

Sindh Debt Sustainability Analysis

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1. List of Abbreviation

GoS	Government of Sindh
DMU	Debt Management Unit
BSP	Budget Strategy Paper
MTFF	Medium Term Fiscal Framework
PPP	Public Private Partnership
SOE	State Own Enterprises
OZT	Octroi Zilla Tax
GST	General Sales Tax
GDP	Gross Domestic Product
ATM	Average Time to Maturity
WAIR	Weighted average interest rate
FD	Finance Department
WBG	World Bank Group
SRB	Sindh Revenue Board
PBS	Pakistan Bureau of Statistics
E&T	Excise & Taxation Department
SBS	Sindh Bureau of Statistics
WEO	World Economic Outlook
IMF	International Monetary of Funds
SPF	Sindh Pension Fund
SBP	State Bank of Pakistan
ADB	Asian Development Bank
IBRD	International Bank of Reconstruction and Development
AIIB	Asian Infrastructure Investment Bank

2. Background

2.1. Sindh fiscal framework

Debt Management Unit (DMU) was created by the Government of Sindh in the Finance Department to strengthen middle and back-office functions. The DMU has published the current biannual Debt Bulletin for FY 2022-23, which provides details of debt stock, its redemption profile, composition and structure of foreign and domestic debt and risks in the existing debt portfolio.

The Finance Department has also published the annual Budget Strategy Paper (BSP) for the period 2023-2026. The BSP strengthens planning, budgeting, and macro-fiscal forecasting processes, makes the budget process participative, and enhances transparency. The BSP is a three-year rolling plan that sets policies and priorities of the government. It outlines inter alia key macro-economic assumptions, socio-economic indicators, medium-term fiscal framework, key sectoral plans, and debt management.

Finance Department has also finalized a Medium-Term Fiscal Framework (MTFF) to strengthen fiscal planning and facilitate a more effective resource allocation and use under the budget preparation. The MTFF improves the consistency of resource availability, expenditure needs, resource allocation, and medium-term fiscal restrictions.

In this context, the DMU has prepared the Debt Sustainability Analysis (DSA), after 3 years considering the quantum of new loans, abrupt currency depreciation, rising interest rates and the economic situation in the country.

2.2. What is and why a Debt Sustainability Analysis?

Debt sustainability refers to the ability of the government to maintain sound fiscal policies over time. Conversely, fiscal policies are deemed unsustainable when they lead to excessive accumulation of public debt, which could eventually cause the government to make changes in its future policies to remain solvent.

DSA refers to the analysis of current fiscal policies (determining revenues and expenditures) and the resulting budget balances; the financing needs associated with budget deficits and amortizations of outstanding debt, and the strategy to cover financing needs.

The government debt should be seen in relation to the resources available for repayment, i.e., the debt stock or debt service-to-revenue ratio. DSA is a 'forward-looking' analysis as it assesses the prospects of public finance and debt under different sets of macro / fiscal / debt projections. There is a time horizon (medium-term or long-term) over which the projections extend and analysis is conducted.

2.3. Definition of Public Debt

A relevant issue is the explicit / implicit and non-contingent / contingent character of the government's financial obligations. Data on explicit financial commitments like loans and securities are easy to collect because there are paper contracts instrumenting the government promises to repay. Implicit financial commitments like pension liabilities for public / private employees, instead, arise from the expectation by society that the government is liable for certain expenditures.

Most standard debts are non-contingent and the obligation to repay them is independent of the circumstances. For explicit contingent liabilities, a set of possible circumstances identified in contract provisions trigger an obligation by the government to fund something (i.e., public-private-partnership (PPP) projects, financial guarantees extended to state-own-enterprises (SOEs), etc.). For implicit contingent liabilities, on the other hand, there are also future uncertain events that would trigger an obligation, (i.e., utility/other expenditures of SOEs; arrears; etc.).

Comprehensive public debt coverage is key for an accurate DSA. A narrower coverage of public debt should automatically trigger a contingent liabilities stress test to assess risks from other omitted sectors. Finally, the DSA is conducted based on of gross debt, not subtracting assets held by the public sector (these mitigate but do not eliminate risks for debt sustainability).

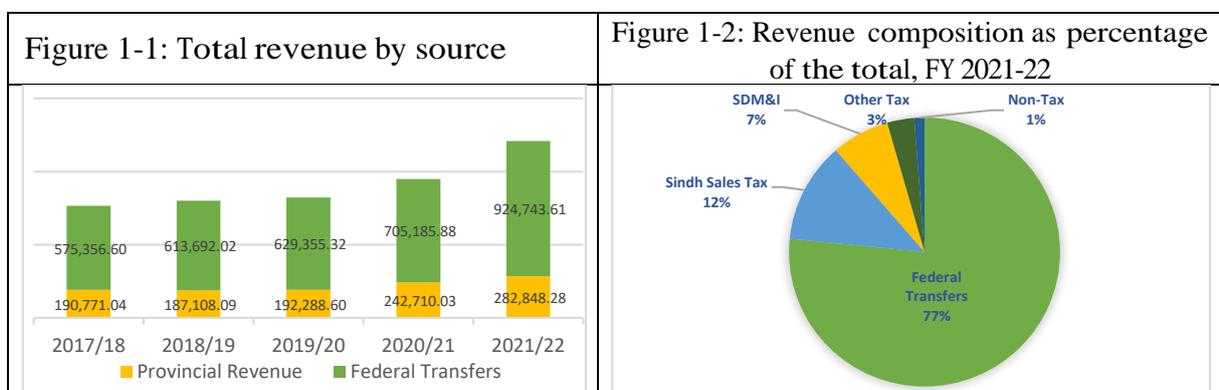
3. Fiscal dynamics

3.1. Revenue, expenditure, overall balance and debt trends

The total revenue grew by 0.3 percent of Federal GDP between FY 2017-18 to 2021-22, mainly due to Provincial General Service Tax (GST) on services. The average collection of total Provincial own revenue remained at an average of 0.44 percent of Federal GDP. The slow growth in provincial collection is mainly due to crisis of current account deficit, budget deficit and also due to the COVID pandemic.

