



CPBRD
**BUDGET
BRIEF**

— NO.2 | 2022 —

***The Proposed FY 2023 National Budget
and the Medium-Term Revenue Program***

HIGHLIGHTS

- ❑ **The Medium-Term Fiscal Program (2022-2028) establishes a fiscal consolidation strategy that relies heavily on the improvement of revenues.** Under the new administration, revenue effort is projected to improve from 15.5% in 2021 to 17.6% of GDP in 2028. Note that it was during the Ramos administration that revenue effort peaked at 17.4% in 1994. The source of revenue growth will come mainly from tax collection which is also expected to expand from 14.5% of GDP in 2022 to 17.1% in 2028. Beginning 2025, the country will surpass the benchmark 15% tax effort considered by the Asian Development Bank as the level needed for sustainable growth.
- ❑ **DBCC-programmed revenues for 2022 and 2023 are slightly higher than Congressional Policy and Budget Research Department's (CPBRD) revenue forecasts for the period.** Revenue estimates were derived by CPBRD using its computed tax elasticity and macroeconomic assumptions from various organizations and institutions which were grouped into: 1) private sector; 2) multilateral institutions; and 3) CPBRD. Compared with the DBCC-programmed revenues in 2022 and 2023, revenue forecasts by CPBRD are slightly lower for all the different scenarios considered for the period.
- ❑ **Prior to the pandemic, the country's tax efforts were comparably higher compared with ASEAN-6 countries.** The tax effort improved from 11.6% in 2010 to 14.5% in 2019, outperforming Singapore, Malaysia and Indonesia. Also, tax efforts of ASEAN-6 countries were observed to have remained stagnant or have declined, except for the Philippines. In contrast, the country lagged behind most of the ASEAN-6 which historically have posted better revenue efforts. This suggests that the country may have a window of opportunity to generate additional revenues from non-tax revenue sources.
- ❑ **The tax packages under the Comprehensive Tax Reform Program contributed to the improvement in revenue performance.** From 2018-2021, the tax reform generated a total of P507.7 billion in additional revenues. Majority of this contribution is from the Tax Reform for Acceleration and Inclusion (TRAIN) Law at P476.1 billion. Also, the tax reform made changes to the tax structure by reducing the tax burden on labor and capital income, while relying more on excise taxes that are aimed to correct negative externalities.
- ❑ **The decomposition of change in tax effort identifies the factors that contribute to the improvement or deterioration of tax effort.** Positive contributions to the Bureau of Internal Revenue (BIR) tax effort came from excise taxes and documentary stamp tax which can be attributed to change in tax policy. Meanwhile, the improvements seen on personal income tax on business income and excise tax on petroleum can be credited to better collection efficiency. On the other hand, the deterioration of the corporate income tax and value-added tax (VAT) effort is largely contributed by tax leakage.
- ❑ **Identified priority tax reform measures will provide critical support to fiscal consolidation plan.** Indicative estimate of additional revenues from selected tax reform measures will amount to P46 billion. These tax reforms include: real property valuation and assessment reform, imposition of VAT on digital service providers, imposition of excise tax on single-use plastic, among others.

THE PROPOSED FY 2023 NATIONAL BUDGET AND THE MEDIUM-TERM REVENUE PROGRAM¹

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I. INTRODUCTION

- The FY 2022-2028 Medium-Term Fiscal Framework (MTFF) will guide the fiscal strategy of the Marcos Administration to steer the country back to high growth trajectory. The framework is designed to attain short-term macro-fiscal stability and to promote medium-term fiscal sustainability. The primary focus will be on addressing immediate issues of inflation and socio-economic scarring from the effects of the pandemic. Pursuing these macroeconomic objectives shall be consistent with the fiscal targets which are embodied in the Medium-Term Fiscal Program.
- The MTFF represents a documented, comprehensive and forward-looking strategy that extends beyond the three-year planning horizon. The Asian Development Bank (2022) emphasizes that efforts to improve fiscal positions will be more effective when they are designed holistically and over the medium-term. In addition, a strategy that makes links between the government's development goals, expenditure needs, and planned revenue reforms explicit will promote more credible fiscal policies.

TABLE I
MEDIUM TERM FISCAL PROGRAM, FY 2022-2028
(AMOUNTS IN BILLION PESOS)

Particulars	Actual 2021	Program 2022	Projection					
			2023	2024	2025	2026	2027	2028
Revenues	3,006	3,304	3,633	4,063	4,577	5,155	5,821	6,589
% of GDP	15.5	15.2	15.3	15.6	16.0	16.5	17.0	17.6
Growth Rate	5.2	9.9	10.0	11.8	12.7	12.6	12.9	13.2
Disbursements	4,676	4,955	5,086	5,402	5,760	6,250	6,916	7,712
% of GDP	24.1	22.9	21.4	20.7	20.2	20.0	20.2	20.6
Growth Rate	10.6	6.0	2.6	6.2	6.6	8.5	10.7	11.5
Surplus/(Deficit)	(1,670)	(1,651)	(1,453)	(1,339)	(1,183)	(1,094)	(1,095)	(1,123)
% of GDP	-8.6	-7.6	-6.1	-5.1	-4.1	-3.5	-3.2	-3.0

Source: Budget of Expenditures and Sources of Financing (BESF) FY 2023

¹ This paper benefitted from the invaluable inputs and supervision of Executive Director Novel V. Bangsal and the overall guidance of Deputy Secretary General E.M. Miral, Jr. Ph.D. The authors acknowledge the contributions of Jhoanne E. Aquino (technical inputs) and assistance of the Publications team. The views, opinions, and interpretations in this report do not reflect the perspectives of the House of Representatives as an institution or its individual Members.

- The approved Medium-Term Fiscal Program establishes the fiscal consolidation strategy of government. The indicated fiscal targets represent the size and pace of fiscal consolidation that are required to go back to a sustainable fiscal position. In this case, revenues is projected to grow faster than disbursements in order to rebuild fiscal space. Revenues is expected to improve from 15.2% of GDP in 2022 to 17.6% of GDP in 2028 (Figure 1). It will consistently grow by double-digits annually and will double its nominal amounts within the six-year period (Table 1).

The improvement will be driven by tax revenues which will grow above the pre-pandemic level by 2023 at 14.6% and to 17.1% by 2028 (Figure 1). In contrast, non-tax revenues is projected to be flat during the period, i.e. from 0.6 - 0.7% of GDP (Table 2 and Figure 1).

