Fiscal effects of the COVID-19 pandemic: Assessing public debt sustainability in the Philippines

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July 14, 2022

Research questions

- Given current fiscal policy and plans, is the national government's level of debt on a sustainable path?

- Is there fiscal space left for spending needed for economic recovery?

Objectives

- Examine the immediate impact of the COVID-19 pandemic and related fiscal policy responses on the Philippines' public finances

- Provide a broader (historical) frame for assessing the recent run-up in debt

- Perform empirical exercises that determine:
  - How the public debt-to-GDP ratio will evolve in the next half-decade
  - The fiscal adjustments needed to bring debt to more comfortable levels under different time frames
  - How fiscal policy will likely respond to debt and other relevant macroeconomic conditions

# Impact of the COVID-19 crisis on Philippine public finances

Impact of COVID 19 on public finance in the Philippines

- Fiscal deficit as share of GDP more than doubled from 3.4% to 7.6%

- Primary deficit and consolidated public sector deficit both widened to about 5.5%

- National government spending accelerated by 11.3% in 2020, due in part to fiscal packages (e.g., Bayanihan I and II)

- However, public spending growth was not unusually high and was smaller compared to public expenditure growth in more recent years

- Government revenues saw an exceptional decline collapsing by 9%

Primary balance, fiscal balance, and consolidated public sector balance, percent of GDP
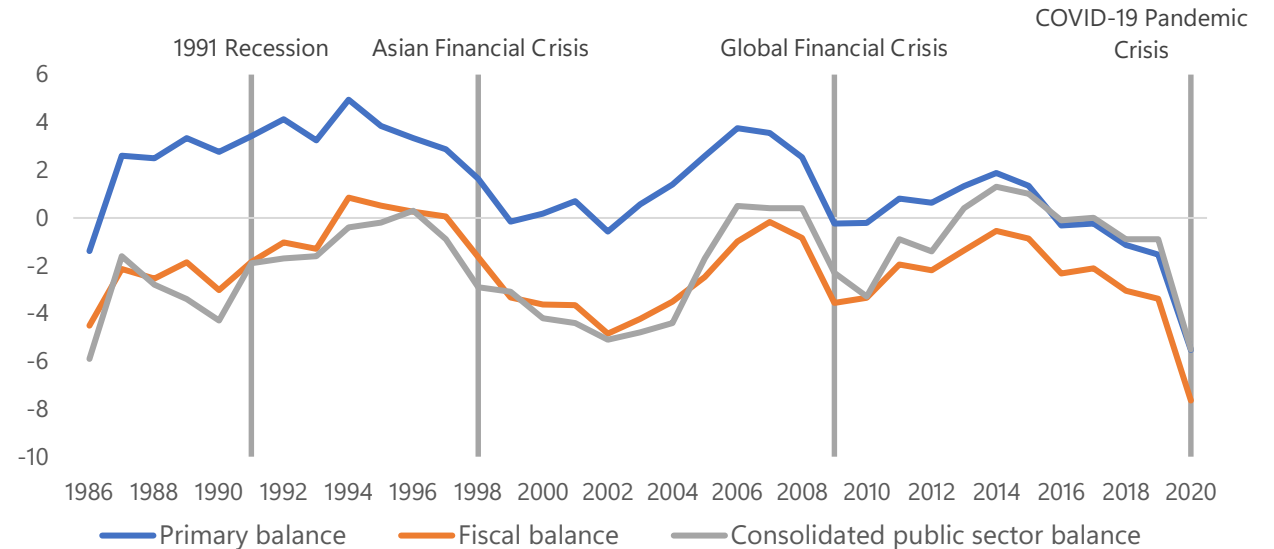

Government revenues and expenditures, level and percent change
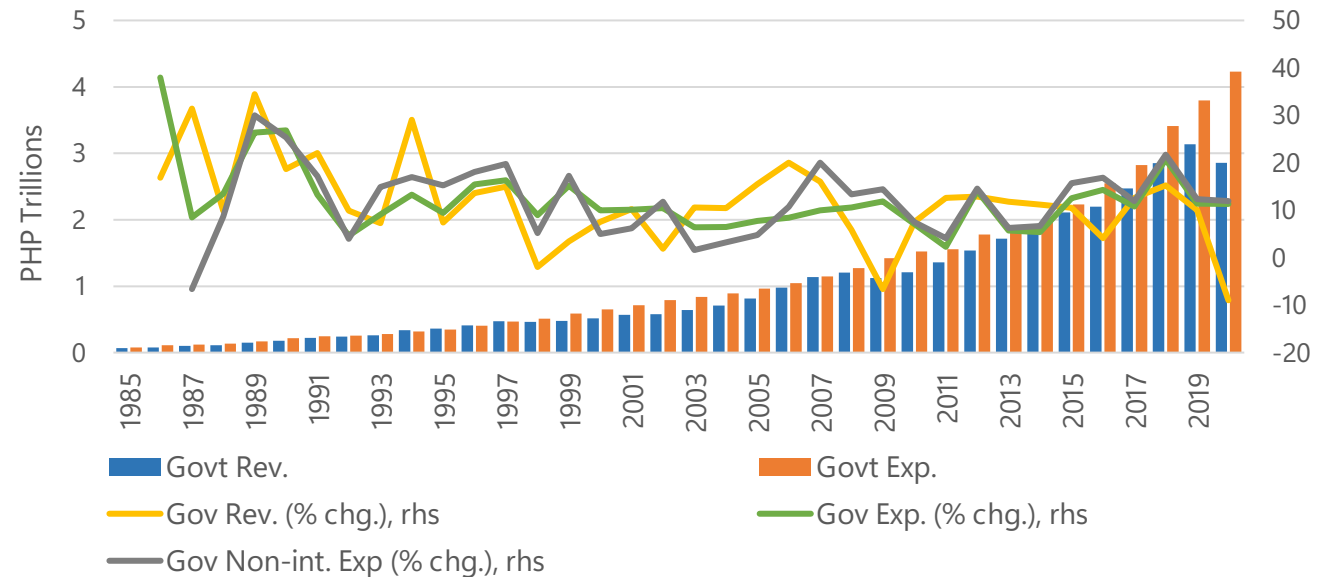
Effects of large fiscal deficit

