UNITED NATIONS DEVELOPMENT ACCOUNT PROJECT



## **COVID-19 Response and Recovery** Mobilizing financial resources for development

DA-COVID-19 project led by Debt and Development Finance Branch, Division on Globalization and Development Strategies (DDFB/DGDS)





# User Manual: UNCTAD Sustainable Development Finance Assessment Framework Policy Dashboard

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### About the COVID-19 Response and Recovery project

This paper is an output from the project "Response and Recovery: Mobilising financial resources for development in the time of COVID-19", which is co-ordinated by the Debt and Development Finance Branch of UNCTAD and jointly implemented with ECA, ECLAC and ESCAP. This project is one of the five UN Development Account short-term projects launched in May 2020 in response to the COVID-19 crisis.

In this paper, a framework to assess external debt and financial sustainability and public sector sustainability through the lens of the achievement of the Sustainable Development Goals (SDGs) is presented. The approach differs in some key areas from the International Monetary Fund's (IMF) Debt Sustainability Analysis (DSA), placing external constraints and the resulting possible growth rate at centre stage. This in turn provides information on the fiscal space available to policy makers with which to achieve the SDGs through public investment.

## Abstract

This user manual i) introduces the theoretical foundation of the UNCTAD Sustainable Development Finance Assessment Framework Policy Dashboard, ii) demonstrates how the dashboard was built, and iii) provides a step-by-step guideline to adapt the SDFA policy dashboard to other countries. The SDFA dashboard determines trends in the sustainability of their external, public sector and integrated financial positions. Moreover, it allows policymakers in the selected country to assess the impact of different policy choices on financial sustainability.

For more detailed information on the SDFA dashboard and the tool, please contact:

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## 1. Introduction

This user manual has three main goals: First, to introduce the user to the theoretical foundation of the UNCTAD Sustainable Development Finance Assessment Framework Policy Dashboard (section 2). Second, demonstrate how the dashboard was built (sections 3 and 4. Third, provide a step-by-step guideline to adapt the SDFA policy dashboard to other countries (section 5).

The UNCTAD SDFA Framework Policy Dashboard was developed with two purposes in mind, namely:

- i) To apply historical data for a selected country to the model in order to determine trends in the sustainability of their external, public sector and integrated financial positions.
- ii) To allow policymakers in the selected country to assess the impact of different policy choices on financial sustainability going forward by changing assumptions relating to the future path of the model's key variables.

These objectives are reflected in the structure of the SDFA Framework Policy Dashboard – which was developed in Microsoft Excel to make it easier for countries to use in assessing their own performance.

## 2. The theoretical underpinnings of the SDFA Framework

The Sustainable Development Finance Assessment (SDFA) Framework was developed for UNCTAD by Gustavo Bhering and Carlos Schonerwald da Silva in 2021. It draws on Thirlwall (1979) in recognising the importance of the balance of payments constraint facing most developing countries. The balance of payments position of small, open economies is typically the main constraint to their long-run ability to grow since it imposes a limit on aggregate demand to which aggregate supply is usually forced to adapt. This adaptation often occurs at levels of long-run aggregate supply that are not consistent with full employment. In this view, raising a country's growth rate in a way that is consistent with balance of payments equilibrium can only be achieved through structural changes that serve to raise its income elasticity of exports and/or reduce the income elasticity of its imports over the longer term. Although a balance of payments constraint can be eased by capital inflows, McCombie & Thirlwall (1997) argue that capital inflows alone cannot permit an individual country to increase its growth rate by very much or for very long.

Pasinetti (1981, 1993) who developed a structural economic dynamics (SED) approach to explain uneven multi-sectoral development, notes that income elasticities vary across different products and change over time in response to changing per capita incomes. These changing income elasticities provide differing opportunities for sectors to grow as the resulting expansion of demand is not equally spread over all sectors. Since there are also differing import elasticities associated with each sector there are balance of payments implications of these structural changes in the composition of output. However, as noted by Thirlwall (1979), in a modern open

economy the external balance of payments constraint on the growth of overall demand applies, irrespective of how proportional that growth's impact is across different sectors. This also has implications for public sector debt sustainability: the external constraint on growth also constrains tax collections and the ability to service public sector liabilities.

The UNCTAD SDFA framework uses an understanding of the accounting relationships between various stocks and flows used in the formulation of balance of payments, fiscal and national accounts data to develop key indicators of external and public sector financial sustainability. It has three components:

- iii) Financial sustainability conditions for external finance;
- iv) Financial sustainability conditions for public sector finances; and
- v) Integrated financial sustainability conditions for both external and public sector finances.

Each of these components is examined in the following sections.

#### 2.1 Financial sustainability conditions for external finance

Imbalances in flows on the external account give rise to foreign liabilities and debts for some economies and foreign assets and credits for others. If the stock of net external liabilities (foreign liabilities less foreign assets) increases faster than that country's capacity to repay those liabilities (represented by foreign currency earnings derived from exports of goods and services and remittances) it suggests that the rate at which the country concerned is accumulating net external liabilities is becoming relatively less sustainable<sup>1</sup>.

The value of foreign liabilities and foreign assets vary over time due to both newly incurred liabilities and newly acquired assets, as well as changes in their respective stock valuations. The SDFA framework takes account of this by incorporating these valuation changes – including those caused by exchange rate movements - into its calculation of net external liabilities. In practice this means that in a given period (t), the change in net external liabilities ( $\Delta$ NEL) will be the result of subtracting the values of exports of goods and services (X), remittances (RMT), and net income from abroad plus any holding gains or losses (NIFA\*) from the value of imports of goods and service (M).

$$\Delta NEL = M_t - X_t - RMT_t - NIFA_t^*$$

This means that – for a given import elasticity - external financial sustainability will neither deteriorate nor improve if the rate of growth in net external liabilities is the same as the rate of growth in exports plus remittances. If, however, the growth in net external liabilities is faster than the growth in exports plus remittances, the external

<sup>&</sup>lt;sup>1</sup> It should be noted that, contrary to standard Balance of Payments practice, the model frames Net External Liabilities and Current Account deficits as positive values and Net External Assets and Current Account surpluses as negative values.

financial sustainability of the economy concerned will be deteriorating. Conversely, if it is slower, external financial sustainability will be improving. This sustainability condition can be expressed as follows:

$$\frac{M-X^*}{X^*} = \left(\frac{g_{X^*}-r}{1+g_{X^*}}\right)\frac{NEL}{X^*}$$

Where **M** represents imports of goods and services; **X**<sup>\*</sup> is exports plus remittances;  $g_{x^*}$  is the growth in exports plus remittances; **r** is the average cost of net external liabilities; and **NEL** are net external liabilities. In practice this means that if a country has a current account deficit, the rate of growth in exports ( $g_{x^*}$ ) must be faster than the weighted average cost of external liabilities minus the weighted average return on external assets (**r**). For as long as it is not, the country concerned will be moving away from having net external liabilities that it can service sustainably. If, however, the rate of growth in exports consistently exceeds the average cost of net external liabilities it implies that the country can allow net external liabilities to rise (i.e. foreign liabilities increase faster than foreign assets) without threatening external financial sustainability. Effectively the country could increase imports (and support a higher rate of economic growth in the process) without becoming financially unsustainable.

There are additional nuances that can impact on this sustainability condition. For example, foreign currency denominated net external debt has implications for export earnings that are different to local currency denominated net external debt. It is also possible that a country may be unable to fully-finance a current account deficit with inflows through the capital and financial accounts of the balance of payments. This will impose a hard constraint on the level of imports.

#### 2.2 Financial sustainability conditions for public sector finance

The public sector comprises the different tiers of government as well as state-owned enterprises and other state-controlled entities. Its spending is typically financed through a combination of taxation, levies and user charges, borrowing (either domestically or internationally) and changes to the monetary base. While there is great variation in and no universally-accepted limit to the extent to which the public sector of a particular country can incur liabilities, some countries may adopt fiscal rules that limit the extent of public sector borrowing and the purposes for which borrowed funds can be used. Most capital market lenders will also impose effective limits on borrowing through variations in the price, repayment period and value of lending based on the perceived risk of default.

Since the SDFA framework takes account of public sector net liabilities rather than simply debt, it is necessary to account for variations (holding gains and losses) in the stock values of both public sector liabilities and public sector assets over time<sup>2</sup>. In

<sup>&</sup>lt;sup>2</sup> It should be noted that, contrary to standard practice, the SDFA model frames both public sector deficits and Net Public Sector Liabilities as positive values while public sector surpluses and Net Public Sector Assets have negative values.

essence, the financial position of a country's public sector will be moving away from sustainability if the rate at which its public sector net liabilities (**PSNL**) increases is faster than the rate of growth of an indicator that reflects the capacity for servicing and repayment of those liabilities. The SDFA has chosen to use the GDP (**Y**) for this purpose, but it could have chosen to use a narrower indicator such as taxes collected. This choice would be material if the capacity for tax collection of the country concerned was not aligned with the economic base and changed over time. For example, if the prevailing tax base represented a subset of all the economic activity and expanded at a slower rate than the GDP the use of the GDP as an indicator of repayment capacity would tend to overstate the public sector financial sustainability of the country concerned. This risk may be more pronounced in economies with large informal sectors, narrow tax bases and poorly developed tax collection systems.

The SDFA framework public sector financial sustainability boundary condition is given as:

$$\frac{G+F-T_0}{Y} = \left(\frac{g-\beta}{1+g}\right)\frac{PSNL}{Y}$$

Where **G** represents government spending excluding transfer payments, **F** represents fiscal transfer payments; **T** is taxes and other sources of revenue, **g** is the growth in real GDP,  $\beta$  is the weighted average real cost of public sector net liabilities; **PSNL** is public sector net liabilities and **Y** represents the GDP. In essence, what this means is that, in the presence of a fiscal deficit [i.e. (**G** + **F**) > **T**], public sector financial stability will be improving if the rate of growth in real GDP (**g**) is greater than the rate of growth in the weighted average real cost of public sector net liabilities ( $\beta$ ), and deteriorating if **g** is less than  $\beta$ .

## 2.3 Integrated financial sustainability conditions for both external and public sector finance

The final component of the SDFA seeks to integrate the external and public sector debt sustainability constraints into a unified model. From the perspective of the external debt constraint, for a given import elasticity the level of output of the economy will require a corresponding level of imports and growth in the level of output will require that imports also grow. However, if this growth in imports is not matched by a corresponding growth in exports plus remittances, net external liabilities will increase. There is, therefore, a rate of growth in both exports and imports that is consistent with external debt sustainability and that level of growth in output is higher than this sustainable rate of growth in imports and exports, then imports will also need to grow at a faster rate. Since exports are exogenously determined, this will mean that net external liabilities will increase – moving the country away from an external financial position that is sustainable over the longer term.