TABLE 2
MEDIUM-TERM REVENUE PROGRAM, FY 2022-2025

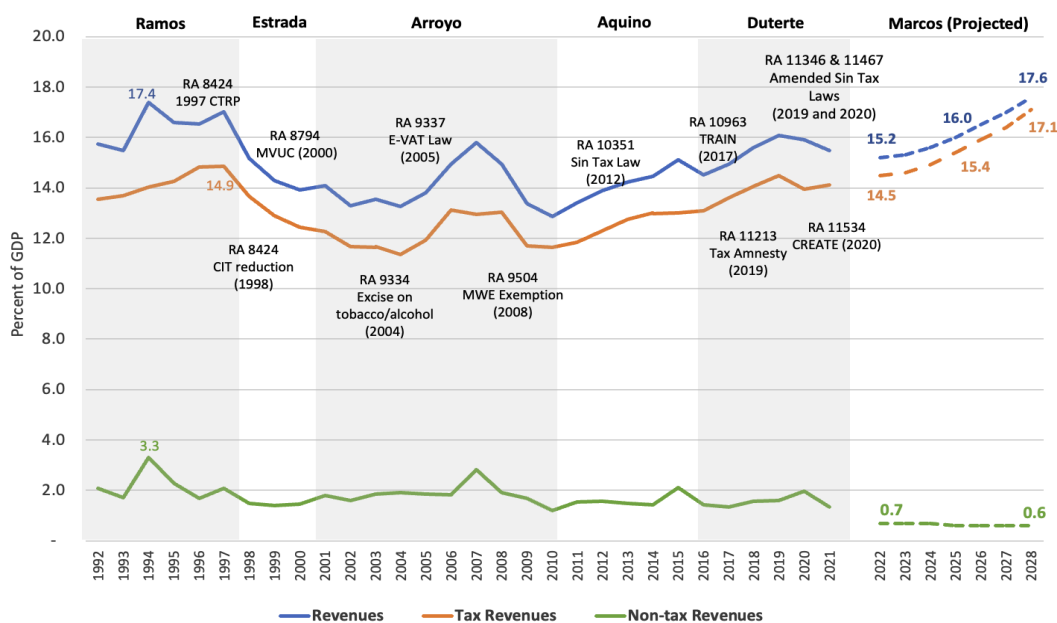
Particulars	Emerging	Program		
	2022	2023	2024	2025
Amountsin Billions				
Revenues	3,304.1	3,632.9	4,062.6	4,576.8
Tax Revenues	3,139.6	3,464.1	3,887.8	4,395.2
Non-Tax Revenues	164.0	168.3	174.4	181.2
% of GDP				
Revenues	15.2	15.3	15.6	16.0
Tax Revenues	14.5	14.6	14.9	15.4
Non-Tax Revenues	0.7	0.7	0.7	0.6

Source: BESF FY 2023

- Figure 1 juxtaposed the revenue projections from 2022-2028 with the 30-year actual revenue performance to give context to what the revenue targets mean historically. As observed, the projected revenue and tax collection levels are expected to go beyond the historical highs which were last achieved during the Ramos administration, i.e., 17.4% revenue effort in 1994 and 14.9% tax effort in 1997.

Also in the previous 30 years, the country has not reached the benchmark 15% tax-to-GDP ratio that is considered by the ADB (2022) as the minimum level needed for sustainable growth. Nonetheless, as Diokno (2005) concluded in his assessment of previous tax reform programs, the success of future tax reform programs is enhanced when it is done at the start of an administration and when it is presented as a critical component of a public sector reform program.

FIGURE I
REVENUE PERFORMANCE AND PROJECTED REVENUE, FY 1992-2028



Source: Development Budget Coordination Committee (DBCC) as approved on 8 July 2022

II. REVENUE PROSPECTS FOR FY 2022-2023

- A review of historical revenue targets submitted to Congress annually shows that the National Government (NG) regularly failed to meet its targets, i.e. ten (10) times in the last twelve (12) years. The average shortfall is about 7% from the original target. It is also noted that the NG frequently revises its original revenue projections which are mostly downward revisions. Relative to revised targets, the NG came short of its targets eight (8) times in the same period. This observation puts emphasis on the importance of realistic and credible macroeconomic assumptions that form part of the estimating future revenues (Table 3).

TABLE 3
COMPARATIVE ACTUAL VS. TARGET NG REVENUES, 2010-2021
(IN BILLION PESOS)

Year	Original Target	Revised Target	Actual Revenues	Excess (Shortfall)	
				Vs Original	Vs Revised
2010	1,335.6	1,294.4	1,207.9	(127.7)	(86.5)
2011	1,410.0	1,411.3	1,359.9	(50.1)	(51.4)
2012	1,568.5	1,560.6	1,534.9	(33.6)	(25.7)
2013	1,780.1	1,745.9	1,716.1	(64.0)	(29.8)
2014	2,018.1	2,018.1	1,908.5	(109.6)	(109.6)
2015	2,337.3	2,275.2	2,109.0	(228.3)	(166.2)
2016	2,696.8	2,256.7	2,195.9	(500.9)	(60.8)
2017	2,481.5	2,426.9	2,473.1	(8.4)	46.2
2018	2,840.5	2,846.3	2,850.2	9.7	3.9
2019	3,208.2	3,149.7	3,137.5	(70.7)	(12.2)
2020	3,536.2	2,519.8	2,856.0	(680.2)	336.2
2021	2,717.4	2,881.5	3,005.5	288.1	124.0

Source: BESF FYs 2010-2021

Note: Original target refers to projections approved by the DBCC and adopted in the current year BESF, while revised target refers to program (for the rest of the year) approved by the DBCC and adopted in the subsequent BESF.

- **Revenue Forecasting Methodology.** Using a GDP-based estimating model for calculating the revenue estimates and employing the computed elasticity coefficients,^{2 3} the CPBRD comes up with three (3) alternative scenarios juxtaposed with the Development Budget Coordination Committee (DBCC) revenue targets (as of July 2022) as the baseline scenario based on a set of GDP growth and inflation rate assumptions. The first scenario is the **Private Sector Forecast** which uses the macroeconomic assumptions (i.e., GDP growth and inflation rate) of various private institutions (e.g., Fitch Solutions, ING, HSBC, Maybank, etc.) for 2022 and 2023. The second scenario is the **Multilateral Sector Forecast** which uses similar macroeconomic assumptions of multilateral institutions such as IMF, ADB and World Bank for 2022 and 2023.

The main difference between the private and multilateral sector forecasts is that the estimates of the former are assumed adjusted for the economic performance in the second quarter of 2022 as reported by the Philippine Statistics Authority (PSA), while the latter only reflects the first quarter performance. The third scenario is the **CPBRD forecast** in which GDP growth rate and inflation rate projections for 2022 and 2023 are computed by the CPBRD staff⁴. Similar to the second scenario, the CPBRD forecast also incorporates the second quarter GDP growth rate and inflation rate as reported by the PSA.

