Lahore School of Economics

Innovation &
Technology Centre

State of the Pakistan Economy

Growth, Inflation, Macro Policy and Welfare in Pakistan

Financial Year 2021

LAHORE SCHOOL OF ECONOMICS

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Dr. Shahid Amjad Chaudhry
Rector: Lahore School of Economics

AUTHORS

Dr. Moazam Mahmood
Professor, Faculty of Economics, Lahore School of Economics

Dr. Azam Amjad Chaudhry
Professor & Dean, Faculty of Economics, Lahore School of Economics

Aimal Tanvir Malik
Teaching and Research Fellow, Faculty of Economics, Lahore School of Economics

RESEARCH ASSISTANT

Seemab Sajid
Research Assistant, Lahore School of Economics

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First Printing May, 2021

Lahore School of Economics
Intersection Main Boulevard, Phase VI, DHA, and Burki Road
Lahore 53200, Pakistan
www.lahoreschoolofeconomics.edu.pk
Printed by Lahore School of Economics Press

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Executive Summary

GDP Growth

The Lahore School of Economics macro model for the Pakistan economy estimates that GDP growth over the fiscal year July 2020 – June 21, (FY2021), has been 2.61 percent. The Covid 19 pandemic, intermittent lockdowns and openings, and hysteresis, have taken their toll. But the green shoots of recovery are very evident.

Our estimate is also comparable to GOP's estimate for FY2021, of 3.9 percent.

However, our estimate of GDP growth is based on observed values for the full 12 months of FY2021. GOP's estimate is based on observed values for only 10 months of FY2021, from July 2020 to April 2021.

Our model also uniquely estimates a supply shock, positive or negative, coming from the Covid lockdowns and openings. Which then feeds into a demand shock. To give a final change in GDP for FY2021.

Both the unique estimation of the supply cum demand shock, plus the additional observations of data for the months of May and June 2021, account for the difference between GOP's estimate of GDP growth for FY2021 of 3.9%, and our estimate of 2.61%.

GOP's Economic Policy over FY 2021

The Covid 19 pandemic and shutdowns were looming in February 2020. GOP had two policy objectives. To generate growth. And to curb inflation raging at 12%-14%.

To meet these twin objectives, GOP was confronted by the classic Flemming's trilemma of:

a. Controlling the inflation rate
b. Controlling the interest rate to generate growth, and lower inflation.
c. Controlling the exchange rate, to prevent import of inflation, and to improve the current account balance by raising exports and curbing imports

GOP chose wisely in this tradeoff. Reasoning correctly, that with the shutdowns, lost output, employment and income, inflation was not demand led but supply led. So GOP lowered interest rates further from 8% in July 2020 to 7% in February 2021, (Table 2). To generate growth.

The second tradeoff is for the policy instrument of the exchange rate. The exchange rate has to be appreciated or kept constant to curb importing inflation. But the exchange rate needs to be depreciated to improve the current account balance. Raising exports, and lowering imports.

GOP's policy choice here has been more difficult. It has chosen to free the exchange rate, allowing it to depreciate from Rs 154 to the USD in January 2020, to Rs 170 by September 2021 (Table 2).

This has had the unfortunate outcome of leaving inflation stubbornly high, at least above 8% per annum. Nor has inflation been countered by the lowering of the interest rate.

So, GOP's policy choice has clearly been to prioritize regeneration of plummeting growth. Leading to GDP growth of 2.61% over FY2021. At the expense of inflation.

To provide relief to the most adversely affected by the COVID-19 crisis, GOP introduced the Ehsaas Emergency Cash Program at the onset of the coronavirus pandemic in 2020. This program was designed to help approximately 15 million families in Pakistan during the span of the crisis and a total disbursement of cash transfers under this program has been of $1.13 billion to these families to date.

State of the Pakistan Economy

Revised estimates of GDP growth for the fiscal year 2021

GDP Growth for fiscal year 2021

The Lahore School of Economics macro model for the Pakistan economy estimates that GDP growth over the fiscal year July 2020 – June 21, (FY2021), has been 2.61 percent. The Covid 19 pandemic, intermittent lockdowns and openings, and hysteresis, have taken their toll. But the green shoots of recovery are very evident.