Total revenue has decreased from 2.05 percent of GDP in 2017-18 to 1.74 percent of GDP in 2021-22. The share of Provincial own revenues in total revenues declined from 24.9 percent in 2017-18 to 23.4 percent in 2021-22 (Figure 1-1).

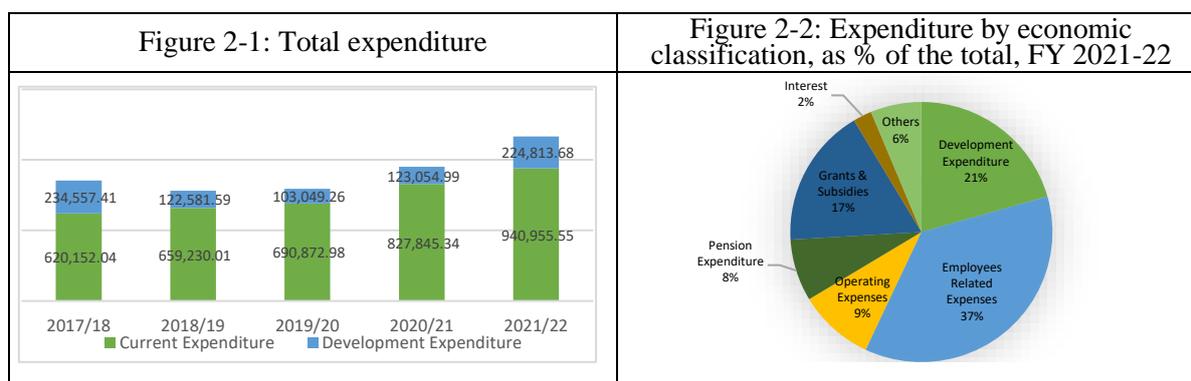
Federal transfers are major contributors to Provincial collection. Federal transfers consist of divisible pool, straight transfers, and OZT grants. In FY 2021-22, Federal transfers contributed 77 percent of the total revenue while 12 percent by GST on services, 7 percent by Sindh Development and Maintenance of Infrastructure, 3 percent by Other Tax revenues and 1.2 percent by non-tax revenues (Figure 1-2). The weight of provincial direct taxes on property, vehicle, and capital value Tax in total revenues also remained low, reaching 1.1 percent of total revenues during the period as compare to 2 percent from FY 2013-14 to FY 2017-18.



Source: Finance Department Website

The total expenditure of the province has decreased by 0.6 percent of the Federal GDP between 2017-18 and 2021-22. Total expenditures declined from 2.3 percent of Federal GDP in 2017-18 to 1.7 percent of Federal GDP in 2021-22, of which current expenditures remained at 81 percent and 19 percent by development expenditures (Figure 2-1).

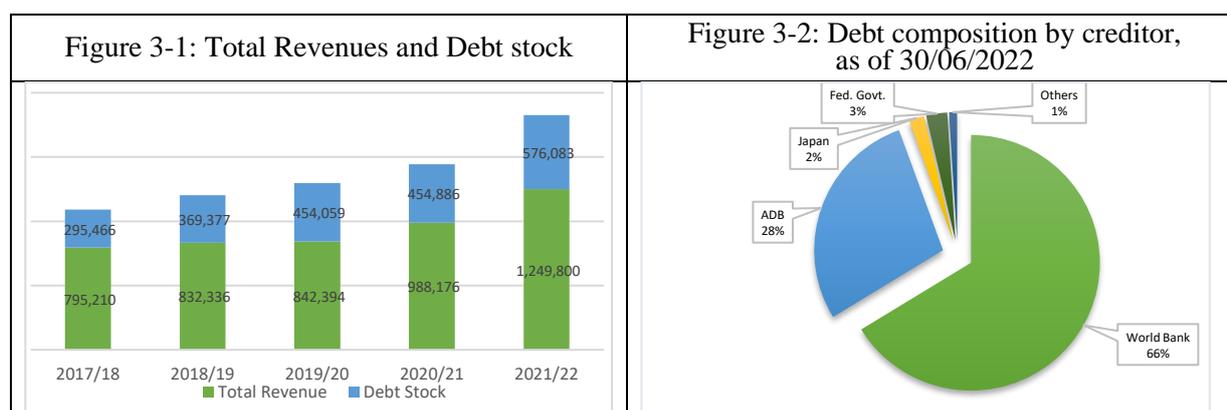
Within current expenditures, pensions had the highest annual average growth of 16.8 percent during the period; followed by grants and subsidies at 11.5 percent, employee related expenses at 11.2 percent, development expenditures at 10 percent and, operating expenses at 7 percent. Development expenditure performance was volatile during the period. The major expenditure category in 2021-22 was salaries, which was 34.1 percent of total expenditure, followed by development expenditure 19.3 percent, grants and subsidies 16.2 percent, pensions 13.6 percent, operating expenses 8.8 percent, others 5.9 percent and interest 2.2 percent as illustrated in (Figure 2-2) below.