The public sector financial sustainability condition can then be restated as:

$$\frac{G+F-T_0}{Y} = \left(\frac{g_{BP}-\beta}{1+g_{BP}}\right)\frac{PSNL}{Y}$$

Where  $g_{BP}$  represents that growth in exports and imports that is consistent with external debt sustainability and an associated rate of growth in output. All the other elements of the integrated sustainability condition are as given in relation to the public sector financial sustainability condition. In essence, the integrated financial sustainability condition means that public sector net liabilities will only be sustainable over the long term if the rate of growth in exports plus remittances and imports that is consistent with external financial sustainability (i.e.  $g_{BP}$ ) exceeds the weighted average cost of public sector net liabilities (i.e.  $\beta$ ).

#### 3. A note on data

There is great variation in both the range of data that countries collect and publish and in how particular variables are calculated. While international reporting standards – such as the International Monetary Fund's Sixth Edition (BPM6) of the Balance of Payments and International Investment Position Manual – exist, there are still significant differences in the extent which countries comply with these standards. This makes the consistent application of the model to different countries difficult.

To circumvent this problem, the SDFA Framework Policy Dashboard suggests that data is sourced from international organisations such as the IMF and the World Bank. However, these organisations cannot always compensate for differences and shortcomings in the way that countries collect data and define and calculate variables. As a result, these sources may have required model data for a particular country for only a limited period (which impacts the ability to assess historical trends), or not have particular data series at all (which necessitates the choice of alternative sources and proxy variables that may impact the accuracy and value of the SDFA framework model to a greater or lesser extent). These problems tend to become more common when lower income and less developed countries are selected because they often have poorly-developed statistical systems.

While the number of variables that are inputs into the model is relatively limited, some need to be calculated using additional variables. The data from international organisations also tends to be "packaged" and is often easier to download as a set – rather than as individual time series.

# 4. The structure and contents of the Policy Dashboard in the Excel Workbook

#### 4.1 Contents

The names and contents of the various Worksheets that make up the UNCTAD SDFA Framework Policy Dashboard Workbook are shown in the **Contents** Worksheet (reproduced below). Hyperlinks to each Worksheet are included. There are links back

to the Contents in Cell A1 of each Worksheet, which contains the icon

		UNCTAD Sustainable Development Finance Assessment (SDFA) Framework	
		Policy Dashboard Contents	
Worksheet	Worksheet Name	Description of Contents of Worksheet	Link
Tab Colour	Integrated Dashboard	Consolidated results of historical analysis of external & integrated financial sustainability. Assumptions for key variables for future scenarios.	
	Model Data	Consolodated data inputs used in the model. Draws relevant data from the worksheets listed below. Also includes projections of variables based on assumptions made in the Integrated Dashboard.	
	1_Exchange Rate to USS	Data inputs on the average annual rate at which the local currency of the selected country was converted to US dollars.	
	2_BoPHP US\$	Data inputs reflecting the balance of payments and international investment position of the selected country in US dollar terms.	Ì
	3_BoPIIP LCU	Data inputs reflecting the balance of payments and international investment position of the selected country in local currency terms.	1
	4_import & Export Volumes	Data inputs reflecting import & export volume and price indices for the selected country.	Ì
	5_Fiscal Monitor	Data inputs reflecting public finance aggregates of the selected country as a share of gross domestic product. Includes IMF projections for future values.	Ì
	6_Government Finance Statistics	Data inputs reflecting a detailed breakdown of revenue, expenses and consolidated public sector expenditure by function of the selected country.	1
	7_GDP Constant & Current	Data inputs on the gross domestic product of the selected country in local currency units in both constant and current price terms. Used to determine the GDP deflator.	1
	Annex1_Population	Data inputs of estimates of the historical and projected future population of the selected country. Not used explicitly in the model but may inform future policy choices.	1
	Annex2_GDP Expenditure Constant	Data inputs of gross domestic product via the expenditure method of the selected country in constant price terms.	Ì
	Annex3_GDP Expenditure Current	Data inputs of gross domestic product via the expenditure method of the selected country in current price terms.	Ì

Figure 1: Contents Worksheet

#### 4.2 Integrated Dashboard

Once the Workbook has been populated with the required data for the selected country, the **Integrated Dashboard** becomes the primary interface for users of the UNCTAD SDFA Framework Policy Dashboard. It allows users to observe the application of historical data to **the External, Public Sector and Integrated Constraints**, and to assess the future impact of policy choices relating to key variables of the SDFA Model.

This Worksheet reflects historical averages and trends for key variables used in the External, Public Sector and Integrated sustainability assessments. It makes provision for two forward-looking scenarios:

- i) A **Baseline Scenario** that assumes that the same averages derived from the historical analysis will persist going forward; and
- ii) An **Alternative Scenario** that allows the user to make policy and other assumptions that will change key model variables over the forecast period. The assumptions made reflect the value for the end of the forecast period (e.g. 2031). The intervening forecast values are generally calculated using the compound average annual change between the last (most recent) historical value and the last year of the forecast.



#### Figure 2: Integrated Dashboard Worksheet

#### 4.3 Model Data

The **Model Data** Worksheet (tab highlighted yellow) is a consolidation of the data required for all the elements of the UNCTAD SDFA Framework Policy Dashboard. It collects relevant data from all the Worksheets that are listed below and then also projects the data for the Baseline and Alternative scenarios. In the former case this is determined from long term averages of the historical data, and in the latter case it arises from the assumptions made in the Integrated Dashboard.