Diagnostic Tests. The results of the unit root test have shown that tested variables are integrated at a first level. Engle Granger's cointegration test revealed that there is no long-run relationship between the tested variables. Moreover, the residual of the model is free from problems on specifications such as non-normality, heteroscedasticity, and serial correlation. A discussion of the technical notes on the methodology and diagnostic tests is presented in Annex I.

- **Revenue Forecasting Results.** Table 4 shows that for 2022, the CPBRD revenue estimate based on Private Sector macroeconomic assumptions is lower by P92.2 billion, while that of the Multilateral Sector is lower by P105.2 billion relative to the DBCC baseline scenarios. Under the CPBRD assumptions, the revenue forecast is lower by P66.5 billion. As a ratio to GDP, all scenarios are lower by 0.3 percentage point compared to the 15.2% ratio of the DBCC. Under these three scenarios, the projected fiscal deficit is expected to reach between P1.72 to P1.76 trillion, slightly higher than the government target of P1.65 trillion for 2022.

For 2023, the revenue estimates under Private and Multilateral forecasts are lower by P112.2 billion and P102.6 billion relative to the DBCC baseline scenario, respectively. Meanwhile, the CPBRD revenue forecast is lower by P28.5 billion compared to the DBCC baseline scenario. As a ratio to GDP, all scenarios are lower by 0.3 percentage point compared to the DBCC

² CPBRD Staff estimate of elasticity of tax revenues is at 1.147.

³ To estimate the elasticity of the tax revenues with respect to GDP over the period 2000 to 2021 regression with an autoregressive error model, ADF unit root test and Engle-Granger Cointegration test were employed. The analysis also includes model diagnostics to check if the model assumptions are satisfied.

⁴ For more details on the methodology of the CPBRD macroeconomic projections, see the CPBRD Briefing Notes on the Proposed FY2023 National Budget and its assumed Macroeconomic Parameters (forthcoming, 2022). The paper will be available for download at the CPBRD website: <http://cpbrd.congress.gov.ph>

revenue-to-GDP ratio of 15.3%. All scenarios are expected to have higher deficits ranging from P1.48 to P1.57 trillion compared to the 2023 government target of P1.45 trillion.

TABLE 4
MEDIUM-TERM REVENUE FORECAST, 2022-2023
(AMOUNTS IN BILLION PESOS)

Particulars	2022	2023	2022	2023
Macroeconomic Assumptions	GDP Growth Rate (%)		Inflation Rate (%)	
DBCC	6.5 – 7.5	6.5 – 8.0	4.5 – 5.5	2.5-4.5
Private Sector ¹	6.5	5.6	4.5	3.0
Multilateral Sector ²	6.3	5.6	4.3	3.7
CPBRD	6.8	5.7	5.0	4.5
Revenues³	Amount		Ratio to GDP (%)	
DBCC	3,304.1	3,632.9	15.2	15.3
Private Sector	3,211.9	3,520.7	14.9	15.0
Multilateral Sector	3,198.9	3,530.3	14.9	15.0
CPBRD	3,237.6	3,604.4	14.9	15.0
Deficit (Revenue-Disbursement)⁴	Amount		Ratio to GDP (%)	
DBCC	(1,650.5)	(1,452.9)	(7.6)	(6.1)
Private Sector	(1,742.7)	(1,565.1)	(8.1)	(6.7)
Multilateral Sector	(1,755.7)	(1,555.5)	(8.2)	(6.6)
CPBRD	(1,717.0)	(1,481.4)	(7.9)	(6.2)

Sources of basic data: DBCC 8 July 2022 Macroeconomic Assumptions and Medium-Term Fiscal Program; Various multilateral organizations and private sector institutions.

Notes:

¹Private sector refers to the macroeconomic assumptions by private institutions which took into account the 2nd quarter GDP growth.

²Multilateral sector refers to the macroeconomic assumptions (as of July 2022) by various multilateral organizations including the IMF, ADB and World Bank

³Revenue estimates were derived by CPBRD using its estimated tax elasticity and macroeconomic assumptions of various organizations/institutions.

⁴To arrive at the deficit estimates, CPBRD used the disbursement levels of the DBCC as of 8 July 2022 and adopted in the FY 2023 BESF.

III. REVENUE PERFORMANCE

- NG revenue has already recovered above its pre-pandemic level of P1,574.5 billion as collections reached P1,727.5 billion in the first half of 2022. This represents a growth of 16% over the same period of last year, and 12% from the 2019-level. Both tax and non-tax revenues grew by double-digits year-on-year, i.e. 15% and 27%, respectively.

The Department of Finance (DOF) attributed the positive first half performance to improving economic activity and the windfall collection by the Bureau of Customs (BOC) largely due to rising oil prices in the global markets and the peso depreciation. Both Bureau of Internal Revenue (BIR) and BOC are expected to meet their respective revenue targets for the year, although it is noted that the BIR is slightly behind its six-month target by -6.3%⁵. As percent of GDP, revenue and tax collections already equal the 2019-level at 16.7% and 14.9% of GDP, respectively (Table 5).

⁵ BIR presentation to the House Committee on Ways and Means (August 17, 2022).

TABLE 5
JANUARY-JUNE REVENUE COLLECTIONS, 2019-2022
(IN BILLION PESOS)

Particulars	2019	2020	2021	2022
Revenues	1,547.5	1,453.3	1,490.4	1,727.5
Tax Revenues	1,380.9	1,217.7	1,343.5	1,541.2
Non-tax Revenues	166.5	235.6	146.7	185.7
Ratio to GDP (%)				
Revenue Effort	16.7	16.9	16.3	16.7
Tax Effort	14.9	14.2	14.7	14.9
Non-tax Effort	1.8	2.7	1.6	1.8
Growth rates (%)				
Revenues	9.7	(6.1)	2.5	15.9
Tax Revenues	10.1	(11.8)	10.3	14.7
Non-tax Revenues	6.9	41.5	(37.8)	26.6