Source: Finance Department.

In the last 4 fiscal years from 2018-19 to 2021-22, total expenditures remained less than total revenues and also the overall balance remains positive by 3.8 percent, 4.8 percent, 1.8 percent and 3.1 percent respectively. On average the primary balance remained positive with average 4.2 percent in last 4 years.

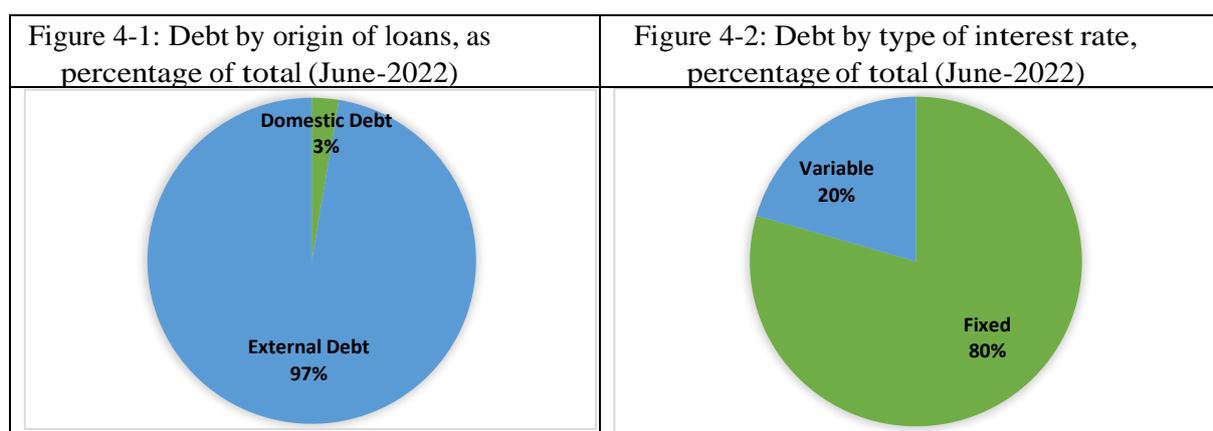
On the other hand, public debt stock has increased from 45.4 percent of total revenues in 2018-19 to 47.2 percent in 2021-22. The increase in debt stock is mainly due to currency depreciation, however on average the total debt stock remained at 46 percent of total revenues between June-2018 and June-2022 (Figure 3-1). Within outstanding debt at the end of June 2022, 66 percent of the total loan is with the International Development Association (IDA) / World Bank, 28 percent with the Asian Development Bank (ADB), 3 percent with the Federal Government, 2 percent with the Government of Japan and 1 percent with others (Figure 3-2).



Source: Finance Department and Debt bulletin, 30th June, 2022.

Most of the debt creditors are foreigners and concessional, contracted in fix-interest rates, and are maturing in the medium and long-term. The share of external loans is 97.4 percent of the total debt portfolio, which could be termed as higher exposure to exchange rate risk.

The share of debt with fix-interest rates is 79.5 percent of total debt, which is high and indicates low risk relatively, when measuring its vulnerability towards interest rate risk. The average time to maturity (ATM) for a complete debt portfolio is 10.14 years, which shows the average maturity period is high and indicates low exposure to re-financing risk. The weighted average interest rate (WAIR) for domestic loan is 11.3 percent which is relatively high (due to old domestic loans before the year 2000 on very high interest rates) when comparing to external portfolio WAIR for 1.84 percent only. The total WAIR for the entire portfolio is 2.1 percent.



Source: Debt bulletin, 30th June, 2022. Finance Department, Sindh.

4. Assumptions and projections methodology for the DSA

The DSA methodology involves three main steps:

- (i) Projecting public-finance aggregates, borrowing flows, and the corresponding public debt stock (or, better, the ratio between public debt and measures of economic output or government revenue),
- (ii) Computing debt burden indicators as well as indicators measuring the fiscal adjustment needed to render debt sustainable,
- (iii) Conducting sensitivity analysis to evaluate the robustness of debt sustainability assessment to unexpected shocks, considering a set of alternative scenarios characterized by different fiscal, macroeconomic, and financial projections.

The sets of macro / fiscal projections are often referred to as “scenarios”. Scenarios usually involve a “baseline scenario” and “alternative scenarios”, which allow us to deal with the uncertainty surrounding any projection / forecast exercise. The baseline scenario is deemed the ‘most likely’ state of fiscal policies. The ‘alternative scenarios’, instead, are designed to explore other ‘possible worlds’ which can be interpreted as shocks or policy reforms hitting the baseline case.

The DSA identifies the following methodologies, parameters and sources used for the revenues, expenditures, and financing projections of the Government of Sindh.

