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FISCAL POLICY RESPONSE TO PUBLIC DEBT AND DEBT SUSTAINABILITY IN ARAB STATES

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I. Introduction

Globally, debt is rising sharply in many economies around the world, including in developing and developed countries, since the economic recession in the 2008. The debt crises of some countries in Europe is vivid and raises serious concerns for several debt-ridden countries in terms of its impact on growth and human development. The existence of a threshold effect of debt on growth is not clear, or it is argued in the context of long-term and short-term effects. Regardless of a threshold effect, however, the significant negative effects of public debt buildup on output growth is noted in recent research by several scholars.[1] Furthermore, the composition of debt is becoming a major concern for several developing countries for debt servicing, particularly those highly indebted middle income countries and the LDCs. For countries with rising share of external debt, debt servicing is becoming more expensive as a relatively strong dollar is putting pressure on borrowers to service foreign currency obligations.[2] Persistent trade deficits along with low commodity prices in the context of global economic slowdown pose significant challenges for highly indebted developing countries to generate fiscal space for financing SDGs while generating resources for servicing debt.

Starting with global economic slowdown in 2008, the Arab region has witnessed dramatic economic and political shocks in many parts of the region that has a continuous downside effects on economic growth. The oil price plunge in 2014 and the slow recovery since then further weakened regional economic growth during the last five years. When growth forecasts were slowly moving up, the adverse impact of Corona and the collapse of oil prices severed economic growth prospects for 2020. Loss of growth implies lower revenues for the governments. Low oil prices and other commodity market prices results directly in loss of revenues for the oil exporting countries and other commodity export dependent countries. The COVID-19 has led to accentuate the fiscal risks by increasing the fiscal shortfalls and increasing debt burdens for most countries in the Arab region.

Given this context, a policy concern is to better understand the options and paths of debt reduction and debt stabilization relative to GDP, while minimizing the adverse impacts on fiscal space for social expenditures and investments needed to recover better from the COVID-19 pandemic. The debt path scenario analysis and policy discussions in this paper answers to the question. In doing so, the paper presents a brief introduction to the evolution of public debt and its composition, analyses the emerging patterns and costs of borrowing from domestic and external sources. The paper constructs a panel of debt and macroeconomic indicators for the middle-income countries (MICs) to examine fiscal policy responses to build up of public debt in

[1] Chudik and others, 2017; Panizza and Presbitero, 2012; Reinhart and Rogoff, 2010.

[2] Rise of interest rates (three times in 2017) by US Federal Reserve and a stronger US dollar versus domestic currencies increased the cost of foreign currency denominated external debt (Financial Times, 2017).

the MICs.[3] Furthermore, it analyses debt sustainability gap and estimates debt stabilizing scenarios up till 2030 through various debt path scenario analysis. The final section presents findings and informs discussions on policy recommendations for different groups of countries within the region, taking into consideration their fiscal options in the context of recovering better from COVID-19.

II. Public debt in the Arab region: Its size, composition, and changing patterns

This section discusses the evolution of size and composition of public debt in the Arab region and across the cluster of countries within the region. Considering the sharp contrasts in development challenges across countries, the region can be classified into four categories of countries: (1) High income Gulf Cooperation Council members (GCC), (2) Middle-Income Countries (MICs), (3) Least Developed Countries (LDCs), and (4) Conflict-Affected Countries (CACs).

The GCC countries include: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. Their major source of revenue is oil and gas. They have larger fiscal buffers for meeting development needs, but their revenues are susceptible to oil-price fluctuations, as witnessed during the plunge in oil-price recently. The MICs include: Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia. They rely on a mixture of sources of revenue, but mainly taxation, except for Algeria's revenues mainly from oil. For a variety of reasons the tax to GDP ratio is low in most of these countries and they face severe constraints in meeting the financing needs to address development deficits, such as high youth unemployment, increasing poverty, lack of adequate social protection and so on. The LDCs include: Comoros, Djibouti, Mauritania, Somalia, the Sudan. They have high levels of poverty and significant development challenges as well as severely constrained fiscal space. The CACs include: Iraq, Libya, State of Palestine, Syrian Arab Republic, and Yemen.

We acknowledge the difficulty in availability of information for building a long-time series. It is particularly severe in countries affected by conflict. The cluster aggregates and the regional aggregates exclude the countries for which we do not get reliable data for the time period considered in our analysis, as mentioned in the respective sections. Having said that, we looked into the trends and patterns of general government gross debt and external debt (total as well as public and publicly guaranteed) particularly from mid-2000 onwards as the starting point, which prior to global economic crisis that marks a watershed in increasing share of general government gross debt in GDP globally and also in the Arab region.