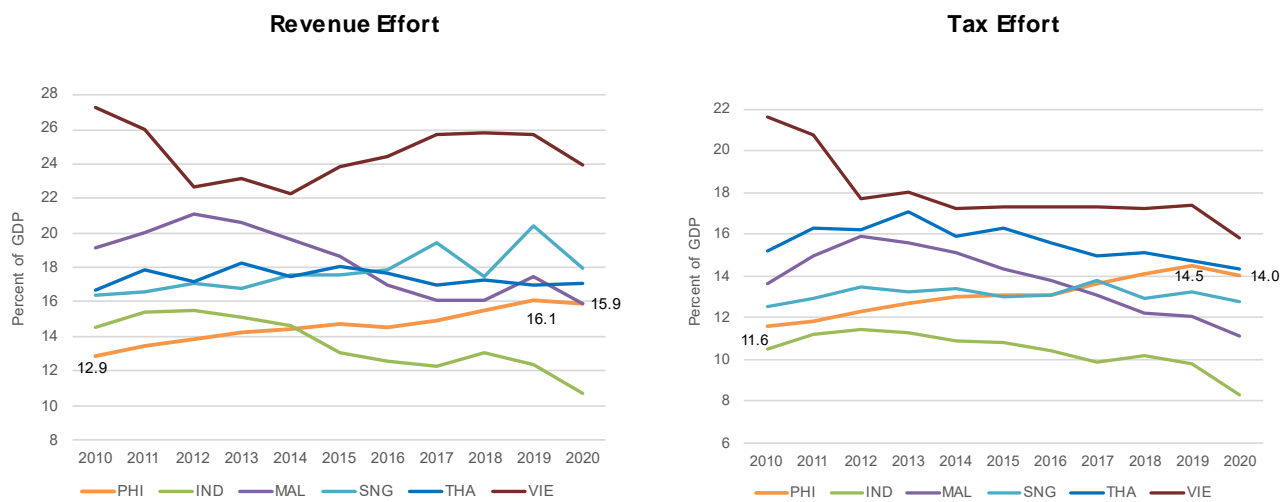
Sources of basic data: Bureau of Treasury (BTR), 2022 and PSA, 2022

- Prior to the decline due to the COVID-19 pandemic, the country has recorded significant improvements in tax and total revenue effort since 2010. The tax effort improved from 11.6% in 2010 to 14.5% of GDP in 2019, outperforming Singapore, Malaysia and Indonesia. It is also observed that the tax effort performance of the ASEAN-6⁶ is either flat or declining except for the Philippines. On the other hand, while total revenue effort also improved from 12.9% to 16.1% of GDP during the period, it still lags behind most of the ASEAN-6 which historically have posted better revenue efforts. This suggests that the country may have opportunities to generate additional revenues from non-tax revenue sources, which can include property income (e.g. interest and dividends, rents or royalties) and sales of goods and services (e.g. fees and charges, lease income of buildings/equipment), among others⁷. To note, the non-tax revenues of Vietnam came mostly from sales of goods and services, specifically revenues from land rents and land user right assignment. The other four ASEAN-6 countries generate their non-tax revenues from property income, particularly interest and dividends earned from financial assets and equity funds for Thailand and Singapore (Figure 2).

⁶ Composed of the six largest economies in the ASEAN region.

⁷ This is based on the OECD's categories of non-tax revenue sources. Available at: <https://www.oecd-ilibrary.org/sites/0c9d0c21-en/index.html?itemId=/content/component/0c9d0c21-en>

FIGURE 2
COMPARATIVE REVENUE AND TAX EFFORT IN ASEAN-6, 2010-2020



IV. CONTRIBUTION OF THE CTRP

- The enactment of tax packages under the Comprehensive Tax Reform Program (CTRP) of the Duterte Administration contributed to the improvements in the tax effort. Actual incremental revenues from the tax reform totaled P507.7 billion from 2018-2021. The biggest contribution was from RA 10963 or the Tax Reform for Acceleration and Inclusion (TRAIN)⁸ amounting to P476.1 billion over the four-year period. This is followed by RAs 11346 and 11467⁹ which amended the Sin Tax Law (P85 billion) and RA 11213¹⁰ or the Tax Amnesty Act (P14.6 billion). On the other hand, the enactment of RA 11534 or the CREATE Law¹¹ resulted in a revenue loss amounting to P68 billion in 2021. These tax reform efforts enabled the Duterte Administration to post an average tax effort of 14% of GDP from 2017-2021, the highest since the Ramos Administration (14.2% from 1993-1998) (Table 6).

TABLE 6
ACTUAL INCREMENTAL REVENUES FROM THE CTRP, 2018-2021
(IN BILLION PESOS)

Particulars	2018	2019	2020	2021	Total
Package 1A/TRAIN	68.4	130.7	105.9	171.1	476.1
Package 1B/Tax amnesty	-	4.0	6.0	4.6	14.6
Package 2+/Sin tax	-	-	32.1	52.9	85.0
Package 2/CREATE	-	-	-	-68.0	-68.0
Total	68.4	134.7	144.0	160.6	507.7

Sources: DOF and BIR, various years

⁸ Enacted on December 19, 2017; Effective January 1, 2018.

⁹ Enacted on July 25, 2019 and January 22, 2020, respectively; Effective January 1, 2020.

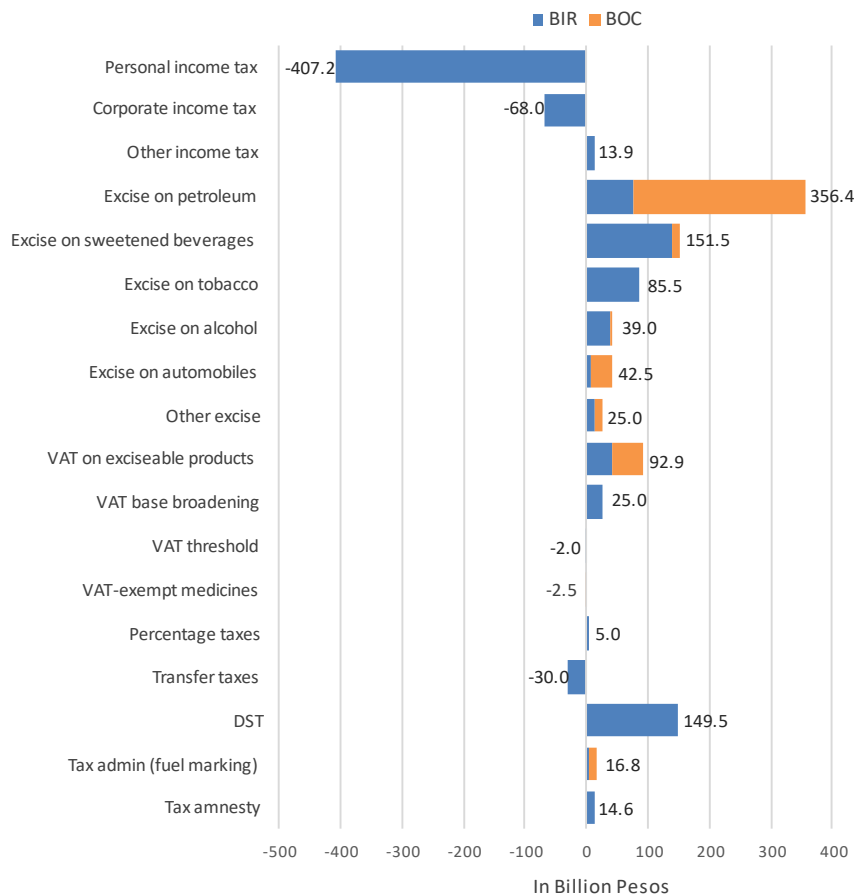
¹⁰ Enacted on February 14, 2019; Availment of the tax amnesty on delinquencies is from April 24, 2019 to June 30, 2021; Availment of the estate tax amnesty is from June 15, 2019 to June 14, 2023 (extension date per RR 17-2021).