Table 1. Assumptions for the projections of the ‘baseline scenario

	Parameter	Projection methodology	Source
Revenues			
Divisible Pool (except excises) and OZT grants	Historical annual average growth	Data, elasticity	FD
Straight Transfers	Oil and Gas Prices	Data, elasticity	WBG Commodity Price Forecast
GST	2022-23 onwards: nominal main services, sales growth	Historical top 7 sectors growth	SRB
SDM & I	2022-23 onwards: nominal imports growth	Historical ratio to GDP	PBS
Stamp duty	2022-23 onwards: nominal SGDP growth	Data, elasticity	WBG and Historical data
Motor-Vehicle	2022-23 onwards: vehicles growth + inflation	Average 4.1% (annual) Last 5 years	E&T Department
Property	2023-24 onwards: properties growth + inflation	Average 1.5% (annual) Last 5 years	E&T Department
CVT	2022-23 onwards: nominal SGDP growth	Historical ratio to GDP	WBG and Historical data
Non-Tax	2022-23 onwards: population growth + inflation	Data, elasticity	WBG and Historical data
Expenditures			
Employee related expenses	2022-23 onwards population growth + inflation	Data, elasticity	WEO, IMF & SBS
Operating expenses	2022-23 onwards inflation	Data, elasticity	WEO, IMF & SBS
Employees retirements Benefits	2022-23 onwards 6.07% (average) annual increment, SPF Pension report 2020 data	Data, elasticity	SPF report
Grants, subsidies, etc.	2022-23 onwards, inflation + population growth	Data, elasticity	WEO, IMF & SBS
Repair and maintenance	2022-23 onwards, inflation	Data, elasticity	WEO, IMF
Expenditure on acquiring of Physical assets	2022-23 onwards, inflation + population growth	Data, elasticity	WEO, IMF & SBS
Development expenditure	2022-23 onwards historical average growth	Data, elasticity	FD/WBG
Net food account	Inflation	Data	WEO, IMF
Net public	Inflation	Data	WEO, IMF

account			
Financing			
Interest of outstanding debt at-June 2022	Interest rate of each instrument (June-22)	Data	DMU/FD
Amortization of outstanding debt at-June 2022	Redemption profile of each instrument (June-22)	Data	DMU/FD
Interest of new debt (2023-24 onwards)	SBP policy rate + 1.75% for domestic and 2% for foreign fix loans and SOFR + 1.25% for Variable	Data	SBP, ADB/IBRD, AIIB Others
Amortization of new debt (2023-24 onwards)	Foreign: 25 years of maturity including 5 years grace period Domestic: 3 years maturity & no grace period	Data	DMU/FD; Based on outstanding debt
New borrowing-Domestic	≅10% of Gross Borrowing Needs	Data	DMU/FD
New borrowing-Foreign	≅90% of Gross Borrowing Needs	Data	DMU/FD

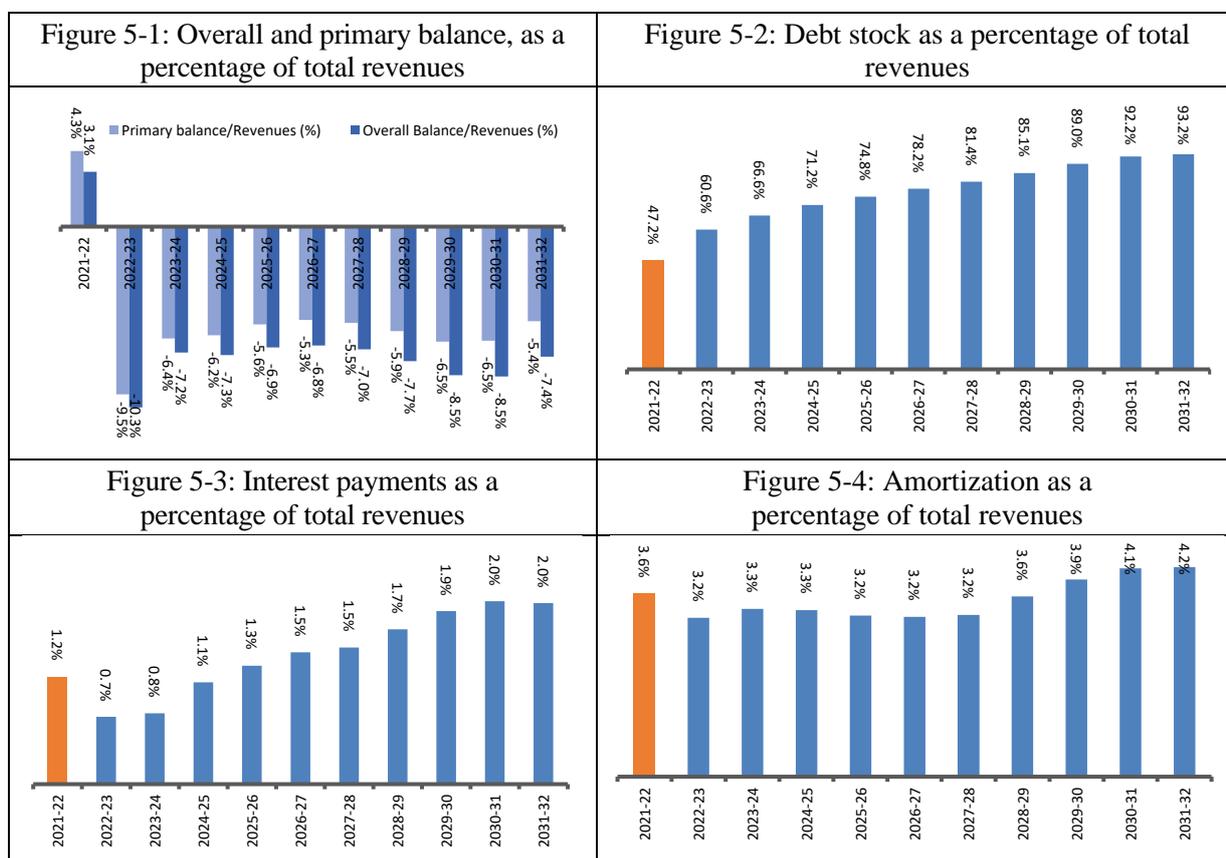
5. Debt sustainability analysis: 2022/23 to 2032/33

