Crops (avg. minus sugarcane)	40%		2.20%	$7.6 bn	$3.04bn
Sugarcane	7%	5.7 mil	0.7%	$2.42bn	$0.017 bn
Livestock	0.4%	719,000	14.04%	$48 bn	$0.2bn
Slaughtering	0.4%		0.89%	$3.08 bn	$0.01 bn
Textile (% of LSM)	45%		1.8%		$6.2 bn

Total	$11.7 bn
Output Gap= Losses as % of GDP	**3.3%**
Growth Rate	**1.7%**

Negative Supply Shock in FY 2023 of the Import Constraint on Manufacturing as Observed over Q2

The supply shock of the floods in Q1 of FY2023, has been succeeded by another supply shock in Q2. This is an import constraint on manufacturing.

Table 4 shows that monthly imports peaked at $6.9 billion in August 2022, which is Q1 of FY 2023. Over Q2 2023, these have dropped significantly to an average $5.6 billion. A large drop of $1.3 billion. This represents a near 20% drop in imports over Q2 2023.

Table 4: Current Account Balance and Foreign Exchange Reserves FY 2023							
Million US$	**Jul-22**	**Aug-22**	**Sep-22**	**Oct-22**	**Nov-22**	**Dec-22 (P)**	**Jan-23 (P)**
Exports-Goods	2,295	2,812	2,501	2,284	2,241	2,295	2,369
Exports-Services	530	575	565	550	655	667	588
Primary Income Credit	57	76	124	60	68	55	73
Total Exports	**2,882**	**3,463**	**3,190**	**2,894**	**2,964**	**3,017**	**3,029**
Imports-Goods	5,385	5,749	4,821	4,579	4,333	4,218	4,918
Imports-Services	789	936	738	709	620	619	647
Primary Income Debit	519	262	502	538	497	745	511
Total Imports	**6,693**	**6,947**	**6,061**	**5,826**	**5,450**	**5,582**	**6,076**
Exports-Imports	-3,811	-3,484	-2,871	-2,932	-2,486	-2,565	-3,047
Remittances	2,545	2,789	2,557	2,363	2,234	2,165	2,436
Current Account Balance	**-1,266**	**-695**	**-314**	**-569**	**-252**	**-400**	**-611**
Foreign Exchange Reserves	**8,395**	**8,805**	**7,859**	**8,759**	**7,722**	**5,585**	**3,086**

Source: SBP, 2023

This drop in imports over Q2 2023, appears to be an import constraint, necessitated by the drop in reserves of the State Bank of Pakistan (SBP). Table 4 shows that these reserves of the SBP dropped drastically from $8.8 billion in October 2022 to $5.6 billion by December 2022. By January 2023, these reserved had dropped further to $3.1 billion.

This drop in reserves necessitated the SBP limiting the Letters of Credit (LCs) that were sanctioned for imports. Without this restriction on LCs for imports, the SBP would have run down its reserves more drastically.

Our model estimates a very large coefficient for the share of capital goods, intermediate goods, and energy imports, in total imports of 0.52. This import coefficient for capital goods, intermediate goods and energy, then feeds as a second coefficient into total value added in the

economy. The 20% drop in imports then passes through the two coefficients to give a drop in value added in industry of up to 10%.

The impact of this drop in the value added of up to 10%, can be seen on Large Scale Manufacturing (LSM) in Table 5. Which shows that growth in LSM dropped from 10.4% in FY 2022, to a contraction of -2.9% in FY 2023.

Table 5: Large Scale Manufacturing Growth Rates		
	FY 2022	**FY 2023**
Large Scale Manufacturing Growth Rates	**10.4%**	**-2.9%**

Source: Ministry of Finance, 2023

This import shock constitutes the second negative supply shock in Q2 of FY 2023. Following on the heels of the first negative supply shock of flood damage in Q1 of FY 2023.

Estimating an output gap to model the demand shock

The twin supply shocks, of the total impact of the floods on agriculture and non-agriculture, and the import constrained drop in manufacturing, have to be expressed as an output gap, on the supply side.

This output gap is expressed as the output loss from trend growth.

Which then feeds into demand shocks.

The model then estimates the supply cum demand shock to the economy

The sectoral supply shock to output and income then gives two sorts of demand shocks.

First, the supply shocks weaken income, and therefore weaken income-based demand for consumption and investment.

Second, the economy is subject to the demand shock of falling demand for exports. Which leads to a continued deficit in the CA balance, over these first six months of the FY 2023. Despite the fall in imports, as seen in Table 3.

The model takes the baseline economy in the FY22, and subjects it to these supply cum demand shocks.

Which gives the annualized change in GDP growth over FY2023.

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With the extension of the IMF's Extended Fund Facility to calendar year 2023, covering virtually all of FY 2023, GOP's fiscal stance is extremely limited by the terms of the agreement with the IMF.

That does leave GOP monetary policy to generate growth and support welfare. Monetary policy is primarily occupied with controlling inflation raging at 26% per annum. Largely using the interest rate peaking at 17% per annum (Table 6).

Table 6: Interest Rates		
FY	**Month**	**Interest Rate**
F Y 2 0 2 3	July	15%
	August	15%
	September	15%
	October	15%
	November	16%
	December	16%
	January	**17%**
		Source: SBP, 2023

However, we have shown here that two thirds of this inflation rate is being contributed to by the massive depreciation of the exchange rate.

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