NDONE SIA								HISTORICA	AL DATA							1	BASELINE PRO	JECTION USI	IG AVERAGE	GROWTH RAT	ES FOR PREVI	DUS 11 YEAR
Model Variables	Description of Variable	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
OP <sub>ment</sub>	Gross Domestic Product (Constant)	LCU Billions	6,864,133	7,287,635	7,727,083	8,156,498	8,564,867	8,982,517	9,434,613	9,912,928	10,425,852	10,949,155	10,723,055	11,118,869	11,617,262	12,137,995	12,682,069	13,250,531	13,844,474	14,465,040	15,113,422	15,790,887
men.	Year-on-Year Change in GDP at Constant Prices	% p.a.	6.4%	6.2%	6.0%	5.6%	5.0%	4.9%	5.0%	5.1%	5.2%	5.0%	-2.1%	3.7%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
00	Orana Demonte Deviced (Corenal)	101 Billion	0.004 133	7 834 738	8.816 705	0.548.124	10.600 705	11 636 333	12 401 720	13 585 858	14 919 768	16 812 467	15 410 140	12 070 700	10 400 204	20.124.067	21.014.048	22.062.244	10.000.016	28.267.682	20.814.140	12 664 876
POP NOM	Vest-on-Vest Charge in ODP at Current Prices	N.o.s	14 25	1,001,720	10.0%	10.04	10,255	0.1%	7.6%	10,009,020	0.25	6.7%	-2.5%	0.05	10,460,200	8.0%	8.954	8.000 (000	20,000,010	80,687,103	8.9%	0,004,010
10.00		Index: 2010 a										0.1 14	-4.574									
IOP <sub>DEP</sub>	GDP Deflator: 2010 = 100	100	100	107.5	111.5	117.0	123.4	128.3	131.4	137.1	142.3	144.6	144.0	152.6	159.1	165.8	172.8	180.1	187.7	195.6	203.9	212
DP <sub>DATES</sub>	Year-on-Year Charge in GDP Deflator	% p.a.	7.3%	7.5%	3.8%	5.0%	5.4%	4.0%	2.4%	4.3%	3.8%	1.0%	-0.4%	6.0%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2
			10		16		14	15	10		10	19	20				24		20		20	
								HISTORICA	AL DATA								BA SELINE PRO	JECTION USI	IG AVERAGE	GROWTH RAT	ES FOR PREVI	DUS 11 YEA
Model Variables	Description of Variable	Units	2010	2011	2012	2013	2014	HISTORICA 2015	AL DATA 2016	2017	2018	2019	2020	2021	2022	2023	BA SELINE PRO 2024	DJECTION USI	NG AVERAGE (	GROWTH RAT	ES FOR PREVI	2029 2029
Model Variables	Description of Variable Normal Inports as Share of ODF	Units % of GDP	2010 22.4%	2011 23.9%	2012 25.0%	2013 24.7%	2014 24.4%	HISTORICA 2015 20.8%	AL DATA 2016 18.3%	2017 19.2%	<b>2018</b> 22.1%	2019 19.0%	2020 16.0%	<b>2021</b> 18.9%	2022 19.1%	<b>2023</b> 19.3%	BA SELINE PRO 2024 19.5%	2025 19.8%	NG AVERAGE   2026 20.0%	GROWTH RAT 2027 20.2%	ES FOR PREVI 2028 20.5%	2029 20.7
Model Variables	Description of Variable Normal Inports as Share of ODP	Units % of GDP LCU Billions	2010 22.4% 1.321.685	2011 23.9%	2012 25.0%	2013 24.7% 2.200.210	2014 24.4% 2.394.368	HISTORICA 2015 20.8%	2016 18.3% 2.123.034	2017 19.2% 2.445.997	2018 22.1% 3.111.529	2019 19.0%	2020 16.0% 2.328.610	2021 18.9%	2022 19.1% 3.527.018	2023 19.3% 3.666.213	BA SELINE PRO 2024 19.5% 4.201.909	2025 19.8% 4.718.071	2026 20.0% 5.198.563	2027 20.2% 5.727.999	2028 20.5% 6.311.334	2029 2029 203
Model Variables	Description of Variable Norminal Imports as Share of GDP Imports of Octobe and Services (Normon) Imports of Glocobe advinces (Normon)	Units 15 of GDP LCU Billions USS Billions	2010 22.4% 1.321,685 145.4	2011 23.9% 1,658,098 189.0	2012 25.0% 1,995,867 212.9	2013 24.7% 2,200,210 211.3	2014 24.4% 2,394,368 201.9	HISTORICA 2015 20.8% 2,222,647 166.0	2016 18.3% 2,123,034 159.6	2017 19.2% 2,445,997 182.8	2018 22.1% 3,111,529 218.6	2019 19.0% 2,886,932 204.2	2020 16.0% 2,328,610 159.9	2021 18.9% 3,115,032 217.7	2022 19.1% 3,527,018 243.0	2023 19.3% 3,606,213 263.9	BA SELINE PRO 2024 19.5% 4,201,909 206.6	2025 19.8% 4,718,071 311,2	8G AVERAGE ( 2026 20.0% 5,198,563 338.0	2027 20.2% 5,727,900 367.0	2028 20.5% 6,311,334 390.6	2029 2029 203 6,954,0 422
Model Variables	Description of Variable Nominal Injurita at Data of GDP Injurita of Good and Services (Nomes) mapping of Good and Services (Nomes) mapping of Good and Services (Nomes)	Units % of GDP LCU Billions USS Billions	2010 22.4% 1.321,685 145.4	2011 23.9% 1,058.098 109.0	2012 25.0% 1.995,867 212.9	2013 24.7% 2,200,210 211.3	2014 24.4% 2,394,368 201.9	HISTORICA 2015 20.8% 2,222,647 166.0	2016 18.3% 2,123,034 159.6	2017 19.2% 2,445,907 182.8	2018 22.1% 3,111,529 218.6	2019 19.0% 2.686.932 204.2	2020 16.0% 2,328,610 159.9	2021 18.9% 3,115,032 217.7	2022 19.1% 3,527,018 243.0	2023 19.3% 3,806,213 263.9	2024 19.5% 4.281,909 208,6	2025 19.8% 4,718,071 311.2	RG AVERAGE - 2026 20.0% 5,198,563 338.0	2027 20.2% 5,727,990 367,9	2026 2026 20.5% 6.311,334 200.6	2029 20.7 6.954.00 432
Model Variables co/GDP cos cos cos	Description of Variable Surroual reports as Share of GDP reports at Goods and Services (Internal) reports of Goods and Services (Internal)	Units 15 of QDP LCU Billions USS Billions 15 of GDP	2010 22.4% 1,321,605 145.4 24.3%	2011 23.9% 1.658,098 189.0 26.3%	2012 25.0% 1.995,867 212.9 24.6%	2013 24.7% 2,200,210 211.3 23.9%	2014 24.4% 2.394,368 201.9 23.7%	HISTORICA 2015 20.8% 2,222,647 166.0 21.2%	AL DATA 2016 18.3% 2,123,034 159.6 19.1%	2017 19.2% 2,445,997 182.8 20.2%	2018 22.1% 3,111,529 218.6 21.0%	2019 19.0% 2.666,932 204.2 10.4%	2020 16.0% 2,328,610 159.9 17.2%	2021 18.9% 3,115,032 217.7 21.0%	2022 19.1% 3,527,618 243.0 21.6%	2023 19.3% 3,868,213 263.9 21.6%	BASELINE PRO 2024 19.5% 4.281,909 208.6 21.6%	2025 19.8% 4,718,071 311.2 21.7%	RG AVERAGE - 2026 20.0% 5,198,563 338.0 21.7%	2027 20.2% 5,727,990 567,9 21.7%	2028 2028 20.5% 6.311,334 310.6 21.7%	2029 207 6.954.00 432 21.7
Model Variables cor/GDP cor cor cor cor	Description of Variable Normal Ingonia as Dava of 0009 marcher of Ocobin and Parvises (Norma) marcher of Ocobin and Parvises (Norma) Normal Papole as Share of 0009	Units % of GDP LCU Billions US\$ Billions % of GDP	2010 22.4% 1.321,685 145.4 24.3%	2011 23.9% 1,658,098 189.0 26.3%	2012 25.0% 1,995,667 212.9 24.0%	2013 24.7% 2,200,210 211.3 23.9%	2014 24.4% 2,394.365 201.9 23.7%	HISTORICA 2015 20.8% 2,222,647 108.0 21.2%	2016 18.3% 2,123,634 19.8 19.7%	2017 19.2% 2,445,997 182.8 20.2%	2018 22.1% 3,111,529 218.6 21.0%	2019 19.0% 2.606,932 204.2 18.4%	2020 16.0% 2,328,610 159.9 17.2%	2021 18.9% 3,115,032 217.7 21.6%	2022 19.1% 3,527,618 243.0 21.6%	2023 19.3% 3,866,213 263.9 21.6%	BA SELINE PRO 2024 19.5% 4.281,909 208.6 21.6%	2025 19.8% 4,718,071 311.2 21.7%	NG AVERAGE ( 2026 20.0% 5,198,563 338.0 21.7%	2027 20.2% 5,727,990 367.0 21.7%	2028 2028 20.5% 6,311,334 308,6 21.7%	2029 203 6,954,0 432 21.3
Model Variables co/GDP cost cost cost cor	Description of Variable Nonace Imports a Sing of GDP marker of Colors and Excess Texamol Names Experts as Date of GDP Excess of Ecolors and Excess Texamol Scotts of Colors and Excess Texamol	Units 15 of GOP LCU Billions US\$ Billions 15 of GOP LCU Billions	2010 22.4% 1.321,605 145.4 24.3% 1.514,472	2011 23.9% 1,656,098 189.0 26.3% 1,866,868	2012 25.0% 1.995,867 212.9 24.6% 1.978,201	2013 24.7% 2,200,210 211.3 23.9% 2,135,256	2014 24.4% 2.394,368 201.9 23.7% 2.358,460	HISTORICA 20.8% 2,222,847 168.0 21.2% 2,294,516	2016 18.3% 2,123,034 159.6 19.1% 2,232,596	2017 19.2% 2,445,997 182.8 20.2% 2,599,023	2018 22.1% 3,111,529 218.6 21.0% 3,015,992	2019 19.0% 2.606,932 204.2 18.4% 2.628,504	2020 16.0% 2,328,610 159.9 17.2% 2,598,739	2021 18.9% 3,115,032 217.7 21.0% 3,531,741	2022 19.1% 3,527,918 243,0 21.6% 3,998,618	2023 19.3% 3.866,213 263.9 21.6% 4.347,88	2024 19.5% 4.281,909 200.6 21.6% 4.739,505	2025 19.8% 4,718,071 311.2 21.7% 5,166,402	NG AVERAGE 2026 20.0% 5.198.563 338.0 21.7% 5.631.752	2027 20,2% 5,727,990 567,0 21,7% 6,139,016	2028 20.5% 6.311.334 300.6 21.7% 6.691.971	2029 20.7 6.954.00 432 21.7 7.294.73
Model Variables col/GDP col col col/GDP col/GDP col/GDP col/GDP col/GDP col/GDP col/GDP col/GDP	Description of Variable terms legals as Data of GoV meters of Dotation and Services (Bernin) septish of Dotation and Services (Bernin) Deposite of Dotation and Services (Bernin)	Units % of GDP LCU Billens USS Billens % of GDP LCU Billens USS Billens	2010 22.4% 1,321,605 145.4 24.3% 1,514,472 166.6	2011 23.9% 1,658,098 189.0 26.3% 1,868,868 213.0	2012 25.0% 1.995,867 212.9 24.0% 1.978,201 211.0	2013 24.7% 2,200,210 211.3 23.9% 2,135,256 205.0	2014 24.4% 2.394,368 201.9 23.7% 2.358,460 198.8	HISTORICA 2015 20.8% 2,222,847 168.0 21.2% 2,294,516 171.3	2016 18.3% 2,123,034 19.1% 2,232,596 167,8	2017 19.2% 2,445,997 182.8 20.2% 2,599,023 194.2	2018 22.1% 3,111,529 218,6 21,9% 3,015,992 211,9	2019 19.0% 2.806,932 204.2 18.4% 2.828,504 200.1	2020 16.0% 2,328,610 159.9 17.2% 2,598,739 178,4	2021 18.9% 3,115,032 217.7 21.0% 3,531,741 246.9	2022 19.1% 3,527,018 243,0 21.6% 3,988,618 274,8	2023 19.3% 3.866,213 263.9 21.6% 4.347,881 286.2	BASELINE PRO 2024 19.5% 4.281,809 288,8 21.6% 4.739,505 317,2	2025 19.2% 4,718,071 311.2 21.7% 5,966,402 340.8	NG AVERAGE 1 2026 20.0% 5.198,503 338.0 21.7% 5.631,752 346.1	2027 20.2% 5.727,990 367,8 21,7% 6,139,016 393,4	2026 2036 20.5% 6.311,334 300.6 21.7% 6.691,971 422.6	2029 20.7 6.954.00 432 21.7 7.294.71 454
Model Variables carGDP on cat CarGDP cot St Decora	Description of Variable Network Toylor II. So of COST Repair of Cost on the Toylor II. So of COST Repair of Cost on the Toylor II. So of COST Repair of Cost on the Son of COST Repair of Cost on the Son on the Cost Repair of Cost on the Son one (Network) Repair II. Son of Son of Son of Son one (Network) Repair II. Son of Son of Son one (Network) Repair II. Son of Son o	Units % of QDP LCU Billens LCU Billens % of QDP LCU Billens LCU Billens US\$ Billens US\$ Billens	2010 22.4% 1.321,685 145.4 24.3% 1.514,472 106.6 66.435	2011 23.9% 1,658,098 189.0 26.3% 1,868,868 213.0 73,748	2012 25.0% 1.995,867 212.9 24.0% 1.978,201 211.0 75.117	2013 24.7% 2,200,210 211.3 23.9% 2,135,256 205.0 77.291	2014 24.4% 2.394,368 201.9 23.7% 2.358,460 198.8 79.322	HISTORICA 2015 20.8% 2,222,647 166.0 21.2% 2,294,516 171.3 75,943	2016 18.3% 2,123,034 159.8 19.1% 2,232,596 167.8 76,267	2017 19.2% 2,445,997 182.8 20.2% 2,599,023 194.2 00.945	2018 22.1% 3,111,529 218,6 21,8% 3,015,992 211,9 86,005	2019 19.0% 2,808,902 204.2 18.4% 2,828,504 200.1 87,556	2020 16.0% 2,328,610 159.9 17.2% 2,598,739 178.4 85,239	2021 18.9% 3,115,032 217.7 21.0% 3,531,741 246.9 96.293	2022 19.1% 3,527,618 243,0 21.6% 3,988,618 274,8 103,867	2023 19.3% 3.866,213 263.9 21.6% 4.347,881 296.2 110.751	BASELINE PRO 2024 19.5% 4.281,909 288,8 21.6% 4.739,505 317,2 117,008	2025 19.8% 4,718,071 311.2 21.7% 5,166,402 340.8 123,257	KG AVERAGE ( 2026 20.0% 5,1180,503 338.0 21.7% 5,631,752 306.1 129,729	2027 20.2% 5,727,990 567,8 21,7% 6,139,016 393,4 136,384	2026 20.5% 6.311,334 300.6 21.7% 6.691,971 422.6 139,731	2029 201 6,954,0 432 211 7,294,7; 454 143,9