5.1. Baseline scenario (S0): actual policy

The overall and primary balance as a share of total revenues may improve under the baseline scenario, from a deficit of 10.3 percent and 9.5 percent in 2022-23 to a deficit of 7.2 percent and 6.4 percent in 2023-24 (projected), respectively (Figure 5-1). The overall and primary balance deficit increase to 10.3 percent and 9.5 percent in FY 2022-23, and later decrease to 5.4 percent and 7.4 percent by FY 2031-32 respectively.

In this context, public debt stock as a share of total revenues will grow from 47.2 percent in 2022-23 to 93.2 percent in 2031-32. In terms of debt flows, interest payments will increase from 0.7 percent in 2022-23 to 2 percent in 2030-31 and will remain in the range of 2 percent in FY 2031-32. The amortization will increase from 3.2 percent in 2022-23 to 4.2 percent in 2031-32 (Figures 5-3 and 5-4).

In sum, fiscal accounts and public debt appear sustainable under the baseline scenario.



Source: FD projections. (*) Includes amortization and interest payments.

5.2. Alternative scenarios

Table 2 describes the shocks included in S1, S2, S3 and S4 alternative scenarios and details the differences in regards the baseline scenario of ‘no policy change’.

Table 2. Baseline and alternative scenarios

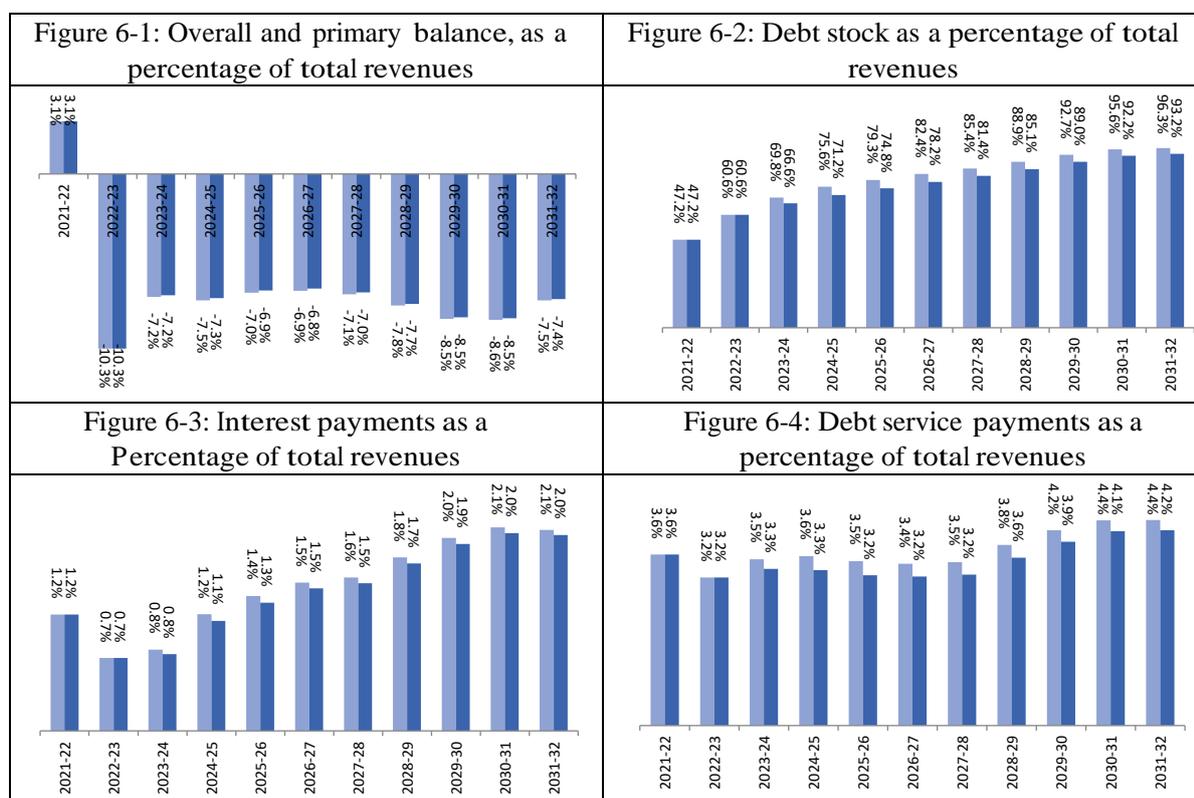
	Scenario	Detail	Differences with Baseline scenario S0
S0	Baseline		
S1	Exchange rate	10% devaluation in 2023/24, 7.5% in 2024/25, 5% in 2025/26 and 3% from 2026/27 onwards	49.5% devaluation in 2022/23 and 3% from 2023/24 onwards
S2	Pension expenditure	For FY 2023-24 to 2032-33, the average annual growth of 13.7% from FY 2018-19 to 2022-23	SPF report 2020 data.
S3	Federal transfers	For FY 2023-24 and 2024-25, the lowest federal transfer growth of 2.2% of FY 2019-20 and from FY 2025-26 onwards, last 5 years average annual growth of 14.67%	Following last 5 years average annual growth of 14.67%.
S4	Contingent liability (CLs)	Payment of 100 billion (Food Account PKR 70 billion and PPPs PKR 30 billion) (50% in 2023/24 and 50% in 2024/25)	No CLs payments