[3] An earlier paper provides estimates for MICs and LDCs: See Sarangi and El-Ahmadieh (2017).

A. Recent trends in public debt stock and impact of the COVID-19

The years since the global economic downturn in 2008 have seen an increase in public debt in several major economies around the world.[4] Similar to the worldwide trend, the Arab region is witnessing increasing debt to GDP since 2008. Overall, the region's average debt to GDP stood at 45 percent in 2018, which increased steadily from 26 percent in 2008 (figure 1).

There are large variations across the cluster of countries within the region. A high and rising share of debt to GDP is notable for the LDCs and MICs in the region along with a trend reversal since 2008.[5] In the MICs, the public debt to GDP ratio increased to an average 78 percent in 2018 from 47 percent in 2008. Excluding Algeria, the average debt share of GDP of MICs was 92 percent in 2018. Among these MICs, Lebanon's debt share to GDP was 157 percent, while that for Egypt and Jordan was 93 and 94 percent respectively in 2018.

The average debt to GDP ratio for the LDCs is mainly influenced by rapid increase in share of debt to GDP in Sudan, which climbed from 55 percent in 2008 to 212 percent in 2018. The LDCs have a greater dependence on external borrowing. In 2018, the share of external debt to GDP was 68 percent in Comoros, 146 percent in Djibouti and 91 percent in Mauritania. The debt dynamics in the LDCs is a bit different than those of the middle-income countries, since the LDCs are eligible for concessional borrowings and debt relief under the HIPC initiative. We will discuss it later in the paper when we discuss the external debt in greater detail.

The average debt to GDP in CACs was 55 percent in 2018. Lack of adequate data for several CACs such as Syrian Arab Republic, Somalia, and Palestine potentially underestimate the average.

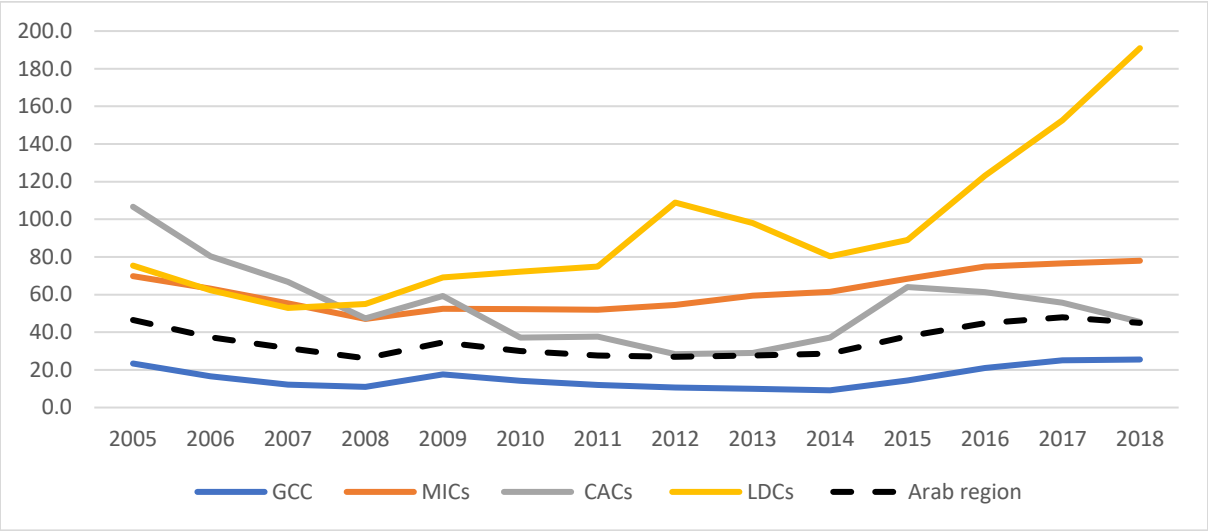
The GCC countries used to have low debt to GDP on average. In recent years, these countries have reported a significant jump in debt to GDP, particularly since 2014 due to shortfall in oil revenues. Their average debt to GDP ratio was 25 percent in 2018 as compared to 9 percent in 2014 (figure 1). Among the GCC, there are sharp contrasts as Bahrain and Oman showed exponential rise in debt as compared to other countries. Bahrain's public debt to GDP reached 94 percent in 2018, which led to announcement of Fiscal Balance Programme in 2018.[6]

[4] General government gross debt, as defined by IMF, consists of all liabilities that require payment or payments of interest and/or principal by the debtor to the creditor at a date or dates in the future. It includes debt liabilities in the form of SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable.