- Significant increase in government borrowing—national government debt as % of GDP increased from 39.6% in 2019 to 60.5% in 2021

- Current debt-to-GDP ratio is only surpassed in 1993 and 2002-2004 to 2004 (peaking at 71.6%)

- Following tax reforms and fiscal constrains, public debt decreased steadily from 2007 until the COVID-19 pandemic

National government debt as percent of GDP
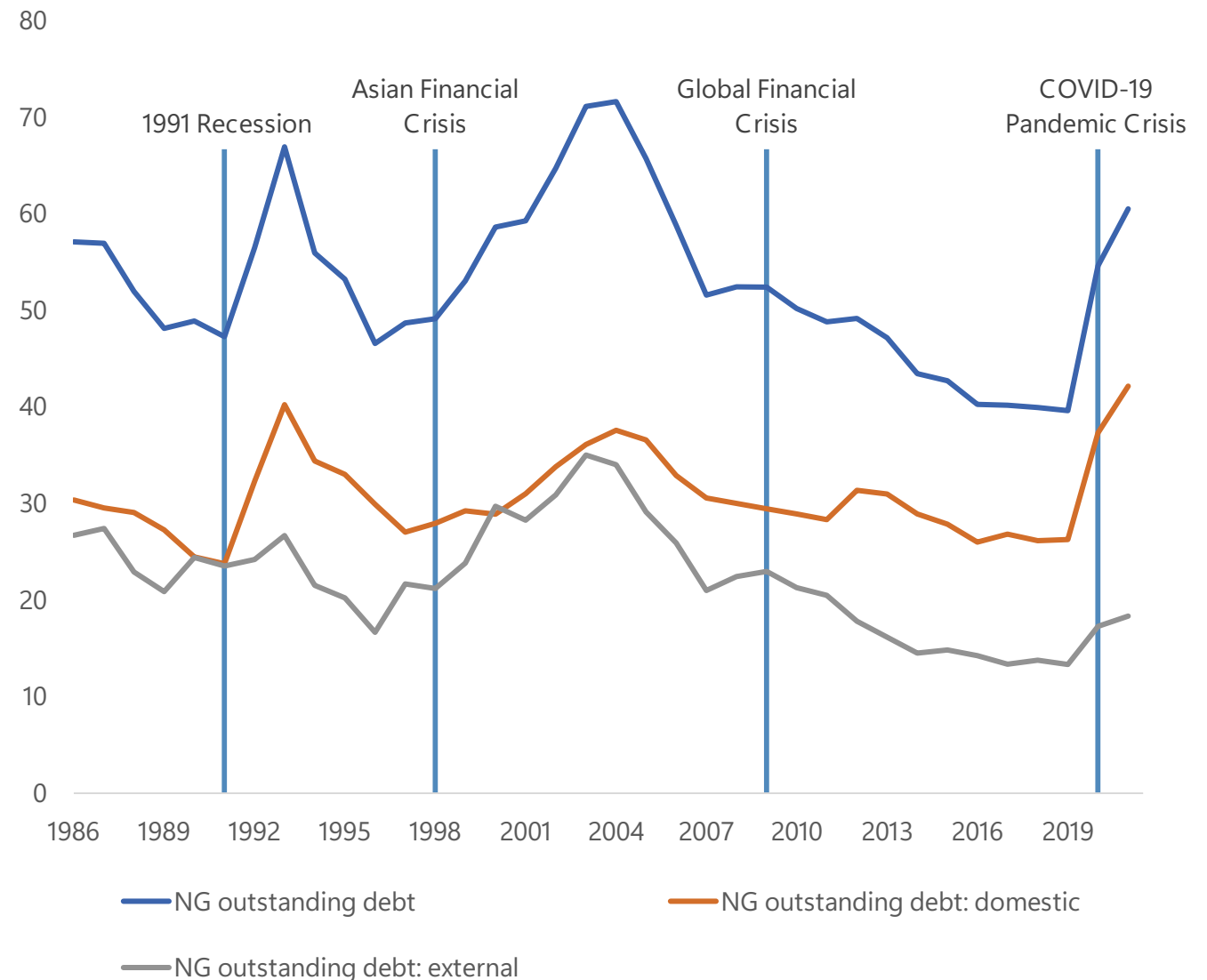
Decomposing public debt:
a historical view

- The current debt differs from previous episodes (unlike the high external debt and interest rate shock in the 1980s, absorption of hidden deficits in the late 1980s and early 1990s, and the declining tax and revenue effort in the mid-2000s).

- There are tax reform laws to address the decline in tax performance in prior years (e.g., RVAT, TRAIN law), and the CREATE law in response to the COVID-19 pandemic.

- The current debt is the result of a large exogenous shock to growth and revenues, and of the government's accumulation of cash reserves as a precautionary move.