¹¹ Enacted on March 26, 2021; Effective April 11, 2021.

□ A breakdown of the total revenue impact of the CTRP by type of tax shows how the reform used a mix of tax instruments to achieve its stated goal of a simpler, fairer and more efficient tax system. Evident in the reform is the reduction of tax rates on labor and capital income. The TRAIN Law raised the threshold amount of tax-exempt income to P250,000 and also lowered the marginal tax rates of individuals except those at the richest bracket, thereby making the personal income tax (PIT) system more progressive. The CREATE Law cut corporate income tax (CIT) rates from 30% to 20%-25% to align with the rates in the region and improve the country’s investment competitiveness. These measures cost the government P407.2 billion and P68 billion¹² in revenues, respectively (Figure 3).

While having a direct negative impact on revenues, such tax rate reduction is claimed to be conducive to growth. Hagemann (2012) pointed out that reducing the tax burden on key growth factors such as labor utilization and supply of capital is desirable from an efficiency standpoint. Moreover, the rationalization of grant of fiscal incentives under CREATE which intends to limit unnecessary tax expenditures can help reduce distortions and complexity in the income tax system, thereby improving efficiency.

FIGURE 3
TOTAL REVENUE IMPACT OF THE CTRP BY TYPE OF TAX, 2018-2021
(IN BILLION PESOS)



Sources: DOF and BIR

¹² The total revenue impact from CREATE amounting to P68 billion in 2021 is lumped as corporate income tax given there is no available breakdown by tax type (i.e. corporate income tax, VAT and percentage tax).

- ❑ The government made up for the revenue loss from income tax by increasing excise taxes on petroleum, tobacco, alcohol and automobiles, and introducing a new tax on sweetened beverages. In total, the CTRP generated P700 billion additional revenues from excise taxes. This resulted in a tax structure that became more reliant on excise taxes as its share to total tax revenues expanded from 10% in 2016 to 18% in 2021. Reside and Burns (2016) indicated that selective consumption taxes such as excise taxes can be both inefficient and inequitable, but may play a role in achieving policy objectives such as correcting negative externalities caused by consumption of certain products while also serving as a good source of revenues.
- ❑ Various tax administration reforms were also implemented as part of the tax reform program. These include the tax amnesty on estate tax and delinquencies, mandatory use of fuel marking, broadening of the VAT base by repealing special laws with non-essential VAT exemptions, provision for use of electronic receipts and the electronic sales reporting system. However, several factors limit the revenue potential of these measures. While both are provisions under the TRAIN Law, the implementation of fuel marking and electronic receipts was delayed to 2019 and 2022, respectively. Meanwhile, the gains from tax amnesty only contributed P14.6 billion despite extending the availment period several times. Note that the enacted tax amnesty is the watered-down version wherein the exclusion of the provision on lifting of bank secrecy rules for fraud cases led to the vetoing of the general tax amnesty.
- ❑ To complement legislated policy reforms, strengthening tax administrative measures can also contribute to improved tax collection. On the part of the BIR, such measures include the Run After Tax Evaders (RATE), *Oplan Kandado*, and Digital Transformation (DX) Programs, among others. The RATE program stresses the criminal nature of tax evasion to generate maximum deterrent effect. From 2019-2021, a total of 688 cases were filed with the Department of Justice and the Court of Tax Appeals involving aggregate tax liabilities amounting to P38 billion. The *Oplan Kandado* Program temporarily closes non-tax compliant business establishments to encourage better compliance. A total of 1,576 closure orders were issued that resulted to a collection of P5.6 billion during the period 2019-2021. The DX Program facilitates the integration of digital technology in tax administration processes including registration, filing, payment, audit and enforcement.¹³
- ❑ For the BOC, the focus of its tax enforcement efforts is the anti-smuggling program which leads to the filing of criminal cases against erring importers through the Bureau's Action Team Against Smugglers (BATAS). From 2019-2021, 204 filed cases were filed involving dutiable value amounting to P8.4 billion. The Bureau also made significant efficiency improvements in trade facilitation. The enhancement of information technology systems and the drive to fully digitalize frontline transactions have resulted in the automation of 82% of the total 170 customs processes as of 2021. Moreover, trade facilitation processes are made efficient and interoperable through the National Single Window (NSW) initiative

¹³ Bureau of Internal Revenue Annual Report 2021 and BIR presentation to the House Committee on Ways and Means (August 17, 2022)

which integrates the licensing, permit, clearance, and certification systems of trade-regulatory agencies. As of December 2021, 21 government agencies were already onboarded into the NSW.¹⁴

V. DECOMPOSITION OF CHANGE IN TAX EFFORT

- To further provide insight on the factors contributing to the revenue performance from 2017-2020, this paper did an analysis that breaks down the sources of change in the tax-to-GDP ratio of major types of taxes into: 1) change in tax policy; 2) change in economic structure; and 3) change in collection efficiency or tax leakage.¹⁵ The analysis compares the changes in tax-to-GDP ratio per type of tax relative to a baseline year, in this case the year prior to the implementation of the CTRP which is 2017. Table 7 shows the BIR and BOC collection as percent of GDP from 2017-2021.
- The BOC outperformed the BIR in terms of contribution to the improvement in tax effort during the period. The 0.54 percentage point difference in the tax effort from 2017 to 2021 was largely contributed by the growth in the BOC tax effort from 2.77% in 2017 to 3.32% in 2021. The BIR tax effort recorded a one-off improvement in 2019 but then remained flat at around 10.7% of GDP in 2021, which is the same level pre-tax reform. In this regard, decomposing the sources of change in the BIR tax effort by type of tax is a valuable exercise to examine the factors contributing to said performance. Table 8 shows the contribution of the change in economic structure, tax policy and leakage to the changes in BIR tax effort by type of tax during the period 2018-2020.

TABLE 7
BIR AND BOC COLLECTION AS PERCENT OF GDP, 2017-2021

Particulars	2017	2018	2019	2020	2021
Tax Revenues	13.59	14.05	14.49	13.95	14.13
Total BIR	10.70	10.69	11.15	10.87	10.71
Taxes on net income & profit	6.21	5.67	5.92	5.82	5.45
o.w. Corporate income tax	3.55	3.24	3.01	2.82	2.43
o.w. Individual income tax	2.36	2.12	2.38	2.44	2.64
Excise tax	1.27	1.59	1.63	1.65	1.64
Value added tax	2.21	1.96	2.08	1.96	1.99
Other percentage taxes	0.46	0.62	0.69	0.66	0.69
Other taxes	0.61	0.90	0.89	0.81	0.98
Total BOC	2.77	3.25	3.23	3.00	3.32

Source: BTR, BIR and BOC

- Among the selected taxes, positive contributions to total BIR tax effort came from PIT on business income, excise taxes on alcohol, tobacco, petroleum and sweetened beverage products, and documentary stamp tax (DST). Revenue gains can be primarily attributed to

¹⁴ Bureau of Customs Annual Report 2021.