This estimate of GDP growth is comparable to the IMF's estimate for Pakistan, made in May 2021, of GDP growth of 4 percent for FY2021.

Our estimate is also comparable to GOP's estimate for FY2021, of 3.9 percent.

However, our estimate of GDP growth is based on observed values for the full 12 months of FY2021. GOP's estimate is based on observed values for only 10 months of FY2021, from July 2020 to April 2021.

This calendar year has seen a significant slump in the current account balance from successive months of surplus in the calendar year 2020, to successive months of deficits in calendar year 2021.

Our model also uniquely estimates a supply shock, positive or negative, coming from the Covid lockdowns and openings. Which then feeds into a demand shock. To give a final change in GDP for the FY2021.

Both the unique estimation of the supply cum demand shock, plus the additional observations of data for the months of May and June 2021, account for the difference between GOP's estimate of GDP growth for FY2021 of 3.9%, and our estimate of 2.61%.

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 2020-2021 as compared to output in fiscal year 2019-2020 to give GDP growth for Pakistan of 2.61%.

This GDP growth for FY2021, is based on an expansion of the major macro drivers of growth, consumption, investment, and government expenditure over the year. But is moderated by a fall in net exports of $1.5 billion.

Table 1: GDP Growth Rate FY 2021: Annual Estimate by the Lahore School Model for the Fiscal Year 2021 (1st July, 2020 to 30th June 2021)	
	FY 2020-21
GDP ($ bn)	**283.32**
C	209.04
I	44.78
G	31
Nx_n	-1.50
Growth Rate (%)	**2.61**

Methodology

Supply Shocks

The annualized changes in GDP growth over FY2021 are given by a series of supply cum demand shocks to the baseline economy.

Negative supply shocks in Q1 FY 2021

The supply shock is based on a mapping of sectoral shutdowns, and tapered openings, giving output lost. An output gap. Since there has been no economy wide survey of shutdowns, these have been approximated based on days of shutdowns across sectors.

In 2020, the agricultural sector comprised 19% of GDP. Industry 20%. Services 60%.

The shutdowns did not affect the agricultural sector. Were borne by (i) the industrial sector and (ii) the services sector. Largely affecting Q1 of FY 2021, before tapering off in Q2 FY2021. So Q2, Q3 and Q4 of FY 2021 saw positive supply shocks to the economy. A return to growth.

(i)The industrial sector lost approximately -6% of its output in Q3 FY 2020. This loss increased to -23% in Q4 FY 2020. Then tapered off to -1% in Q1 2021. Returning to full output in Q2 2021.

Within the industrial sector, manufacturing and construction were hit primarily. Leaving out energy.

The large-scale manufacturing sector bore the brunt of the shutdown, rising to 30% of its output in Q4 FY 2020. Before tapering off in Q1 FY 2021. Small scale manufacturing loss in output peaked at 15%. As did the slaughtering industry.

Construction was the second major industry to be hit by the shutdowns. Its output loss peaking at -37% in Q4 FY2020. Before tapering off in Q1 FY2021.

(ii)The services sector lost approximately -5% of its output in Q3 FY2020. This loss rising to -18% in Q4 FY2020. Before tapering off to -2% in Q1 FY2021. And returning to full output in Q2 FY 2021.

In the services sector, trade, transport and communication, and general services were hit by the shutdowns. Leaving out finance, housing services and government.

Transport and general services bore the brunt of the shutdowns. Transport's loss in output peaked at -23% in Q4 FY2020, before tapering off in Q1 FY2021. General services loss in output peaked at near half of output in Q4 FY2020. Trade loss peaked at -15% of output.

(iii)Total sectoral loss in output comes out at 4% in Q3 FY2020, 16% in Q4 FY2020, tapering off to 2% in Q1 FY2021, and returning to full output by Q2 FY2021.

Given these recoveries, the model estimates no hysteresis in sectoral output by end Q2 2021.