Historical decomposition of national government debt

The sharp increase in the debt-to-GDP ratio in 2020 was driven mainly by the drop in growth (light blue bar) and the large primary deficit (medium blue bar).
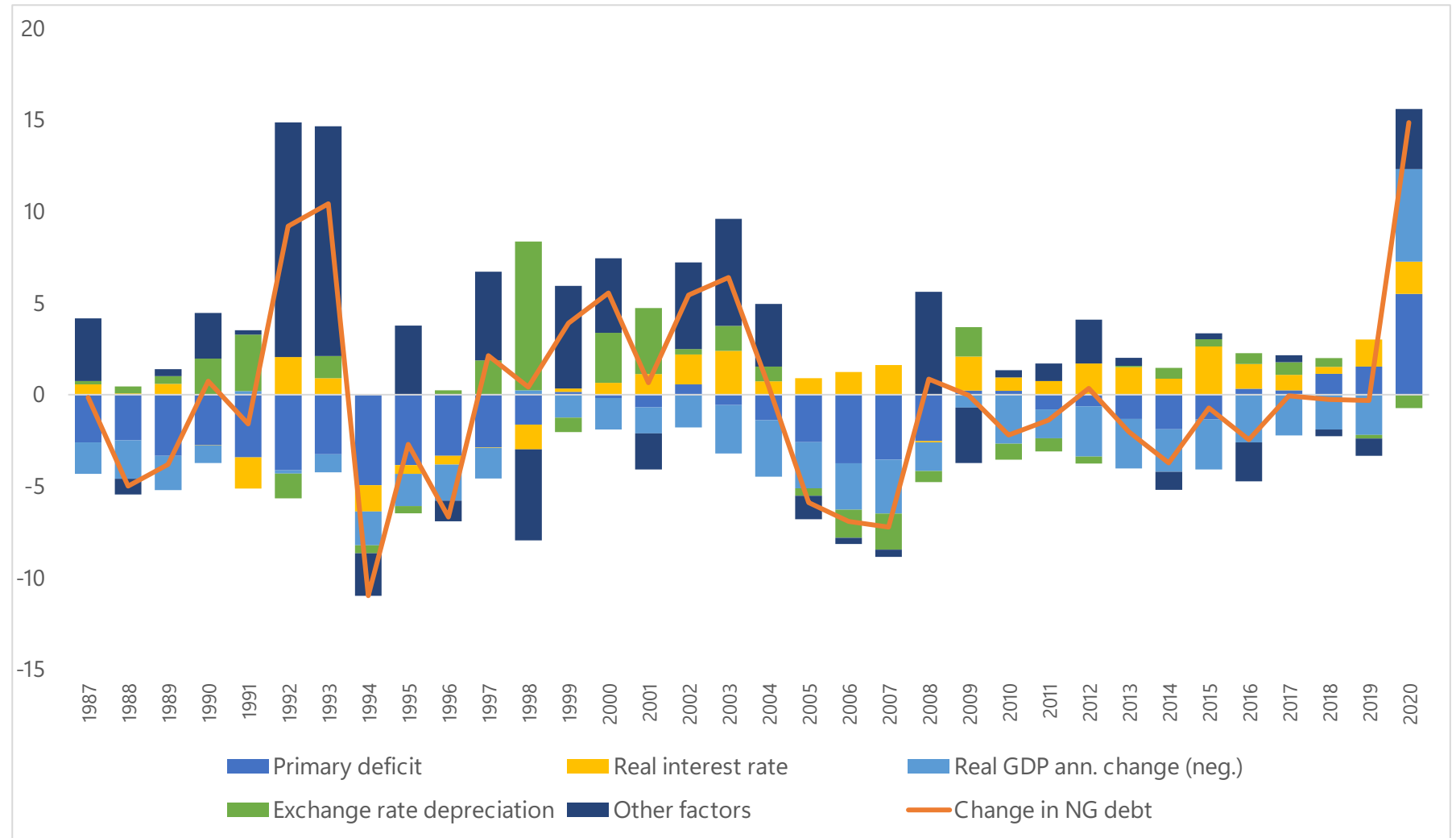
Analysis of Philippine debt sustainability (standard IMF DSA method)

Basis of fiscal outlook data for projections

- Projections were based on data for key fiscal and other macroeconomic variables derived from:
    - o The government's medium-term fiscal program (DBCC, DBM, NEDA, & BSP); and
    - o The consensus view of forecasters from various financial institutions and research and forecasting firms (World Bank, IMF, CEIC, & Focus Economics)

- These sources were chosen because of the assumption that:
    - o Economic authorities are responsible for planned fiscal policy adjustments in the medium term; and
    - o Consensus forecasts contain adequate information while also incorporating a more representative private-sector view.
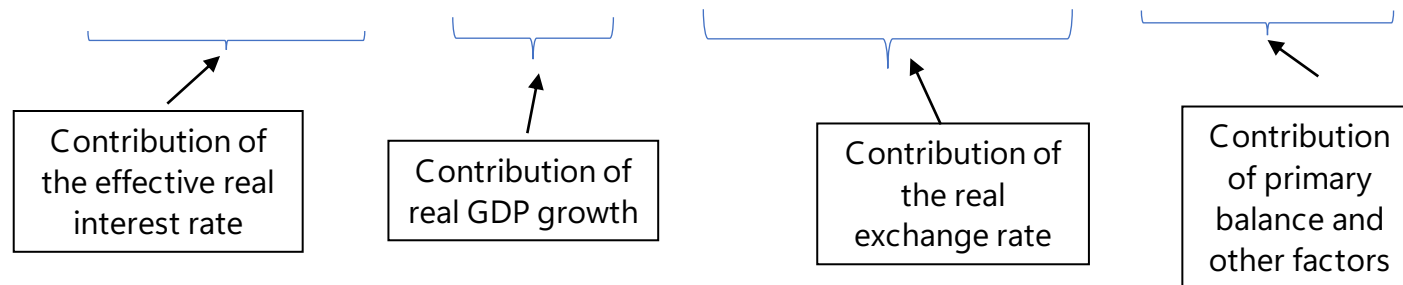
Debt Sustainability Analysis: Medium Term Trajectory