Model Variables curGOP on curGOP ons OS DPsoccas curGOPcosca	Description of Variable Name Inputs as Data of COP Workshow (Core Name) Works of Color and Carlona Strand Works of Color and Strands (Name) Name Carlona and Strands (Name) Carlona of Color and Strands (Name) Carlona of Color and Strands (Name) Carlona of Color and Strands (Name) Name Carlona GOP	Units % of GDP LCU Billions USS Billions % of GDP LCU Billions USS Billions USS Billions S of Werkl GDP	2010 22.4% 1.321,605 145.4 24.3% 1.514,472 166.6 66,436 0.25%	2011 23.9% 1,656,098 199.0 26.3% 1,666,668 213.0 73,748 0.29%	2012 25.0% 1.995,867 212.9 24.6% 1.978,201 211.0 75,117 0.225%	2013 24.7% 2,200,210 211.3 23.9% 2,136,256 205.0 77,291 0,27%	2014 24.4% 2.394.368 201.9 23.7% 2.358,460 198.8 79,322 0.2%	HISTORICA 2015 20.8% 2,222,847 166.0 21.2% 2,294,516 171.3 75,043 0.23%	2016 18.3% 2,123,834 159.8 19.1% 2,232,596 167.8 76,267 0,22%	2017 19.2% 2,445,907 182.8 20.2% 2,599,023 194.2 80,945 0.24%	2018 22.1% 3,111,529 218.6 21.0% 3,015,992 211.9 86,005 0.25%	2019 19.0% 2,808,932 204.2 18.4% 2,828,504 2,828,504 2,828,504 2,00.1 87,536 0.23%	2020 16.0% 2,328,610 159.9 17.2% 2,598,739 178,4 85,239 0.21%	2021 18.9% 3.115,032 217.7 21.0% 3.531,741 246.9 96,293 0.20%	2022 19.1% 3,527,018 243.0 21.8% 3,998,618 274.8 103,867 0.28%	2023 19.3% 3.806,213 263.9 21.6% 4.347,681 296.2 110,751 0.27%	2024 19.5% 4.281,909 298,8 21.6% 4.739,505 317,2 117,008 0.27%	2025 19.8% 4.718.071 311.2 21.7% 5.166.402 340.8 123.297 0.20%	KG AVERAGE 2026 20.0% 5.198,563 338.0 21.7% 5.631,752 306.1 129,729 0.20%	2027 20.2% 5,727,990 367.9 21.7% 6,139,016 393.4 136,384 0,29%	2028 20.5% 6.311,334 398,6 21,7% 6,691,971 422,6 139,731 0,30%	2029 201 6,954,0 422 21,1 7,294,7, 454 143,9 0,52
Model Variables col/GDP col col/GDP col col col GDP colors col/GDP colors col/GDP colors	Description of Variable market af Dona and Sarvises (Roman) spaces of Dona and Sarvises (Roman) spaces of Dona and Sarvises (Roman) Dona of Booton af Donaes (Roman) Dona of Dona and Sarvises (Roman) Dona of Dona and Sarvises (Roman) Mond Hawas (DD) County Donates and and are if their CDD	Units % of QDP LCU Bliens USS Bliens Vis of QDP LCU Bliens USS Bliens USS Bliens Sis of World QDP	2010 22.4% 1.321,685 145.4 24.3% 1.514,472 166.6 66,436 0.25%	2011 23.9% 1,656.098 109.0 26.3% 1,866,868 213.0 73,748 0.29%	2012 25.0% 1.995,667 212.9 24.6% 1.978,201 211.0 75,117 0.20%	2013 24.7% 2.209,210 211.3 23.9% 2,135,256 205.0 77,291 0.27%	2014 24.4% 2,394,368 2019 23.7% 2,358,460 188.8 79,322 0,25%	HISTORICA 2015 20.8% 2.222,847 168.0 21.2% 2.294,516 171.3 75,043 0.23%	AL DATA 2016 18.3% 2,123,634 19.1% 2,232,596 167.8 76,267 0,22%	2017 19.2% 2,445,997 182.8 20.2% 2,599,023 194.2 80,945 0.24%	2018 22.1% 3,111,529 218,6 21,0% 3,015,992 211,9 86,005 0,25%	2019 19.0% 2.606,932 204.2 18.4% 2.828,504 200.1 87,536 0.23%	2020 16.0% 2,320.010 159.9 17.2% 2,590.739 178.4 85.239 0.21%	2021 18.9% 3,115,032 217.7 21.6% 3,531,741 246.9 96,293 0.26%	2022 19.1% 3,627.816 243.0 21.6% 3,968.618 274.8 103.867 0.26%	2023 19.3% 3.600,213 263.9 21.6% 4.347,881 280.2 110,751 0.27%	BASELINE PRO 2024 19.5% 4.281,909 200.6 21.6% 4.739,506 317.2 117,008 0.27%	2025 19.8% 4,718,071 311.2 21.7% 5,166,402 340.8 123,297 0,29%	KG AVERAGE   2626 20.0% 5.196.563 330.0 21.7% 5.631.752 369.1 129.729 0.28%	2027 20 2% 5,727,900 367,9 21,7% 6,139,016 393,4 136,384 0,29%	2028 2028 20.5% 6.311.334 398.6 21.7% 6.691.971 422.6 139.731 0.30%	2029 2029 20 6,954,0 432 21 7,294,7 454 143,3 0,3
Model Variables col/GDP col col col col col col col col col col	Description of Variable water Register, a loss of GSF manner of Loss and Loss and Loss and Loss water of Cost of Loss and Loss and Loss water Loss of Loss and Loss and Loss Register of Loss and Loss and Loss and Loss Register of Loss and Loss and Loss and Loss and Loss and Loss Register of Loss and Lo	Units % of ODP LCU Billions USS Billions % of ODP LCU Billions USS Billions % of World ODP USS Billions % of World ODP USS Billions	2010 22.4% 1.321.685 145.4 24.3% 1.514.472 166.6 66,436 0.25% 5,144	2011 23.9% 1,656,096 189.0 28.3% 1,866,868 213.0 73,748 0.29% 1,685	2012 25.0% 1,905,867 212.9 24.6% 1,978,201 211.0 75,117 0.20% (24,418)	2013 24.7% 2,200,210 211.3 23.9% 2,135,256 205.0 77,291 0.27% (29,109)	2014 24.4% 2,394,368 201.9 23.7% 2,358,460 190.8 79,322 0.25% (27,510)	HISTORICA 2015 20.8% 2.222,847 168.0 21.2% 171.3 75,043 0.23% (17,519)	AL DATA 2016 18.3% 2,123,634 159.6 19.1% 2,232,596 167.8 76,267 0.22% (16,952)	2017 19.2% 2,445,607 162.8 20.2% 2,599,023 194.2 80,945 0.24% (16,196)	2018 22.1% 3,111,529 218,6 21.0% 3,015,992 211.9 86,005 0.25% (30,833)	2019 19.0% 2.606,902 204.2 18.4% 2.628,504 200.1 87,536 0.23% (30,279)	2020 16.0% 2,328,610 159.9 17.2% 2,598,739 178.4 85,239 0.21% (4,433)	2021 18.9% 3.115,032 217.7 21.6% 3.531,741 246.9 96,293 0.26% 3,430	2022 19.1% 3,527.616 243.0 21.6% 3,968.618 274.6 103,667 0.26% 4,991	2023 19.3% 3,809,213 283.9 21.6% 4,347,881 289.2 110,751 0.27% 3,377	2004 19.5% 4.201,009 206.6 21.6% 4.739,505 317.2 117,008 0.27% 1,439	2025 19.8% 4,716,071 311.2 21.7% 5,166,402 340.8 123,297 0,28% (868)	KG AVERAGE 2005 20.0% 5.196,563 330.0 21.7% 5,631,752 366.1 129,729 0.29% (3.592)	2027 20.2% 5,727,990 387,9 21,7% 6,139,016 383,4 136,384 0,29% (6,786)	2028 2038 20 5% 6.311,334 396 8 21,7% 6.691,971 422 6 139,731 0.30% (10,510)	2029 203 0,954,0 433 211 7,294,7, 454 143,9 0,35 (14,83
Model Variables ward00P warding ward00P ward	Description of Variable Neural Inputs as Use of GDP Menter of Colon and Annuas (Innum) Menter of Colon and Annuas (Innum) Menter Scotten Salt Scotten (Colon Colon and Scotten Salt Scotten (Colon Colon and Scotten Salt Scotten (Colon Colon and Scotten Salt Scotten (Colon Colon Salt Scotten Scotten) Colon Salt Scotten Scotten Banes Colon Salt Scotten Scotten Banes	Units % of QDP LCU Billions USS Billions USS Billions USS Billions USS Billions USS IIBillions USS IIBillions	2010 22.4% 1.321,605 146.4 24.3% 1.514,472 106.6 66,436 0.25% 5,144 21,212	2011 23.9% 1.656,098 189.0 26.3% 1,866,668 213.0 73,748 0.29% 1,685 24,622	2012 25.0% 1,395,867 2129 24.0% 1,576,201 211.0 75,117 75,117 0,28% (24,418) (1,884)	2013 24.7% 2,200,210 211.3 23.9% 2,135,256 205.0 77,291 0,27% (25,109) (6,237)	2014 24.4% 2019,368 2019 23.7% 2,358,460 196.8 79,32 0,25% (27,518) (3,827)	HISTORICA 2015 20.8% 2,222,847 168.0 21.2% 2.294,516 171.3 75,045 0.22% (17,519) 5,352	AL DATA 2016 18.3% 2,123,034 158.6 19.1% 2,232,596 167.6 76,287 0,22% (16,952) 8,234	2847 19.2% 2,445,597 182.8 20.2% 2,599,023 194.2 80,945 0.24% (16,196) 11,435	2018 22.1% 3,111,529 21.8% 21.9% 3,015,992 211.9 86,055 6,25% (30,853) (6,713)	2819 19.9% 2.888,932 204.2 18.4% 2.828,504 200.1 87,536 0.23% (30,279) (4,133)	2020 16.0% 150.9% 159.9 17.2% 2.590,739 178.4 85,239 0.21% (4.433) 18.546	2021 18.9% 3.115,032 217.7 21.6% 3.531,741 246.9 96,285 0.26% 3.430 29,128	2022 19.1% 3,527,818 243,0 21.8% 3,998,618 274,8 103,867 0.28% 4,991 31,801	2023 19.3% 3.606,213 283,9 21.6% 4.347,601 285,2 110,57% 3.377 31,248	2024 19.5% 4.201,809 208.6 21.6% 4.739,505 317.2 117,08 9.27% 1,439 30,819	2025 19.8% 4,718,871 3112 21.7% 5,166,402 340.8 123,287 0,22% (060) 29,572	KG AVERAGE ( 2026 20.0% 5.198.503 338.0 21.7% 5.631.752 386.1 129.729 0.23% (3.592) 28.162	2027 20 2% 5,727,990 387 a 21 7% 6,139,0% 393 4 136,384 0,22% (6,766) 26,337	2028 20.5% 20.5% 6.311.334 388.6 21.7% 6.691.971 422.6 139.731 0.50% (10.510) 24.038	2029 2029 201 6,954,0 432 211 7,294,7, 454 143,9 0,35 (14,85 21,2)
Model Variables curGOP cm cm curGOP cm cm cm cm cm cm cm cm cm cm cm cm cm	Description of Variable worker at Door and Services (Roman) worker at Door and Services (Roman) worker at Door and Services (Roman) Doors at Door and Services (Roman) Doors at Door and Services (Roman) Doors at Doors at Services (Roman) Doors at Roman (Roman) Door at Roman (Roman) Doors at Roman (Roman) Doors at Roman (Roman) Door at Roman (Roman) Doors at Roman (Roman) Door at Roman (Roman) Doors at Roman (R	Units % of GDP LCU Billions USS Billions % of GDP LCU Billions USS Billions % of World GDP USS Hillions USS Hillions USS Hillions	2810 22.4% 1.321,685 145.4 24.3% 1.514,472 166.6 66,436 0.25% 5,144 22,212 (20,466)	2011 23.9% 1.856.098 109.0 26.3% 1,868,868 213.0 73.748 0.29% 1,868,24 0.29% 1,868,24 24,022 (28,547)	2012 25.9% 1.995,867 212.9 24.6% 1.978,201 211.0 75,117 0.28% (24.418) (1.804,22)	2013 24.7% 2.200,210 211.3 23.9% 2,135,256 205.0 77,291 0.27% (23.00) (5,237) (27.05)	2014 24.4% 2,394,368 2019 23.7% 2,358,460 198.8 79,322 0,25% (27,510) (3,827) (22,703)	HISTORICA 2015 20.8% 2,222,847 166.0 21.2% 2,294,516 171.3 75,043 0.22% (17,519) 5,353 (28,379)	2016 18.3% 2,123,834 159.8 19.1% 2,232,596 107.8 76,267 0.22% (16,952) 8,234 (29,647)	2017 19.2% 2,445,907 182.8 20.2% 2,599,023 194.2 80,945 0.24% (16,196) 11,435 (12,131)	2018 22.1% 3,111,529 218,6 21.0% 3,015,992 211,9 86,005 6,25% (0,633) (0,673) (0,6713)	2849 19.0% 2.886,932 204.2 18.4% 2.838,504 200.1 87,536 0.23% (30,279) (4,133) (31,275)	2020 16.0% 2,328,610 159.9 17 2% 2,596,739 178.4 85,239 0.21% (4,433) 16.546 (28,911)	2021 18.9% 3.115,032 217.7 21.6% 3.531,741 246.9 96,293 0.26% 3,430 29,128 (31,961)	2022 19.1% 3.527.616 243.0 21.6% 3.998.618 274.8 103.867 0.28% 4.991 31.691 (25.249)	2023 19.3% 3,866,213 283.9 21.6% 4,347,881 296.2 110,751 0,27% 3,377 31,348 (24,568)	2024 19.5% 4.281,909 208.6 21.6% 4.739,505 317.2 117,008 0.27% 1,439 30,619 (25,902)	2025 19.8% 4,718,071 3112 21.7% 5,166,402 340.8 123,297 0,29% (066) 29,572 (37,402)	80 AVERAGE 2005 20 0% 5,196,563 330 0 21,7% 5,631,752 366 1 129,729 0,20% (0,552) 2,8% (3,552) (3,552) 2,8%	2027 20.2% 5.727,990 367.9 21.7% 6.139,0% 5.384,4 136,384 0.29% (6,786) 20.37% (40,599) (40,599)	2028 205% 205% 6.311.334 390.6 21.7% 6.691.971 422.6 139,731 0.30% (10.510) 24.038 (42.141)	2029 2029 203 6,954,8 433 21,3 7,294,77 454 0,33 (14,83 21,32 (14,83 21,23 (14,83 21,23 (14,83 21,23)
Model Variables ca/GDP cm cm cm cm cm cm cm cm cm cm	Description of Variable Variant Topola, Iao 2005 Parateri of COSP Parateri	Units 55 of GDP LCU Bliens USS Billons 55 of GDP LCU Bliens USS Bliens USS Bliens USS Millons USS Millons USS Millons USS Millons	2010 22.4% 1.321,685 145.4 24.3% 1.514,472 166.6 66,436 0.25% 5,144 21,212 (20,666) 4,639	2011 23.9% 1.856,098 189.0 28.3% 1.866,868 213.0 73,748 0.29% 1.685 24.022 (28.422 (28.422) (28.422)	2012 25.0% 1.395,667 212.9 24.6% 1.978,201 211.0 75,117 0.28% (24,418) (1,684) (26,684) 4,694	2013 24.7% 2.200.210 211.3 23.9% 2.105.256 205.0 77.291 0.27% (29.109) (0.237) (27.909) (27.909) (27.9109) (27.9109) (27.9109)	2014 24.4% 2.394,368 201.9 23.3% 2.358,460 198.8 79,322 0.25% (27,510) (3,027) (29,703) 5,220	HISTORICA 2015 20.8% 2,222,847 166.0 21.2% 2,294,516 171.3 75,643 0.23% (17,519) 5,505	AL DATA 2016 18.3% 2,123,034 158.8 19.1% 2,202,034 587.8 76,257 0.22% (16,952) 8,244 (29,045) 4,460	2017 19.2% 2,445,997 182.8 20.2% 2,599,023 194.2 0.24% (15,196) 11,435 (12,131) 4,500	2018 22.1% 3,111,529 248.6 21.0% 3,015,992 211.9 86,005 0.25% (30,633) (6,713) (30,653) 6,895	2019 19.0% 2.608,932 204.2 16.4% 2.828,504 2.700.1 87,538 0.23% (30,27%) (4,153) (23,77%) 7,628	2028 16.0% 2,328.610 159.9 177.2% 2,598.739 178.4 85.239 0.21% (4,433) 18.546 (28.91%) (28.91%)	2021 18.9% 3,115,032 217.7 21.6% 3,531,741 2,669 96,293 0,26% 3,430 29,128 (31,001) 6,264	2022 18.1% 3,527.818 243.0 21.8% 3,908.618 274.8 103.867 6.28% 4.591 31.001 (33.249) 6.438	2023 19.3% 3,866,213 28.3 21.6% 4,347,801 28.2 110,751 0,27% 3,377 31,348 (34,508) 6,618	2024 19.5% 4.281,909 206.6 21.6% 4.759,505 317.2 117,203 0.27% 1,439 30.619 (25.902) 6,802	2025 19.8% 4,718,871 3112 21.7% 5,166,402 340.8 123,287 0,28% (868) 29,572 (37,402) 6,991	EG AVERAGE 2026 20.0% 5.198,563 330.0 21.7% 5.631,752 386.1 129,729 0.23% (1.592) 28,162 (35,940) 7,108	2027 20 2% 5,727,990 367 3 21,7% 6,139,016 380 4 136,304 0,29% (6,786) 26,337 (40,500) 7,306	2028 2028 20.5% 6.311,334 308.6 21,7% 6.69,9,71 422.6 139,731 0.30% (10,510) 24,038 (42,438) (42,438)	2029 2029 201 6,954,0 432 21,1 7,294,7, 454 143,9 143,9 0,3 (14,85 21,2] (4,8,1 (4,8,1)\\(4,8,1)(4,8,1) (4,8,1)\\(4,8,1)(4,8,1) (4,8,1)\\(4,8,1)(4,8,1