Positive supply shocks in Q2, Q3, and Q4 FY2021

The positive supply shock is given by sectoral return to growth for industry and services in Q2, Q3 and Q4 of FY 2021. And by continuation of growth in agriculture over all four quarters, Q1, Q2,Q3, and Q4 of FY2021.

GOP's estimates for sectoral growth have been used for this positive supply shock.

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

The sectoral supply shock to output and income then gives a demand shock.

The model takes the baseline economy in the FY 2019-2020, and subjects it to these supply cum demand shocks.

Which gives the annualized change in GDP growth over 2021.

GOP Economic Policy over FY 2021

The Covid 19 pandemic and shutdowns were peaking at the start of FY 2021. GOP had two policy objectives. To generate growth. And to curb inflation raging at 9%.

Monetary Policy Stance

To meet these twin objectives, GOP was confronted by the classic Flemming's trilemma of:

(a) Controlling the inflation rate
(b) Controlling the interest rate to generate growth, but also lower inflation.
(c) Controlling the exchange rate, to prevent import of inflation, and to improve the current account balance by raising exports and curbing imports

The policy instruments are the interest rate and exchange rate. Each has a tradeoff.

The interest rate needs to be lowered to raise investment and growth. But needs to be raised to curb inflation.

GOP chose wisely in this tradeoff. Reasoning correctly, that with the shutdowns, lost output, employment and income, inflation was not demand led but supply led. So, GOP lowered interest rates further from 8% in July 2020 to 7% in February 2021, (Table 2). To generate growth.

The second tradeoff is for the policy instrument of the exchange rate. The exchange rate has to be appreciated or kept constant to curb importing inflation. Especially to control rising energy bills, which lead to supply led, cost push inflation. But the exchange rate needs to be depreciated to improve the current account balance. Raising exports, and lowering imports.

GOP's policy choice here has been more difficult. It has chosen to free the exchange rate, allowing it to depreciate from Rs 154 to the USD in January 2020, to Rs 170 by September 2021 (Table 2).

This has had the unfortunate outcome of leaving inflation stubbornly high, at least above 8% per annum. Nor has inflation been countered by the lowering of the interest rate.

So, GOP's policy choice has clearly been to prioritize regeneration of plummeting growth seen at the end of FY 2020. Leading to GDP growth of 2.61% over FY2021. At the expense of inflation.

Table 2: Macro Aggregates				
	Month	**Inflation Rate**	**Interest Rate**	**Exchange Rate**
2020	**January**	14.6	13.75	154.3976
	February	12.4	13.75	154.1333
	March	10.2	12	165.9231
	April	8.5	10	160.8424
	May	8.22	9	162.2836
	June	8.59	8	167.8263
	July	9.26	8	166.9103
	August	8.21	8	166.3866
	September	9.04	8	165.6328
	October	8.91	8	160.2503
	November	8.35	8	159.1969
	December	8	8	159.7703
2021	**January**	5.65	8	160.0121
	February	8.7	7	158.0621
	March	9.05	7	152.7238
	April	11.1	7	153.4215
	May	10.87	7	154.3795
	June	9.65	7	157.5190
	July	8.4	7	162.3983
	August	8.35	7	166.3683
	September	8.98	7	170.6142
		(tradingeconomics)	(CIEC and SBP for Jan 2021)	(SBP)

Fiscal Policy Stance

GOP's fiscal policy options were more limited for 2020. It had already run a very high budget deficit of -8.9% of GDP in fiscal year July 2018 – June 2019, as Table 3 shows. GOP's EFF agreement with the IMF entailed a reduction in this deficit. Hence for the fiscal year July 2019 – June 2020, GOP lowered this deficit to -8.1%. For the fiscal year July 2020 – June 2021 the deficit has been brough down further to -7.0%.

Albeit a higher revenue takes in FY 2019-2020 and FY 2020-2021 allowed GOP to increase its expenditure from 21.6% of GDP in 2018-2019 to 23.1% of GDP in 2019-2020. And then keep expenditure at 22.9% of GDP for FY 2021.