The study adopts the standard DSA method and publicly available template of IMF to compute public debt and public debt dynamics in the Philippines. The evolution of the stock of public debt is expressed as:
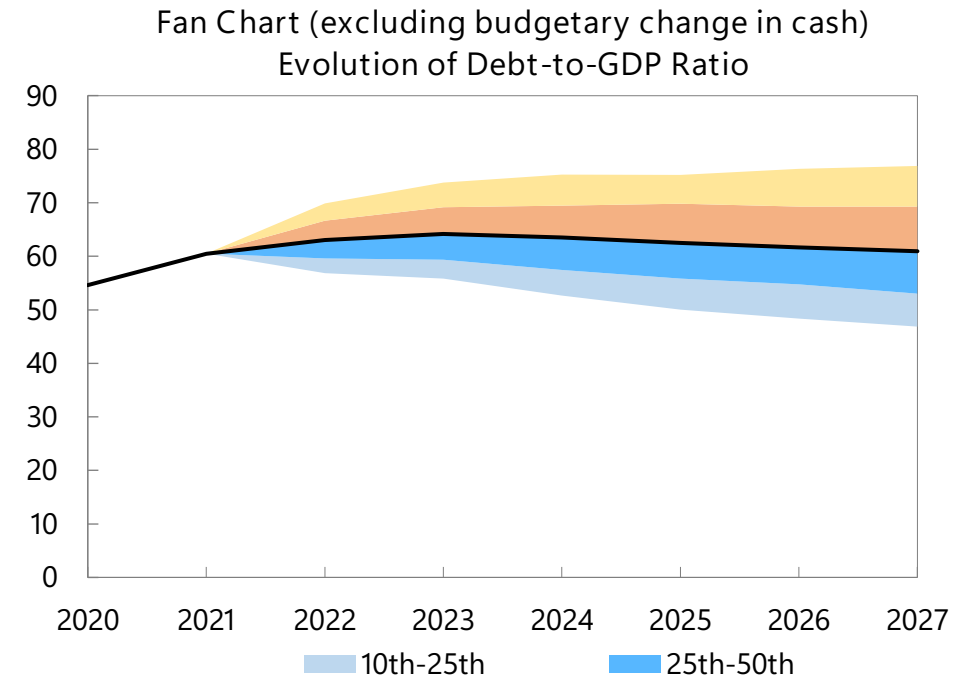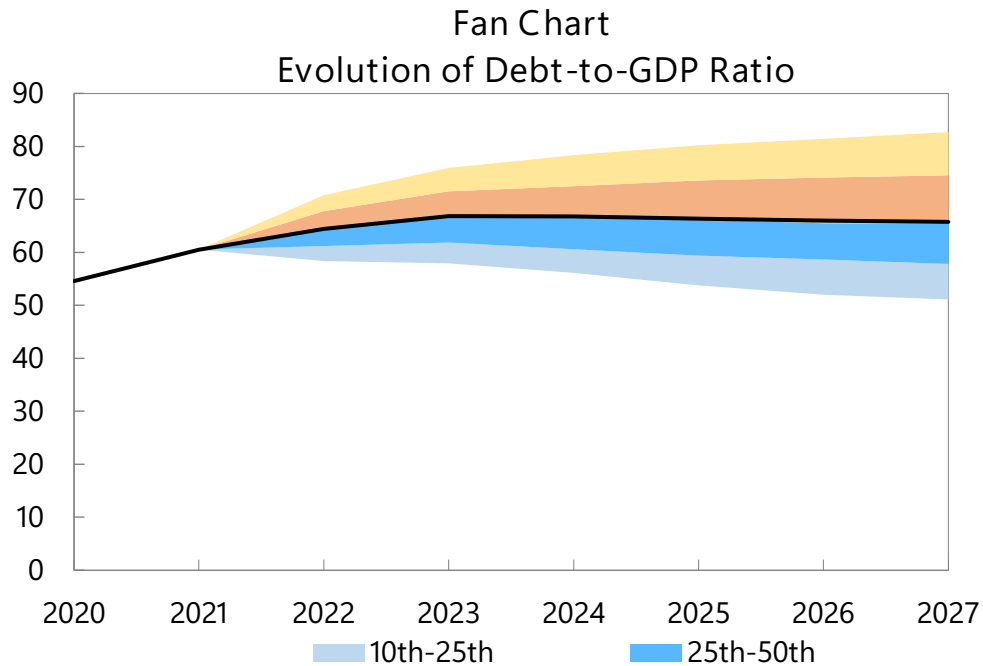
- $D_{t+1} = \frac{e_{t+1}}{e_t} * \left(1 + i_{t+1}^f\right) * D_t^f + \left(1 + i_{t+1}^d\right) * D_t^d - (T_{t+1} + G_{t+1} - S_{t+1}) + O_{t+1} + RES_{t+1}$

$\underbrace{\qquad\qquad\qquad\qquad\qquad\qquad}_{\text{Obligations from } D_t}$ $\underbrace{\qquad\qquad\qquad}_{\text{Primary balance}_{t+1}}$ $\underbrace{\qquad\qquad}_{\text{Other one-time factors}_{t+1}}$

This same equation can be redefined to project the public-debt-to GDP ratio.

- $d_{t+1} - d_t = \left(\frac{1}{1+g_{t+1}}\right) * \left(d_t * \left[r_{t+1}^d \frac{d_t^d}{d_t} + r_{t+1}^f * \frac{d_t^f}{d_t}\right] - d^t * g_{t+1} + d_f^t * \xi_{t+1} * \left(1 + r_{t+1}^f\right)\right) - pb_{t+1} + o_{t+1} + res_{t+1}$

| Contribution of the effective real interest rate | Contribution of real GDP growth | Contribution of the real exchange rate | Contribution of primary balance and other factors |

DSA Results: Debt ratio projected to decline after 2024

Fan Chart
Evolution of Debt-to-GDP Ratio

Legend: 10th-25th, 25th-50th

Fan Chart (excluding budgetary change in cash)
Evolution of Debt-to-GDP Ratio

Legend: 10th-25th, 25th-50th

- The NG debt-to-GDP ratio will peak in 2023 at 66.8% before gradually declining over the succeeding years

- It is assumed that the country will make efforts toward fiscal consolidation, maintaining the 1.7% of GDP primary deficit from 2024 to 2027.

