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An UNCTAD Sustainable Development Finance Assessment

The Case of Indonesia

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Abstract

Low-income countries (LICs) and less developed countries (LDCs) often have to contend with external and public sector financial positions that cannot be sustained and that prevent them from pursuing necessary structural changes and development objectives. UNCTAD developed the Sustainable Development Finance Assessment (SDFA) framework to assist these countries in a) identifying whether their external and public sector financial positions are moving away from, or towards, paths that can be sustained; and b) to assess the impact of different policy approaches and development choices on the sustainability of their financial positions. This analysis is an application of the SDFA framework to relevant Indonesian economic data to test its robustness in identifying periods during which that country's external and public sector liability performance may have veered away from, or back towards, sustainable levels.

Despite some identified limitations, the analysis finds that the SDFA framework is a useful tool to assess both external and public sector financial sustainability. While Indonesia's economic performance was largely consistent with financial sustainability between 2010 and 2019, the SDFA framework does assist in focusing policy choices on those areas that could serve to increase the policy space within which the country can operate in years to come.

Key words: SDFA framework; external financial sustainability; public sector financial sustainability; Indonesia

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Contents

Highlights 6
1 Introduction 10
2 The UNCTAD Sustainable Development Finance Assessment (SDFA) framework 12
2.1 The conceptual point of departure of the SDFA framework 12
2.2 The theoretical grounding of the SDFA framework 13
2.3 Financial sustainability conditions for external accounts 15
2.4 Financial sustainability conditions for public sector finances 16
2.5 Integrated financial sustainability conditions for both external and public sector finances 17
3 Application of the SDFA framework to Indonesia 20
3.1 The recent performance of the Indonesian economy as context to the analysis 20
3.2 Performance of Indonesia's external accounts 24
3.2.1 Current account performance 24
3.2.2 The performance of Indonesia's Financial Account 31
3.2.3 Indonesia's net external liabilities 33
3.2.4 Indonesia's net external debt in foreign currency relative to exports 35
3.3 Application of the SDFA framework to Indonesia's external financial position ... 37
3.4 Indonesia's public sector finances 39
3.4.1 Indonesia's public sector revenue and expenditure trends and fiscal balance 40
3.4.2 Indonesia's public sector net liabilities 41
3.5 Application of the SDFA framework to Indonesia's public finances 42
3.6 Application of the integrated SDFA framework to Indonesia 45
4 Policy implications 47
5 Conclusion 48
6 References 50
7 Annexures 52
Annexure A: Revealed competitiveness of Indonesia's goods exports 52
Annexure B: Revealed competitiveness of Indonesia's services exports 57
Annexure C: Exchange rates applicable to this analysis 60

Figures

Figure 1. Average annual growth in real gross value added from 2010 to 2020 (LHS) and sector contribution to the total growth in real gross value added between 2010 and 2020 (RHS) 22
Figure 2. Average annual growth in real GVA of individual sectors from 2010 to 2020 22
Figure 3: Indonesia's Current Account Balance (LHS) and balance on each of the sub-accounts making up the Current Account (RHS) 25
Figure 4: Indonesia's share of world goods (LHS) and services (RHS) exports 26
Figure 5: Performance of Indonesia's merchandise export categories in relation to world merchandise exports 27
Figure 6: Performance of Indonesia's services export categories in relation to world services exports 28
Figure 7: Trends in the components of Indonesia's Primary Income Account 29
Figure 8: Trends in the components of Indonesia's Secondary Income Account 29
Figure 9: Trends in Indonesia's propensity to export and import 30
Figure 10: Indonesia's trade in capital goods (LHS) and capital goods imports as a share of expenditure on gross fixed capital formation (RHS) 31
Figure 11: The balance on Indonesia's Financial Account 32
Figure 12: The performance of the components of Indonesia's Financial Account 32
Figure 13: Aggregate value of Indonesia's net external liabilities 34
Figure 14: Relative trends in the value of net external liabilities and exports plus remittances (LHS) and the ratio of net external liabilities to exports plus remittances (RHS) 35
Figure 15: Currency composition of Indonesia's foreign debt (LHS) and ratio of foreign currency denominated debt to exports plus remittances (RHS) 36
Figure 16: Indonesia's area of external financial sustainability according to the SDFA framework 38
Figure 17: Rates of growth in adjusted exports and average cost of net external liabilities 39
Figure 18: Indonesia's overall fiscal balance 40
Figure 19: Relative trends in Indonesia's government revenue, total expenditure (excluding interest costs) and public debt costs 41
Figure 20: Indonesia's public sector debt and public sector financial assets (LHS) and gross and net public sector debt as a share of GDP (RHS) 42
Figure 21: Relative trends in the growth in real GDP (g) and the real average cost of servicing public sector net liabilities (β) 43
Figure 22: Indonesia's area of public finance sustainability 44
Figure 23: Indonesia's area of public finance sustainability 45
Figure 24: Indonesia's integrated external and public sector financial sustainability 46
Figure 25: Revealed competitiveness analysis of Indonesia's goods exports: 2015 to 2020 52
Figure 26: Revealed competitiveness analysis of Indonesia's services exports: 2015 to 2020 57

Tables

Table 1. Comparative growth in the components of GDP and their respective shares of total expenditure on domestically produced goods and services 23
Table 2: Currency composition of Indonesia's foreign currency denominated debt 36
Table 3: Goods product categories in which Indonesia gained market share in a growing world market 53
Table 4: Goods product categories in which Indonesia gained market share in a declining world market 54
Table 5: Goods product categories in which Indonesia lost market share in a growing world market 55
Table 6: Goods product categories in which Indonesia lost market share in a declining world market 56
Table 7: Services product categories in which Indonesia gained market share in a growing world market 58
Table 8: Services product categories in which Indonesia gained market share in a contracting world market 58
Table 9: Services product categories in which Indonesia lost market share in a growing world market 58
Table 10: Services product categories in which Indonesia lost market share in a contracting world market 58

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Highlights

The UNCTAD Sustainable Development Finance Assessment (SDFA) framework is designed to allow countries – particularly low-income and less-developed countries – to separately assess the sustainability of their external and public sector financial positions. A unique feature of the SDFA framework is that it also allows those countries to undertake an **integrated** assessment of the sustainability of **both** their external and public sector financial positions.

This study assesses the robustness and usefulness of the SDFA framework by applying it to a developing country that is also a participant in the Belt and Road Initiative (BRI). Indonesia – classified as a lower-middle income country by the World Bank - was selected. Within the broader context of its economic development path and performance, the study uses relevant historical data reflecting Indonesia's external and public sector financial performance to identify periods when the country was either moving away from, or towards, financial sustainability.

Indonesia averaged real GDP growth of 5.3 percent a year in the 9 years prior to the COVID-19 pandemic and even though the economy shrank by 2.1 percent in 2020, both the World Bank and the International Monetary Fund (IMF) expect the country to return to pre-COVID rates of growth in coming years. GDP per capita in purchasing power parity terms will be double its 2005 levels in 2021and is projected to continue to increase at an encouraging rate over the medium term.

Between 2010 and 2020 the structure of production shifted away from the primary sectors to the tertiary sectors, with the former's share of real gross value added (GVA) falling from 25 percent to 21 percent and the latter's increasing from 42 percent to 46 percent. The composition of expenditure was relatively more stable but experienced some decline in the share of consumption expenditure and net exports and an increase in the share of gross capital formation.

Relatively low public sector debt levels allowed Indonesia to respond quite decisively to the COVID-19 pandemic in 2020 and a continued flexible fiscal stance - aided by some recovery in tax collections - enabled the country to expand support measures further in 2021.

In relation to its external economic and financial performance the study finds that:

- Indonesia had a persistent, but quite variable, deficit on its Current Account between 2012 and 2020. This was due primarily to a widening of the deficit on the Primary Income Account with factor payments exceeding factor receipts by an increasing margin. The balance on the Secondary Income Account – which reflects current transfers between residents and non-residents – was relatively stable and consistently reflected a surplus. The balance on the Goods and Services Account was more volatile – moving into deficit in 2012, 2013 and 2014 and again in 2018 and 2019. The latter trends were due in part to changes in the country's share of world exports and imports.
- Indonesia's share of world merchandise exports peaked at 1.12 percent in 2011 – when the commodity price cycle was at a high – and have trended lower since then. In 2020 they were at the same level as in 2009. The share of world services exports peaked at 0.52 percent in 2012 but slumped to just 0.3 percent in 2020 due – in particular - to the disruption caused by the COVID-19 pandemic to travel

and transport services which declined by 80 percent and 38 percent respectively from their 2019 levels.

- A revealed competitiveness analysis of Indonesia's trade in goods and services indicates that the country lost market share in 49 of 98 product categories and gained market share in the other 49 product categories between 2015 and 2020. However, the categories in which it lost market share collectively accounted for over 56 percent of merchandise export earnings in 2020, while those in which it gained market share accounted for less than 44 percent. Indonesia increased its share of world services exports in 7 product categories and lost market share in 5 categories. However, the categories in which it lost market share collectively accounted for over 82 percent of the country's total services exports in 2020, while those in which it gained market share accounted for less than 18 percent.
- Indonesia's propensity to import declined from 30 percent in 2005 to 16 percent in 2020 while exports as a share of GDP dropped from 34 percent to 17 percent over the same period. While the decline in Indonesia's import propensity is positive for external financial sustainability, these gains were largely neutralized by the even greater decline in the country's export propensity.
- The trade deficit in relation to capital goods initially narrowed from USD42 billion in 2012 to USD27 billion in 2016, but subsequently widened to USD38 billion in 2019. Imported capital goods as a share of gross fixed capital formation spending declined from 20 percent in 2012 to 13 percent in 2017 and then increased back to 17 percent in 2018. The trend suggests that Indonesia has generally become less reliant on imported capital goods over time.
- Between 2005 and 2010 there were net outflows through the Financial Account but from 2011 to 2020 the country was consistently able to attract net financial inflows which peaked at USD32 billion in 2018. During the COVID-19 pandemic in 2020 net inflows of foreign capital remained positive but dropped to just USD5 billion. The country consistently managed to attract net inflows of both direct and portfolio investment, but net other investment – which includes the purchase of debt instruments – generally experienced net outflows.
- Indonesia's net external liabilities increased from USD125 billion in 2005 to USD384 billion in 2014 but trended lower in subsequent years and were valued at USD280 billion in 2020. The ratio of net external liabilities to exports plus remittances was generally improving between 2005 and 2008, deteriorated between 2008 and 2015 and improved again between 2015 and 2020.
- Application of relevant external data from 2010 to 2020 to the first component of the SDFA framework (relating to external financial sustainability) indicates that in six years (2010, 2011, 2015, 2016, 2017 and 2020) Indonesia operated well within the area of external financial sustainability - suggesting that during these years the country could have afforded to increase its level of imports (and thereby facilitate higher levels of GDP) without threatening financial sustainability. In the other years (2012, 2013, 2014, 2018 and 2019) the country was operating at close to the boundary condition – indicating little scope for higher imports without posing a threat to longer-term external financial sustainability.

Indonesia's public sector finances are governed by two fiscal rules, namely that the deficit may not exceed 3 percent of GDP and that public sector debt may not exceed 60 percent of GDP. The analysis of the country's public sector financial performance finds that:

- Indonesia experienced a fiscal surplus in 2005, 2006 and 2008 and deficits in the other years included in this study. Apart from a brief reversal in 2018, the value of the deficit increased steadily between 2011 and 2020, but between 2015 and 2017 these increases were in line with the growth in the economy – so the deficit did not increase as a share of GDP. After surpluses equivalent to 0.4 percent of GDP in 2005 and 2006, the overall balance swung around to deficits that reached 5.9 percent of GDP in 2020 (for which parliamentary exemption from the first fiscal rule was obtained). Public debt costs rose sharply after 2013 and were 211 percent higher in 2019 than in 2008. This translates into an average annual increase of 10.9 percent. By comparison, revenue rose by 7.2 percent a year and expenditure excluding interest by 8.4 percent a year over the same period.
- As a share of GDP gross debt levels decreased from 30.3 percent in 2008 to 23 percent in 2012, but then increased to 36.6 percent by 2020. Net debt as a share of GDP followed a similar pattern – ending 2020 at 33 percent of GDP.
- The rate of growth in the capacity to repay public sector net liabilities was consistently higher than the average cost of servicing those liabilities between 2009 and 2018. The two values converged in 2019 and it is likely that in 2020 the average cost of servicing public sector net liabilities was higher than the growth in real GDP – given the latter's COVID-19 related contraction.
- Application of relevant public sector financial data from 2010 to 2020 to the second component of the SDFA framework (relating to public sector financial sustainability) indicates that for most of the period Indonesia was operating slightly outside its area of financial sustainability but within the legally permitted area (as defined by its fiscal rules). However, the fact that the rate of growth in real GDP was greater than the average real cost of servicing public sector net liabilities between 2010 and 2019 resulted in a positive gradient to the boundary condition – indicating a progressive expansion of the area of financial sustainability. This has helped to increase the policy space within which Indonesian policymakers can operate.

The final component of the SDFA framework integrates both the external and public sector constraints into a unified model in terms of which a country (in this case Indonesia) will be operating in a financially sustainable manner for as long as the rate of real GDP growth that is consistent with external financial sustainability is greater than the average real cost of public sector net liabilities. When this is not the case, the country concerned will be moving away from a sustainable financial position. Application of relevant historical data from 2010 to 2019 to this component of the SDFA framework indicates that, although Indonesia's public sector operated within its legally permitted area of operation it was – for almost the entire period from 2010 to 2019 – operating outside the financially-sustainable position. Between 2010 and 2015 the country was moving away from a sustainable position, but this trend was reversed between 2015 and 2018. In 2019, Indonesia once again moved away from a financially sustainable position.

Policy implications

While the Indonesian economy has generally performed well over the past ten years, the application of the SDFA framework highlights some developments that – if allowed to persist – could start to reduce the policy space that Indonesian policy makers have to operate in, and progressively reduce the choices available to them.

Indonesia was firmly within the sustainable external financial area throughout this period according to the SDFA framework. However, although the decline in import propensity should have assisted in easing the external constraint, it was accompanied by a relatively greater decline in the contribution of exports. This underperformance resulted in a more than doubling of the ratio of net external liabilities to exports plus gross remittances between 2008 and 2015. At the same time the doubling of the ratio of foreign currency denominated debt to exports plus remittances between 2011 and 2020 places additional demands on Indonesia's ability to generate foreign currency with which to service this debt.

The policy challenge facing Indonesia is therefore to increase the area of external financial sustainability by ensuring that the growth in augmented exports (exports plus gross remittances) exceeds the average cost of net external liabilities by a widening margin in the years ahead. This objective could be aided by investments in appropriate transport, logistics and communications infrastructure that facilitate higher export volumes, programmes that assist new exporters to access foreign markets, programmes that seek to diversify exports away from sunset industries towards products encompassing new technologies and programmes that support firms and sectors with revealed competitiveness (i.e. growing global market shares) to increase the scale of their operations and export activities. Restructuring external debt to secure more favourable (i.e, lower cost) terms would also assist.

In relation to the sustainability of public finances the challenge is to create greater policy space by progressively increasing the capacity to service public sector net liabilities and by reducing the average cost of public sector net liabilities. A stronger focus on the relationship between these two variables could negate the need for Indonesia's existing fiscal rules and – in the process – increase the flexibility and space within which fiscal policy operates.

Attainment of this goal would be aided by efforts to achieve greater efficiencies in tax collection systems and the elimination of any tax gap that may exist. The effectiveness of government spending programmes and the extent to which they serve to raise the long-term growth potential of Indonesia's economy should also not be discounted.

The country could also adopt policies aimed at progressively lowering the average cost of public sector net liabilities. These could include debt restructuring and debt consolidation efforts that would need to be coordinated with the prevailing monetary policy stance.

The study concludes that the application of UNCTAD SDFA framework to the Indonesian case has been a useful exercise. While Indonesia's economic performance has largely been consistent with external and public financial sustainability, the model does assist in focusing policy choices on those areas that could serve to increase the space within which the country's policymakers can operate in years to come.