[5] Sarangi and El-Ahmadieh, 2017.

[6] IMF Article IV consultation 2019.

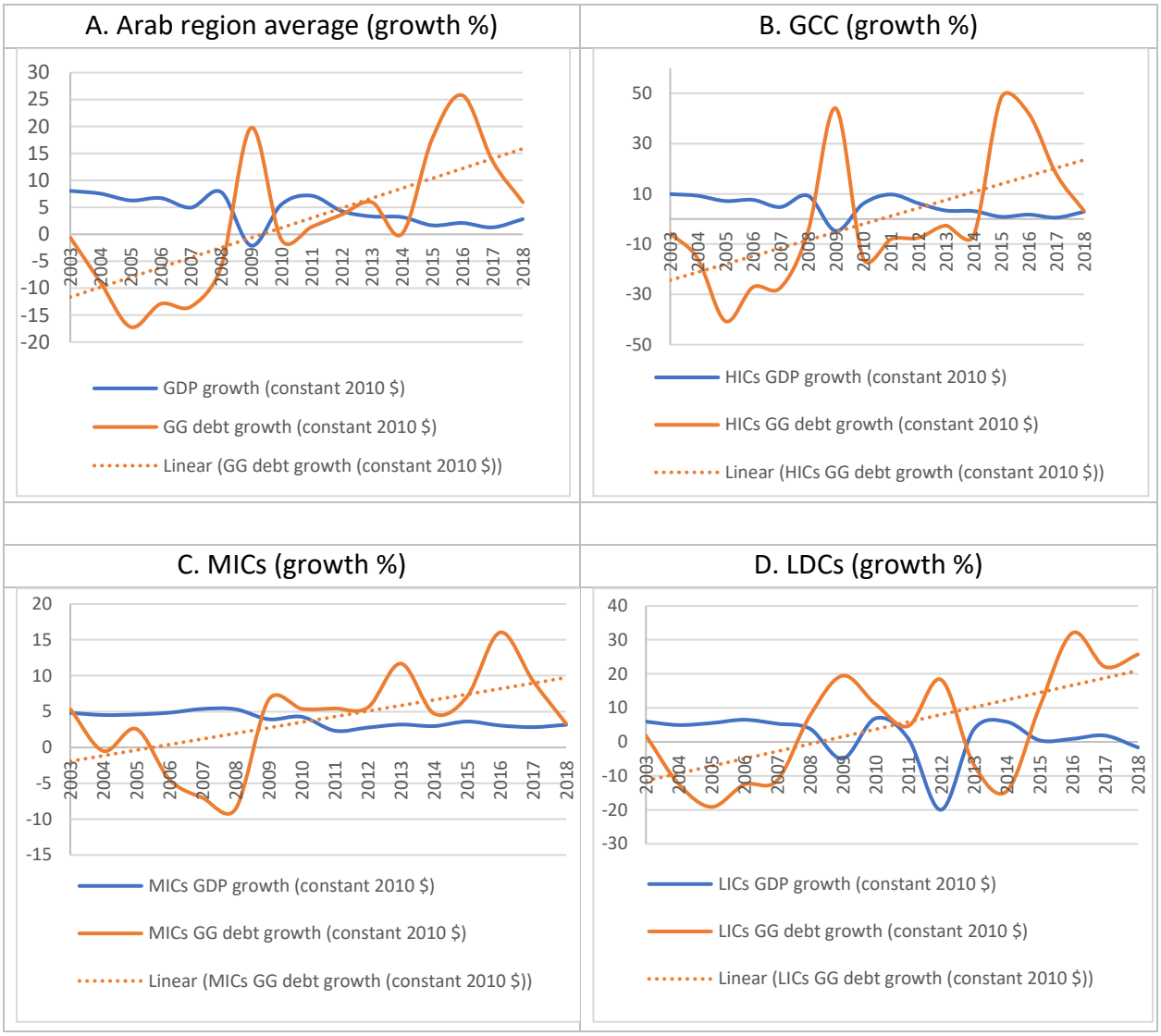
Figure 1 - Gross public debt (% GDP)



Note: Aggregate for CACs exclude Palestine and Syrian Arab Republic; Aggregate for LDCs exclude Somalia due to lack of data. Regional/country group averages are weighted averages in all graphs in the paper unless stated otherwise.
Source: Authors' calculations, based on IMF, 2020.