#### 4.4 Core data

The worksheets described below host information that is incorporated into the **Model Data** Worksheet. When adapting the SDFA Policy Dashboard to a new country, the user must adjust the required data in the **seven** worksheets listed below. All the worksheets that need to be populated with data relevant to the selected country have green tabs.

#### 4.4.1 Exchange Rate to US\$

The **Exchange Rate to US\$** Worksheet contains data that reflects the average annual rate of exchange between the local currency and the United States dollar. This data is used to convert values from LCUs to US\$ and from US\$ to LCUs where required. This Worksheet also includes a GDP deflator calculation.

The average exchange rate is determined from the IMF World Economic Outlook database using the estimates of gross domestic product at current prices in both LCU and US\$ terms. This database can be accessed using the URL contained in the Worksheet. It is important to ensure that the units relating to the LCU data (millions, billions, trillions) is correctly reflected in the exchange rate calculation.

The GDP deflator is calculated using the gross domestic product in LCUs in both current and constant price terms.

Fi	gure	e			4:	Ε	Exc	ha	nge	•			Ra	te		t	to		L	JS\$			Wo	orks	hee	t
Ĵ	SOURCE: URL:		IMF Wo	orld Ecor	nomic Outlook Database L/en/Publications/WEO/weo-databas																					
	LAST UPD	ATED:	Apr-22																							<i>i</i>
	WEO Country 536 536	ISO IDN IDN	WEO Subj NGDP NGDPD	Country Indonesia Indonesia	Subject Descriptor Gross domestic product, current prices Gross domestic product, current prices	Subject N Expresse Values an	o Units d National o e U.S. dolla	Scale su Billons re Billons	Country/Si Source: N See notes	a 6	62,258 99	70,029 111	1982 75,269 114	1983 93,790 103	1984 110,000 107	1985 118,901 107	1986 129,820 101	1987 156,518 95	1988 180,840 107	1989 216,982 123	1990 254,781 138	1991 301,435 155	1992 341,592 168	1993 398,455 191	1994 461,820 214	1995 549,171 244
					Average Exchange Rate (LCU/US\$)						627	632	661	90	9 1,026	1,111	1,283	1,644	1,686	1,770	1,842	1,950	2,030	2,087	2,161	2,249
	WEO Country 536	ISO IDN	WEO Subj	Country	Subject Descriptor Gross domestic product, constant price	Subject N	units 1 National o	Scale w Billions	Country/Se Source: N	e <sup>4</sup> 1980 a 1440	0888.44	981 1550458 93	1982	1983	1984 8 1776867	1985 7 1846265.1	1986	1987	1988	1989 2461207	1990 4 268276	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1992	1993 3360564.7	1994	1995 0 3911022.1
	536	DN	NGDP	Indonesia	Gross domestic product, current prices GDP Deflator	Expresse	d National o	ou Billions	Source: N	a 62	2257.71	70029.2	75268.73	3 93789. 7 5.	9 109999. 7 6.3	8 118901.2 2 6.4	129820.3	156517.9	180840.	216981.0	5 25478 5 9	1 301434.9 5 10.3	341591.6 11.0	398454.6	461820.4	4 549170.8 8 14.0
	WEO Country	ISO	WEO Subj	Country	Subject Descriptor	Subject N	k Units	Scale	Country/S	1980	1	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
		USA	NGOF_D	United St	a gross domestic product, denator	The GOP	cindex		see note		42.2	9%	47.	. 51	0 52	9 943	5 55.0	57.5	59.	01.	5 63.	0.00	67.3	00.3	70.3	/1.0

#### 4.4.2 BoPIIP US\$

The **BoPIIP US\$** Worksheet contains data that relates to the selected country's Balance of Payments and International Investment Position expressed in United States dollars. Where possible this data should be sourced from the IMF Balance of Payments and International Investment Position database as it consistently applies the BPM6 standards and thereby ensures some level of inter-country comparability.

After accessing the relevant database using the URL contained in the Worksheet it is important to first ascertain the reporting status of the selected country. This can be determined by clicking on the link on the upper righthand side of the web page titled **Economies Reporting on BPM6 Basis** which then downloads a PDF document that lists start date of participating economies in relations to both Balance of Payments (BOP BPM6 Basis Start Date) and International Investment Position (IIP BPM6 Basis Start Date) data.