1 Introduction

While trade and investment flows enable developing countries to achieve higher rates of output and income growth over time they are often unbalanced - resulting in liabilities and debts for some of the parties to the exchanges, and assets and credits for others. From the perspective of the debtor countries, these liabilities need to be serviced through interest payments, other returns and repayment of the capital sum.

With the assistance of Gustavo Bhering[1] and Carlos Schonerwald da Silva[2], the United Nations Conference on Trade and Development (UNCTAD) developed the Sustainable Development Finance Assessment (SDFA) framework that seeks to assess the sustainability of a country's external and public accounts. It makes different assumptions than, for example, the International Monetary Fund's Debt Sustainability Analysis (DSA) (see Hawkins and Prates, 2021, and Box 1), and also produces a different range of policy prescriptions.

This study applies the SDFA framework to a selected developing economy (in this case Indonesia) to test its robustness in identifying periods during which that country's external and public sector debt performance may have veered away from, or back towards, sustainable levels based on the use of historical data.

It begins with a brief outline of the genesis of the framework and its theoretical underpinnings as well as an explanation of the key sustainability conditions applicable to a country's external financial position and its public sector finances. A unique feature of the SDFA framework is that it also incorporates an integrated sustainability condition that combines both external financial sustainability and public sector financial sustainability into a unified model.

The study then examines Indonesia's recent economic performance in order to provide broader context to the application of the SDFA framework. This is followed by a detailed analysis of Indonesia's economic and financial indicators that are of particular relevance to the country's external financial sustainability - including the various components of the current and financial accounts and international investment position. Historical data is then used to assess Indonesia's external financial sustainability (the first component of the SDFA framework).

The performance of the country's public sector finances is then assessed using both flow data (revenue, expenditure, budget balances) and the accumulated stock of public sector net liabilities. Relevant historical data is then used to assess the country's public sector financial sustainability (the second component of the SDFA framework).

Indonesia's integrated financial sustainability (the third component of the SDFA framework) is then assessed.

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The study concludes by examining the policy implications of the preceding analysis and the usefulness and the potential limitations of the SDFA framework in its current form.

2 The UNCTAD Sustainable Development Finance Assessment (SDFA) framework

2.1 The conceptual point of departure of the SDFA framework

A country's ability to raise its output and income growth potential through trade and investment interactions with other countries is ultimately constrained by its ability to service the liabilities that may arise due to asymmetries in the values of the resulting trade and investment flows. Developing countries in general and lower-income countries (LICs) and less-developed countries (LDCs) in particular, will often need to incur comparatively higher levels of external liabilities, and to sustain them for longer. To achieve structural transformation they may need to invest in road, rail, port, communications and electricity infrastructure in order to increase exports to global markets, or increase spending on poverty-eradication, education and healthcare to raise their human capital to levels that support economic diversification and expansion. This will require extensive, sustained investment and there are likely to be relatively long lead times between when such investments are made and when they start to generate measurable productivity gains and growth-enhancing benefits for the investing economy.

Having to service higher external liabilities for longer periods exposes these countries to increased risks arising from global commodity price movements, fickle capital flows and other shocks - such as the COVID-19 pandemic and the impact of the conflict between Russia and Ukraine – that may impair their ability to service and repay their debts. This risk is likely to be reflected in their respective borrowing costs which are typically far higher than those paid by developed economies. These risks also serve to distort the types of investments undertaken by forcing the debtor countries to prioritise projects with shorter repayment periods because their risk profile limits their access to funding with longer repayment terms. This raises the following questions:

i. What level of net external liabilities is sustainable?

ii. How will indebted countries know whether the rate at which they are acquiring additional external liabilities is consistent with sustainability?

iii. What kind of policy measures will assist indebted countries in moving towards levels of net external liabilities that can be serviced sustainably?

In LICs and LDCs it is typically the public sector that needs to take the lead in financing and facilitating growth-enhancing investments in infrastructure and human capital. The 2030 Agenda for Sustainable Development adopted by all United Nations member states in 2015 identifies 17 Sustainable Development Goals (SDGs) that "recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests". The universal attainment of these goals by 2030 is supposed to be achieved through a global partnership that

matches the resources and capacities of developed nations (that have already achieved many of the SDGs) with the development needs and capabilities of low-income and less developed countries (that often have some way to go).

Universal attainment of the SDGs may require the public sectors of some countries to incur additional liabilities. However, their capacity to do so is constrained by a number of factors, including fiscal rules that impose limits on both the extent of public sector borrowing and the purposes for which it may be used, and other limitations that impact on their ability to access capital and the conditions (pricing and repayment terms) under which they can do so. The constraint on external debt discussed above therefore operates in tandem with a public sector debt constraint. This raises additional questions, including:

i. What level of public sector debt can be serviced sustainably?

ii. How will a country know if the rate at which its public sector is taking on additional liabilities threatens its ability to service its accumulated stock of debt?

The SDFA framework seeks to provide answers to these questions.

2.2 The theoretical grounding of the SDFA framework

The 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 for 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[3] over the longer term. Although a balance of payments constraint can be eased by capital inflows, McCombie & Thirlwall (1997) argue that capital flows 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

[3] An analysis of changes in the average ratio of exports to GDP and imports to GDP between 2005 and 2009 and between 2015 and 2019 using IMF IFS data indicates that 75 countries experienced an increase in both ratios, 35 countries (including Indonesia) experienced a decrease in both ratios, 10 countries experienced a rising share of exports and a declining share of imports and 26 countries (including Ethiopia, South Africa and Sri Lanka) experienced a fall in the share of exports and a rise in the share of imports.

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:

i. Financial sustainability conditions for external finances;

ii. Financial sustainability conditions for public sector finances; and

iii. Integrated financial sustainability conditions for both external and public sector finances.

Each of these components is examined in the following sections.

2.3 Financial sustainability conditions for external accounts

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.

The value of foreign liabilities and foreign assets vary over time as a result of 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 (Δ**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**).

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

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 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:

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

Where **M** represents imports of goods and services; **X*** is exports plus remittances; $\mathbf{g_{x*}}$ 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 ($\mathbf{g_{X*}}$) 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.

2.4 Financial sustainability conditions for public sector finances

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[4] 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[5].

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. In 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:

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

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, **β** 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**) >

[4] The International Monetary Fund's World Economic Outlook data for October 2021 indicates that the ratio of gross government debt to GDP in 2020 ranged from less than 3% in the case of Brunei Darussalam to over 300% in the case of Venezuela. The weighted global average in 2020 was 99% of GDP - up from 84% in 2019 and 49% in 2000.

[5] For example, during the Euro-zone debt crisis in 2010 the premium on the yield on Greek bonds relative to German bunds rose to over 900 basis points, compared with less than 50 basis points prior to the global economic crisis in 2008/9.

T], public sector financial stability will be improving if the rate of growth in GDP (**g**) is greater than the rate of growth in the weighted average cost of public sector net liabilities (**β**), and deteriorating if **g** is less than **β**.

2.5 Integrated financial sustainability conditions for both external and public sector finances

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 imports also imposes a constraint on the growth in output. If the rate 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 $\mathbf{g_{BP}}$ 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. $\mathbf{g_{BP}}$) exceeds the weighted average cost of public sector net liabilities (i.e. **β**).

Box 1: Key elements of the UNCTAD SDFA framework

Many developing countries - especially the most vulnerable LICs and MICs - face external solvency problems in addition to insufficient short-term liquidity in foreign currency. These can become roadblocks to recovery in the face of shocks like the COVID-19 pandemic but may also inhibit progress in relation to the attainment of the Sustainable Development Goals (SDGs) and other economic development objectives. To respond and recover from the COVID-19 crisis in a manner that is aligned with the 2030 SDG Agenda, both the liquidity and solvency problems of the developing world must be addressed. While short-term liquidity problems can be addressed in part by the Global Financial Safety Net (GFSN) or a new Special Drawing Rights (SDR) allocation, external solvency problems require a different approach.

The UNCTAD SDFA framework focuses on resources necessary to enhance fiscal spaces and expand policy options in developing countries in the medium- and long-term to ensure that recovery strategies and development agendas can be sustained. The framework assists in determining whether the development finance required by countries to achieve structural transformation and developmental goals are compatible with external financial sustainability, external debt sustainability and public debt sustainability.

The UNCTAD SDFA framework goes beyond standard debt sustainability assessment (DSA) models to focus on development finance requirements for sustainable development, considering all available sources of financing. Unlike standard DSA models, the UNCTAD SDFA framework does not draw on a routine assumption of full employment of all resources at any moment in time and place. In such models fiscal austerity to achieve public debt sustainability is the logical policy response to unsustainable external debt. In the UNCTAD SDFA framework, output is determined by aggregate effective demand – given the external constraint that establishes an upper bound for long-term growth and, hence, for long run sustainability of the public sector. Various combinations of macroeconomic and development policies can be employed in this framework. Fiscal austerity is but one of these.

A key feature of the UNCTAD SDFA framework is that the causality runs from the external position to the country's fiscal space in the medium and long-run. Moreover, while standard models use debt sustainability indicators based on gross liabilities, the SDFA framework considers both the liabilities and assets of the country and the public sector, resulting in indicators based on the net stock of liabilities. It builds on the works of Prebisch (1949, 1951), Thirlwall (1979), Domar (1944 and 1957), Pasinetti (1998) and Bhering *et al* (2019) and places external financial sustainability (the country's ability to service the stock of net external liabilities, including its net external debt) at the centre of the analysis. The capacity of developing countries to sustain growth that enables structural transformation depends on their ability to manage external liabilities in ways that avoid an explosive path to external insolvency.

The central relationship for assessing external financial sustainability of developing countries is the ratio between the country's net external liabilities (NEL) and its capacity to repay those liabilities.

Whereas DSA models generally define repayment capacity by export earnings alone, UNCTADs SDFA framework includes remittances by emigrants and contract workers living in other countries. For many developing countries these may be an important source of foreign currency earnings that can be used - together with export earnings - to meet external financial obligations (profits, dividends, and interest). This ratio is the SDFA framework's first indicator. Its path over time is dependent on the difference between the average cost of net external liabilities and the growth of exports earnings plus remittances. If this ratio increases persistently it will become necessary for the country concerned to generate a trade surplus to stabilize the growth of NEL, even if previous trade deficits were consistently very small. Since – in the short run at least - export earnings and remittances are exogenously-determined, achieving a trade surplus will require that imports are curtailed – thereby impacting economic growth and fiscal revenues negatively.

In countries with trade deficits, the indicator of external financial sustainability will improve in the long run if the rate of growth of exports earnings plus remittances is consistently greater than the average cost of net external liabilities.

The second key indicator of the UNCTAD SDFA framework relates to the ratio of public sector net liabilities (PSNL) to the capacity to service and repay those liabilities - represented by the country's gross domestic product (GDP). This ratio is broader than that employed in most DSA models which typically only reflect the ratio of the public sector gross debt to GDP. The path of this indicator over time depends on the difference between the average cost of PSNL and the rate of growth in the GDP. In countries where the cost of servicing public sector net liabilities is persistently higher than the rate of GDP growth the ratio will be deteriorating. It will be necessary for the countries concerned to adopt policies that serve to increase the rate of GDP growth and/or reduce the average cost of public sector net liabilities. Fiscal austerity is but one of these possible approaches, but it would run the risk of further reducing the rate of growth – at least in the short-run.

The third key indicator of the UNCTAD SDFA framework reaffirms the causality of external financial sustainability determining fiscal sustainability over the medium and long-run. It integrates the first two indicators into a unified sustainability condition by quantifying the upper-bound rate of GDP growth that is consistent with external financial sustainability, and then uses this rate of growth to assess public sector financial sustainability. If a country's average cost of public sector net liabilities is persistently higher than the rate of GDP growth consistent with external financial sustainability, it will move to an explosive path where public sector liabilities rapidly "snowball". However, if the country concerned manages its net external liabilities effectively and adopts policies that serve to increase the rate of growth of exports and remittances and/or reduce the country's dependence on imports in the long-run, it will raise the rate of GDP growth consistent with external financial sustainability and – in the process – create additional fiscal space to adopt policies and programmes that support sustainable development. This includes the United Nations Sustainable Development Goals.

Hawkins, P. and Prates, D. (2021)

3 Application of the SDFA framework to Indonesia

3.1 The recent performance of the Indonesian economy as context to the analysis

The Republic of Indonesia is the 14th largest country in the world by land area. It is also the world's 4th most-populous country - with a population of 272 million in mid-2021. It is the world's largest archipelago and consists of 5 major islands and over 30 additional island groups that have a combined coastline of close to 55,000 kilometers and collectively cover 1.9 million square kilometers.

Indonesia was briefly classified as an upper-middle income country in 2019 when its gross national income (GNI) per capita rose to USD4,050. However, the COVID-19 induced economic contraction in 2020 caused GNI per capita to fall to USD3,870 and it was re-classified as a lower-middle income country. Based on current projections of both population and economic growth in 2021 its GDP per capita will increase sufficiently for it to return to its previous upper-middle income classification.

Indonesia averaged real GDP growth of 5.3 percent a year in the 9 years prior to the COVID-19 pandemic. The pandemic caused the economy to shrink by 2.1 percent in 2020, but both the World Bank and the International Monetary Fund (IMF) expect the country to return to pre-COVID rates of growth in coming years. In its World Economic Outlook of October 2021, the IMF projects average growth of 5.3 percent a year between 2020 and 2026, while the World Bank (2021) expects real GDP to expand by 5.2 and 5.1 percent in 2022 and 2023 respectively – after growth of 3.7 percent in 2021.

The fact that the rate of real GDP growth has – except for 2020 – consistently exceeded the rate of population growth by a healthy margin means that GDP per capita in purchasing power parity terms will be double its 2005 levels in 2021and is projected to increase by a further 41 percent between 2021 and 2026. (IMF, 2021).

The country has generally been praised for its handling of the COVID-19 pandemic. Its public health response initially enabled it to flatten the infection rates associated with the first three variant-linked waves earlier than its regional peers, although the Delta wave saw at least 2.4 million Indonesians infected and resulted in more than 91,000 deaths. However, compared with some of its regional neighbours the proportion of the population that is fully vaccinated is relatively low (around 40 percent at the end of 2021 compared with 82 percent in South Korea, 80 percent in Cambodia, 78 percent in Malaysia and 57 percent in Vietnam[6]).

Relatively low public sector debt levels allowed Indonesia to respond quite decisively to the COVID-19 pandemic in 2020. However, while the fiscal

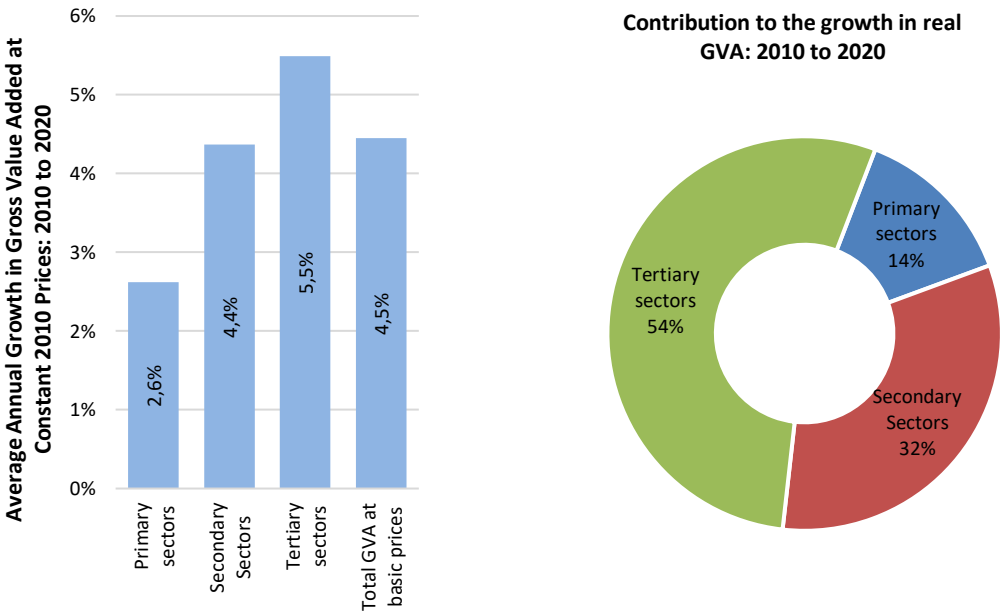
[6] Ourworldindata.org (2021)

response package adopted was equivalent to 4.3 percent of GDP in 2020 and comprised measures aimed at strengthening healthcare (12.7 percent), expanding social protection (34.5 percent), providing support to micro, small and medium-sized enterprises (18.4 percent), providing additional tax incentives to firms (17.4 percent), and reducing the corporate income tax rate from 25 to 20 percent, this was insufficient to prevent the economy entering a recession. A continued flexible fiscal stance - aided by some recovery in tax collections - enabled the country to expand support measures to 4.8 percent of 2020 GDP in 2021 with additional allocations going to health and social assistance and less to supporting firms directly.