- The NG fiscal program show the presence of cash reserves.

- With no budgetary change in cash, debt-to-GDP ratio will still peak in 2023 but lower by 2.6 ppts at 64.2%.

|	2020	2021	2022	2023	2024	2025	2026	2027
NG debt/GDP	54.6	60.5	64.4	66.8	66.8	66.4	66.0	65.7
NG debt net budgetary change in cash/GDP	54.6	60.5	63.0	64.2	63.5	62.5	61.7	61.0

Debt Sustainability Risks

- Real GDP shock poses the largest risk to debt sustainability
- Military and uniformed personnel pensions
- Net losses of PhilHealth
- Implementation of the Mandanas-Garcia Supreme Court ruling
- Natural calamities
- Aggregate demand risks
- Cybersecurity

Fiscal adjustments in the post-COVID-19 period

How large are the fiscal adjustments required to reduce the debt-to-GDP ratio to the pre-pandemic level of 40%?

Debt-to-GDP ratio

Initial

Target

t $t+1$ $t+2$ ... T

Primary balance (% of GDP)

Fiscal gap

t $t+1$ $t+2$ ... T
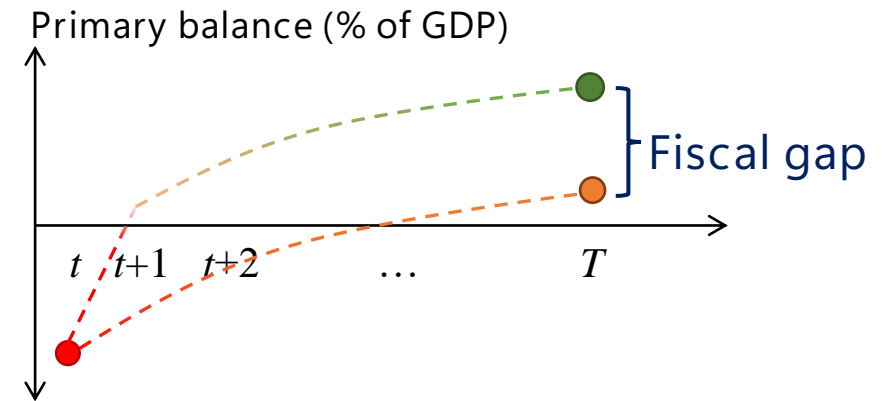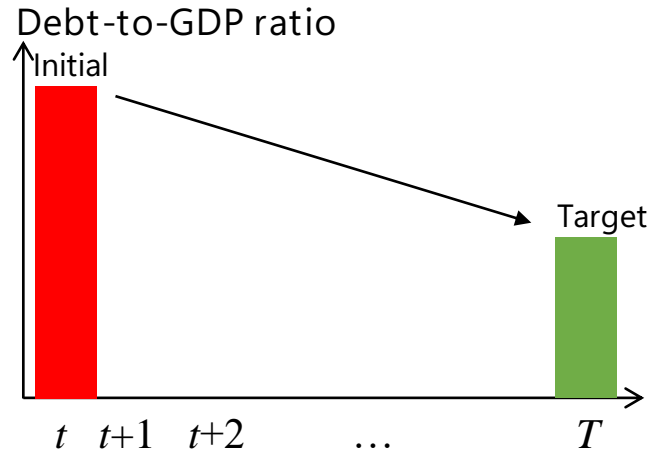
- Fiscal gap: the amount by which the primary balance (% of GDP) must be increased annually over its projected path to reach a target debt-to-GDP ratio over a timeframe

Fiscal gap = [Initial debt/GDP − Present-value target debt/GDP] − Flow of present-value primary balances (%GDP)

- GDP growth and real interest rate are constant; abstracts from foreign debt and exchange rate; no feedback between variables.

Setup and assumptions

- Initial year = 2021
- Initial debt/GDP = 60.5%
- Target debt/GDP = 40%
- Terminal year = 2031, 2041, 2051 (10-, 20-, and 30-year time horizons)
- Primary balance improves from -6.96% of GDP in 2021 to -0.81% of GDP by 2031
- Scenarios:

	GDP growth	Real interest rate
Pessimistic	5%	4%
Median	6%	3%
Optimistic	7%	2%

Fiscal gap estimates

- Fiscal gaps are lower under longer time horizons, and more favorable growth and interest rate conditions

- Fiscal gap estimates associated with a 2031 deadline are quite high (1.43-3.44% of GDP)

- A quick return to the pre-pandemic debt ratio would be challenging given the large fiscal adjustments required