5.2.1. Currency exchange rate devaluation (S1)

The overall balance as a share of total revenues is practically the same under the baseline scenario and alternative scenario S1 of ‘higher devaluation’. External loans are mainly concessional (IDA, ADB, etc.) with low interest rates, as was mentioned previously (Figure 6-1) however, the variable rate share has increased from 0.12% in FY 2017-18 to 23% in FY 2022-23. The public debt stock as a share of total revenues increases more under S1 than under S0 since 97 percent of outstanding debt by June 2022 was contracted in foreign currency, which exposed the Government to higher exchange rate risk (Figure 6-2).

The peak of debt-to-revenue ratio is 96.3 percent in FY 2031-32 (93.2 percent under S0). In terms of the debt flows, the higher devaluation rate of S1 does not impact significantly on interest and debt services burden (principal payment) (Figures 6-3 and 6-4).

In sum, even though a higher devaluation rate accelerates the growth of public debt stock in comparison to the baseline scenario (on average +3.8 percentage points), public debt reaches sustainable levels under this alternative scenario, and the fiscal account practically behaves almost the same as in S0.

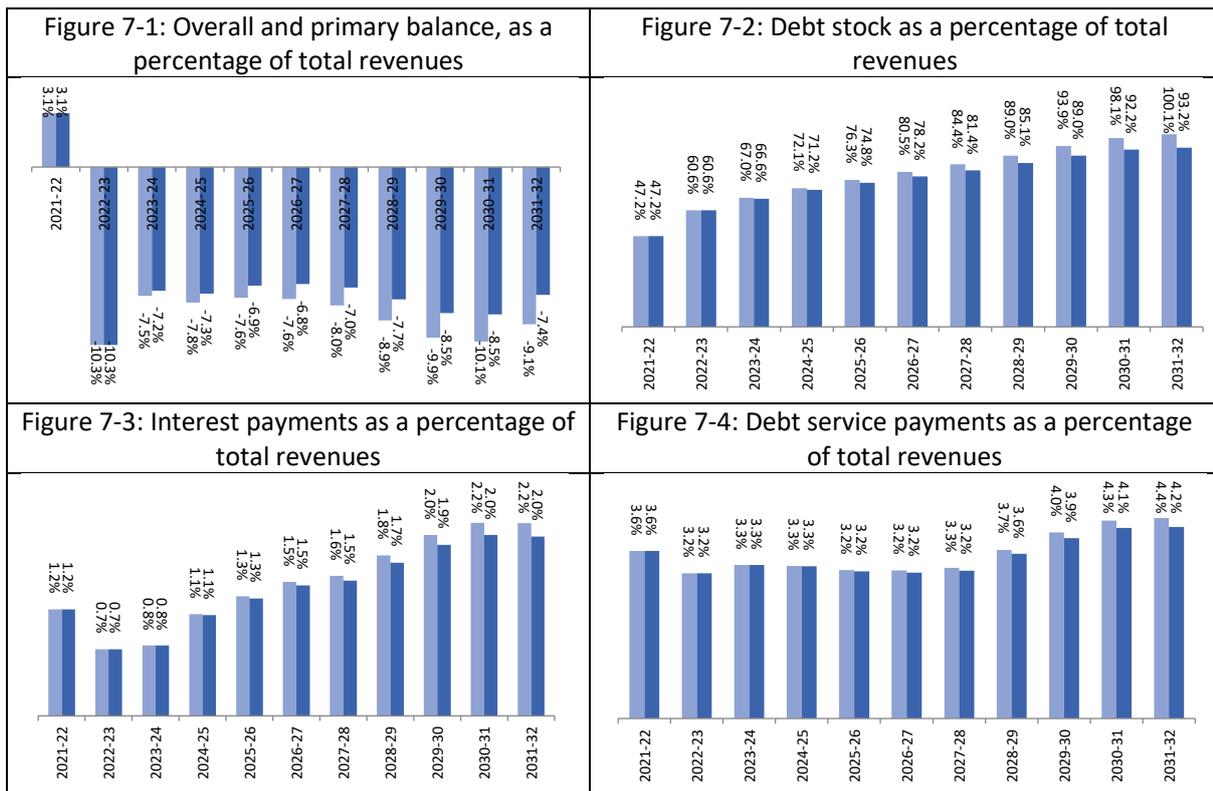


5.2.2. Pension expenditure growth (S2)

The overall balance as a share of total revenues deteriorates under the alternative scenario S2 of ‘historical pension expenditure growth’ in comparison to the baseline scenario S0, because of the fact that this category has been growing at an average annual rate of 13.7 percent since 2018-19 that is why it counts as one of the most important expenditures category.