¹⁵ The analysis follows the methodology of the PIDS Policy Note entitled "Are Recent Gains in BIR tax effort sustainable?" authored by Rosario G. Manasan (2008). See Annex I for notes on the methodology.

the change in tax policy, particularly the tax rate increases on DST, and excise taxes on tobacco, alcohol, petroleum and sweetened beverages beginning 2018 under the TRAIN Law and beginning 2020 under RAs 11346 and 11467 or the Sin Tax Laws. For petroleum products, the increase in tax rates has led to the decline in fuel consumption as indicated by the negative contribution of economic structure.¹⁶ This was countered however by improvements in collection efficiency which ultimately resulted in an overall positive tax effort. As mentioned, the BIR and BOC implemented the fuel marking system beginning September 2019 with the primary objective of reducing incidents of oil smuggling.

- Meanwhile, the growth in the tax effort of PIT on business income can be explained by the combined positive effects of the change in economic structure and better collection efficiency, which offset the revenue loss from lower PIT rates under the TRAIN Law. It is noted that the law also provided for an option to pay a simpler, flat tax rate of 8% of gross sales in lieu of income and percentage tax, which may have led to better compliance and expansion of the taxable base. Better compliance from this group is evident in the BIR data which shows that registered professionals jumped from 400,622 in 2017 to 593,115 in 2018 or a 48% increase. Double-digit growth in taxpayer registrations was also seen in 2019 and 2020.
- On the other hand, the negative change in the BIR tax effort was contributed by the PIT on compensation income, CIT and VAT. The tax effort on PIT on compensation income was reduced by 0.48-0.65 percentage point from 2018-2020, which can be primarily attributed to tax policy that lowered the tax rates for majority of wage earners. This is partly offset by improving collection efficiency especially in 2019. Meanwhile, the poor performance of CIT and VAT effort was mostly due to the large contribution of tax leakage. Note that CIT collection as percent of GDP is consistently declining from 3.55% in 2017 to 2.43% of GDP in 2021.

¹⁶ Another possible reason for the decline in the volume of petroleum removals is the temporary shutdown of major oil refineries that shifted to importation of finished petroleum products, the excise taxes of which were paid to the BOC. (Source: BIR 2019 Annual Report)

TABLE 8
DECOMPOSING CHANGES IN BIR TAX EFFORT, 2018-2020

Tax type	2018				2019				2020			
	Tax policy	Economic	Leakage	Total	Tax policy	Economic	Leakage	Total	Tax policy	Economic	Leakage	Total
Corporate income tax	0.01	-0.08	-0.24	-0.31	0.01	0.13	-0.69	-0.55	0.00	0.02	-0.75	-0.73
PIT on business income	-0.13	0.27	0.10	0.24	-0.16	0.49	0.15	0.48	-0.15	0.47	0.13	0.45
PIT on compensation income	-0.88	0.02	0.20	-0.65	-1.25	0.04	0.58	-0.63	-0.86	0.08	0.30	-0.48
Excise taxes												
Alcohol products	0.01	0.01	-0.01	-0.03	0.02	0.01	-0.01	0.03	0.12	-0.05	0.00	0.07
Tobacco products	0.06	0.00	0.05	0.12	0.06	0.01	0.06	0.12	0.29	-0.14	0.10	0.25
Petroleum products	0.11	-0.05	0.05	0.12	0.14	-0.18	0.16	0.13	0.10	-0.34	0.30	0.06
Sweetened beverages	0.19	0.00	0.00	0.19	0.20	0.00	0.00	0.20	0.18	0.00	0.00	0.18
Value-added tax	0.07	0.02	-0.34	-0.24	0.08	0.08	-0.28	-0.13	0.07	-0.14	-0.17	-0.24
Documentary Stamp Tax	0.24	-0.01	0.02	0.24	0.21	0.01	0.01	0.23	0.20	-0.09	0.06	0.18

Source: Author's computation

Notes:

1. Analysis is limited to selected taxes which have a relatively large share of the BIR collection. On average, selected taxes represent 86% of the total BIR collection during the period.
2. The change in tax effort per tax type for each year in 2018–2020 is always measured relative to the tax effort in the 2017 baseline year, which is the first full year of the Duterte Administration and the immediate year prior to the CTRP.

- Efficiency ratios on CIT and VAT also confirm the relative inefficiency of the two tax systems compared to the ASEAN-6. The Philippines posted the lowest average CIT efficiency ratio¹⁷ among ASEAN-6 countries at 0.11, far behind the ratios of Malaysia, Singapore and Vietnam at 0.22-0.24. Similarly, OECD data on C-efficiency ratio¹⁸ for 2018 ranks the country last in terms of efficiency of the VAT system.

Main contributing factors to low efficiency ratios are (1) weak tax design, i.e. extensive use of tax incentives and tax holidays for CIT, and numerous exemptions, reduced rates, and high registration thresholds for VAT; and (2) poor taxpayers' compliance (ADB 2022). The effect of the CREATE Law to CIT efficiency may be mixed in the short term as investors granted tax incentives/tax holidays prior to effectivity of the Law will continue to avail of the same during the transition period, but reduced tax rates may boost taxpayer compliance (Tables 9 and 10).

TABLE 9
CIT EFFICIENCY RATIO IN ASEAN-6, 2017-2019 AVERAGE

Country	CIT rate (%)	CIT effort (%)	Efficiency ratio
Singapore	17	3.72	0.22
Viet Nam	20	4.45	0.22
Thailand	20	4.23	0.21
Malaysia	24	5.71	0.24
Indonesia	25	3.72	0.15
Philippines	30	3.34	0.11

Source of basic data: OECD Global Revenue Statistics Database,
Note: CIT effort and efficiency ratio are average values for 2017-2019

TABLE 10
VAT C-EFFICIENCY IN ASEAN-6

Country	VAT rates (%)	VAT effort (%)	C-Efficiency
Malaysia	6	1.97	0.82
Singapore	7	2.21	0.73
Thailand	10	3.39	0.87
Viet Nam	10	6.17	0.73
Indonesia	10	3.51	0.56
Philippines	12	4.27	0.41

Sources of basic data: OECD Global Revenue Statistics Database,
OECD Revenue Statistics in Asia and the Pacific (2022), BIR and BOC.
Notes:

1. VAT effort are average values for 2017-2019.
2. C-Efficiency are values for 2018, which is based on the latest data from the OECD, except for the Philippines which is computed using BIR and BOC data.