In line with most countries, the monetary response to the pandemic was broadly accommodative, with the policy rate being reduced by 150 basis-points to 3.5 percent in the year to April 2021. A combination of relatively weak domestic demand, stable external accounts and comparatively low inflation enabled Bank Indonesia to maintain their policy rate at this level throughout the remainder of 2021. Given that consumer price inflation remained within the 1.5 to 2 percent range throughout 2020 and 2021, the real policy rate in Indonesia was high relative to its regional peers. This was done with a view to maintaining the country's relative attractiveness to foreign bond investors.

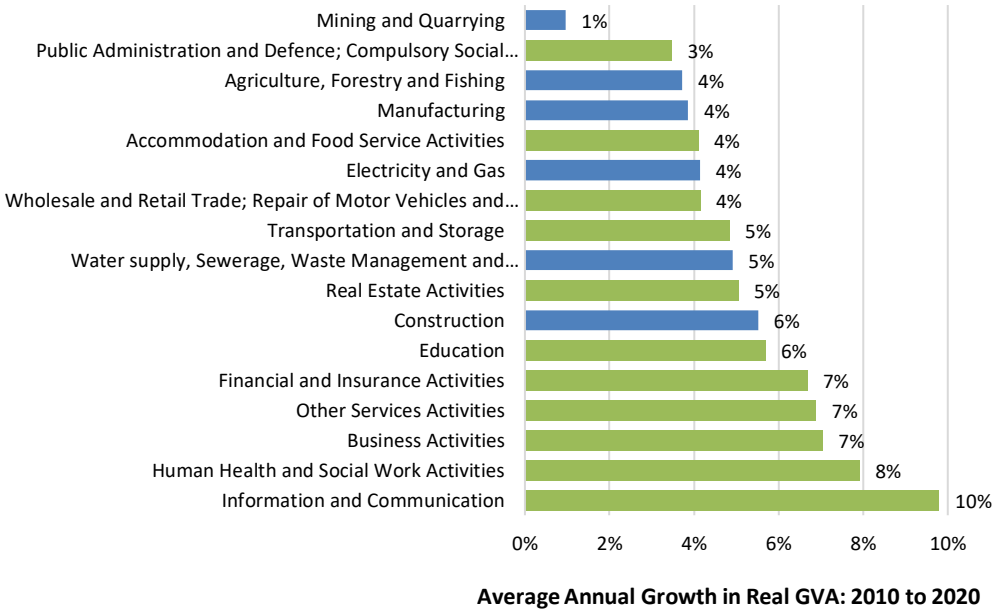
Between 2010 and 2020 the structure of the Indonesian economy shifted away from the primary sectors to the tertiary sectors, with the former's share of real gross value added (GVA) falling from 25 percent to 21 percent and the latter's increasing from 42 percent to 46 percent. Over the same period the share of the secondary sectors remained constant at 33 percent. The average annual rates of growth that gave rise to these changing shares are reflected in Figure 1 (lefthand side). These are contrasted with the contributions to the growth of real GVA (righthand side). The tertiary sectors contributed 54 percent of the growth in real GVA between 2010 and 2020, with the secondary sectors adding 32 percent and the primary sectors the remaining 14 percent.

Figure 1. Average annual growth in real gross value added from 2010 to 2020 (LHS) and sector contribution to the total growth in real gross value added between 2010 and 2020 (RHS)



Source of data: Statistics Indonesia, December 2021

Figure 2. Average annual growth in real GVA of individual sectors from 2010 to 2020



Source of data: Statistics Indonesia, December 2021

The average annual growth rates in real GVA per sector are reflected in Figure 2. The services sectors (coloured green) generally expanded at faster rates than the primary and secondary sectors, with the information and communication sector expanding at an average rate of 10 percent a year. Surprisingly – given the additional demand imposed by the pandemic - the rate of growth in human health and social work activities actually slowed to 2.6 percent in 2020 – from 6.3 percent in 2019.

On the expenditure side, increased consumption spending by households, non-profit organisations servicing households and government accounted for almost 60 percent of the growth in real GDP between 2010 and 2020. Over the same period gross capital formation contributed 31 percent and net exports 6 percent to the growth of the economy. The remaining 3 percent is ascribed to an increase in statistical discrepancies.

Table 1 reflects the average annual growth rates between 2010 and 2020 in each of the key components of aggregate demand, as well as their respective shares of total GDP in both 2010 and 2020. The structure of expenditure was relatively stable, with a fairly small decline in the contribution of consumption expenditure and a slight increase in the contribution of gross capital formation.

Although the share of GDP contributed by exports and imports both declined, the average rate of growth in exports was higher (2.3 percent) than that of imports (1.2 percent).

Table 1. Comparative growth in the components of GDP and their respective shares of total expenditure on domestically produced goods and services

Component of Gross Domestic Product at Constant 2010 Prices	**Average Annual Growth: 2010 to 2020**	**Share of GDP in 2020**	**Share of GDP in 2010**
Consumption Expenditure	4.2%	63.8%	65.2%
Household Consumption Expenditure	4.3%	54.3%	55.2%
Consumption Expenditures of Non-Profit Institutions that serve Households	6.0%	1.1%	1.1%
Government Consumption Expenditure	3.5%	8.4%	9.0%
Gross Capital Formation	4.4%	33.8%	32.9%
Gross Domestic Fixed Capital Formation	4.9%	32.4%	31.0%
Change in Inventories	-8.8%	1.4%	1.9%
Net Exports	10.5%	1.6%	1.9%
Export of goods and services	2.3%	22.6%	24.3%
Import of Goods and Services	1.2%	21.0%	22.4%
Gross Domestic Product	4.6%	100%	100%

Source of data: Statistics Indonesia, December 2021

3.2 Performance of Indonesia's external accounts

A key premise of the SDFA framework is that if a country's stock of net external liabilities persistently increases at a faster rate than its ability to service and repay those liabilities that country will be moving towards an external liability position that is unsustainable. Such unsustainability can result in limitations on imports that serve to constrain the future rate of growth and/or increase the risk of default in the servicing of foreign liabilities.

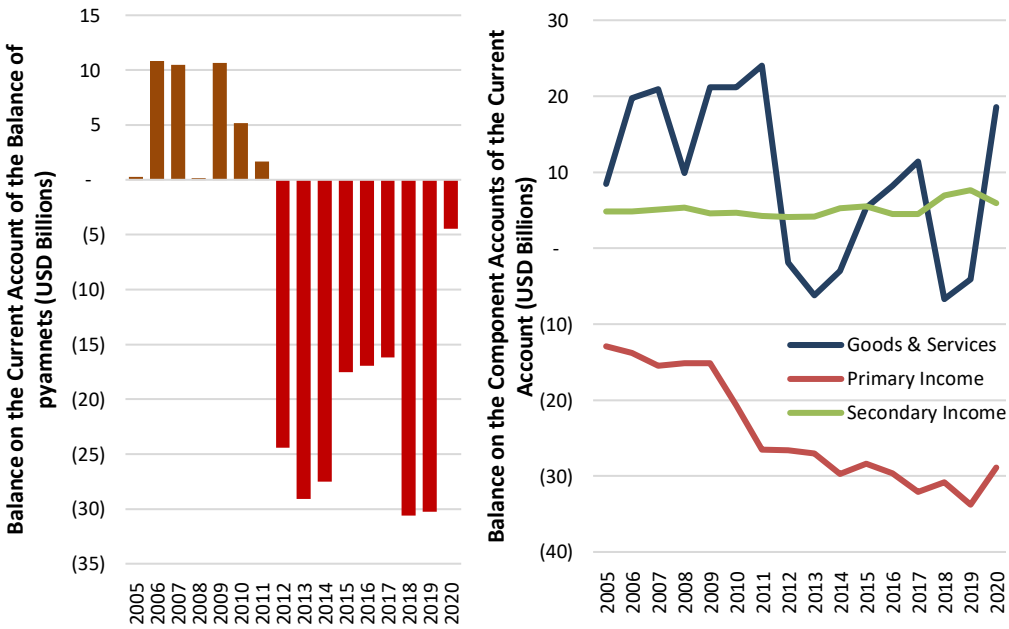
Trends in a country's Balance of Payments accounts and the factors that contributed to those trends provide important context to the application of the SDFA framework. This section examines the performance of Indonesia's Current and Financial accounts, as well as some of the underlying developments that contributed to these trends.

3.2.1 Current account performance

According to the IMF's Balance of Payments and International Investment Position Manual (BPM6) of 2009, the Current Account of the Balance of Payments is the net result of, and includes all associated transactions captured in, the Goods and Services Account, the Primary Income Account and the Secondary Income Account.

Figure 3 indicates that Indonesia had a persistent deficit on its Current Account between 2012 and 2020 – although its extent varied quite widely and decreased significantly during 2020 (left hand side). The reasons for this deficit were primarily a widening of the deficit on the Primary Income Account (right hand side), i.e. factor payments exceeded factor receipts by an increasing margin. The balance on the Secondary Income Account – which reflects current transfers between residents and non-residents – was relatively stable and consistently reflected a surplus between 2005 and 2020. The balance on the Goods and Services Account was more volatile – moving into deficit in 2012, 2013 and 2014 and again in 2018 and 2019.

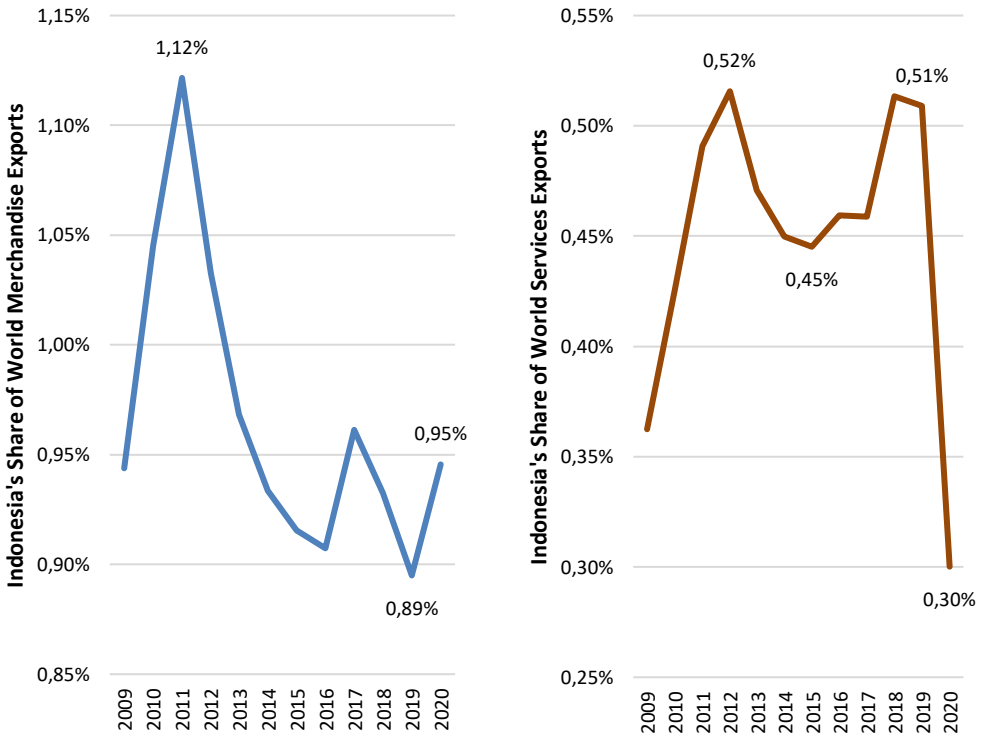
Figure 3: Indonesia's Current Account Balance (LHS) and balance on each of the sub-accounts making up the Current Account (RHS)



Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

Trends in a country's share of world exports and imports provide some indication of underlying competitiveness but are also affected by commodity price cycles and exchange rate dynamics. Figure 4 contrasts Indonesia's share of world exports of goods (left hand side) and services (right hand side). In relation to goods/merchandise exports the country's share peaked at 1.12 percent in 2011 – when the commodity price cycle was at a high – and have trended lower since then. In 2020 they were at the same level as in 2009. The share of world services exports peaked at 0.52 percent in 2012, dropped to 0.45 percent in 2015 and then recovered to 0.51 percent in 2018. They slumped to just 0.3 percent in 2020 due – in particular - to the disruption caused by the COVID-19 pandemic to travel and transport services which declined by 80 percent and 38 percent respectively from their 2019 levels.

Figure 4: Indonesia's share of world goods (LHS) and services (RHS) exports

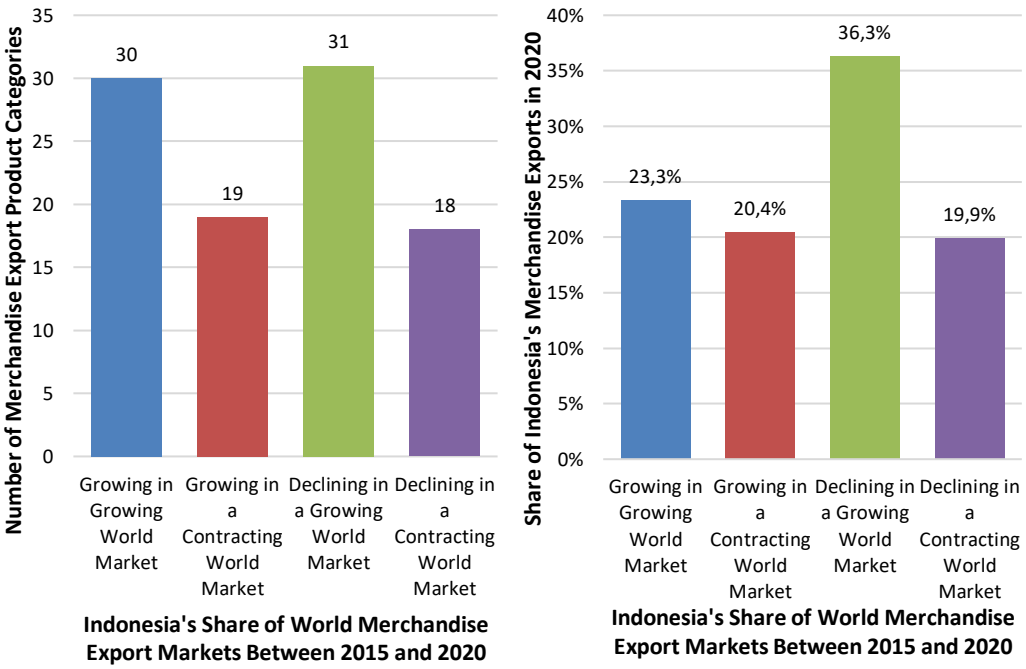


Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

A revealed competitiveness analysis of Indonesia's trade in goods and services provides some insights as to the causes of these "market share" trends. Figure 5 indicates that the country lost market share in 49 of 98 product categories and gained market share in the other 49 product categories between 2015 and 2020. However, the categories in which it lost market share collectively accounted for 56.2 percent of merchandise export earnings in 2020, while those in which it gained market share only accounted for 43.8 percent. Of the product categories in which Indonesia gained market share 19 were in categories in which the world market declined between 2015 and 2020. If the size of the global market continues to contract, this could undermine the country's future export performance.