The region accumulated more debt over the last decade owing to the negative impacts of global economic downturn through persistent trade deficits in MICs, adverse impacts of crises in several parts of the region, as well as commodity price fluctuations that widened fiscal deficits in oil and commodity export dependent countries of the region. The association between average annual growth of public debt and GDP growth (in constant 2010 $) mirrors these developments across the cluster of countries in the region (figures 2A to 2D). The public debt growth in GCC is strongly associated with loss of oil revenues due to episodes of low oil price such as in 2009 and subsequently from 2014 onwards. In 2018, oil prices being lower than pre-2014 level, public debt growth still remained higher than GDP growth in GCC. In the MICs, the growth of public debt has remained consistently above GDP growth since 2009 onwards, which is largely attributed to financing gaps of persistent trade deficits and widening fiscal deficits to meet expenditure needs. In the LDCs, except for couple of years during 2013-14, the growth of public debt has maintained a higher rate than that of the average GDP growth since 2009. A combination of macroeconomic imbalances coupled with exchange rate depreciation have contributed to high growth of public debt across the region.

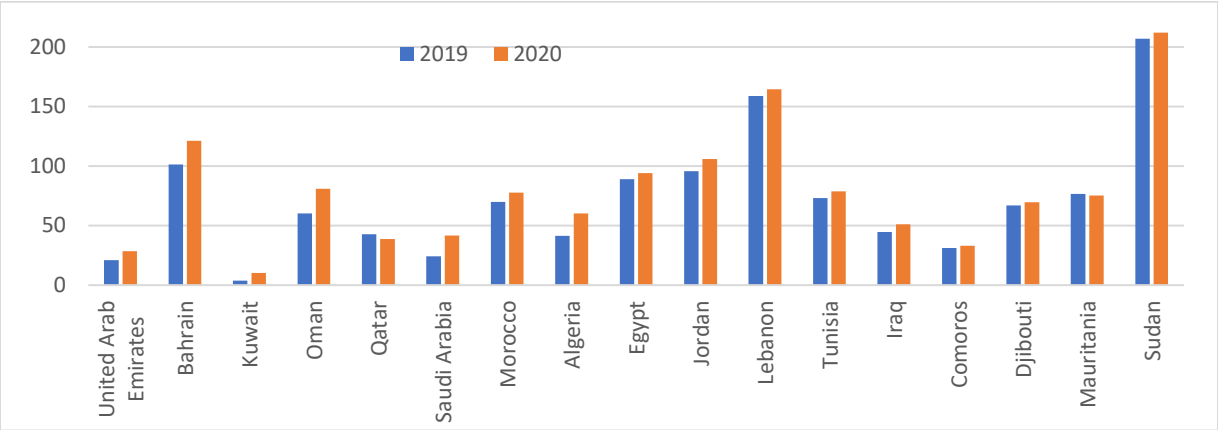
Figure 2 - GDP growth and public debt growth (constant 2010 $), percent



Source: Authors' calculations, based on IMF, 2020.

The adverse impact of COVID-19 has pushed the countries to borrow furthermore. Large fiscal shortfalls are expected to be financed by increased borrowing externally and therefore the response measures to mitigate the impact of COVID-19 are expected to increase debt burdens further in 2020 for most of the countries in the region, especially for the MICs and the LDCs who are already highly indebted (figure 3).

Figure 3 - Projected gross public debt to GDP (%) due to adverse impact of COVID-19

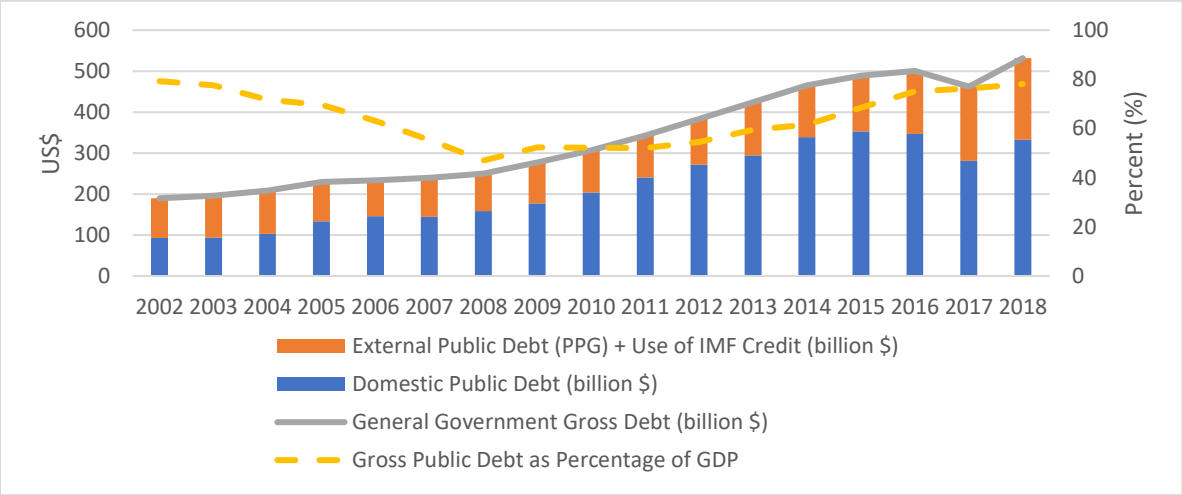


Source: Projections based on World Economic Forecasting Model (ESCWA 2020).