Fiscal gap (% of GDP)
by terminal year and macroeconomic scenario
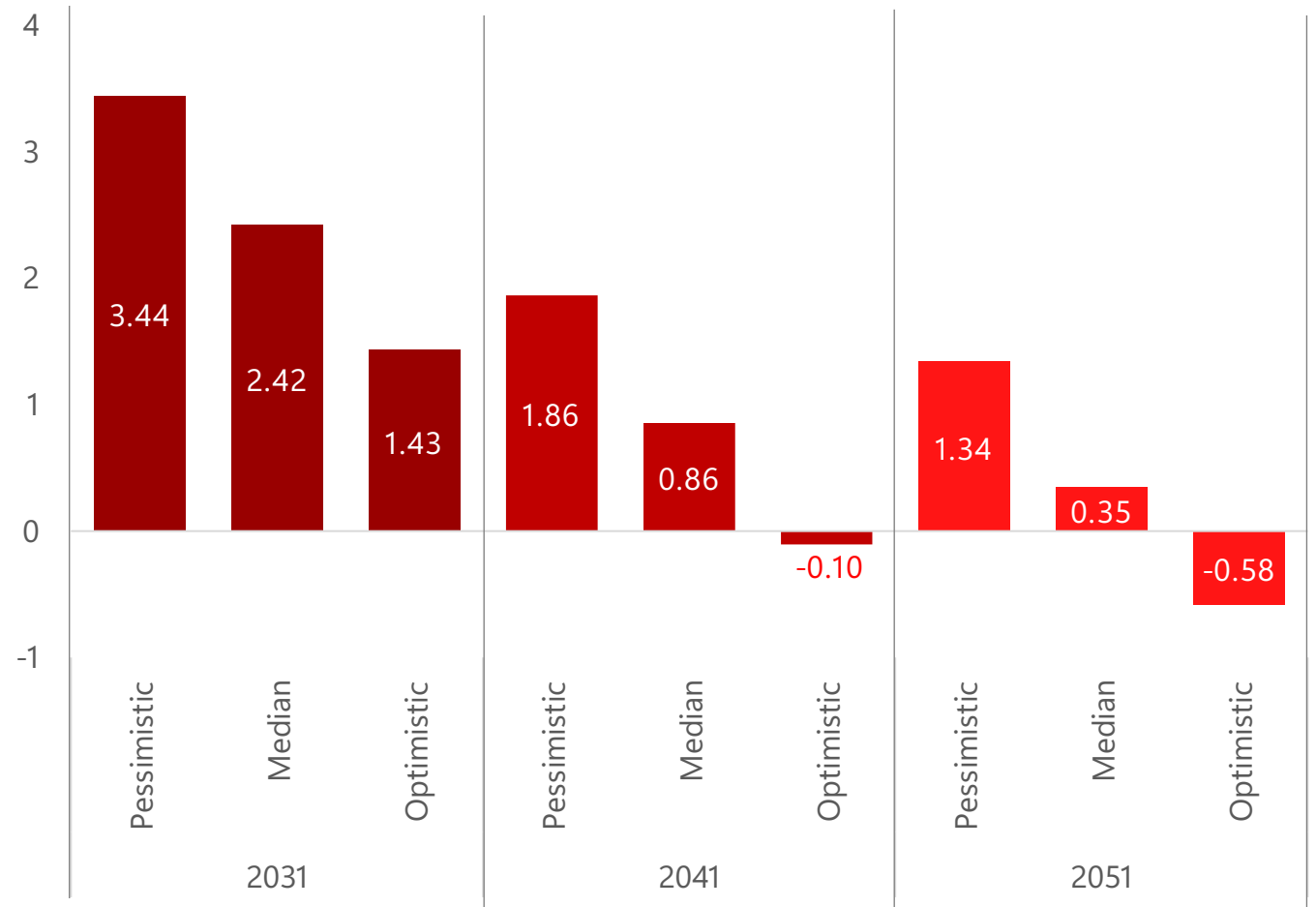
Assessing public debt sustainability through fiscal reaction functions

# Estimation of Fiscal Reaction Functions (FRFs)

- Fiscal reaction functions (FRFs) help:
  - Specify the fiscal policy response to public debt, controlling for other influences.
  - Indicate how a government will likely react to its debt burden (based on policy track record or on what similar countries were able to achieve or sustain in the past).
  - Uncover systematic features of the policy process and possible nonlinearities in government behavior.
  - The FRF can be written as:

$$p_t = \alpha + \beta p_{t-1} + \rho d_{t-1} + \gamma X_t + \varepsilon_t$$

Primary balance at time t	Lagged prim. bal.	Lagged debt	Control variables

  - For short-run debt sustainability: $\rho > \frac{(r-g)}{(1+g)}$, where r is the real interest rate and g is growth.
  - For long-run debt sustainability: $\frac{\rho}{1-\beta} > \frac{(r-g)}{(1+g)}$.
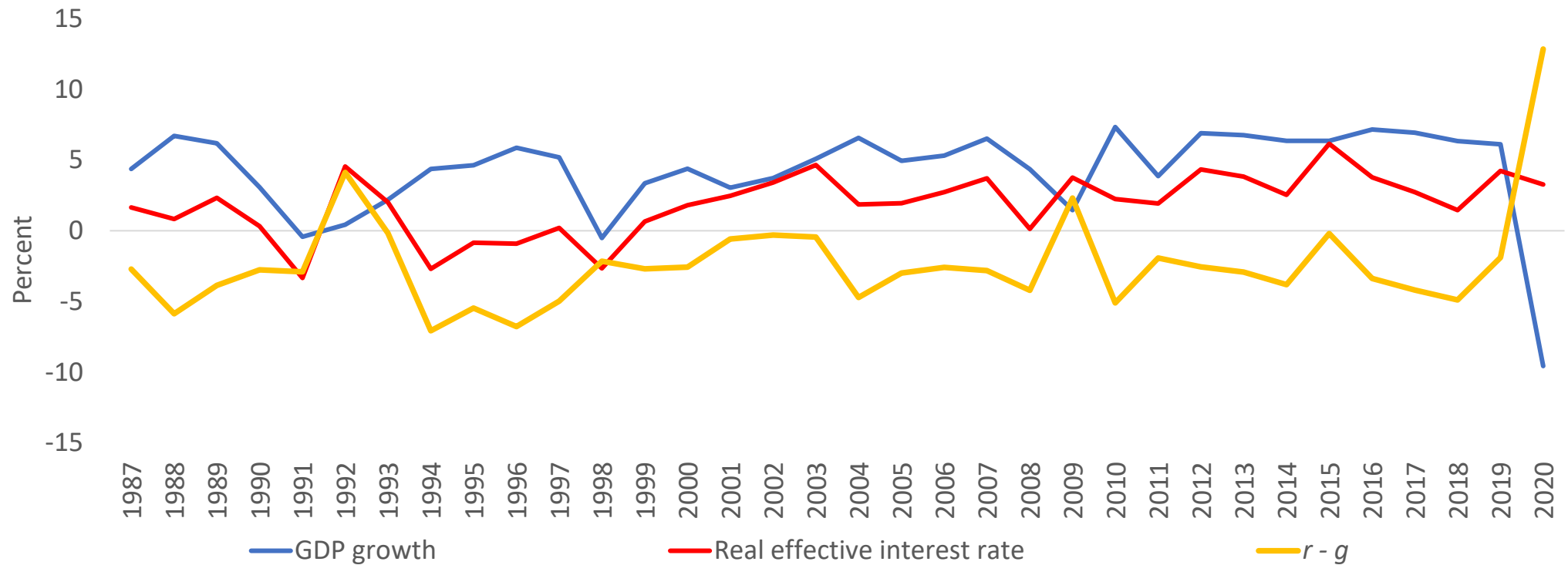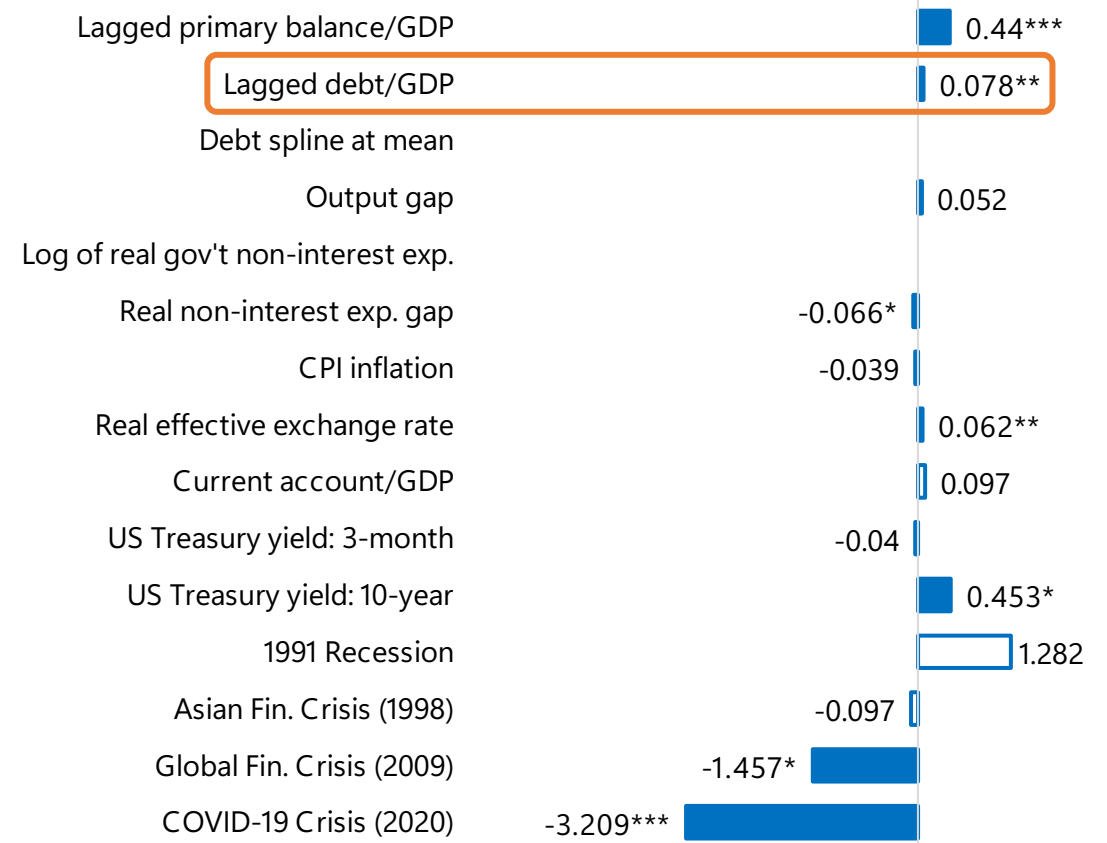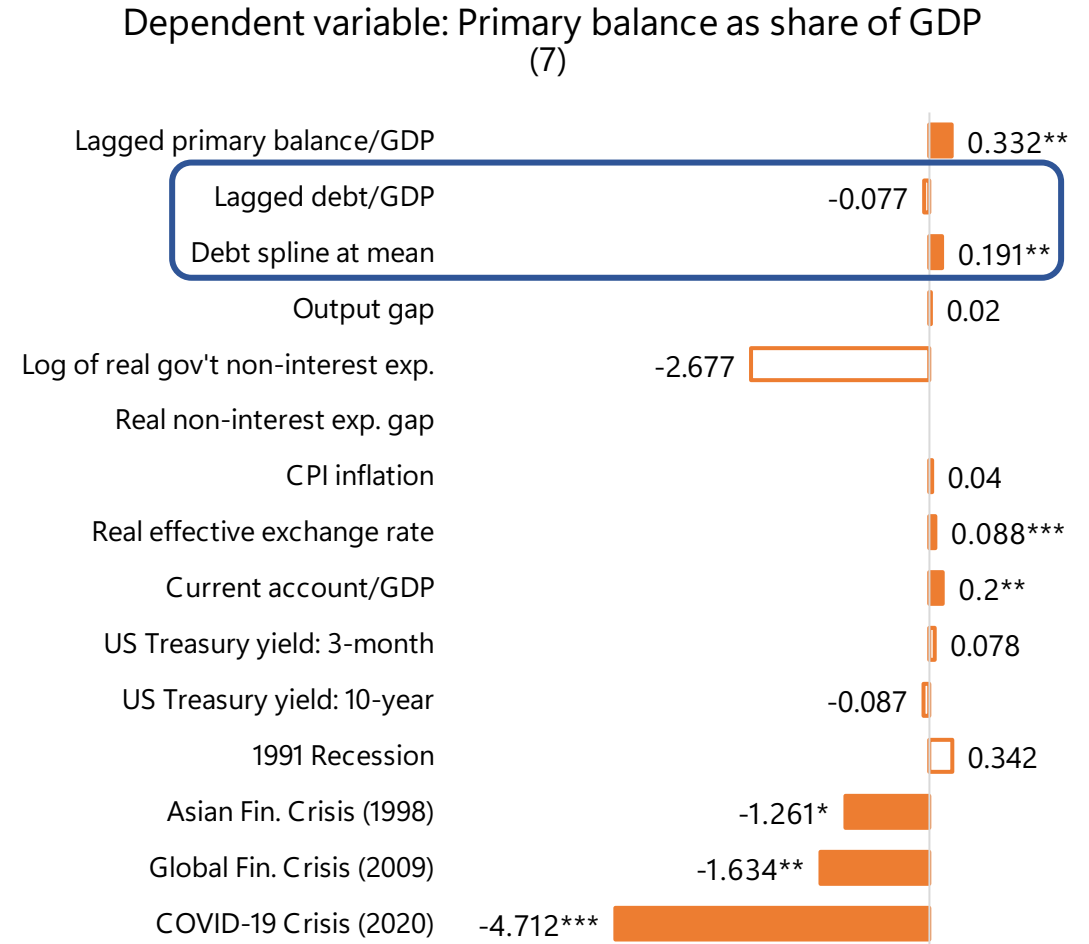
FRFs for the Philippines (key findings)