The detailed results of the revealed competitiveness analysis of Indonesia's goods exports are included in Annexure A. It indicates the performance of each of the individual product categories as well as their share of Indonesia's total goods exports in 2020.

Figure 5: Performance of Indonesia's merchandise export categories in relation to world merchandise exports

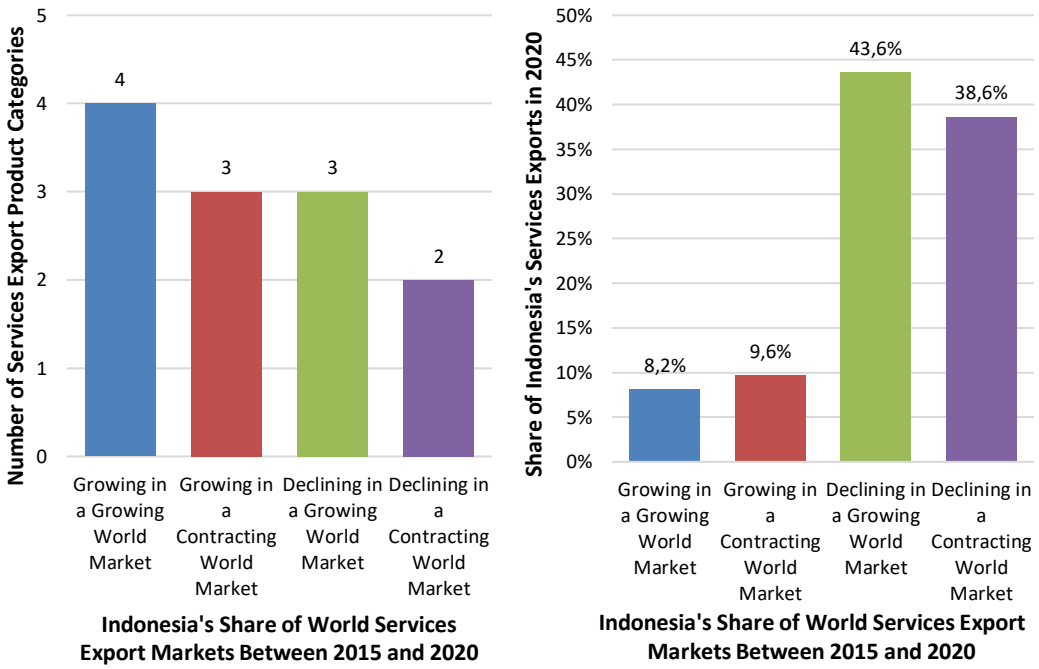


Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

A similar analysis of Indonesia's services exports is reflected in Figure 6. It shows that Indonesia increased its share of world services exports in 7 product categories and lost market share in 5 categories. However, the categories in which it lost market share collectively accounted for 82.2 percent of the country's total services exports in 2020, while those in which it gained market share only accounted for 17.8 percent. It is not clear to what extent distortions caused by the pandemic - particularly of travel and transport which accounted for almost 39 percent of Indonesia's services exports in 2020 – will unwind in coming years.

The detailed results of this analysis are included in Annexure B.

Figure 6: Performance of Indonesia's services export categories in relation to world services exports



Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

As Figure 3 indicates, the Primary Income Account was the principal contributor to the Current Account deficit in recent years. Figure 7 reflects the performance of the components of the Primary Income Account between 2005 and 2020. It is evident that the country had a persistent – and in some cases growing - deficit in relation to each of the components, indicating that payments to foreign labour and different types of foreign investors exceeded corresponding inflows. This was most pronounced in relation to direct investment and portfolio investment which increased substantially between 2009 and 2011. The increase in net portfolio income coincides with a significant rise in foreign portfolio investment flows into equities (+USD1.8 billion) and government debt instruments (+USD12.2 billion) through the Financial Account of the Balance of Payments between 2008 and 2010[7]. There was also an almost USD16 billion increase in foreign direct investment inflows (liabilities) through the Financial Account between 2009 and 2011. Net outflows of income related to portfolio investments continued to increase from 2012 to 2019 but moderated in 2020. Net direct investment income stabilized around 2011 levels till 2019 but declined by almost 20 percent in 2020.

[7] Annexure C indicates the exchange rates of the Indonesian rupiah (IDR) to the United States dollar (USD) that are applicable to the data used in this analysis.

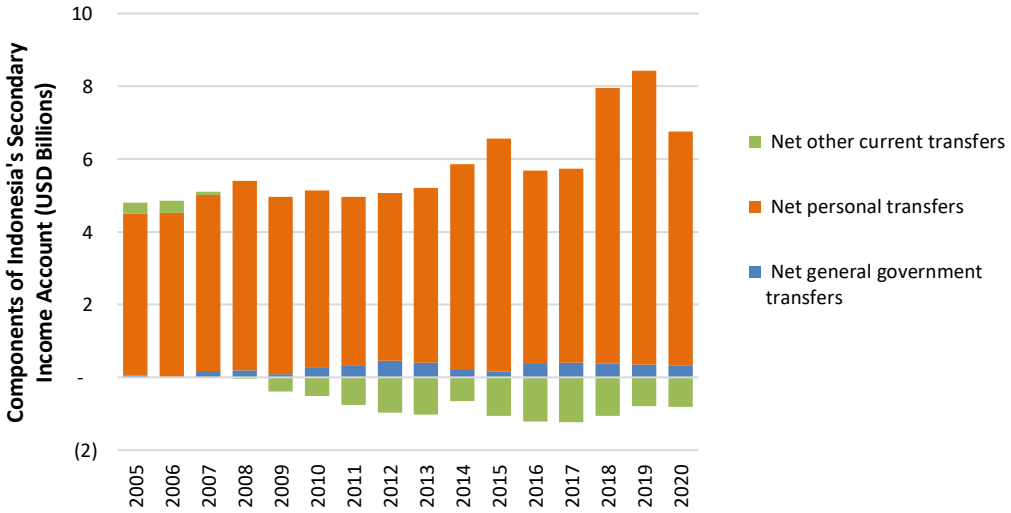
Net remuneration of employment payments increased steadily between 2005 and 2016 but decreased slightly in subsequent years.

Figure 7: Trends in the components of Indonesia's Primary Income Account

Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

Figure 3 also indicates that Indonesia's Secondary Income Account provided a consistent and relatively stable source of net foreign income. As Figure 8 indicates, this was due almost exclusively to personal transfers – which, together with the remuneration of employment shown in Figure 7 constitute net remittances in the SDFA framework. Net personal transfers increased from USD4.5 billion in 2005 to USD8.1 billion in 2019, before decreasing to USD6.4 billion in 2020.

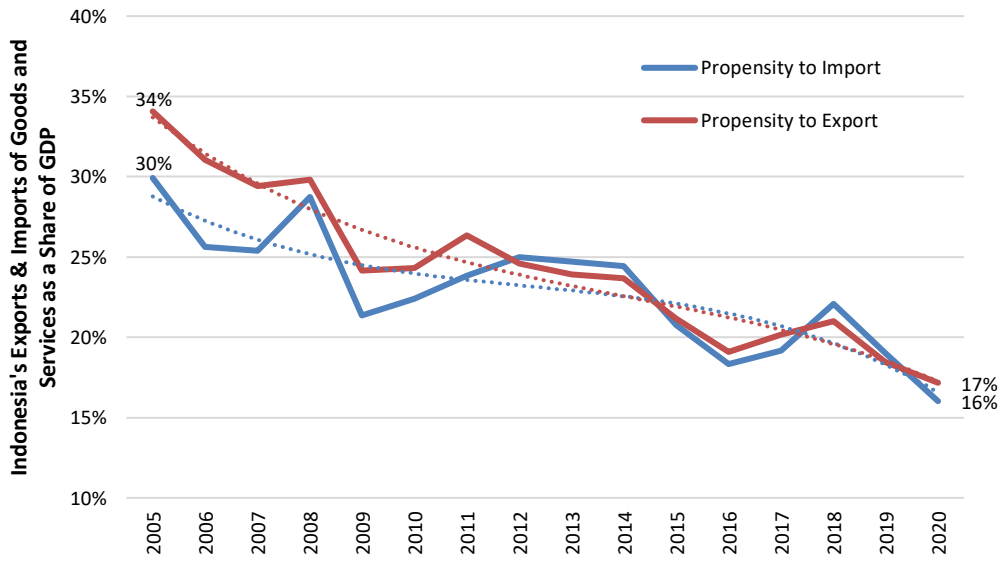
Figure 8: Trends in the components of Indonesia's Secondary Income Account



Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

It was noted earlier that raising a country's growth rate in a way that is consistent with balance of payments equilibrium can – according to Thirlwall (2002, p. 78) - 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. This is also foundational to the SDFA framework. Figure 9 indicates long-term trends in Indonesia's propensity to export and import goods and services. Both trended lower between 2005 and 2020. The propensity to import declined from 30 percent in 2005 to 16 percent in 2020, while exports as a share of GDP dropped from 34 percent to 17 percent over the same period. While the decline in Indonesia's import propensity is positive for external financial sustainability, these gains were largely neutralized by an even greater decline in the country's export propensity.

Figure 9: Trends in Indonesia's propensity to export and import

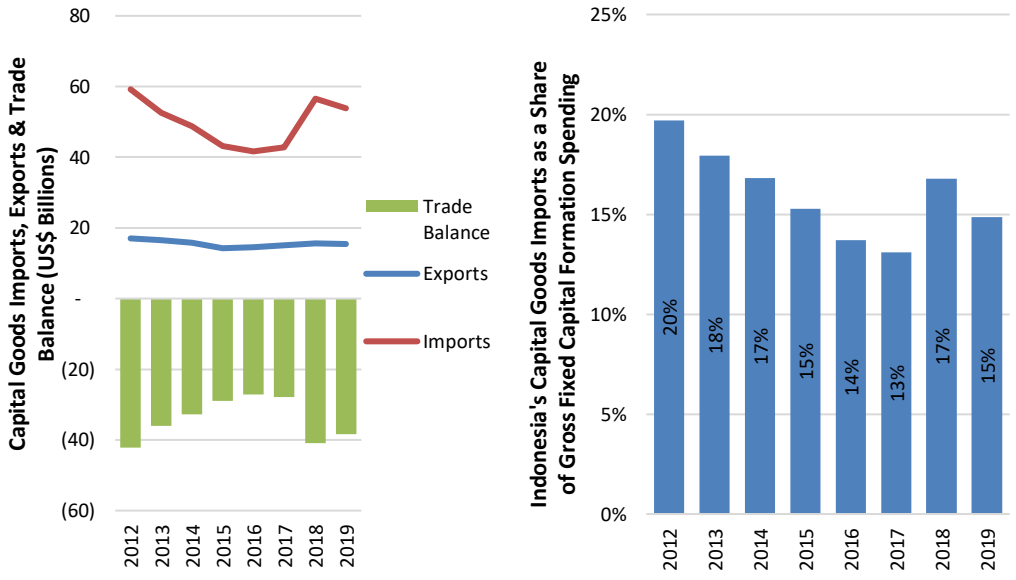


Source of data: World Bank World Development Indicators, December 2021

Generally, capital goods imports can be expected to have a greater impact on the growth potential of an economy than imported consumption goods, while capital goods exports are often used as an indicator of the level of sophistication of that country's manufacturing activities. Figure 10 reflects Indonesia's trade in capital goods (left hand side) and the share of capital goods imports of gross domestic fixed investment (right hand side). Between 2012 and 2019 capital goods exports declined from USD17 billion to USD15.5 billion while imports dropped from over USD59 billion in 2012 to around USD42 billion in 2016 before increasing to over USD56 billion in 2018. The trade deficit in relation to capital goods initially narrowed from USD42 billion in 2012 to USD27 billion in 2016, but subsequently widened to USD38 billion in 2019.

Imported capital goods as a share of gross fixed capital formation spending declined from 20 percent in 2012 to 13 percent in 2017 and then increased back to 17 percent in 2018. The downward trend suggests that Indonesia has become less reliant on imported capital goods over time but this is unlikely to be true for all sectors of the economy and all types of machinery, equipment and other internationally-tradable forms of fixed capital.

Figure 10: Indonesia's trade in capital goods (LHS) and capital goods imports as a share of expenditure on gross fixed capital formation (RHS)



Source of data: World Bank World Integrated Trade Solution database (2021)

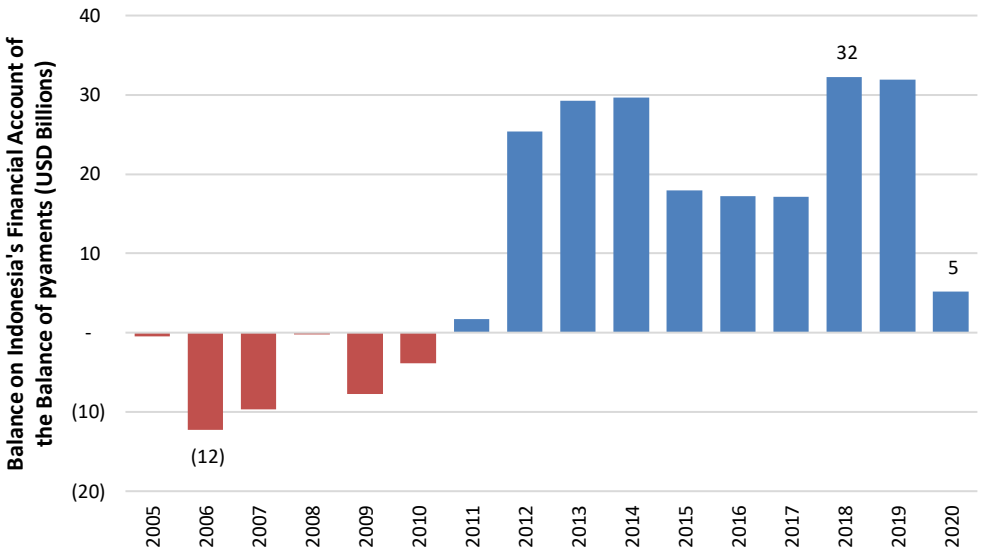
3.2.2 The performance of Indonesia's Financial Account

The Financial Account of the Balance of Payments records transactions that involve financial assets and liabilities and that take place between residents and non-residents. It can also indicate the functional categories, sectors, instruments, and maturities used for net international financing transactions and represents the flow element of a key variable used in the SDFA framework, namely net external liabilities.

Figure 11 reflects the balance on Indonesia's Financial Account from 2005 to 2020. In this instance net inflows of foreign financing are shown as positive values even though they reflect an increase in foreign liabilities. Between 2005 and 2010 Indonesian residents were acquiring more foreign assets than non-residents were accumulating local assets – so there was a net outflow of finances through the Financial Account. From 2011 to 2020, the country was able to consistently attract net financial inflows which peaked at USD32 billion in 2018.

During the COVID-19 pandemic in 2020 net inflows of foreign capital remained positive but dropped to just USD5 billion.

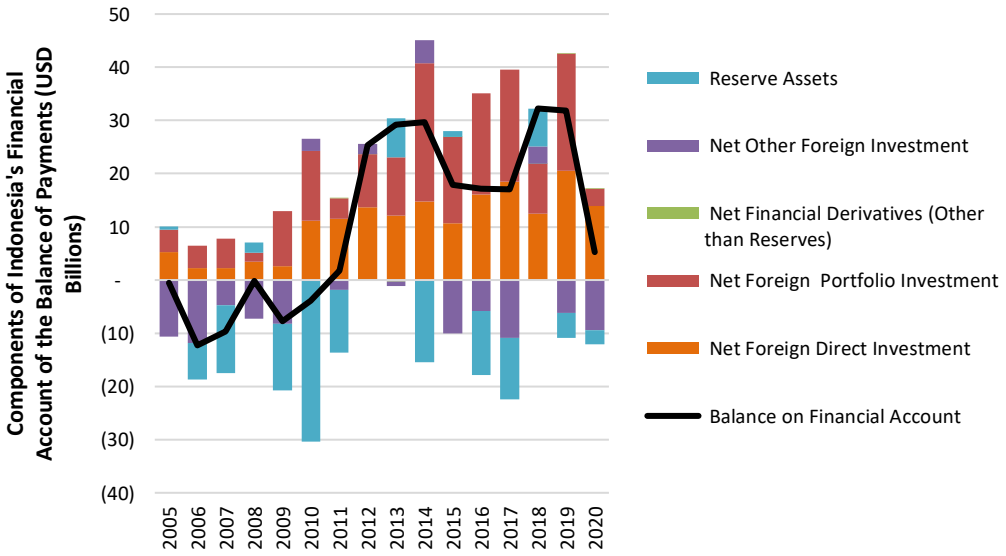
Figure 11: The balance on Indonesia's Financial Account



NOTE: Negative values indicate that outflows (acquisition of foreign assets) exceeded inflows (acquisition of foreign liabilities). Positive values indicate that inflows exceeded outflows (acquisition of foreign liabilities exceeded acquisition of foreign assets).

Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

Figure 12: The performance of the components of Indonesia's Financial Account



NOTE: Negative values indicate that outflows (acquisition of foreign assets) exceeded inflows (acquisition of foreign liabilities). Positive values indicate that inflows exceeded outflows (acquisition of foreign liabilities exceeded acquisition of foreign assets).

Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

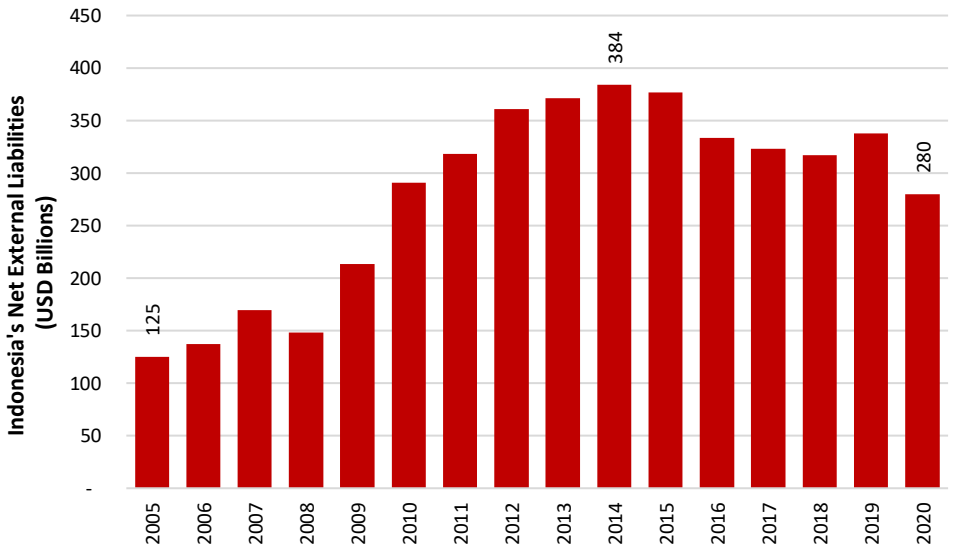
Figure 12 shows the performance of the different components of Indonesia's Financial Account together with the overall balance. The country consistently managed to attract net inflows of both direct and portfolio investment. Net other investment – which includes the purchase of debt instruments – was generally negative (i.e. purchases by residents exceeded purchases by non-residents) but experienced net inflows in 2010, 2012, 2014 and 2018. Changes in reserve assets – which reflect transactions in monetary gold between monetary authorities and/or international finance organisations for reserve purposes - were mostly negative, except for 2005, 2008, 2013, 2015 and 2018. Transactions in financial derivatives other than reserve assets were insignificant.

3.2.3 Indonesia's net external liabilities

According to the Balance of Payments and International Investment Position Manual Sixth Edition (BPM6) "(*T)he international investment position (IIP) is a statistical statement that shows at a point in time the value and composition of (a) financial assets of residents of an economy that are claims on non-residents and gold bullion held as reserve assets, and (b) liabilities of residents of an economy to non-residents. The difference between an economy's external financial assets and liabilities is the economy's net IIP, which may be positive or negative*" (IMF 2009). According to IMF data, at the end of 2019 116 countries had a negative IIP (i.e. foreign liabilities exceeded foreign assets), while 42 had a positive IIP. The SDFA framework expresses a negative IIP (where foreign liabilities exceed foreign assets) as a positive value and refers to this as net external liabilities (NEL). It is worth re-stating the external sustainability condition: For a given import elasticity, external financial sustainability will neither deteriorate nor improve if the rate of growth in NEL is the same as the rate of growth in exports plus remittances. If, however, the growth in NEL is faster than the growth in exports plus remittances, the external financial sustainability of the economy concerned will be deteriorating.

Figure 13 reflects the aggregate value of Indonesia's net external liabilities in US dollars. They increased from USD125 billion in 2005 to USD384 billion in 2014 but trended lower in subsequent years and were valued at USD280 billion in 2020.

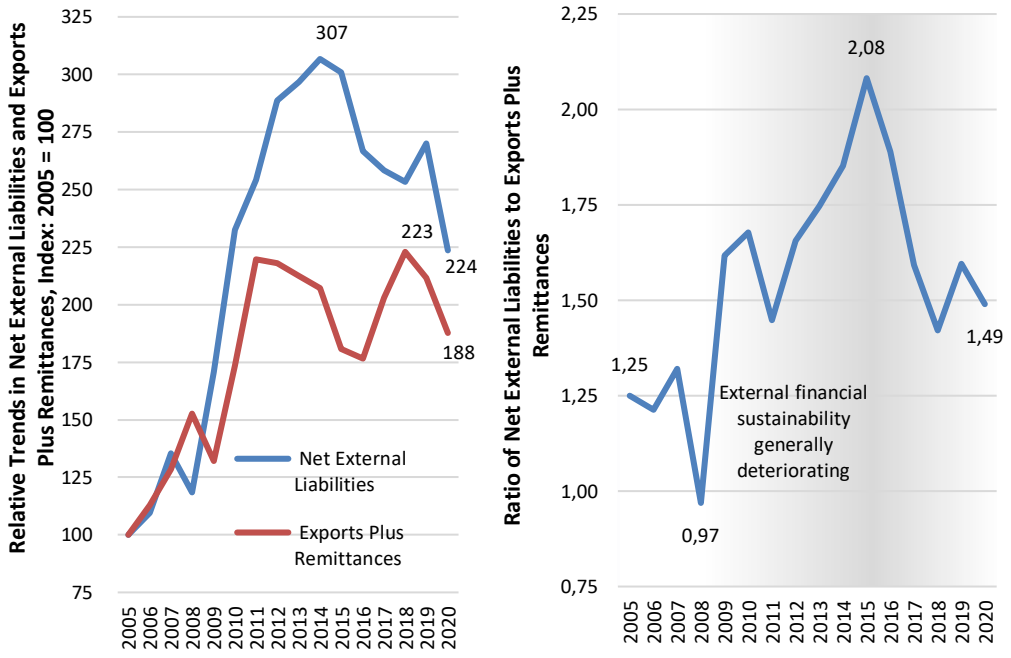
Figure 13: Aggregate value of Indonesia's net external liabilities



Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

When the values of net external liabilities and exports plus remittances are indexed to the same base year, it is apparent - as shown in Figure 14 (left hand side) - that external financial sustainability neither improved nor deteriorated between 2005 and 2007, it improved in 2008, and deteriorated between 2009 and 2014 – when net external liabilities increased at a substantially faster rate than exports plus remittances. Between 2014 and 2020 net external liabilities contracted by an average of 5.1 percent a year, while exports plus remittances only contracted by an average 1.6 percent a year – indicating a relative improvement in external financial sustainability. The ratio of net external liabilities to exports plus remittances (right hand side) indicates that external financial sustainability was generally improving between 2005 and 2008, deteriorated between 2008 and 2015 and improved again between 2015 and 2020.

Figure 14: Relative trends in the value of net external liabilities and exports plus remittances (LHS) and the ratio of net external liabilities to exports plus remittances (RHS)



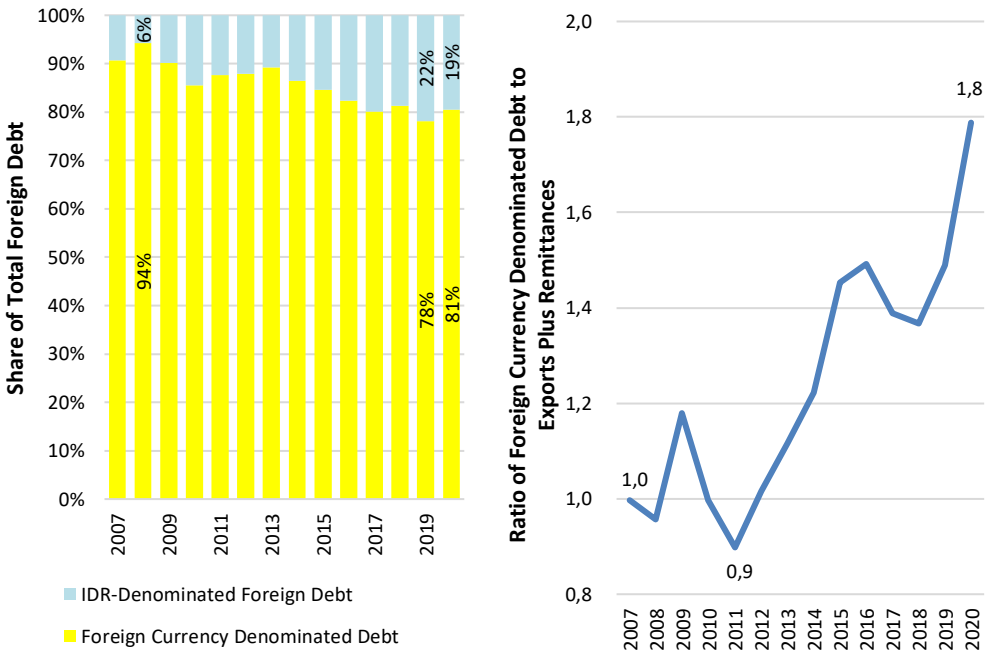
Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

3.2.4 Indonesia's net external debt in foreign currency relative to exports

As was noted in Section 2.2 above, the extent to which foreign debt is denominated in foreign currency can add an additional element to the external constraint as sufficient foreign currency needs to be generated to service that debt. Figure 15 indicates the currency composition of Indonesia's foreign debt between 2007 and 2020 (left hand side) and the ratio of foreign currency denominated debt to exports plus remittances (right hand side). The proportion of total foreign debt that is denominated in foreign currency declined from 94 percent in 2008 to 78 percent in 2019. It increased slightly in 2020 to 81 percent.

Despite this declining trend the ratio of foreign currency denominated debt to exports plus remittances doubled from 0.9 to 1.8 between 2011 and 2020. This indicates that foreign currency denominated debt increased at a significantly faster rate than exports plus remittances over this period.

Figure 15: Currency composition of Indonesia's foreign debt (LHS) and ratio of foreign currency denominated debt to exports plus remittances (RHS)



Source of data: Bank Indonesia, December 2021, IMF Balance of Payments and International Investment Position (BoP/IIP), 2021

Table 2 shows the currency composition of Indonesia's foreign currency denominated debt in 2010, 2015 and 2020. It indicates that in 2020 over 80 percent of this debt was denominated in US dollars – up from 66 percent in 2010. Over the same period, debt denominated in Japanese yen declined from 23 percent to 8 percent while Euro-denominated debt increased from 5 percent to 7 percent.

Table 2: Currency composition of Indonesia's foreign currency denominated debt

Currency	Share of Total Foreign Currency Denominated Debt		
	2010	2015	2020
US Dollar	66%	85%	81%
Japanese Yen	23%	9%	8%
Euro	5%	3%	7%
All other foreign currencies	2%	1%	2%
Standard Drawing Right (SDR)	4%	2%	1%
Total	100%	100%	100%

Source of data: Bank Indonesia, 2021.

3.3 Application of the SDFA framework to Indonesia's external financial position

In relation to external financial sustainability the SDFA identifies the following optimal/boundary condition:

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

In essence, the boundary condition implies that the external financial sustainability of a country will be improving for as long as the rate of growth in augmented exports (**gX***) is greater than the average cost of net external liabilities (**r**). Conversely, a country will be moving away from external financial stability during periods when the rate of growth in augmented exports is less than the average cost of net external liabilities.

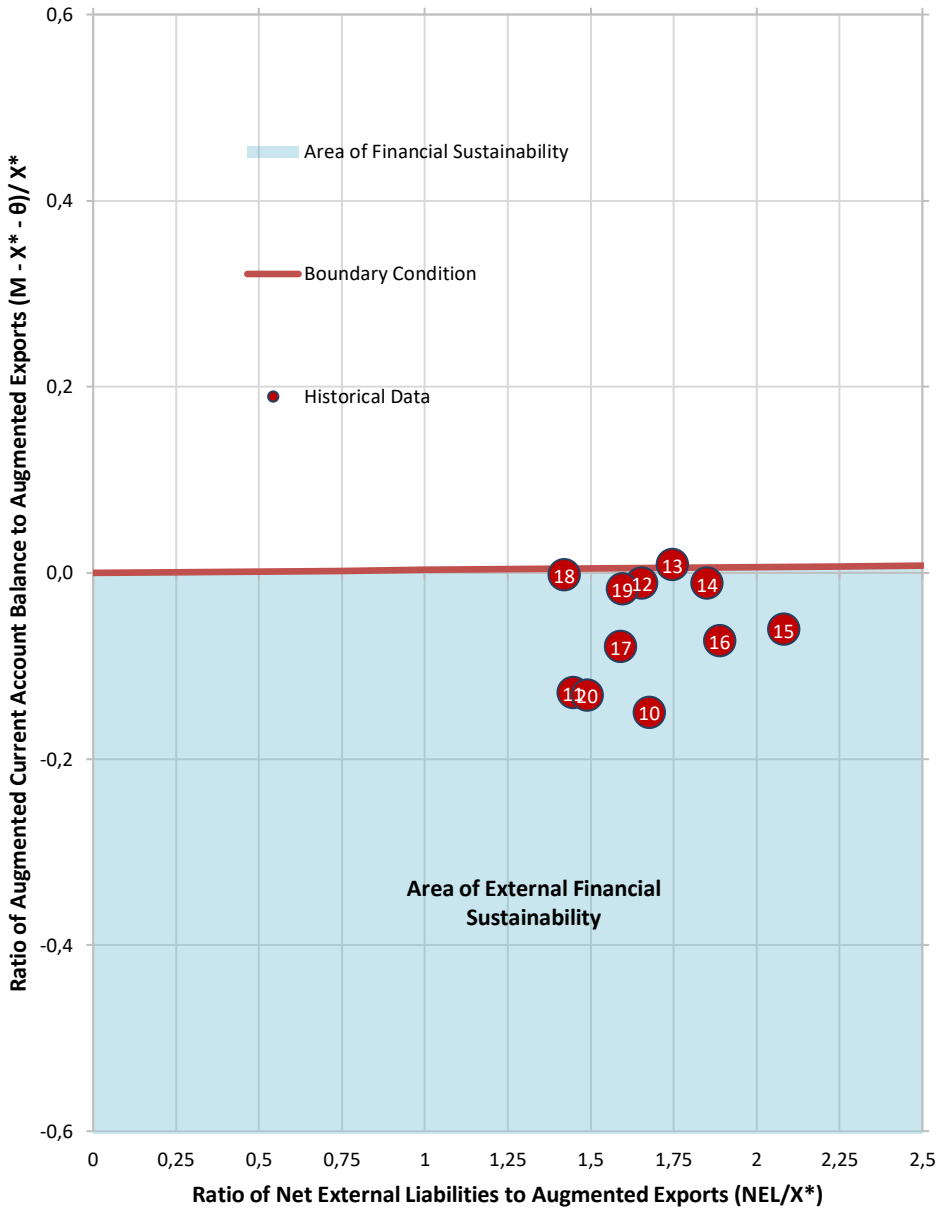
Figure 16 reflects Indonesia's area of external financial sustainability according to the SDFA framework. The red dots reflect annual combinations of what is measured on the Y axis **((M - X* - θ) / X*)**[8] and the X axis (**NEL/X***) between 2010 and 2020. They are numbered from 10 to 20, with the numbers corresponding with the years to which the data applies - so 10 reflects 2010 data and 20 reflects 2020 data. The boundary condition shows what the optimal combinations of the ratio of the Augmented Current Account balance to Augmented Exports and the ratio of Net External Liabilities to Augmented Exports could have been over this period given the growth performance of augmented exports and the average cost of net external liabilities.