B. Structure and decomposition of public debt

The aggregate gross public debt of MICs has more than doubled over the period during 2008 and 2018, increasing from $250 billion in 2008 to $531 billion in 2018 (figure 4). Majority of the public debt, nearly 63 percent, is financed by domestic borrowing. The share of external public debt, including use of IMF credit, was 37 percent of total gross public debt in 2008, which steadily declined to 27 percent in 2014 but thereafter the share of external debt increased to 37 percent in 2018. The recent increase in share of external debt since 2017 (or reduction in share of domestic debt) is attributed to impact of exchange rate depreciation in Egypt since November 2016 which reduced the dollar value of most of the domestic debt, as well as borrowings from multilateral banks and issuance of euro bonds.[7]

Figure 4 - Decomposition of gross public debt by domestic and external debt, MICs



[7] Sarangi (2020). Public debt and debt stabilizing scenarios for Egypt (forthcoming).

Source: Authors' calculations, based on IMF, 2020.

The total gross public debt of Comoros, Djibouti, Mauritania and Sudan together reached $125 billion in 2018, out of which Sudan's debt is $118 billion. In fact, the depreciation of Sudanese pound during 2017 and 2018 brought down Sudan's debt from $198 billion in 2017. However, data from International Debt Statistics (IDS) of the World Bank on external public debt and IMF data on the gross public debt don't reconcile for some countries such as Djibouti and Sudan, which do not allow decomposition of debt between domestic and external debt for the LDCs although generally most of the debt in LDCs are external borrowings. Gross public debt of Comoros, Djibouti and Mauritania taken together was close to $6 billion in 2018, which turns out to be lower than their total external public debt of $6.15 billion.[8]

For Sudan, the IDS external debt reports consistently lower value than that was reported by IMF Article IV assessments. According to IDS, Sudan's external public debt was about US$ 15 billion in 2018, as against US$ 55 billion reported by IMF Article IV. IMF uses a weighted average of official and parallel exchange rates in assessing dollar value of debt and GDP, which could be a potential source of data discrepancy. We used the IDS data source for all countries for the purpose of consistency. It may be noted that using $55 billion external public debt for Sudan, the total external public debt (PPG) of the five LDCs will be about $63.7 billion in 2018 as against $23.7 billion as per the IDS. For these data discrepancies, the disaggregation of gross public debt to external and domestic debt remained ambiguous for some countries.

C. Changing pattern of external public debt

A longer historical period starting from 1990 till the latest year of data availability is used to examine the composition and changing pattern of external public debt or sovereign debt. The focus of analysis remains MICs and LDCs for which disaggregated external debt data are available. External public debt, measured by public and publicly guaranteed debt[9], of the MICs amounts to $184 billion out of total $300 billion external debt in 2018 (figure 5A). The share of public debt in total external debt[10] shows a steady decline in the past three decades since 1990. In the past ten years, the share has declined marginally from 65 percent in 2008 to 61 percent in 2018. During the same period, private non-guaranteed debt increased from $27 billion to $55 billion. In addition, the short term external debt increased from $22 billion to $45 billion between 2008

[8] As per the grouping of countries in this study, Somalia is another LDC. Somalia's external public debt amounts to $1.89 billion in 2018, according to IDS debt statistics. However, the gross public debt of Somalia is not available from the IMF.

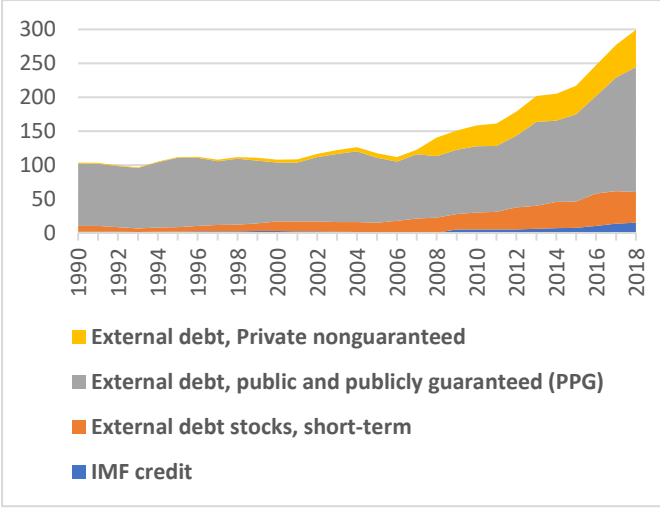
[9] External debt, public and publicly guaranteed, refers to long-term external obligations of public debtors, including the national government, political subdivisions (or an agency of either), and autonomous public bodies, and external obligations of private debtors that are guaranteed for repayment by a public entity.