After determining that the selected country is included the user should:

i) Click on the **Query** tab on the top centre-left of the web page, then click

on the *icon* next to the **Country** tab (third item on the left) and then select the country from the dropdown list. Select **OK**.

ii) Then select the **fine** icon next to the **Time** tab on the left of the web page (first of three selectable items). Select the **Timeline** tab and then deselect the Quarterly data and ensure that sufficient available annual data is selected to provide for a reasonable historical trend analysis. Select **Apply**. Then close the Filter-Time box.

iii) Then select the **Export** tab and download the Excel file.

iv) Select the data in the downloaded file **up to the line that reflects the Net International Investment Position** and paste it over the data in the existing BoPIIP US\$ Worksheet.

.1	SOURCE	IMF Balance	of Payments :	and Internati	onal Investme	ent Position							
	URL: INSTRUCTIONS	Use Query Fu	inction to Sel	ect Years to I	b-CA473CA1FD52								
	Data in US Dollars (Millions)												
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Balance of Payments												
	Current account	278	10,859	10,491	126	10,628	5,144	1,685	(24,418)	(29,109)	(27,510)	(17,519)	(16,952)
	Goods and services	8,411	19,786	20,912	9,918	21,191	21,212	24,022	(1,884)	(6,237)	(3,027)	5,352	8,234
	Credit	94,680	107,400	122,266	146,055	125,322	166,636	212,997	211,007	205,033	198,824	171,345	167,793
	Debit	86,268	87,614	101,354	136,137	104,131	145,424	188,975	212,891	211,270	201,851	165,993	159,559
	Goods	17,611	32,198	34,526	24,542	32,287	31,003	33,825	8,680	5,833	6,983	14,049	15,318
	Credit	81,682	98,251	111,301	132,210	113,266	149,966	191,109	187,347	182,089	175,293	149,124	144,470
	General merchandise: export	81,446	97,713	110,600	131,360	112,413	148,866	189,432	185,337	180,294	173,760	147,725	143,105
	Net exports of goods under merchanting						-		-	-			
	Non-monetary gold: export	236	538	701	850	854	1,099	1,676	2,009	1,795	1,533	1,400	1,365
	Debit	64,071	66,053	76,775	107,667	80,979	118,963	157,284	178,667	176,256	168,310	135,076	129,152
	General merchandise: import	64,071	66,053	76,775	107,643	80,956	118,884	157,217	178,626	176,225	168,286	134,406	128,360
	Non-monetary gold: import				25	23	79	67	41	31	24	670	792
	Services	(9,200)	(12,412)	(13,614)	(14,625)	(11,096)	(9,791)	(9,803)	(10,564)	(12,070)	(10,010)	(8,697)	(7,084)
	Credit	12,997	9,149	10,964	13,845	12,056	16,670	21,888	23,660	22,944	23,531	22,221	23,324
	Debit	22,197	21,561	24,578	28,470	23,152	26,461	31,691	34,224	35,014	33,541	30,918	30,407
	Manufacturing services on physical inputs owned by others, credit	27	(2,435)	(1,597)	(1,555)	(1,172)	(216)	1,081	397	430	425	356	351
	Manufacturing services on physical inputs owned by others, debit												
	Maintenance and repair services n.i.e., credit	44	64	74	154	72	65	73	114	127	100	284	411
	Maintenance and repair services n.i.e., debit	148	167	250	225	256	224	196	572	374	476	624	764
	Transport, credit	2,842	2,102	2,206	2,800	2,439	2,665	3,456	3,822	3,611	3,791	3,456	3,572
	Passenger	572	442	485	773	455	660	1,041	1,139	1,183	1,306	1,293	1,360
	Freight	1,733	1,331	1,365	1,565	1,499	1,479	1,866	1,993	1,717	1,751	1,406	1,676
	Other (including postal and courier)	538	329	356	462	485	526	548	690	711	735	758	536

Figure 5: BoPIIP US\$ Worksheet

#### 4.4.3 BoPIIP LCU

The **BoPIIP LCU** Worksheet contains the same data as shown in the BoPIIP US\$ Worksheet except that is converted to local currency units. Once **the Exchange Rate to US\$** Worksheet has been updated the conversion should happen automatically. However, it is important to ensure that the time frames reflected in each Worksheet are the same. It should be noted that the default calculation converts the data from

#### millions of US\$ to billions of LCUs.

Ĵ	SOURCE	IMF Balance	of Payments	and Internati	onal Investm	ent Position	0528-14-1200	020241054					
	UKL: INSTRUCTIONS	Use Query Fu	inction to Sel	ect Years to b	e Included.	Multiply by :	verage annu	al exchange i	ate to US\$.	Convert to LC	U Billions		
	Data in LCU (Billions)												
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	Balance of Payments												
	Current account	2,694	99,522	95,888	1,221	110,628	46,754	14,785	(228,919)	(303,149)	(326,324)	(234,597)	(225,560)
	Goods and services	81,656	181,329	191,133	96,142	220,569	192,785	210,770	(17,667)	(64,955)	(35,908)	71,668	109,563
	Credit	919,149	984,270	1,117,506	1,415,845	1,304,428	1,514,472	1,868,868	1,978,201	2,135,256	2,358,460	2,294,516	2,232,596
	Debit	837,493	802,941	926,373	1,319,703	1,083,859	1,321,685	1,658,098	1,995,867	2,200,210	2,394,368	2,222,847	2,123,034
	Goods	170,967	295,078	315,565	237,912	336,067	281,767	296,786	81,372	60,748	82,828	188,127	203,816
	Credit	792,973	900,423	1,017,292	1,281,628	1,178,946	1,362,962	1,676,818	1,756,386	1,896,313	2,079,335	1,996,952	1,922,262
	General merchandise: export	790,678	895,491	1,010,882	1,273,389	1,170,058	1,352,971	1,662,109	1,737,549	1,877,618	2,061,152	1,978,207	1,904,097
	Net exports of goods under merchanting		-	-			-			-		-	-
	Non-monetary gold: export	2,295	4,932	6,410	8,240	8,888	9,992	14,709	18,837	18,696	18,183	18,745	18,165
	Debit	622,006	605,345	701,727	1,043,717	842,878	1,081,195	1,380,032	1,675,015	1,835,565	1,996,507	1,808,825	1,718,445
	General merchandise: import	622,006	605,345	701,727	1,043,478	842,639	1,080,474	1,379,446	1,674,633	1,835,246	1,996,219	1,799,849	1,707,914
	Non-monetary gold: import				238	239	721	586	381	319	288	8,976	10,532
	Services	(89,310)	(113,749)	(124,432)	(141,770)	(115,498)	(88,981)	(86,015)	(99,038)	(125,703)	(118,736)	(116,459)	(94,253)
	Credit	126,176	83,847	100,214	134,217	125,482	151,509	192,050	221,815	238,942	279,125	297,564	310,334
	Debit	215,487	197,596	224,646	275,987	240,980	240,490	278,066	320,853	364,645	397,861	414,022	404,587
	Manufacturing services on physical inputs owned by others, credit	259	(22,315)	(14,597)	(15,075)	(12,200)	(1,963)	9,486	3,718	4,477	5,042	4,761	4,664
	Manufacturing services on physical inputs owned by others, debit												
	Maintenance and repair services n.i.e., credit	427	587	676	1,493	752	593	637	1,068	1,318	1,192	3,797	5,466
	Maintenance and repair services n.i.e., debit	1,437	1,530	2,285	2,183	2,664	2,039	1,721	5,364	3,897	5,652	8,351	10,165
	Transport, credit	27,590	19,264	20,167	27,145	25,386	24,225	30,325	35,834	37,602	44,969	46,283	47,527
	Passenger	5,549	4,053	4,435	7,496	4,732	5,997	9,137	10,674	12,325	15,487	17,314	18,090
	Freight	16,821	12,200	12,478	15,173	15,601	13,443	16,375	18,688	17,877	20,765	18,824	22,307
	Other (including postal and courier)	5,219	3,012	3,253	4,476	5,053	4,785	4,812	6,472	7,400	8,716	10,145	7,130

#### 4.4.4 Import & Export Volumes

The **Import & Export Volumes & Price** Worksheet contains historical data reflecting the current price and constant price values for gross domestic product, imports and exports of the selected country. These are used to calculate the import and export propensities as well as the price and volume changes in imports and exports.

The required data is sourced from the World Bank World Development Indicators. After entering the URL shown in the Worksheet it is necessary to select the country, the series required and the data timeframe. The series are listed alphabetically and should be selected in accordance with the series names listed in the Worksheet. Once the required data has been downloaded and pasted into the Worksheet in the required place, the export and import propensities and price and volumes changes are calculated automatically.

	SOURCE:		World Bank World Development In	dicators										
-	URL:													
	Last Updated	ł:	5/25/202	2										
	Country Name	Country	Series Name	Series Coc	1960	1961	1962	1963	1964	1965	1966	1967	1968	
	Indonesia	IDN	GDP (constant LCU)	NY.GDP.M	550,703,878,732,000	582 317 837 941 700	593,044,002,673,500	579,777,430,505,200	600 241 823 743 500	605 733 976 081 200	623.670.025.657.800	632 279 184 192 600	701 293 586 217 200	749
	Indonesia	IDN	GDP (current LCU)	NY.GDP.M	390,200,000,000	470.100.000.000	1.335.100.000.000	3,208,800,000,000	7.133.500.000.000	23,710,000,000,000	315,900,000,000	847,800,000,000	2.095.700.000.000	-
	Indonesia	IDN	Exports of goods and services (constant LCU)	NE.EXP.GN	102,481,007,041,100	111.743.713.446.700	102.086.849.321.700	95,977,404,671,200	107,407,978,533,500	110.758.319.148.300	109,575,845,990,100	109.378.767.130.400	120,809,340,992,700	137
	Indonesia	IDN	Exports of goods and services (current LCU)	NE EXP GN	45 000 000 000	52,000,000,000	69 000 000 000	291,000,000,000	874 000 000 000	1,251,000,000,000	40 300 000 000	74 400 000 000	227 900 000 000	
	Indonesia	IDN	Imports of goods and services (constant LCU)	NE IMP.GN	31.398 594 291 900	42 291,984 148 300	41.458.960.218.100	30,437,412,834,000	33 128 720 916 100	30,437,412,834,000	29.155.837.556.800	37,357,919,331,000	39.921.069.885.400	4
	Indonesia	IDN	Imports of goods and services (current LCU)	NE.IMP.GN	49,000,000,000	64,000,000,000	72,000,000,000	300,000,000,000	932,000,000,000	1,360,000,000,000	69,800,000,000	143,000,000,000	326,600,000,000	
			Propensity to Evport (Nominal)		11.5%	11.1%	5.2%	9.1%	12 3%	5.2%	12.8%	8.8%	10.9%	
			Propensity to Import (Nominal)		12.6%	13.6%	5.4%	9.3%	13.1%	5.7%	22.1%	16.9%	15.6%	
			Export Deflator (2010 = 100)		0.04	0.05	0.07	0.30	0.81	1.13	0.04	0.07	0.19	
			Export Volume Change (%)			9.0%	-8.6%	-6.0%	11.9%	3.1%	-1.1%	-0.2%	10.5%	
			Export Price Change (%)			6.0%	45.2%	348.6%	168.4%	38.8%	-96.7%	84.9%	177.3%	
			Import Deflator (2010 = 100)		0.16	0.15	0.17	0.99	2.81	4.47	0.24	0.38	0.82	
			Import Volume Change (%)			34.7%	-2.0%	-26.6%	8.8%	-8.1%	-4.2%	28.1%	6.9%	
			import Price change (%)			-3.0%	14.076	407.376	183.4%	28.8%	-94.076	59.9%	113.7%	

Figure 7: Import & Export Volumes Worksheet

#### 4.4.5 Fiscal Monitor

The **Fiscal Monitor** Worksheet contains key fiscal sector indicators and projections that are expressed as a share of the selected country's nominal gross domestic product. The data is sourced from the IMF Fiscal Monitor database. Depending on the country selected, the data may, or may not, include figures for the ratio of Net Debt to GDP. If it is not included, and this data cannot be sourced elsewhere, the Gross Debt to GDP ratio can be used.