In six years (2010, 2011, 2015, 2016, 2017 and 2020) Indonesia operated well within the area of external financial sustainability (shaded light blue). This suggests that during these years the country could have afforded to increase its level of imports (and thereby facilitate higher levels of GDP) without threatening financial sustainability. In the other years (2012, 2013, 2014, 2018 and 2019) the country was operating at close to the boundary condition – indicating little scope for higher imports without posing a threat to longer-term external financial sustainability.

These results and their potential policy implications highlight one of the challenges of applying a static analysis to dynamic processes. What is important is not so much where a country is located on the graphical plane, but whether it is moving towards, or away from, financial sustainability. Are developments and policy choices serving to create greater policy space within which to operate over time (consistent with an increasing gradient of the boundary condition, or are they serving to limit choices and policy options (reflected in a decreasing gradient of the boundary condition)?

[8] Effectively the augmented Current Account balance as a ratio of augmented (free of cost) exports.

Figure 16: Indonesia's area of external financial sustainability according to the SDFA framework

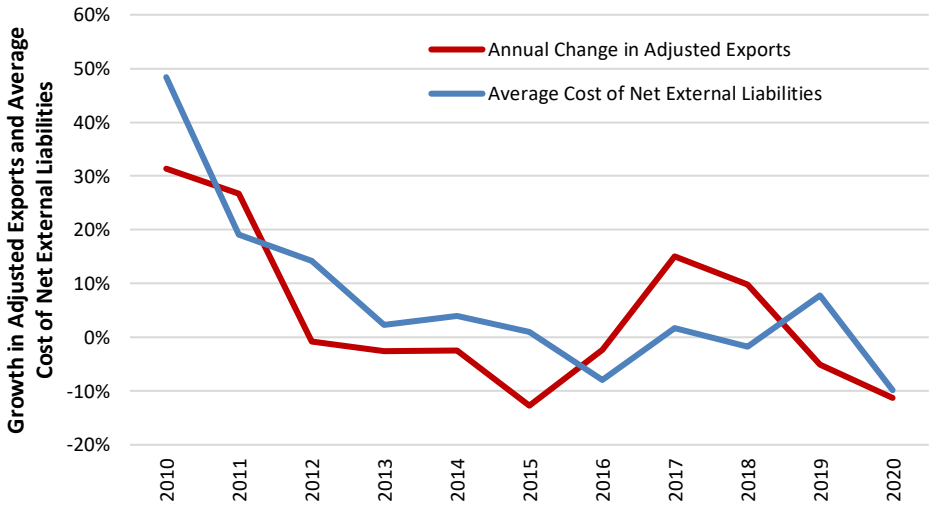


Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021, Bhering (2021)

It is noteworthy that the gradient of the boundary condition is close to flat. This limits the size of the area of external financial sustainability. A more strongly positive gradient to the boundary condition would increase the area within which Indonesia could sustainably operate which would, in turn, expand the range of policy options available. To achieve a steeper, (more positive) gradient Indonesia would need to adopt policies and programmes that progressively increase the gap between the growth of augmented exports (**gX***) and the average cost of net

external liabilities (**r**). This implies accelerating the growth of exports of goods and services plus remittances and/or reducing the average cost of net external liabilities. The historical performance of these two variables is reflected in Figure 17.

Figure 17: Rates of growth in adjusted exports and average cost of net external liabilities



Source of data: IMF Balance of Payments and International Investment Position (BoP/IIP), 2021, Bhering (2021)

3.4 Indonesia's public sector finances

According to the SDFA framework, 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 uses GDP (**Y**) for this purpose.

Indonesia has two fiscal rules that impact on the capacity of its public sector to incur liabilities. These are:

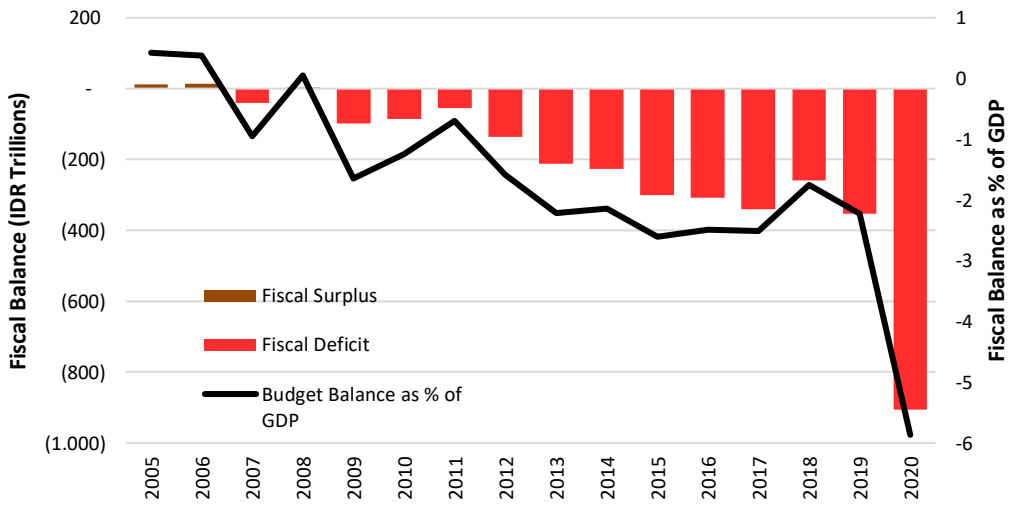
i. The fiscal deficit should not exceed 3 percent of GDP. Parliamentary approval was obtained in 2020 and 2021 to relax this condition in order to respond to the COVID-19 pandemic.

ii. Public sector debt should not exceed 60 percent of GDP.

3.4.1 Indonesia's public sector revenue and expenditure trends and fiscal balance

Figure 18 indicates Indonesia's overall fiscal balance between 2005 and 2020 – both in absolute terms and as a share of GDP. The country experienced a fiscal surplus in 2005, 2006 and 2008 and deficits in the other years. Apart from a brief reversal in 2018, the value of the deficit increased steadily between 2011 and 2020. However, between 2015 and 2017 these increases were in line with the growth in the economy – so the deficit did not increase as a share of GDP. After surpluses equivalent to 0.4 percent of GDP in 2005 and 2006, the overall balance swung around to deficits that reached 5.9 percent of GDP in 2020[9].

Figure 18: Indonesia's overall fiscal balance

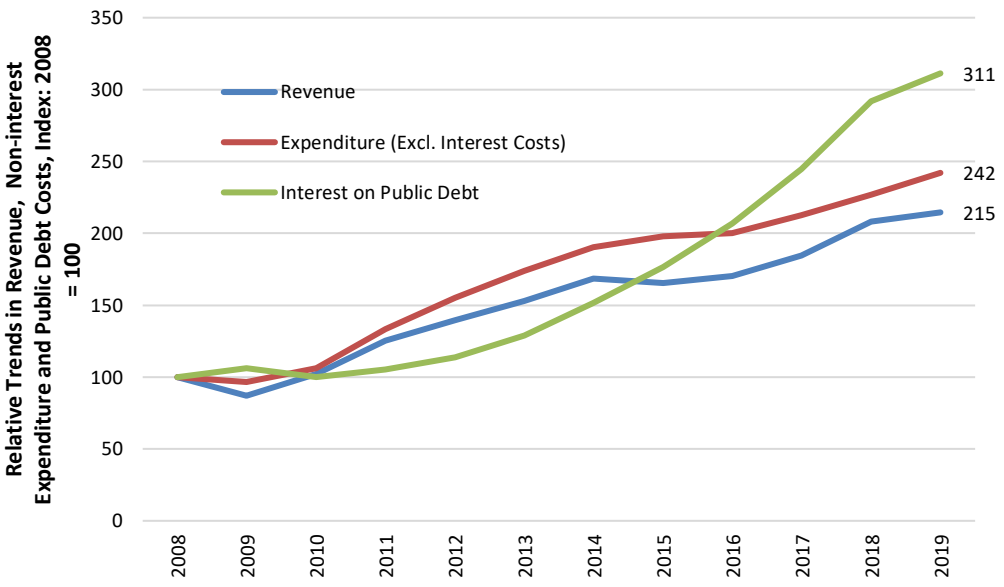


Source of data: IMF Fiscal Monitor (2021)

Figure 19 shows the relative trends in Indonesia's total revenue, total expenditure excluding interest costs and public debt costs between 2008 and 2019. After initially increasing at a slower rate than both revenue and other expenditure between 2008 and 2013, public debt costs rose sharply and were 211 percent higher in 2019 than in 2008. This translates into an average annual increase of 10.9 percent. By comparison, revenue rose by 7.2 percent a year and expenditure excluding interest by 8.4 percent a year over the same period.

[9] The budget projected a deficit of 5.7 percent of GDP in fiscal 2021, but recent reports indicate that it came in at a lower-than-budgeted 4.65 percent of GDP – thanks mainly to higher tax collections. https://www.reuters.com/world/asia-pacific/indonesia-2021-budget-deficit-seen-465-gdp-well-below-estimates-2022-01-03/

Figure 19: Relative trends in Indonesia's government revenue, total expenditure (excluding interest costs) and public debt costs

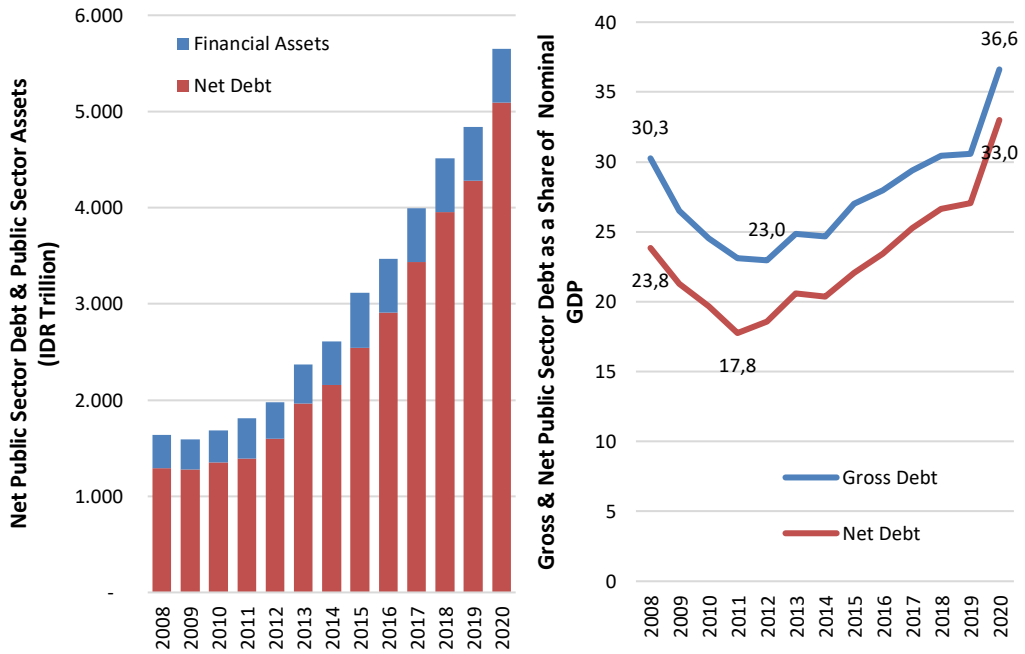


Source of data: IMF Fiscal Monitor (2021)

3.4.2 Indonesia's public sector net liabilities

The SDFA framework is focused on public sector net liabilities (or net debt) – which represents public sector liabilities less public sector assets. Figure 20 contrasts the composition of Indonesia's gross public sector debt (net debt plus financial assets) (left hand side) and the respective shares of gross and net debt of nominal GDP (right hand side). Net debt rose from IDR1,291 trillion in 2008 to IDR5,094 trillion in 2020. The value of financial assets rose from IDR347 billion in 2008 to IDR559 billion in 2020. As a share of GDP gross debt levels decreased from 30.3 percent in 2008 to 23 percent in 2012, but then increased to 36.6 percent by 2020. Net debt as a share of GDP followed a similar pattern – ending 2020 at 33 percent of GDP. It is noteworthy that the gap between gross and net debt decreased between 2011 and 2020, indicating that debt increased at a faster rate than the acquisition of financial assets by the public sector.

Figure 20: Indonesia's public sector debt and public sector financial assets (LHS) and gross and net public sector debt as a share of GDP (RHS)



Source of data: IMF Fiscal Monitor (2021)

3.5 Application of the SDFA framework to Indonesia's public finances

To recap, the public finance sustainability boundary condition is as follows:

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

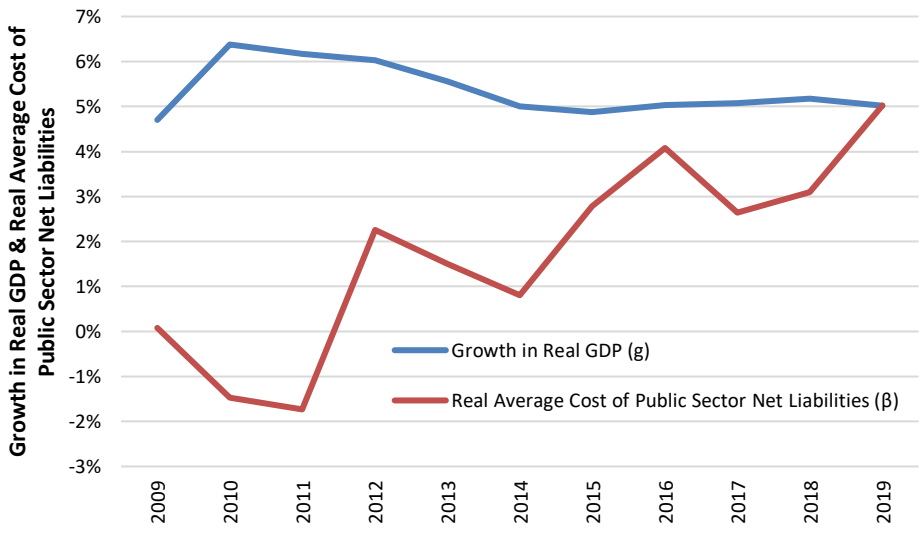
Generally, this means that public finances will be moving away from sustainable levels if the rate of growth (**g**) of the capacity to repay public sector net liabilities (**PSNL**) is lower than the average cost of servicing those liabilities (**β**).

The relative trends in both **g** and **β** for Indonesia are shown in Figure 21. The rate of growth in the capacity to repay liabilities (**g**) was higher than the average cost of servicing those liabilities (**β**)[10] between 2009 and 2018 – suggesting that the country's public finances were becoming more sustainable. The two values converged in 2019 and it is likely that in 2020 the average cost of PSNL was

[10] The nominal β value is calculated as the interest paid in the current year (t_0) divided by the sum of Indonesia's net debt in the previous period (t_{-1}) plus the change in net debt in the current period. The real β value is calculated by subtracting the annual change in the GDP deflator between t_0 and t_{-1} from the nominal β value.

higher than the rate of growth in real GDP – given the latter's COVID-19 related contraction.