[10] External debt total refers to debt owed to non-residents repayable in currency, goods, or services. Total external debt is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt.

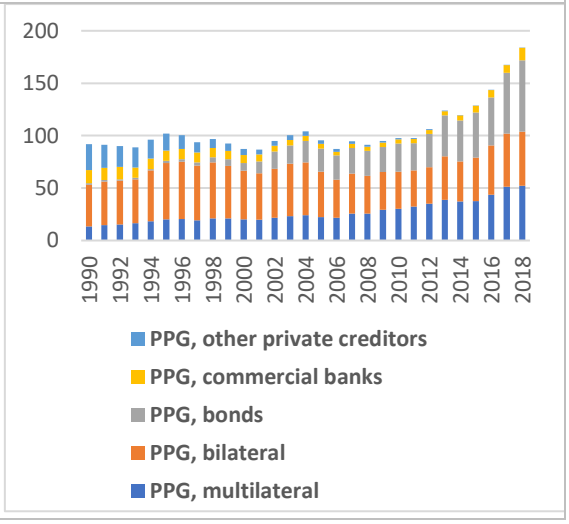
and 2018. This recent pattern suggests higher risks associated with external debt servicing either due to exchange rate shocks or due to any negative shock to trade balance.

Figure 5 - Size and composition of external public debt, MICs

A. Composition of total external debt ($ billion), MICs



B. Size of external public debt by creditors type ($ billion), MICs



Source: Authors' calculations, based on World Bank, 2020.

The decomposition of external public debt of MICs shows that there is a steady decline in share of official creditors in the total external public debt of the MICs over the past three decades. In the last decade, the share of official debt in total external public debt of MICs has declined from 68 percent in 2008 to 56 percent in 2018.[11] During this past decade, issuance of bonds and commercial banks have increasingly become the source of external borrowing for the MICs. Most notably, the debts raised through bonds increased from about $24 billion in 2008 to $68 billion in 2018 (figure 5B).

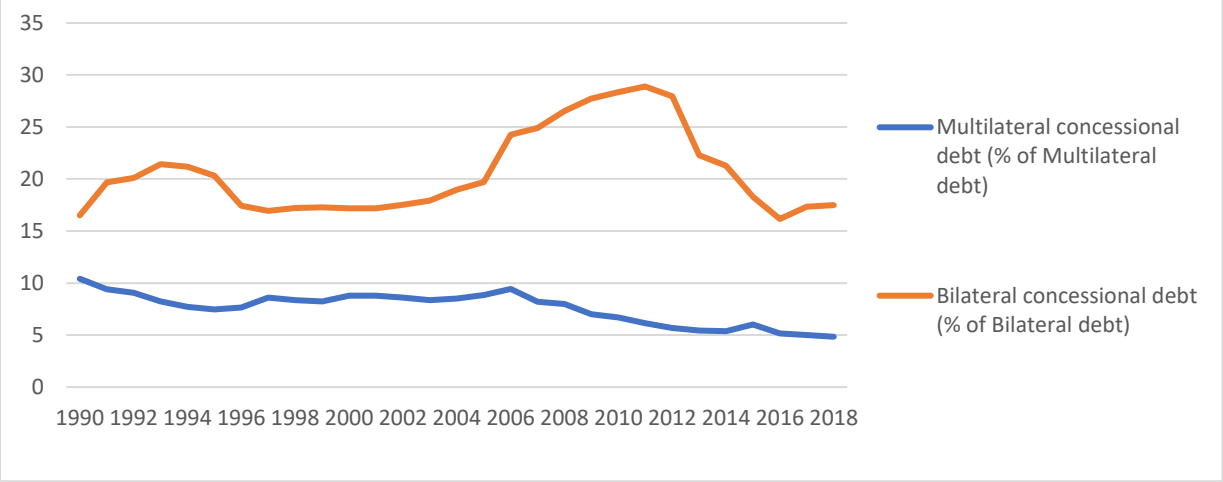
The share of concessional debt[12] from official creditors has declined substantially, particularly during the past decade. It reached 11 percent in 2018 as against the peak of 19 percent in 2008. The share of concessional credit in total multilateral credit has been steadily declining from a 9.4 percent in 2006 to 4.8 percent in 2018. Similarly, the share of concessional credit in total bilateral credit went down from 29 percent in 2011 to 17.5 percent in 2018 (figure 5).