- There is a high degree of inertia or persistence of fiscal policy. Coefficients associated with lagged primary-balance-to-GDP ratio are mostly positive and statistically significant.

- Fiscal policy is generally consistent with a desire to achieve fiscal solvency. Coefficients on lagged debt are mostly positive and statistically significant.

- As would be expected, surprise public spending leads to a fiscal deterioration. Coefficients on the non-interest public spending gap, in particular, are positive and statistically significant.

Dependent variable: Primary balance as share of GDP
(5)

Lagged primary balance/GDP	0.44***
Lagged debt/GDP	0.078**
Debt spline at mean	
Output gap	0.052
Log of real gov't non-interest exp.	
Real non-interest exp. gap	-0.066*
CPI inflation	-0.039
Real effective exchange rate	0.062**
Current account/GDP	0.097
US Treasury yield: 3-month	-0.04
US Treasury yield: 10-year	0.453*
1991 Recession	1.282
Asian Fin. Crisis (1998)	-0.097
Global Fin. Crisis (2009)	-1.457*
COVID-19 Crisis (2020)	-3.209***

FRFs for the Philippines (key findings)

- The country's fiscal authorities appear to capitalize on real exchange rate appreciation and the forces supporting it to build up primary balances and reduce debt. Coefficients on the real effective exchange rate are all positive and statistically significant.

- As expected, current account parameters indicate "twin deficits"—fiscal and current account deficits tend to occur simultaneously. Coefficients on the current account are positive and statistically significant.

- In one specification, fiscal effort seems to increase when debt rises above comfortable levels. Positive and statistically significant coefficient on the debt spline at mean variable.

- Among the crisis episodes, the COVID-19 pandemic had the harshest impact on the country's fiscal balances. Negative and statistically significant coefficient on the pandemic dummy variable.

Dependent variable: Primary balance as share of GDP
(7)

Variable	Value
Lagged primary balance/GDP	0.332**
Lagged debt/GDP	-0.077
Debt spline at mean	0.191**
Output gap	0.02
Log of real gov't non-interest exp.	-2.677
Real non-interest exp. gap	
CPI inflation	0.04
Real effective exchange rate	0.088***
Current account/GDP	0.2**
US Treasury yield: 3-month	0.078
US Treasury yield: 10-year	-0.087
1991 Recession	0.342
Asian Fin. Crisis (1998)	-1.261*
Global Fin. Crisis (2009)	-1.634**
COVID-19 Crisis (2020)	-4.712***

Implications for fiscal sustainability in the Philippines

- Historically (recent history), the country's debt tended to climb with every recession, but government eventually managed to generate primary surpluses and fiscally consolidate, albeit with a lag.

- Our empirical method confirms this observation and reveals behavior compatible with a desire to maintain fiscal solvency and minimize the likelihood of a debt crisis.

- Developing ASEAN-5's capacity to improve fiscal balances declines as public debt escalates—this suggests natural limits to generating primary surpluses.
  - The finding for the Philippines in this area seems different and indicates an inclination to intensify efforts to protect fiscal conditions as debt mounts (within a reasonable range).

Implications for fiscal sustainability in the Philippines

- So, provided there is no structural break in relation to fiscal policies and institutions, one can expect the same set of responses to debt developments in a post-COVID-19 setting.
  - Therefore, major fiscal policy changes need to be carefully considered.
- A sound fiscal track record helps allay concerns about sovereign risk and thus raise debt limits (i.e., widen fiscal space), which would be useful when one needs to continue supporting a fragile economic recovery.
  - Similar dynamics justify the importance of a sound fiscal consolidation strategy to prevent an escalation of financing costs from derailing growth.

Conclusions

- Question: Is the national government's current level of debt, given its fiscal policy and plans, still on a sustainable path?
- What have we learned?
  - From historical decomposition: "This time is different?"
  - From standard debt sustainability analysis: With the buildup of cash buffers, there seems to be wide scope for future debt declines.
  - From fiscal gap analysis: It may not be feasible to immediately aim for low debt, but highly important to have a sound medium- to long-term fiscal consolidation plan.
  - From fiscal reaction functions: Systematic behavior in the Philippines and similar countries in the region indicate responsive fiscal policy that guarantees fiscal solvency. However, there should be no structural break in terms of policies and institutions.

Recommendations

- **No structural break**
  - No fiscal policy reversals
  - No weakening of fiscal institutions
- **Spending to avert economic scarring**
  - Well targeted (e.g., to vulnerable households and businesses)
  - Efficiently allocated (e.g., mainly for healthcare, education, social protection delivery, and infrastructure, which has high short-term and long-term multiplier effects)
- **Sound medium-term to long-term fiscal strategy**
  - To rebuild fiscal space
  - To maintain macroeconomic stability

Thank you!