Table 3: Budget Deficit			
Time Period	Total Revenue /GDP (%)	Total Expenditure /GDP (%)	Deficit/GDP (%)
July-June. 2018-2019	12.7	21.6	8.9
July-June. 2019-20	15	23.1	8.1
July-June. 2020-21	15.9	22.9	7.0

Impact of GOP's macro policy stance on prices FY 2021

While GOP's macro policy stance has regenerated the green shoots of growth over FY2021, at 2.61%. It has not managed to control inflation all that well.

Table 4 shows the results of the Lahore School's model's runs for simulating inflation over the past three fiscal years, FY 2019, FY 2020, and FY 2021.

Table 4: Price Model Estimated for FY 2019, FY 2020 and FY 2021						GOP
Time Period	Output Gap	Budget Deficit	Exchange Rate Depreciation	Commodity Prices	Inflation	CPI
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

The model estimates baseline inflation for FY 2019 very well at 10.3 %. Which accords perfectly with GOP's estimate of inflation for FY 2019.

The model decomposes inflation into four elements:

(i) An output gap.
(ii) A budget deficit
(iii) An exchange rate effect on imports of commodities and intermediate goods

(iv) A price effect on imports of commodities and intermediate goods

The output gap, if negative reduces inflation. If positive, increases inflation.

The budget deficit, increases inflation.

Depreciation of the exchange rate increases the cost of imports of commodities and intermediate goods, used for production of domestic output.

Increases in prices of commodities and intermediate goods, also increases the cost of imports used for production of domestic output.

These four elements capture perfectly, and predict exactly, the observed inflation rate in FY 2019 of 10.3%, as Table 4 shows.
The output gap lowers inflation by 1.4%.

The budget deficit raises inflation by 7.6%.

Depreciation of the exchange rate raises inflation by 4.4%.

While falling commodity and intermediate goods prices in that year lower inflation by 1.7%.

These four elements combine to give a predicted inflation rate of 10.3% for FY 2019. Which is exactly the observed inflation rate estimated by GOP for FY 2019.

According to our model, the inflation rate drops for FY 2020, significantly to 5.3%. GOP also estimates a drop in its estimate of inflation for FY 2020, but just 9.3%.

The drop in inflation in FY 2020 is largely due to the reduction in the budget deficit to 6.4%. A reduction in depreciation of the exchange rate, compared to FY2019, to 0.9%. And a further reduction in commodity and intermediate goods prices, by 2%.

Over FY 2021, however, our model estimates that inflation has resurged to a much higher level of 13.5%. While GOP estimates inflation over FY 2021 to have dropped further to 8.2%.

Our model estimates the resurgence of inflation over FY 2021, to be entirely due to a reversal of commodity and intermediate goods prices, falling for the last two fiscal years, to increase by 9% over FY 2021.

Further, in the first Quarter of FY 2022, inflation can also be expected to remain high, with the further depreciation of the Rupee.

In terms of policy to counter inflation, GOP has indeed worked to reduce the budget deficit. Demonstrating its impact in lowering inflation in FY 2020. It has to work on controlling depreciation of the Rupee. Which has been seen to contributed significantly to inflation over FY 2019 and FY 2020. And is now threatening FY 2022.

Welfare

To provide relief to the most adversely affected by the COVID-19 crisis, the Government of Pakistan (GOP) introduced the Ehsaas Emergency Cash Program at the onset of the coronavirus pandemic in 2020. This program was designed to help approximately 15 million families in Pakistan during the span of the crisis and a total disbursement of cash transfers under this program has been of $1.13 billion to these families till date as shown by Table 5.

Table 5: Breakdown of Ehsaas Emergency Cash Program 2021

Total amount disbursed, Rs bn	179.28
Total amount disbursed, $ bn	1.13
Total number of families under this program, in millions	14.83
Cash transfer by Ehsaas Emergency Cash Program 2020 per family, $	76.50
Average household size in Pakistan	6.39
Total number of beneficiaries, in millions	95.65
Cash transfer by Ehsaas Emergency Cash Program 2020 per person, $	11.97