[11] There are contrasts among the MICs. Lebanon's external public debt was about $33 billion in 2018 out of which the official creditors accounted for only nearly $2 billion. Therefore, majority of the external debt stock belong to private creditors mainly bond holders (a little less than $31 billion), commercial banks ($135 million) and other private creditors ($29 million).

[12] Concessional debt is defined as loans with an original grant element of 25 percent or more. Concessional external debt conveys information about the borrower's receipt of aid from official lenders at concessional terms as defined by the Development Assistance Committee (DAC) of the OECD (World Bank, 2017).

Except for Tunisia, other MICs who used to rely more on official creditors have reported a sharp decline in access to concessional external debts from official creditors (figure 6). For instance, in Jordan, concessional debt, as a percent of debt from official creditors, declined from 26.7 percent in 2008 to 10 percent in 2018. In Egypt, the corresponding numbers show a decline from 23 percent to 7 percent during the same period. Given that concessional debts are no longer easily available, governments have relied on external debt from private creditors to finance the deficits. These changing patterns suggest that external public debt is becoming increasingly costlier to the MICs in recent years as compared to the previous years in 1990s and that poses a higher debt servicing burden along with risks of solvency in case of shocks to exchange rate or trade balances.

Figure 6 - Concessional Debt Share (%) from Official Creditors to MICs

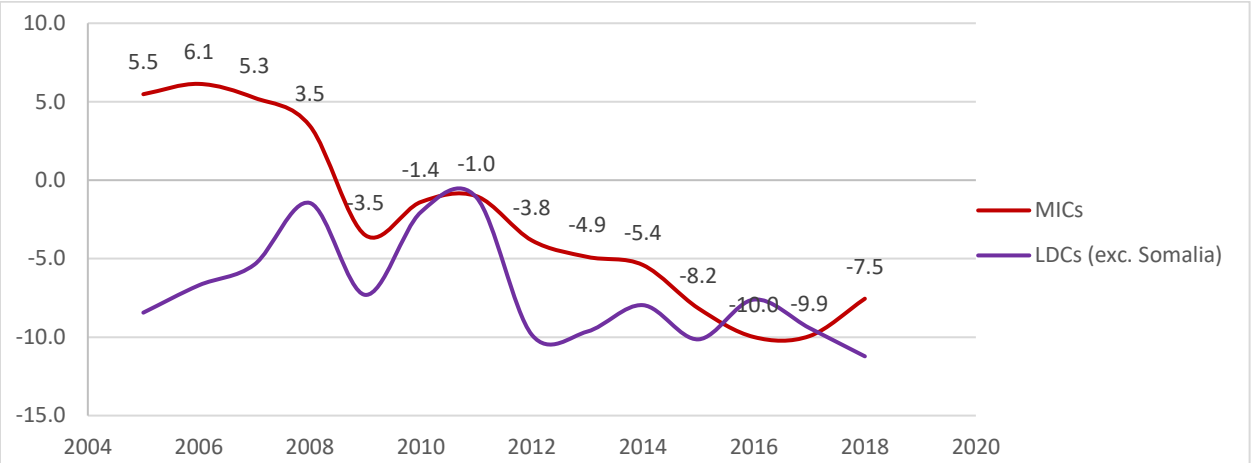


Source: Authors' calculations, based on World Bank, 2020.

While the MICs are struggling with high debt, and persistent current account deficits since 2008 (figure 7), COVID-19 and its adverse consequences on economy has exacerbated higher debt risks mainly from external sources. For meeting emergency needs to address the adverse impact of COVID-19, Egypt, Jordan and Tunisia taken together have borrowed over $10 billion under IMF's short- and medium-term lending mechanisms (Table 1).[13] These loans being non-concessional by their definition, debt service burden of the MICs is going to be further more in upcoming period.