Figure 21: Relative trends in the growth in real GDP (g) and the real average cost of servicing public sector net liabilities (β)

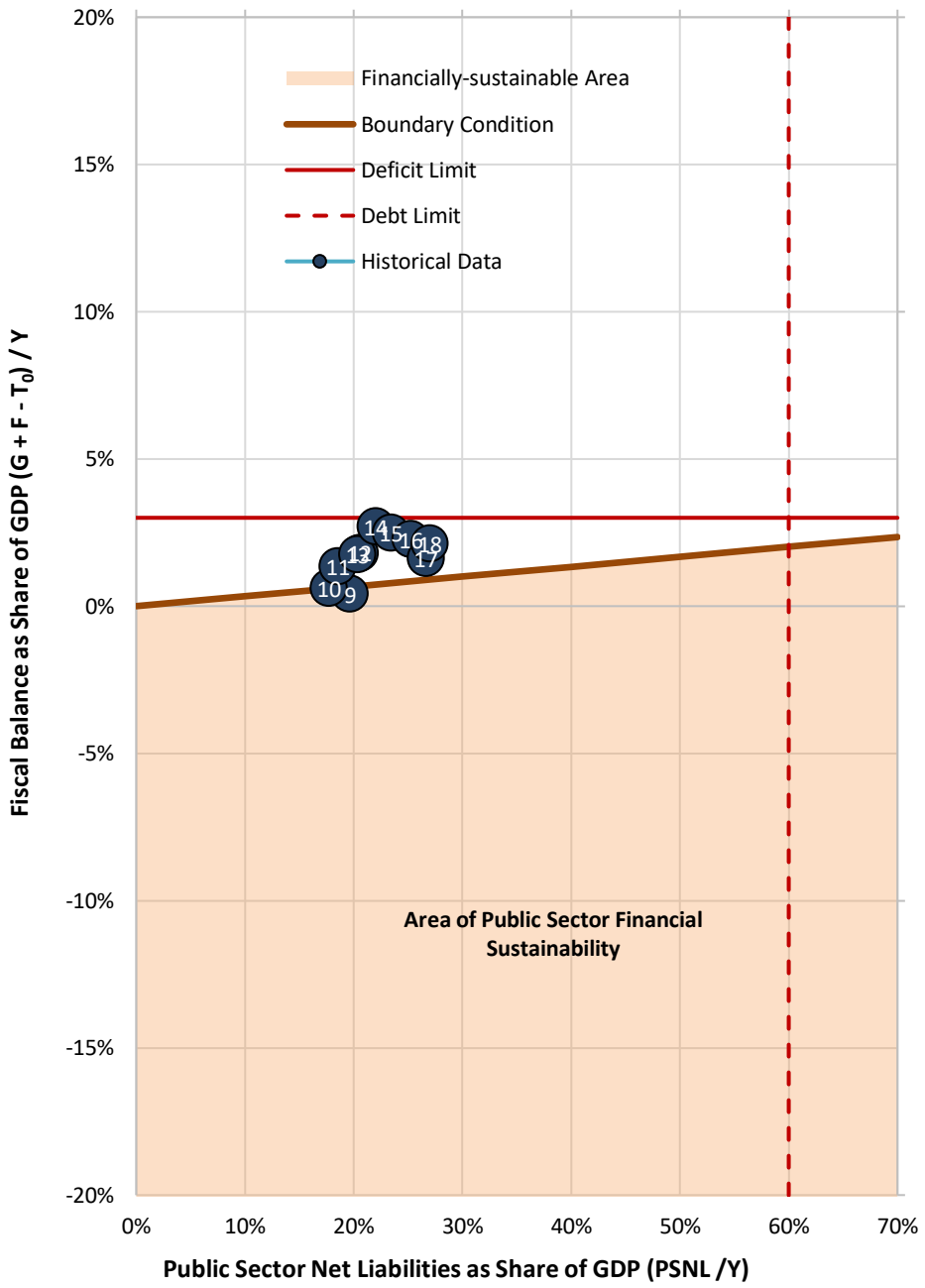


Source of data: IMF Fiscal Monitor (2021), IMF Government Finance Statistics (2021), Bhering (2021).

Figure 22 reflects Indonesia's area of public sector financial sustainability. It also shows the "legally-permitted" area of operation once account is taken of the two fiscal rules that the country currently has in place (i.e. that the deficit should not exceed 3 percent of GDP and that public sector debt should not exceed 60 percent of GDP). This is the area below and to the left of the two lines depicting the fiscal rules. The blue dots indicate combinations of the public sector balance to GDP and the ratio of PSNL to GDP using actual data for Indonesia. The numbers on each dot reflect the year that it depicts, so 10 is the data for 2010 and 19 is the data for 2019. The deficit did not exceed the legal limits until 2020 (when permission was obtained to relax the rule in order to deal with the COVID-19 pandemic). This is not shown in the figure. For most of the period Indonesia was operating above its boundary condition but within the legally-permitted area.

The positive gradient of the boundary condition reflects the fact that – as shown in Figure 21 – the rate of growth in real GDP was greater than the average real cost of public sector net liabilities. While the ratio of Indonesia's public sector net liabilities to GDP increased over time – from 18 percent in 2011 to 27 percent in 2019, it was far below its legislated limit of 60 percent.

Figure 22: Indonesia's area of public finance sustainability



Source of data: IMF Fiscal Monitor (2021), IMF Government Finance Statistics (2021), Bhering (2021).

3.6 Application of the integrated SDFA framework to Indonesia

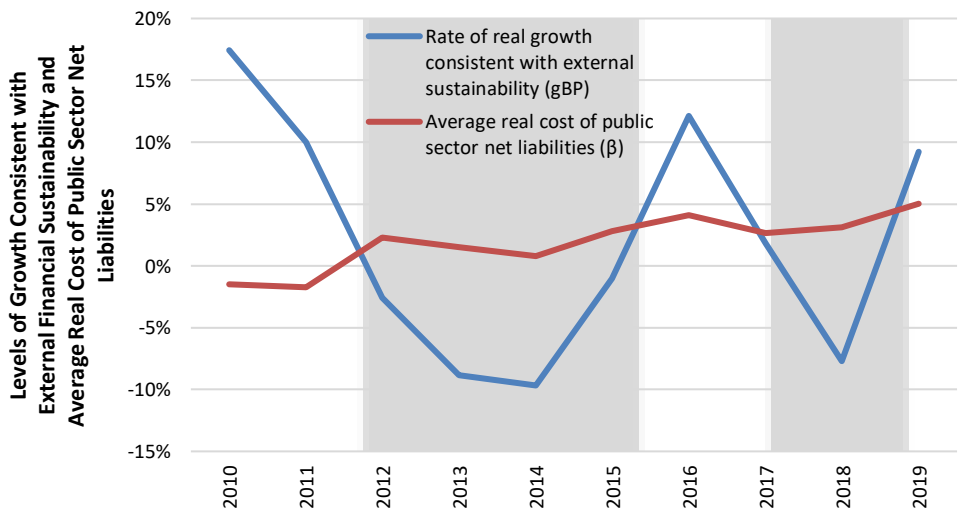
As has been noted, one of the unique aspects of the SDFA framework is that it integrates both the external financial constraint and the public sector financial constraint into a unified model. The optimal/boundary condition that determines sustainability is given by the following equation:

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

This essentially means that a country (in this case Indonesia) will be operating in a financially sustainable manner for as long as the rate of growth that is consistent with external financial sustainability (**g_{BP}**) is greater than the average cost of public sector net liabilities (**β**). When this is not the case, the country concerned will be moving away from a sustainable financial position.

Figure 23 shows the relative growth rates of both **g_{BP}** and **β**. The shaded areas represent periods when Indonesia was moving away from integrated financial sustainability, while the unshaded areas reflect periods in which the country's external and public sector net liabilities were becoming more financially sustainable.

Figure 23: Indonesia's area of public finance sustainability

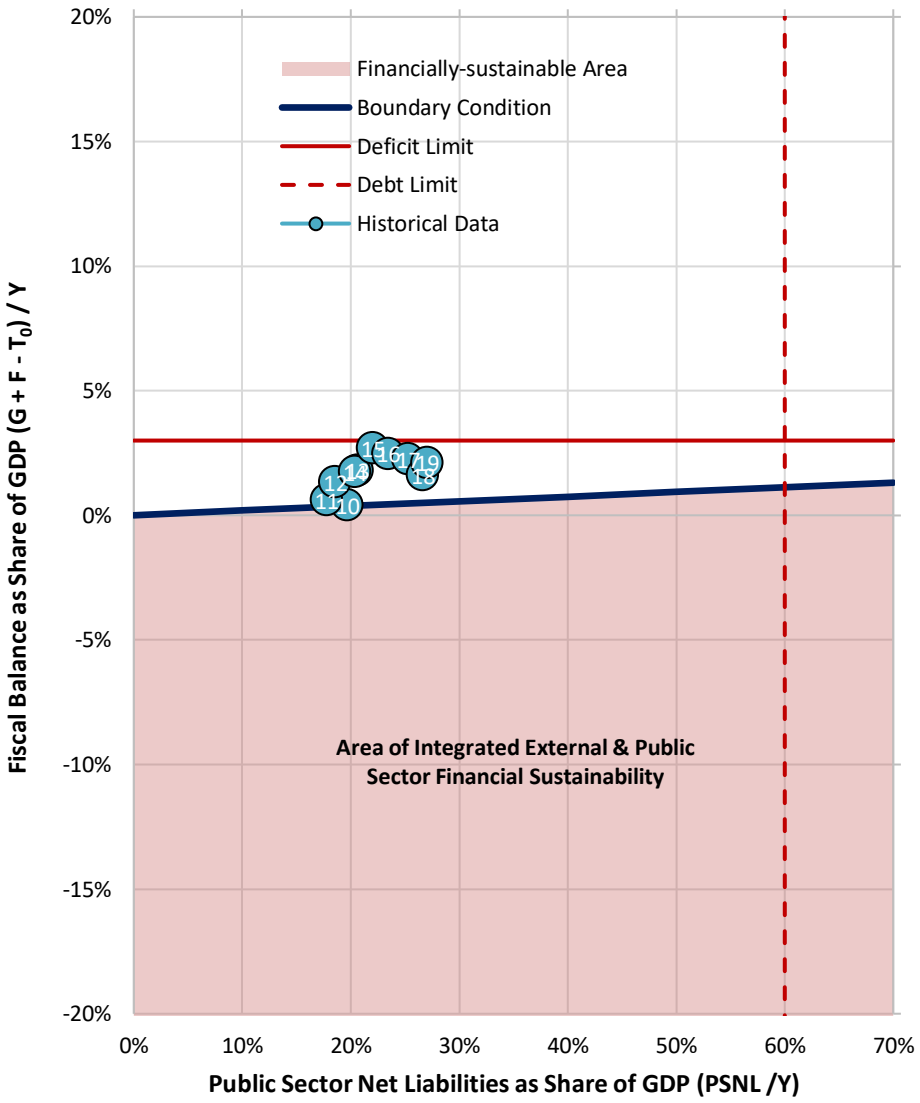


Source of data: IMF Fiscal Monitor (2021), IMF Government Finance Statistics (2021), Bhering (2021).

Figure 24 indicates Indonesia's historical performance in relation to this integrated financial sustainability. It is worth noting that the actual performance – reflected in the numbered blue dots – is the same as for the public sector financial constraint (Figure 22). What has changed is the boundary condition and the area of financial sustainability. According to the SDFA framework, although

Indonesia's public sector operated within its legally permitted area of operation it was – for almost the entire period from 2010 to 2019 – operating outside the financially-sustainable position. However, it is clear from the movements in the country's position from one year to the next (reflected in the numbers on the blue dots) that the country was moving progressively further away from a sustainable position between 2010 and 2015 (numbered 10 and 15 respectively), then moved back towards sustainability between 2015 and 2018, and then away from sustainability again in 2019.

Figure 24: Indonesia's integrated external and public sector financial sustainability



Source of data: IMF Fiscal Monitor (2021), IMF Government Finance Statistics (2021) IMF Balance of Payments and International Investment Position (BoP/IIP) (2021), Bhering (2021).

4 Policy implications

The preceding analysis raises questions about what – if anything – Indonesia can do differently? Are there particular policy areas that need to be changed or reprioritized? What policy tools and options are available to generate "better" outcomes and what should those outcomes be?

It is clear from the earlier analysis that the Indonesian economy has generally performed well over the past ten years, averaging growth in real GDP of 4.6 percent a year and securing a 37 percent improvement in real GDP per capita – despite the impact of the COVID-19 pandemic. When the effects of the pandemic are excluded, real GDP growth averaged 5.3 percent and real GDP per capita increased by 42 percent between 2010 and 2019. Both the IMF and the World Bank anticipate that Indonesia will return to these rates of growth in coming years.

However, the application of the SDFA framework highlights some developments that – if allowed to persist – could start to reduce the policy space that Indonesian policy makers have to operate in, and progressively reduce the choices available to them.

Concerns relate primarily to the external constraint – which are also manifested in the integrated constraint. Indonesia's import and export propensities have declined steadily over the past decade. While the decline in import propensity should have assisted in easing the external constraint, it was accompanied by a relatively greater decline in the contribution of exports (see Figure 9). In particular, Indonesia experienced a progressive decline in its share of world merchandise exports - which dropped from 1.12 percent to 0.89 percent between 2011 and 2019 (see Figure 4). By contrast, the country's share of world services exports had – prior to the pandemic – been holding up quite well.

The underperformance in relation to exports resulted in a more than doubling of the ratio of net external liabilities to exports plus gross remittances between 2008 and 2015 – from 0.97 to 2.08 (see Figure 14). This subsequently improved to 1.49 in 2020 – but the improvement was due more to the reduction in import propensity under COVID-19 than a relative improvement in exports or remittances. At the same time the ratio of foreign currency denominated debt to exports plus remittances also doubled – from 0.9 to 1.8 between 2011 and 2020 (see Figure 15). This places additional demands on Indonesia's ability to generate foreign currency with which to service this debt. It should, nevertheless, be noted that Indonesia was firmly within the sustainable external financial area throughout this period according to the SDFA framework (see Figure 16).

The country's real challenge is to increase the area of external financial sustainability by ensuring that the growth in augmented exports (exports plus gross remittances) exceeds the average cost of net external liabilities by a widening margin in the years ahead. The policy options should therefore be focused on growing augmented exports or reducing the average cost of net external liabilities. The former could include investments in appropriate transport, logistics and communications infrastructure that facilitate higher export volumes, programmes that assist new exporters to access foreign markets, programmes that seek to diversify exports away from sunset industries towards products encompassing new technologies and programmes that support firms and sectors with revealed competitiveness (i.e.

growing global market shares) to increase the scale of their operations and export activities. The latter could be focused on progressively restructuring external debt to secure more favourable terms.

In relation to the sustainability of public finances the challenge is – once again – to create greater policy space by progressively increasing the capacity to service public sector net liabilities and by reducing the average cost of servicing public sector net liabilities. A stronger focus on the relationship between these two variables could negate the need for Indonesia's existing fiscal rules and – in the process – increase the flexibility and space within which fiscal policy operates. This could be particularly important in relation to the attainment of the Sustainable Development Goals (SDGs) by 2030. While Indonesia has made substantial progress in achieving some of these goals (such as the elimination of poverty and hunger) it lags in others (such as health and education outcomes).

At a crude level, with a fixed tax to GDP ratio, increasing the capacity to service public sector net liabilities requires faster rates of economic growth – but these higher growth rates would also need to be externally sustainable. Efforts to increase the capacity to service public sector liabilities could also incorporate enhanced efficiencies in tax collection systems and efforts to close any tax gap that may exist. In this regard it is worth noting that Indonesia's tax to GDP ratio fell from over 19 percent in 2013 to 16.4 percent in 2019. The effectiveness of government spending programmes and the extent to which they serve to raise the long-term growth potential of Indonesia's economy should also not be discounted. This is particularly relevant to SDG attainment.

The country could also adopt policies aimed at progressively lowering the average cost of public sector net liabilities. These could include debt restructuring and debt consolidation efforts but also requires some coordination with monetary policy. Bank Indonesia has been quite adept at ensuring that Indonesia's inflation rate has remained in the 2 to 4 percent range in recent years but has maintained a real policy rate higher than its regional peers in recent years with the express intention of supporting bond purchases by non-residents.