¹⁷ CIT efficiency is the ratio of actual to potential CIT revenues with GDP serving as the theoretical taxable base. The ratio is computed as follows: CIT efficiency ratio = actual CIT revenue / (statutory CIT rate × GDP) × 100.

¹⁸ C-efficiency is the ratio of actual to potential VAT revenues assuming a single VAT rate without exemptions across all consumption with perfect compliance. The ratio is computed as follows: C-efficiency = actual VAT revenue / (statutory VAT rate × Consumption) × 100. High C-efficiency values imply strong revenue performance.

VI. STRENGTHENING DOMESTIC RESOURCE MOBILIZATION

- The MTRF indicated that strong economic growth and continued implementation of existing tax reform measures by the previous administration will help improve revenue performance. In addition, the government will pursue priority tax policy measures and tax administrative reforms to support its fiscal consolidation and resource mobilization strategy. Based on indicative estimate, the revenue impact, with the possible exception of the revenue-neutral PIFITA, from these priority tax reform measures will reach P46 billion in incremental revenues (Table 11).

TABLE 11
PROPOSED PRIORITY TAX REFORM MEASURES

Reform	Estimated Revenue (In Billions)
Real Property Valuation and Assessment Reform	18.5
Passive Income and Financial Intermediary Taxation (PIFITA)	TBD ¹
Imposition of VAT on digital service providers	11.7
Imposition of excise tax on single-use plastics	1.0
Improved tax administration on online content creators	3.4
Rationalization of mining fiscal regime ²	11.4
Total	46.0

Source: 2022-2028 Medium-Term Fiscal Framework

Notes:

¹Based on DOF presentation as of 7 June 2022, estimated revenue potential of PIFITA still needs to be determined.

²Based on DOF presentation to the Senate Committee on Ways and Means on 16 August 2022, the rationalization of mining fiscal regime was added to the list of priority tax measures of the Marcos Administration.

- The Real Property Valuation and Assessment Reform will adopt internationally accepted valuation standards and professionalize real property valuation. The reform will help improve local government fiscal positions through additional revenues from the increase in RPT collection which is estimated at P18.5 billion¹⁹.
- The Passive Income and Financial Intermediary Taxation will simplify and harmonize the taxation of passive income, financial services and transactions.
- Imposition of VAT on digital service providers will help the tax system catch up with the developments in the digital economy. The proposed VAT on online advertisement services, digital services, and supply of other electronic and online services is expected to generate P11.7 billion additional revenues in 2023.
- Imposition of excise tax on single-use plastics to regulate its consumption will form part of the country's commitment to reduce pollution and adopt more sustainable practices. The proposed P20-peso excise tax per kilogram of single-use plastics is projected to yield new revenues close to P1 billion in 2023.

¹⁹ Based on BLGF estimates in 2019, estimated potential incremental revenues will range from a low P18.5 billion to a high of P37.5 billion. The high end of the estimate pertains to the full implementation of the reform (i.e. all LGUs have updated their real property valuations).

- The rationalization of the mining fiscal regime will encourage full public disclosure on extractive industries and increase government share by imposing a single fiscal regime applicable to all mining agreements. Revenue impact is estimated at P11.4 billion per year.²⁰
- Tax administrative measures aimed at making tax compliance easy, efficient and accessible will also help generate additional revenues through collection efficiency improvements. This includes: (a) strengthening the administration for income tax on online content creators such as social media influencers, which is estimated to gain P3.4 billion; (b) implementing the Ease of Paying Taxes Program that will simplify various compliance procedures of the BIR; (c) enhancing trade facilitation through the National Single Window (NSW) program that will automate and integrate licensing, permit, clearance, and certification processes of regulatory agencies; among others.

VII. CONCLUSION

- ❑ **The medium-term fiscal program establishes the fiscal consolidation strategy of the national government.** The size and pace of fiscal adjustment to achieve fiscal sustainability rely heavily on the acceleration of NG revenues, particularly tax revenues. Tax revenues as percent of GDP is expected to go above the 15% benchmark set by ADB, a level the country has not reached before.
- ❑ **The government can build upon existing tax reform measures to support fiscal consolidation.** The CTRP packages have brought in significant incremental revenues that contributed to the improvement in the country's tax effort. The analysis on decomposition of changes in tax effort demonstrates that simplifying the tax system and employing appropriate tax administrative measures can help promote better tax compliance, thereby making revenue gains from tax reform more sustainable.
- ❑ **Opportunities to further improve the tax system should be pursued as part of an effective resource mobilization strategy.** The government can further plug tax leakages identified in the tax system especially on corporate income tax and VAT. Structural reforms that broaden the tax base and simplify the tax system such as Real Property Valuation and Assessment Reform, Passive Income and Financial Intermediary Taxation, Imposition of VAT on digital services, among other measures, should be prioritized. However, additional revenue-raising tax measures may be needed to ensure revenue goals are met by the medium-term.

²⁰ Revenue impact is equivalent to 5-year average based on DOF presentation as of 7 June 2022.

ANNEX I

□ **Notes on the Methodology on Decomposition of Change in Tax Effort.** The methodology used in this paper follows the general procedure indicated in the PIDS Policy Note entitled “*Are Recent Gains in BIR tax effort sustainable?*”, authored by Rosario G. Manasan and published on December 2008. The computation for the contribution of change in economic structure, change in tax policy and tax leakage to the change in tax effort for each of the selected type of tax is as follows:

- (1) The contribution of the change in economic structure to the change in tax effort is derived by estimating the amount of tax revenue that would have been collected if there are no changes in the composition of the economy relative to 2017 (i.e., if the tax-base-to-GDP ratio was kept at the 2017 level);
- (2) The contribution of the change in tax policy to the change in tax effort is computed by estimating the amount of tax revenue that would have been collected if the effective tax rates that are prevailing in 2017 are applied to the current year’s tax base; and
- (3) The contribution of change in collection efficiency (tax leakage) is derived as a residual, i.e. what cannot be explained by the first two factors is attributed to improvement/deterioration in collection efficiency.

Central to the estimation procedure is determining the appropriate taxable bases and effective tax rates for each type of tax. For this paper, determining the tax base and effective tax rate levels is based on a combination of several datasets, mainly relying on the BIR taxpayer database for 2017-2020 and supplemented by data from the PSA Income and Outlay Accounts and BIR annual reports. Effective tax rates is computed using the aggregate levels of actual tax due and corresponding taxable base specific to the type of tax. The level of taxable bases is compared with PSA data as a benchmark and adjusted when applicable to capture the general trend per year. The effective tax rates of excise taxes are its statutory tax rates.