The overall balance deficit is projected to reach 10.3 percent of total revenues in 2022-23 (10.3 percent in S0) and then it will recover to reach the deficit of 9.1 percent in 2031-32 (7.4 percent negative in S0) (Figure 7-1). Consequently, under S2 public debt stock as a share of total revenues increase to a peak of 100.1 percent in 2031-32 (6.9 percent above the peak of S0) (Figure 7-2). In terms of the debt flows, even though the higher deficits and public debt of S2 impact on interest and debt services burden (including amortization), these ratios reach an affordable peak of 2.2 percent and 4.4 percent in 2031-32 (2 percent and 4.2 percent in S0), since the new debt strategy assumes to borrow most of the new loans through concessional and long-term loans (Figures 7-3 and 7-4).

In sum, higher pension expenditure growth (as observed in last 5 years) impacts on fiscal and debt sustainability in the medium and long-term.

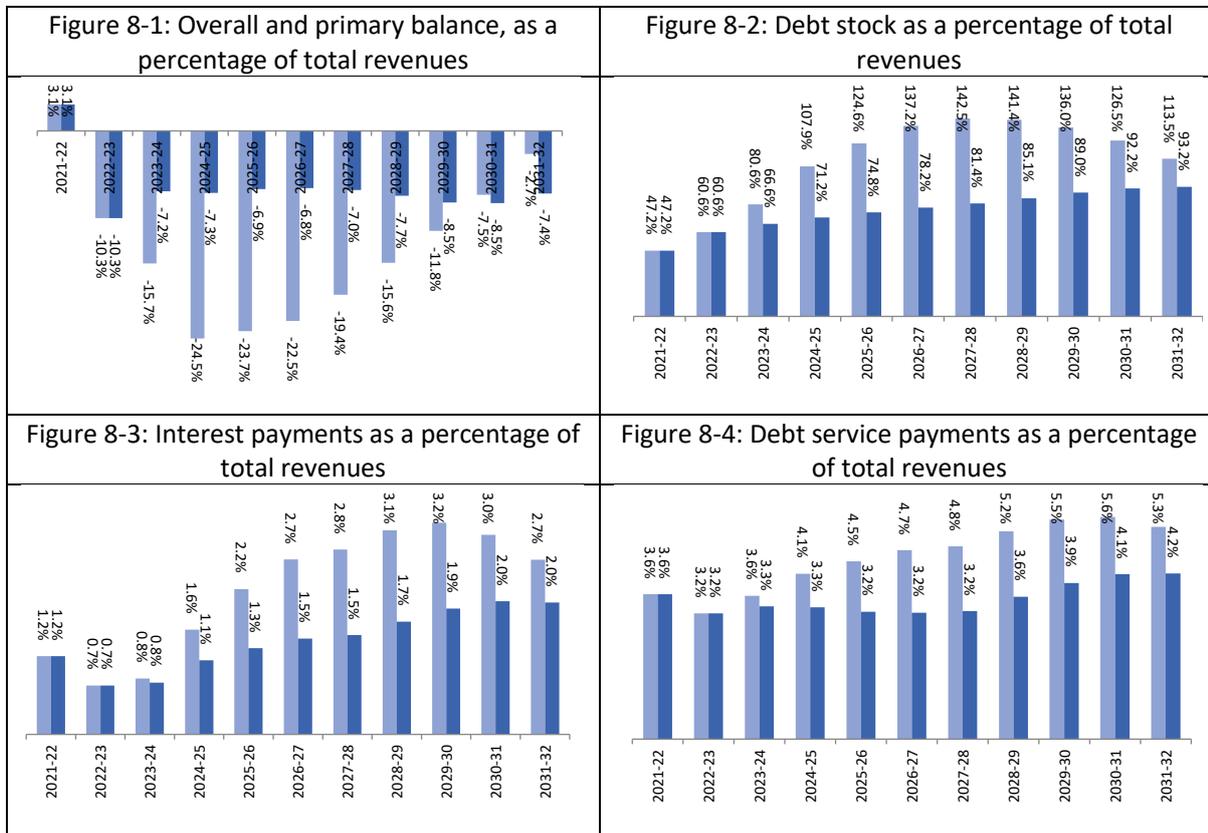


5.2.3. Federal transfers decrease (S3)

The overall balance as a share of total revenues deteriorates under the alternative scenario S3 of ‘lower federal transfers’ in comparison to the baseline scenario S0, owing to the fact that federal transfers generate around 75 percent of total revenues.

Overall balance deficit is projected to reach a peak of 24.5 percent of total revenues in 2024-25 (-7.3 percent in S0) and then it will recover to reach the deficit of 2.7 percent in 2031-32 (negative 7.4 percent in S0) (Figure 8-1). Consequently, under S3 public debt stock as a share of total revenues increase to a peak of 142.5 percent in 2027-28 (49.3 percent above than the peak of S0) (Figure 8-2). In terms of the debt flows, these ratios reached an affordable peak of 3.2 percent and 5.6 percent (2 percent and 4.1 percent in S0), since the new debt strategy assumes to borrow mostly through concessional long-term loans (Figures 8-3 and 8-4).

In sum, lower federal transfers growth in 2023-24 and 2024-25 (as observed in 2019-20) impacts on fiscal and debt sustainability in the medium-term.