5 Conclusion

The application of UNCTAD SDFA framework to the Indonesian case has been a useful exercise. While Indonesia's economic performance has largely been consistent with external and public financial sustainability, the model does assist in focusing policy choices on those areas that could serve to increase the space within which the country can operate in years to come. In the context of the integrated SDFA model, this means that efforts need to be focused on ensuring that the rate of GDP growth that is consistent with external financial sustainability is progressively raised relative to the average cost of servicing public sector net liabilities.

There are, however, some limitations of the SDFA framework that future iterations should seek to address.

Firstly, it is a static model that does not provide for adequate feedback loops. This relates particularly to variables such as import and export propensities, exchange

rates and structural changes in production. In fairness though, this limitation is also a reflection of the limited data that is available for most low income and developing economies.

Secondly, the boundary conditions from which many policy inferences may be derived are particularly sensitive to the assumptions made as they relate to the gX*, r, g, β and g_{BP} values used in their calculation. Many of these variables – particularly the gX*, r and β values - are quite volatile. Trying to represent an average boundary condition for a number of years of data (as was done in this application of the framework) necessitates the choice of appropriate values for the relevant variables associated with each boundary condition. These choices can have a material impact on the gradient of the boundary condition and result in the inclusion or exclusion of historical data points from the area defined as financially sustainable. Greater thought needs to be given to how this challenge is resolved.

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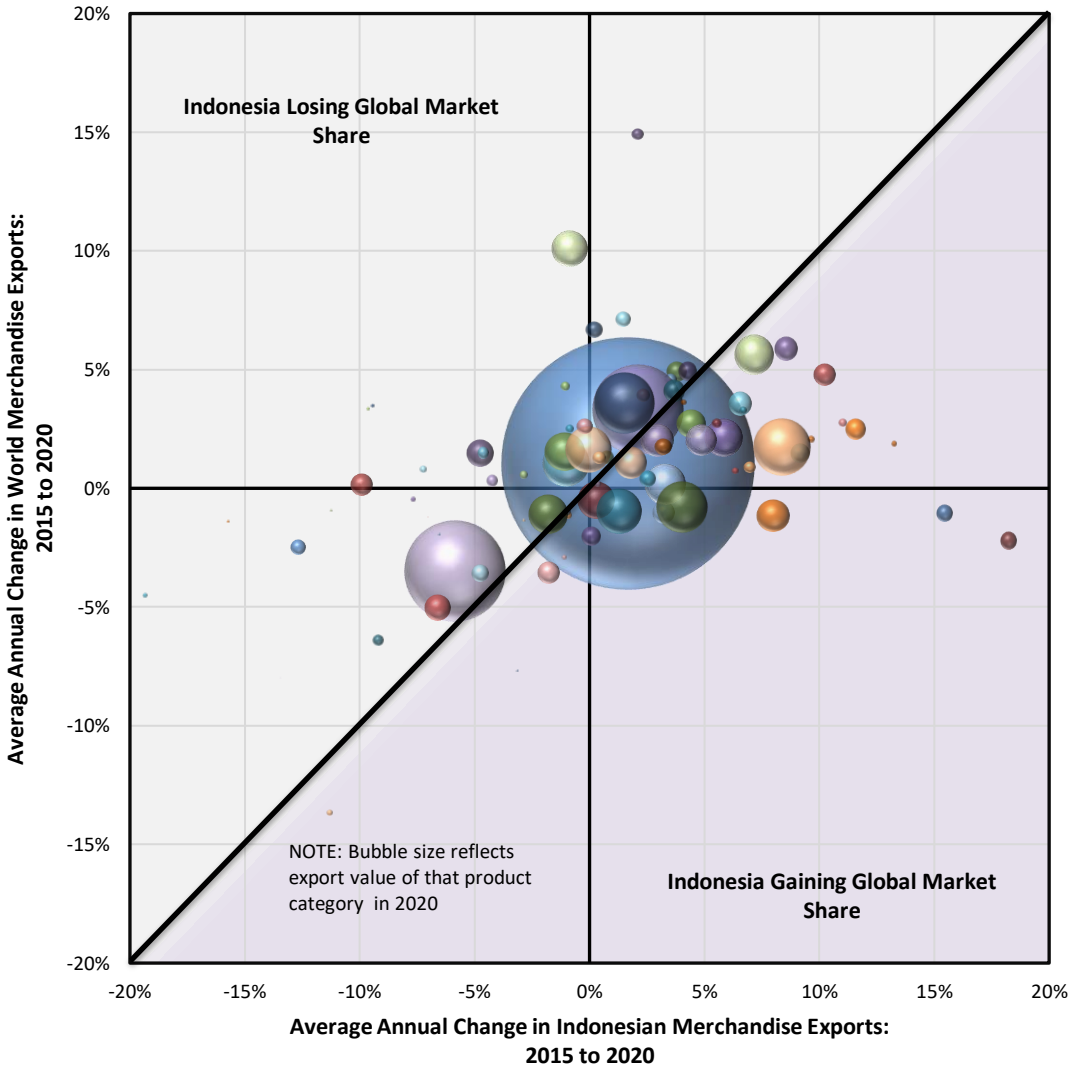
7 Annexures

Annexure A: Revealed competitiveness of Indonesia's goods exports

Figure 25: Revealed competitiveness analysis of Indonesia's goods exports: 2015 to 2020



Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 3: Goods product categories in which Indonesia gained market share in a growing world market

Product Code	Product Description	Share of Indonesia's Goods Exports in 2020
1	Live animals	0.05%
3	Fish and crustaceans, molluscs and other aquatic invertebrates	2.15%
4	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere . . .	0.37%
5	Products of animal origin, not elsewhere specified or included	0.01%
7	Edible vegetables and certain roots and tubers	0.10%
11	Products of the milling industry; malt; starches; inulin; wheat gluten	0.06%
13	Lac; gums, resins and other vegetable saps and extracts	0.09%
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	0.19%
16	Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates	0.80%
17	Sugars and sugar confectionery	0.19%
19	Preparations of cereals, flour, starch or milk; pastrycooks' products	0.70%
20	Preparations of vegetables, fruit, nuts or other parts of plants	0.20%
21	Miscellaneous edible preparations	0.78%
23	Residues and waste from the food industries; prepared animal fodder	0.60%
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, . . .	0.53%
29	Organic chemicals	1.45%
35	Albuminoidal substances; modified starches; glues; enzymes	0.03%
38	Miscellaneous chemical products	2.33%
39	Plastics and articles thereof	1.59%
46	Manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	0.06%
48	Paper and paperboard; articles of paper pulp, of paper or of paperboard	2.57%
65	Headgear and parts thereof	0.04%
71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad . . .	5.04%
74	Copper and articles thereof	1.16%
76	Aluminium and articles thereof	0.37%
79	Zinc and articles thereof	0.01%
82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	0.06%
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical . . .	0.39%
94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; . . .	1.41%

	Total	**23.34%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 4: Goods product categories in which Indonesia gained market share in a declining world market

Product Code	Product Description	Share of Indonesia's Goods Exports in 2020
24	Tobacco and manufactured tobacco substitutes	0.70%
25	Salt; sulphur; earths and stone; plastering materials, lime and cement	0.25%
31	Fertilisers	0.43%
41	Raw hides and skins (other than furskins) and leather	0.04%
42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles . . .	0.41%
47	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or . . .	1.55%
49	Printed books, newspapers, pictures and other products of the printing industry; manuscripts, . . .	0.02%
59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable . . .	0.06%
61	Articles of apparel and clothing accessories, knitted or crocheted	2.05%
64	Footwear, gaiters and the like; parts of such articles	2.94%
66	Umbrellas, sun umbrellas, walking sticks, seat-sticks, whips, riding-crops and parts thereof	0.00%
72	Iron and steel	6.64%
75	Nickel and articles thereof	0.50%
80	Tin and articles thereof	0.69%
86	Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures . . .	0.06%
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	4.04%
91	Clocks and watches and parts thereof	0.02%
97	Works of art, collectors' pieces and antiques	0.00%
99	Commodities not elsewhere specified	0.03%
	Total	**20.45%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 5: Goods product categories in which Indonesia lost market share in a growing world market

Product Code	Product Description	Share of Indonesia's Goods Exports in 2020
2	Meat and edible meat offal	0.01%
6	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	0.01%
8	Edible fruit and nuts; peel of citrus fruit or melons	0.57%
9	Coffee, tea, maté and spices	1.05%
10	Cereals	0.01%
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal . . .	0.19%
15	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal . . .	12.69%
18	Cocoa and cocoa preparations	0.76%
22	Beverages, spirits and vinegar	0.08%
26	Ores, slag and ash	1.98%
30	Pharmaceutical products	0.36%
32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring . . .	0.24%
33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	0.48%
34	Soap, organic surface-active agents, washing preparations, lubricating preparations, artificial . . .	0.66%
40	Rubber and articles thereof	3.44%
44	Wood and articles of wood; wood charcoal	2.32%
45	Cork and articles of cork	0.00%
56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof	0.10%
63	Other made-up textile articles; sets; worn clothing and worn textile articles; rags	0.19%
67	Prepared feathers and down and articles made of feathers or of down; artificial flowers; articles . . .	0.24%
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	0.08%
69	Ceramic products	0.17%
70	Glass and glassware	0.17%
73	Articles of iron or steel	0.73%
83	Miscellaneous articles of base metal	0.06%
84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	3.19%
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television . . .	5.65%
92	Musical instruments; parts and accessories of such articles	0.34%
93	Arms and ammunition; parts and accessories thereof	0.00%
95	Toys, games and sports requisites; parts and accessories thereof	0.31%
96	Miscellaneous manufactured articles	0.22%
	Total	**36.31%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

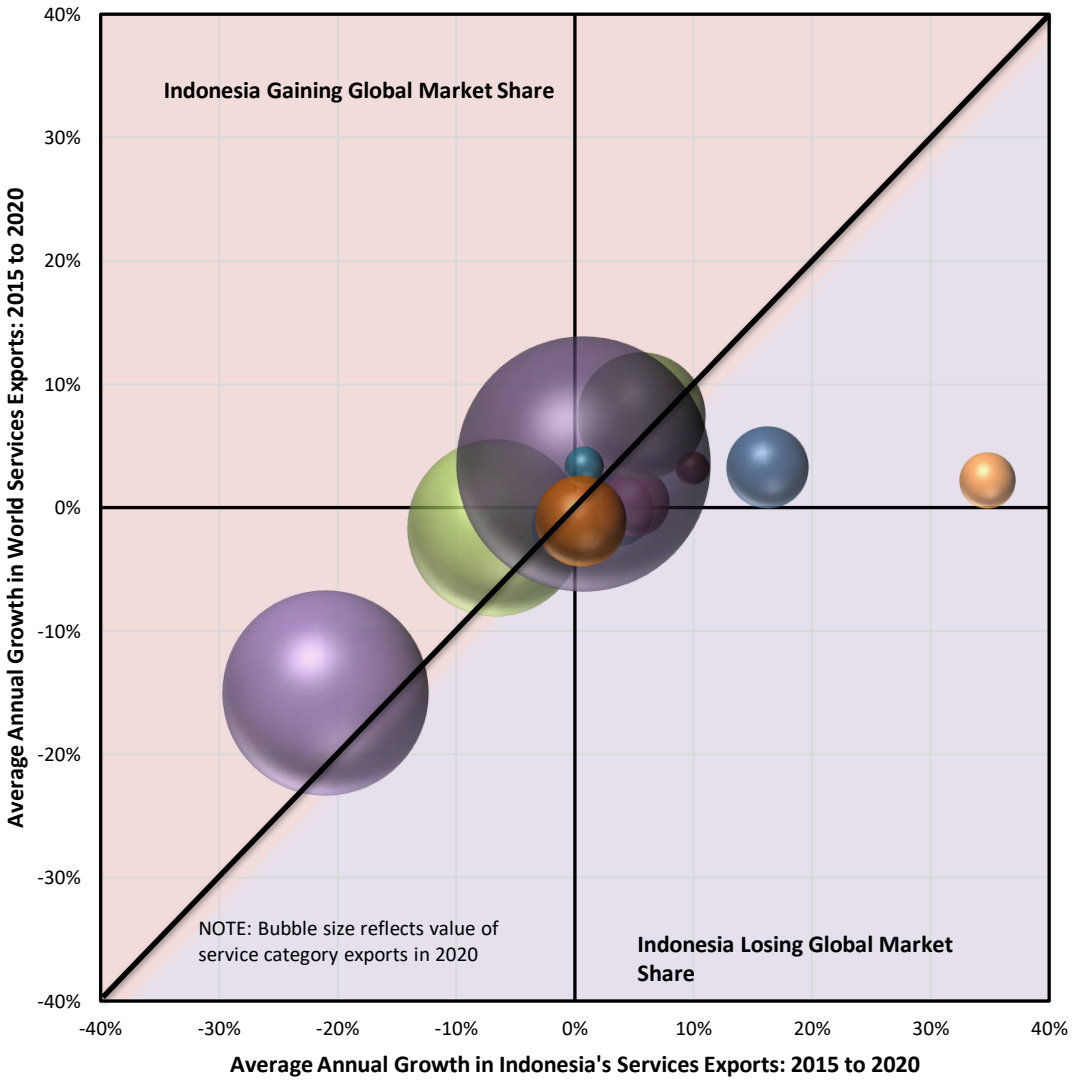
Table 6: Goods product categories in which Indonesia lost market share in a declining world market

Product Code	Product Description	Share of Indonesia's Goods Exports in 2020
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral . . .	15.66%
36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	0.01%
37	Photographic or cinematographic goods	0.00%
43	Furskins and artificial fur; manufactures thereof	0.00%
50	Silk	0.00%
51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	0.00%
52	Cotton	0.39%
53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	0.01%
54	Man-made filaments; strip and the like of man-made textile materials	0.34%
55	Man-made staple fibres	0.96%
57	Carpets and other textile floor coverings	0.03%
58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	0.02%
60	Knitted or crocheted fabrics	0.07%
62	Articles of apparel and clothing accessories, not knitted or crocheted	2.23%
78	Lead and articles thereof	0.01%
81	Other base metals; cermets; articles thereof	0.01%
88	Aircraft, spacecraft, and parts thereof	0.03%
89	Ships, boats and floating structures	0.14%
	Total	**19.90%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Annexure B: Revealed competitiveness of Indonesia's services exports

Figure 26: Revealed competitiveness analysis of Indonesia's services exports: 2015 to 2020



Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 7: Services product categories in which Indonesia gained market share in a growing world market

Product Code	Product Description	Share of Indonesia's Services Exports in 2020
2	Maintenance and repair services n.i.e.	2.4%
6	Insurance and pension services	1.6%
7	Financial services	3.5%
8	Charges for the use of intellectual property n.i.e.	0.6%
	Total	**8.2%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 8: Services product categories in which Indonesia gained market share in a contracting world market

Product Code	Product Description	Share of Indonesia's Services Exports in 2020
1	Manufacturing services on physical inputs owned by others	2.8%
5	Construction	2.4%
12	Government goods and services n.i.e.	4.4%
	Total	**9.6%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 9: Services product categories in which Indonesia lost market share in a growing world market

Product Code	Product Description	Share of Indonesia's Services Exports in 2020
9	Telecommunications, computer, and information services	8.6%
10	Other business services	34.3%
11	Personal, cultural, and recreational services	0.8%
	Total	**43.6%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Table 10: Services product categories in which Indonesia lost market share in a contracting world market

Product Code	Product Description	Share of Indonesia's Services Exports in 2020
3	Transport	16.4%
4	Travel	22.2%

	Total	**38.6%**

Source of data: ITC, UNCTAD, WTO trade in services database based on Eurostat, International Monetary Fund, Organisation for Economic Co-operation and Development (OECD) and relevant national statistical authority's statistics

Annexure C: Exchange rates applicable to this analysis

Year	Indonesian Rupiah (IDR) per United States Dollar (USD)
2005	9,708
2006	9,165
2007	9,140
2008	9,694
2009	10,409
2010	9,088
2011	8,774
2012	9,375
2013	10,414
2014	11,862
2015	13,391
2016	13,306
2017	13,383
2018	14,231
2019	14,136
2020	14,565