□ **Technical notes on Using GDP-based Estimating Model and Diagnostic Tests.** Revenue forecasting at the aggregate level is critically important during the annual budget preparation since this provides policymakers and planners first-hand insight on whether or not to borrow or use accumulated reserves to balance the budget in the short run and introduce fiscal intervention in the medium-term (Jenkins, *et. al.*, 2000). The steps include the construction of time series data from actual tax revenues and changes in income and tax bases/tax rates. Once compiled, tax revenues are correlated with their corresponding national account component (i.e., GDP), and an ordinary least squares regression (OLS) with autoregressive error model is carried out to estimate the elasticity of the Philippines’ tax revenues with respect to GDP. The resulting tax elasticity will be used for forecasting aggregate tax revenues for 2022. For purposes of this output, the time series data covered the period 2000-2021. All variables are also transformed into logarithmic forms in order to estimate the tax elasticity.

- **Methodology and model diagnostics.** The following are the methodology and the diagnostic tests used in estimating the revenues under Scenarios 1 to 4.

Augmented-Dickey Fuller (ADF) Test

The statistical procedure employed to determine the stationarity of a series is called *unit root test*. If the estimated variables are non-stationary, we cannot proceed with our analysis since they may lead to spurious results. Engle & Granger (1987) and Nelson & Plosser (1982) argue that most of the macroeconomic series are non-stationary at level, but stationary after first differencing. The study will use Augmented Dickey–Fuller (ADF) test, the most common method for testing the presence of unit roots.

Suppose we have a series y for testing unit root. The ADF model tests unit root as follows:

$$\Delta y = u + \delta y_{t-1} + \sum_{i=1}^k \beta_i \Delta y_{t-i} + e_t \quad (1)$$

where Δy is the first difference of y (i.e., $y_t - y_{t-1}$); u , δ , β are the coefficients to be estimated; e is the error term; and $\delta = \alpha - 1$; where α is the coefficient of y_{t-1} .

Table 1. Augmented Dickey-Fuller Test (ADF) Test Statistics

Variables	ADF Test Stat		Remarks
LOG (REAL_GDP)	-4.556**	Trend and Intercept	Stationary, I(1)
LOG (TAX_REV)	-3.232**	Intercept	Stationary, I(1)

***at 1% level of significance **at 5% level of significance *at 10% level of significance

As summarized in Table 1, the unit root results confirm that all variables are not stationary at levels. The variables on *LOG (REAL_GDP)* and *LOG (TAX_REV)* were transformed into stationary series after applying first differences. In other words, they have the same order of integration at I(1).

Engle-Granger Cointegration Test

Since the variables have the same order of integration, then we can test whether these variables possess a cointegrating relationship or if there exists a long-run relationship among them. Moreover, if the variables are cointegrated, then the residual of the cointegrating regression should be stationary. For this purpose, the Engle-Granger cointegration test proposed by Engle and Granger (1987) will be employed. The test proposes that if x_t and y_t are non-stationary and are integrated of order 1, then their linear combination must be stationary for some value of β and u_t . This means that:

$$y_t - \beta x_t = u_t \quad (2)$$

where u_t is stationary. The Engle-Granger cointegration test follows a two-step estimation. The first step includes generating the residuals followed by employing the generated residuals to estimate a regression of first-differenced residuals on lagged residuals. The null hypothesis of the Engle-Granger test states that there is no cointegration between the variables.

Table 2: Engle-Granger Cointegration Test Results

Models	t-stat
Tax Revenue and GDP	-1.366

***at 1% level of significance **at 5% level of significance *at 10% level of significance

Table 2 shows the results of Engle-Granger cointegration test for variables. Based on the two-step estimation procedure, we do not reject the null hypothesis of no cointegration in both models at 1% level of significance. This suggests that there is no long-run relationship between the variables considered in the model.

Regression with Autoregressive Error

The following methodology was used in determining the revenues under Scenarios 1 to 3.

$$N_t = (\vartheta_t dt) 100 \quad (3)$$

Equation (3) describes the method for computing the nominal revenue N_t for time t . The first step is to get the product of real revenues ϑ_t and the deflator dt which is based on 2018 constant prices. Future values of dt are estimated using the inflation forecast. The next step is to divide the product by 100.

$$\vartheta_t = (1 + (\beta rt)) \vartheta_{t-1} \quad (4)$$

Equation (4) describes the method for computing the real revenue ϑ_t , which is needed to determine γ_t (tax base in year t). The variable β is the revenue buoyancy – coefficient that shows the extent by which revenues move in relation to GDP growth. The coefficient, expressed in percent, is multiplied by the real GDP growth rate rt . The product of the two is added to 1, and then the sum is multiplied by real revenue in the preceding year ϑ_{t-1} .

$$\ln \vartheta_t = \alpha + \beta \ln \gamma_t \quad (5)$$

Equation (5) is a GDP-estimating model (Jenkins, Kuo, and Shukla, 2000) commonly used in the determination of tax or revenue buoyancy β (through unadjusted tax revenue series). Meanwhile, tax elasticity is calculated by performing the regression on an adjusted tax revenue series. Other than ϑ_t , the equation uses real GDP γ_t . Both are expressed in natural logarithm (\ln). The variable α is the constant/intercept parameter.

The GDP based estimating model for forecasting the aggregate tax revenues of Jenkins, Kuo, and Shukla, 2000, which is fitted using ordinary least squares (OLS), relies on several assumptions. One of them is that the random noise (error) term should be uncorrelated across observations. This assumption is typically violated with time series data. Hence, the OLS model is insufficient for time series data, i.e., a more sophisticated model which accounts for the correlation in the residuals should be used. On this note, the tax revenues were estimated using the regression with autoregressive errors, specifically AR(1).

Forecasting government tax revenue during COVID-19 pandemic is a challenging task, but critically important (IMF, 2020). Dudine and Jalles (2017) identified macroeconomic conditions (e.g., inflation and output volatility) as one of the factors or determinants which may affect the level of tax revenue collections. The model uses GDP as a proxy tax base and inflation rate forecasts in computing for revenue estimates. Considering the uncertainty of the current macroeconomic condition and difficulty in monitoring the magnitude of impact to sectors that were greatly affected by the pandemic, revenue projections may result in overestimation/biases.

After stationarity and cointegration tests, we proceeded with estimating the relationships using the regression with autoregressive errors. Table 3 presents the results obtained from the application of regression with autoregressive error, described in the previous section.

Table 3. Effect of Real GDP on Tax Revenues

VARIABLES	(1) LOG(TAX_REV)
LOG(REAL_GDP)	1.147*** (0.0381)
RESID(-1)	0.785*** (0.1892)
Constant	-3.254*** (0.3579)
N	21
R-sq	0.983
F	506.9
p	1.50e-16

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3 shows that real GDP is positively associated with tax revenues. A 1% increase in real GDP is associated with 1.147% average increase in tax revenues.