The Fiscal Monitor data is accessed by entering the URL listed in the Worksheet. The user must then select the **By Country** tab at the top left of the web page and then choose the country required from the drop-down list.

The export data icon to the right of the data table must then be selected. For some reason the data downloaded from this source includes blank columns between each year of data which must be removed prior to pasting the data in the Worksheet.

Figure 8: Fiscal Monitor Worksheet

<u>1</u>	SOURCE:	IMF Fiscal Monitor	-061a17b2.7a6a	4558.0517.047	a 10a 50a 848 e li	4-14001515445	10												
	LAST UPDATED:	4/21/2022																	
	INSTRUCTIONS:	Remove extra colu	mns between	data points										001         2002         2003         2004         2           -18         -06         -11         -03         -           3.1         38         19         2.2           17.7         16.4         17.1         17.6           19.5         16.9         18.2         17.8           73.7         62.3         55.6         51.3           90.591         1981.462         2.190.155         2.497.012         3.0           11.576         (11.415)         (23.594)         (6.497)         55.67         7.322         41.77         55.888           9.232         3.24.425         3.98.273         44.52.98         5         19.73         1.25.24         12.76         5.888           9.232         3.24.43         3.98.77         4.45.298         5         1.97         1.21.67 <td< th=""></td<>					
				Indonesia															
	As % of GDP		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005		
	Net lending/borrowing (also referred as overall balance) (% of GDP)					0.0	0.6	1.0	-1.0	-1.9	-1.0	-1.9	-1.8	-0.6	-1.1	-0.3	0.		
	Primary net lending/borrowing (also referred as primary balance) (% of GDP)					1.4	1.8	2.0	0.5	0.9	2.3	1.4	3.1	3.8	1.9	2.2	2		
	Cyclically adjusted balance (% of potential GDP)																0.		
	Cyclically adjusted primary balance (% of potential GDP)																2		
	Revenue (% of GDP)		14.2	13.9	13.5	13.5	12.5	12.5	14.2	13.2	14.2	13.4	17.7	16.4	17.1	17.6	17.		
	Expenditure (% of GDP)					13.5	11.9	11.5	15.2	15.1	15.1	15.3	19.5	16.9	18.2	17.8	17.		
	Gross debt (% of GDP)												73.7	62.3	55.6	51.3	42.		
	Net debt (% of GDP)																		
	Gross domestic product, current prices (IMF WEO April 2022)	Billions of LCU	301,435	341,592	398,455	461,820	549,171	643,480	758,419	1,154,798	1,328,761	1,511,557	1,790,591	1,981,482	2,190,135	2,497,012	3,017,394		
	https://www.imf.org/en/Publications/WEO/weo-database/2022/April/download entire-database																		
	In Billions of LCU																		
	Net lending/borrowing (also referred as overall balance)	Billions of LCU				22	3,520	6,193	(7,840)	(21,866)	(12,748)	(28,266)	(31,576)	(11,415)	(23,594)	(6,497)	12,780		
	Primary net lending/borrowing (also referred as primary balance)	Billions of LCU	-	-	-	6,367	10,135	12,773	3,423	10,308	30,067	21,820	55,567	76,252	41,757	55,988	77,975		
	Cyclically adjusted balance	Billions of LCU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17,688		
	Cyclically adjusted primary barance	Billions of LCU	40.740	47.400	52.011	60.470	60.010	-	107.015	450.000	100 400	202.045	247.749	204.020	274 405	430.000	520.00		
	Revenue	Billions of LCU	42,710	47,409	53,811	62,478	68,910	80,244	107,815	102,203	188,429	203,040	317,740	324,028	374,485	438,800	538,89		
	Cross deht	Billions of LCU				02,400	00,300	74,052	110,000	174,120	201,111	231,312	1 310 703	1 235 244	1 218 650	1 281 670	1 285 764		
	Net debt	Billions of LCU											1,010,100	1,200,244	1,210,000	1,201,010	1,200,104		
	Financial Assets																		
														1         2002         2003         2004           -18         -0.6         -1.1         -0.3           3.1         3.8         1.9         2.2           17.7         16.4         17.1         17.6           18.5         16.9         18.2         17.8           73.7         62.3         55.6         55.1           1591         1.99.482         2.100.135         2.497.012           1596         1.1415         (23.594)         (6.477)           1597         7.222         41.72         55.988           1597         72.425         4.28.00         4.45.208           1592         1.252.44         1.216.647         4.28.00           1592         4.23.9467         4.45.208         1.23.147           1591         1.232.44         1.216.647         4.38.00           1592         4.23.9467         4.45.208         1.23.147           1593         1.232.44         1.216.647         4.45.208           1594         4.216.647         4.45.208         1.23.147					

#### 4.4.6 Government Finance Statistics

The **Government Finance Statistics** Worksheet contains data on the sources and use of public sector revenue. The Worksheet includes three sets of data that are all sourced from the IMF Government Finance Statistics database, namely:

- i) A detailed revenue breakdown;
- ii) A detailed expense breakdown; and
- iii) A breakdown of the Classification of Functions of Government (COFOG) expenditure.

While much of this data is not used as a direct input into the SDFA Model, it provides important context to aspects such as possible additional public sector spending that could be linked to meeting Sustainable Development Goals or climate change targets.

Use the URLs listed for each section of data. In relation to the **Detailed Revenue Breakdown**:

- i) Select the country from the drop-down list using the **Country** tab.
- ii) With the **Sector** tab, first try to select **General Government**. If the selected country does not have data on general government revenue and expenditure, select **Budgetary Central Government**.
- iii) Keep the **Unit** tab on the **Domestic Currency** default.
- iv) For the **Year** tab, ensure that the period covered is sufficient to allow for a reasonable historical trend analysis. The default is typically for ten years or more, which should be sufficient.
- v) Export the data to an Excel file and then paste the relevant data into the Worksheet.

Repeat these steps for the **Detailed Expense Breakdown** and the **Functional Expenditures (COFOG)** sections.

SOURCE:	IMF Governme	nt Finance Stat	istics											
URL:														
LAST UPDATED:	unknown													
INSTRUCTIONS:	Under "Sector	" select General	Government	if data is availa	ble, otherwise	select "Budge	tary central e	overnment".	Convert to Billio	ons of LCU				
					,									
Detailed Revenue Breakdown	URL: https://data.imf	Lorg/regular.aspx?key=	60991467											
		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Units													
Revenue	Billions of LCU	1,053,000	916,208	1,076,150	1,321,580	1,471,850	1,608,720	1,772,158	1,742,055	1,792,395	1,945,442	2,192,280	2,259,249	1,975,152
Taxes	Billions of LCU	703,394	665,049	779,479	953,209	1,075,600	1,192,770	1,284,122	1,387,328	1,438,933	1,522,400	1,715,124	1,752,839	1,483,505
Taxes on income, profits, & capital gains	Billions of LCU	326,856	317,583	357,046	431,122	465,070	506,442	546,180	602,306	666,210	646,793	749,977	772,266	594,033
Taxes on income, profits, & capital gains: individuals	Billions of LCU	55,318	55,420	119,183	70,039	68,174	94,546	110,355	122,739	114,958	125,571	144,321	159,704	152,624
Taxes on income, profits, & capital gains: corporations	Billions of LCU	271,539	262,164	237,863	361,083	396,896	411,896	435,825	479,568	551,252	521,222	605,655	612,562	441,409
Taxes on income, profits, & capital gains: other	Billions of LCU													
Taxes on payroll & workforce	Billions of LCU													
Taxes on property	Billions of LCU	25,354	24,270	28,581	29,893	28,969	25,305	23,476	29,250	47,712	57,277	52,662	53,894	68,878
Taxes on goods & services	Billions of LCU	311,166	301,378	360,969	434,144	527,698	608,624	666,495	716,775	685,599	774,582	861,394	880,634	779,345
General taxes on goods & services	Billions of LCU	203,744	190,623	226,228	264,377	318,709	365,882	436,950	453,280	435,770	511,351	572,963	567,815	485,786
Excise taxes	Billions of LCU	62,728	65,627	78,569	90,432	113,903	127,283	118,474	145,218	144,607	154,271	160,245	172,961	176,794
Taxes on int trade & transactions	Billions of LCU	36,984	18,702	28,915	54,122	49,656	47,458	43,035	34,408	34,579	38,631	45,608	40,372	36,154
Other taxes n.e.c.	Billions of LCU	3,034	3,116	3,969	3,928	4,211	4,937	4,936	4,589	4,833	5,116	5,483	5,674	5,095
Social contributions	Billions of LCU													
Social security contributions	Billions of LCU				-						-			
Other social contributions	Billions of LCU				-						-			
Grants	Billions of LCU	2,282	1,655	2,670	6,512	7,408	5,217	10,895	13,560	3,199	4,179	2,294	2,705	37,465
Grants from foreign govts	Billions of LCU	2,282	1,655	2,600	4,294	4,839	5,217	3,824	2,692	3,199	4,177	2,294	1,790	1,696
Grants from int orgs	Billions of LCU													
Grants from other gen govt	Billions of LCU		-	70	2,218	2,569	-	7,071	10,869	(0)	2		915	35,769
Grants from other gen govt: current	Billions of LCU		-	70	2,218	2,569		7,071	10,869	(0)	2		915	35,439
Grants from other gen govt: capital	Billions of LCU										-			330
Other revenue	Billions of LCU	347,319	249,504	293,999	361,858	388,843	410,740	477,141	341,167	350,264	418,863	474,862	503,706	454,182
Property income	Billions of LCU	257,100	171,201	210,222	251,881	273,490	271,022	320,371	231,278	159,465	212,605	329,491	334,046	269,928
Sales of goods & services	Billions of LCU	68,617	67,658	63,307	79,435	83,400	126,835	89,905	83,928	89,338	140,242	105,150	125,779	130,018
Fines, penalties & forfeits	Billions of LCU	648	605	705	1,319	1,460	1,398	1,661	1,357	4,129	3,930	3,281	6,060	4,501
Other transfers	Billions of LCU	20,954	10,040	19,766	29,223	30,493	11,484	65,204	24,603	97,332	62,085	36,940	37,822	49,734
NI & SGS: premiums, fees & claims	Billions of LCU						-		-		-		-	-
Detailed Expense Breakdown	URL: https://data.imf	.org/regular.aspx?key=	60991457											
	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Expense	Billions of LCU	876,193	840,897	930,552	1,143,860	1,311,820	1,476,270	1,683,413	1,711,501	1,860,307	1,979,746	2,244,519	2,364,309	2,752,048
Compensation of employees	Billions of LCU	261,289	295,851	348,962	406,296	457,969	508,100	553,446	606,765	648,097	679,871	721,425	777,552	861,183
Wages and salaries	Billions of LCU	261,289	295,851	348,962	406,296	457,969	508,100	467,778	515,059	551,694	579,965	609,108	654,103	728,834
Employers' social contributions	Billions of LCU	0	0	0	0	0	0	85,667	91,707	96,403	99,906	112,317	123,450	132,350
Lise of goods and services	Billions of LCU	122,472	155.891	178,315	230,186	260,443	299,108	332,712	395,991	450.351	491.265	528,560	518,375	596,746

Figure 9: Government Finance Statistics Worksheet

#### 4.4.7 GDP Constant & Current

The **GDP Constant & Current** Worksheet contains data that reflects annual changes in the GDP deflator, as well as constant and current price GDP. It also includes data on estimates of the value of World GDP at current prices in US\$ terms.