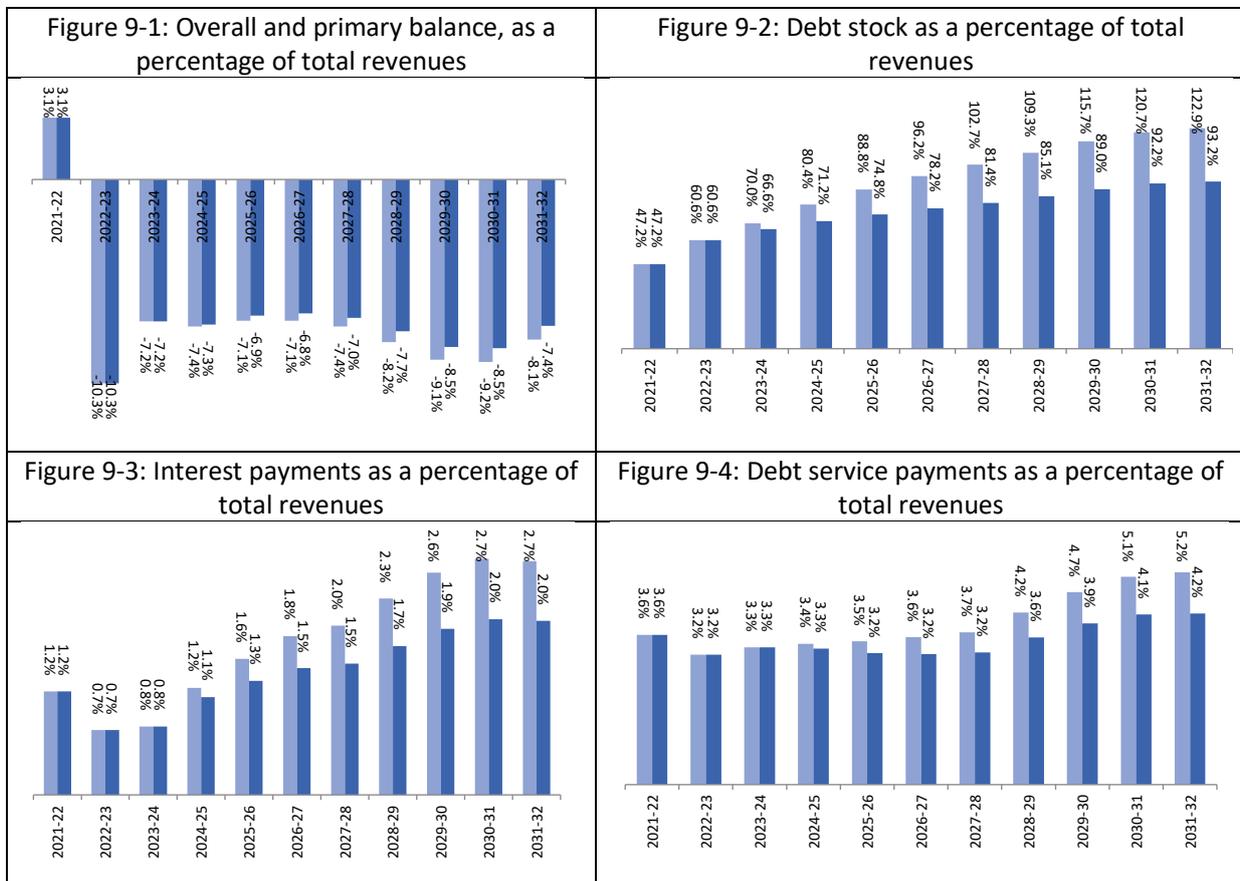


5.2.4. Contingent liability payments (S4)

The overall balance as a share of total revenues practically the same under the baseline scenario and alternative scenario S4 of ‘contingent liability payments’, owing to the fact that these payments are accounted as financing flows of the below-the-line (Figure 9-1).

However, public debt stock as a share of total revenues increases more under S4 than under S0 since CLs payments increase new borrowing in 2023-2024 and 2024-25 (Figure 9-2). The peak of debt-to-revenue ratio is 122.9 percent in 2031-32 (93.2 percent under S0). In terms of the debt flows, these ratios reach an affordable peak of 2.7 percent and 5.2 percent respectively (2 percent and 4.2 percent in S0) (Figures 9-3 and 9-4).

In sum, even though CLs payments accelerates the public debt growth in comparison to the baseline scenario (in average +18 percentage points), public debt reaches sustainable levels under this alternative scenario and fiscal account practically behave the same as in S0.



6. Glossary

- ATM:** Average time to maturity measures the weighted average time to maturity of all the principal payments in the portfolio.
- SBP:** The State Bank of Pakistan (SBP) is incorporated under the State Bank of Pakistan Act, 1956, which gives the Bank the authority to function as the central bank of the country.
- WAIR:** (weighted average interest rate) is the aggregate rate of interest paid on all debt.
- SBS:** The Sindh Bureau of Statistics is an arm of Planning & Development Board, Government of Sindh, working since early 70s with a mandate to gather reliable and quality statistical information of the region on Socio-Economic indicators.
- PBS:** Pakistan Bureau of Statistics is the prime official agency of Pakistan, responsible for collection, compilation and dissemination of reliable and timely statistical information to the policy makers, planners and researchers.
- WEO:** A World Economic Outlook Survey by the IMF staff usually published twice a year. It presents IMF staff economists' analyses of global economic developments during the near and medium term.
- IMF:** The International Monetary Fund, works to achieve sustainable growth and prosperity for all of its 190 member countries.