WEC		DATED:	Apr-2		g/en/Publications/WEO/weo-database/20																			
					Colora Decembra de	C. block bit	lain fact		10	1000	1001	1000	4000		1005	1000	1007			1000	4004	1000	4000	
	5% I	SU DN	NGDP R	Indonesi	Subject Descriptor	Subject No	Units Scal National (Billi	e u ons S	ountry/se	1 440 888	1 550 459	1585 289	1651 760	1 776 868	1985	1986	2 109 045	2 256 237	2 461 207	2 682 768	2 922 295	3 112 907	3 360 565	3 613 950
	536 1	DN	NGDP	Indonesi	e Gross domestic product, current prices	Expressed	National (Billi	ons S	ource: Na	62,258	70,029	75,269	93,790	110,000	118,901	129,820	156,518	180,840	216,982	254,781	301,435	341,592	398,455	461,820
					GDP Deflator (2010 = 100)					4.3	4.5	4.7	5.7	6.2	6.4	6.6	7.4	8.0	8.8	9.5	10.3	11.0	11.9	12
					Year-on-Year Change in GDP Delflator						4.5%	5.1%	19.6%	9.0%	4.0%	1.9%	13.1%	8.0%	10.0%	7.7%	8.6%	6.4%	8.1%	7.8
					Year-on-Year in GDP Constant						7.6%	2.2%	4.2%	7.6%	3.9%	7.2%	6.6%	7.0%	9.1%	9.0%	8.9%	6.5%	8.0%	7.5
					Year-on-Year in GDP Current						12.5%	7.5%	24.6%	17.3%	8.1%	9.2%	20.6%	15.5%	20.0%	17.4%	18.3%	13.3%	16.6%	15.9%
	1 0	IGDPD	World	Gross do	mestic product, current prices		U.S. dolla Billi	ons		11,237.56	11,493.50	11,281.39	11,583.90	11,997.41	12,523.33	14,771.98	17,008.95	19,125.34	20,122.14	23,654.02	24,492.48	25,328.26	26,039.54	27,985.2

#### Figure 10: GDP Constant & Current Worksheet

#### **4.5 Contextual Information**

The three worksheets described below host information that although is not a variable used directly in the SDFA Model, it may be an important consideration in relation to additional spending requirements by government and expenditure priorities. The three worksheets are referred in the Excel documents as Annex 1, 2 and 3.

#### 4.5.1 Population

The **Population** Worksheet contains historical and projected population data for the selected country. The recommended source for this data is the United Nations Department of Economic and Social Affairs (UN DESA) World Population Prospects (currently the 2019 Revision). This can be supplemented with population estimates by the statistical agencies of the selected country for recent years. UN DESA includes forward projections at five yearly intervals, so it is necessary to construct annual estimates for the interceding years. A compound average annual growth rate can be used for this purpose.

#### 4.5.2 GDP Expenditure Constant

The **GDP Expenditure Constant** Worksheet contains historical data reflecting the gross domestic product of the selected country using the expenditure method in constant price terms in local currency units (LCUs). It is usually sourced from the selected country's statistical office. This data is often packaged for downloading purposes and it may be easier to include the comprehensive data. The historical time period covered by this data may vary. It is important to try to incorporate at least ten years of historical data to make the trend analysis worthwhile.

#### 4.5.3 GDP Expenditure Current

The **GDP Expenditure Current** Worksheet contains historical data reflecting the gross domestic product of the selected country using the expenditure method in current price terms in local currency units (LCUs). It is usually sourced from the selected country's statistical office. The combination of the constant and current price data can also be used to determine price deflators for the various components of the GDP. This data is often packaged for downloading purposes and it may be easier to include the comprehensive data. The historical time period covered by this data may vary. It is important to try to incorporate at least ten years of historical data to make the trend analysis worthwhile.

# 5. Process to follow to populate and use the UNCTAD SDFA Framework Policy Dashboard

The following steps should be followed to set up and use the UNCTAD SDFA Framework Policy Dashboard.

- i) Open the Excel file titled SDFA Policy Dashboard 29 August 2022 V1.0.
- ii) Save the file under a **new name** that reflects the country selected.
- iii) Populate the Core Data Worksheets (green tabs) (Section 3.4 above) with relevant data. *Optional: populate contextual information worksheet* (grey tabs). Ensure that units and dates are correctly captured.
- iv) Ensure that each line of the **Model Data** Worksheet correctly references the correct cell in the correct Worksheet. The years must match. If the format of the data for the country selected differs from that referred to in the Model Data Worksheet make sure that corresponding values match. If the source data does not include a particular time series then ensure that those values are blank in the Model Data Worksheet. Some statistical offices publish data with years running from left to right, while others publish data from right to left. It is important to ensure that there is consistency with other parts of the Workbook and that the correct years are referenced.
- v) Ensure that the first year of the Baseline and Alternative scenarios follow on immediately from the last year of available historical data. So, if available data only goes to 2020, the first year of the Baseline and Alternative scenarios must be 2021.
- vi) Ensure that the averages calculated relate to the period of the historical data and that the number of periods is correctly reflected in the calculation.
- vii) The Model currently reflects fiscal rules relating to both the ratio of the fiscal deficit to GDP and the level of government debt to GDP. If the country selected has fiscal rules (such as deficit or debt limits) ensure that these are correctly reflected in the **Model Data** Worksheet on lines 108 to 110. If the selected country does not have fiscal rules, the values on these lines should be zeroed.

- viii) In respect of all ratio calculations (eg. M<sub>NOM</sub>/GDP, X<sub>NOM</sub>/GDP, NEL/X\*, PSNL/Y) ensure that the currencies (LCUs, US\$) and the units (millions, billions, trillions) are consistent.
- ix) Once all error messages and gaps in the **Model Data** Worksheet have been addressed the historical averages and trend lines and the Baseline Scenario should accurately reflect in the table of the Integrated Dashboard and it should be possible to "test" the impact of different policy assumptions by changing variables listed in the Alternative Scenario column of the Table (circled in red in the Figure below). The cells with the blue background (e.g. 6. Ratio of Net External Liabilities to Augmented Exports) are the result of assumptions made and cannot be directly changed in the **Integrated Dashboard Worksheet**.
- x) Ensure that the name of the selected country is correctly reflected in the Dashboard. The flag of that country can also be included.
- xi) **Important information to consider:** Depending on which Alternative Scenario assumptions are changed (i.e in the External Constraint section or the Public Sector Constraint section), there should be changes in the External Constraint and/or the Public Sector Constraint and/or Integrated Constraint figures in the Dashboard. These changes may impact the position of the numbered Alternative Scenario series on the graphical plane and/or the gradient of the Boundary Condition and Area of Financial Sustainability. The extent to which such shifts are noticeable will depend on the size of the changes made in the assumptions and the relative sensitivity of the SDFA Model of the selected country to changes in that variable. Note that the position of the numbered series reflecting the historical and future scenarios in both the Public Sector Constraint and Integrated Constraint will be the same. The only difference between the two graphs will be the gradient of the Boundary Condition and the Area of Financial Sustainability.

	External Constraint	Average value/ Average change 2010 - 2021	Trend in Underlying Data: 2010 to 2021	Baseline Scenario (2031 value = 2010 - 2021 avg)	Alter Scer (Val 2031 c 2021	nativ nario ue n or .(vg: - 2031)	Treno Atterna Scena 2021 to	d of ative ario: 2031
1	Import propensity (Imports as share of gross domestic product)	21.2%	/	21.2%		23.0%		_
2	Export propensity (Exports as share of gross domestic product)	21.8%		21.8%		24.0%		_
3	Compensation of employees credit (Avg annual change)	2.5%		2.5%		5.0%	_	
4	Personal transfers credit (Avg annual change)	2.8%		2.8%		5.0%		
5	Cost of Net External Liabilities (Avg % p.a.)	7.6%	$\Big)$	7.6%		8.0%	-	-
6	Ratio of Net External Liabilities to Augmented Exports	1.63	$\frown$	0.57		0.54	<u> </u>	
	Public Sector Constraint	Average value/ Average change 2010 - 2021	Trend in Underlying Data: 2010 to 2021	Baseline Scenario (2031 value = 2010 - 2021 average)	Alte Sce (Vi I 2031 c 2021	native nario ue in or Avg: - 2031)	Tren Alterr Scen 2021 to	d of ative irio: 2031
1	Government Spending Excluding Additions (Avg % change p.a.)	10.5%		10.5%		8.0%		-
2	(SDGs, Green Agenda etc) % of GDP	0.0%		0.0%		4.5%	/	
3	Government Revenue to GDP ratio	15.4%	/	15.4%		15.0%		
4	Ratio of Public Sector Net Liabilities to GDP	24.8%		24.8%		65.3%	_	_
5	Annual growth in GDP at constant prices (Avg over period)	4.5%	$\langle$	4.5%		3.2%		
6	Average annual cost of Public Sector Net Liabilities (β)	-0.2%		-0.2%		2.0%		
	Integrated Constraint	Average value/ Average change 2010 - 2021	Trend in Underlying Data: 2010 to 2021	Baseline Scenario	Ave Value to 2	nage 2021 2031	Treno Alterna Sciena 2021 to	d of ative ario: 2031

Figure 11: Changing policy assumptions in the Integrated Dashboard



Figure 12: Reflecting changing policy assumptions in the Integrated Dashboard

## References

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