[13] IMF financial assistance for emerging and advanced market economies are: *Stand-By Arrangements (SBAs)* to address short-term or potential balance of payments problems; *Extended Fund Facility (EFF)* as medium-term support to countries facing protracted balance of payments problems because of structural weaknesses that require time to address; *Rapid Financing Instrument (RFI)* to provide rapid assistance to countries with urgent balance of payments need to cope with shocks. (See https://www.imf.org/en/About/Factsheets/IMF-Lending)

Figure 7 - Current account balances (% GDP)



Source: Authors' calculation based on IMF, 2020

Table 1 - Emergency Financing from IMF to Arab Countries (MICs) during COVID-19

Country	Type of Emergency Financing	Amount approved (SDR)	Amount Approved (US$ million)	Date of approval
Egypt	Rapid Financing Instrument (RFI)	2,037.1 million	$2,772 Million	May 11,2020
	Stand-By Arrangement (SBA)	3,763.64 million	$5,200.00 million	June 26,2020
Jordan	Rapid Financing Instrument (RFI)	291.55 million	$396 Million	May 20, 2020
	Extended Fund Facility (EFF)	926.37 million	$1,300.00 million	March 26, 2020
Tunisia	Rapid Financing Instrument (RFI)	545.2 million	$745 Million	April 10, 2020

Source: IMF 2020. COVID-19 Financial Assistance and Debt Service Relief. Accessible at [https://www.imf.org/en/Topics/imf-and-covid19/COVID-Lending-Tracker#ftn].

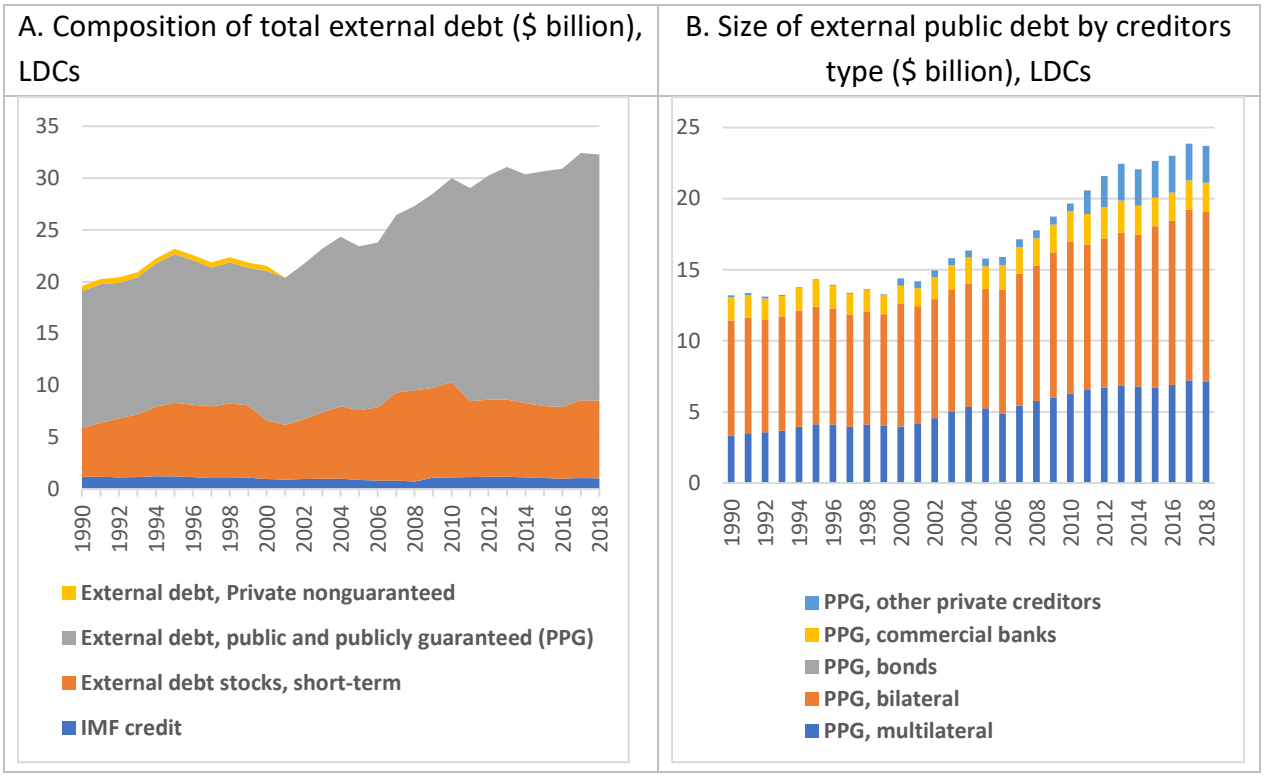
For the LDCs, the aggregate external public debt was $23.7 billion[14] in 2018 out of total external debt of $33 billion (figure 8A). More than 70 percent of total external debt is public debt and official creditors account for 80 percent of external public debt in 2018. Their share was 86 percent of total external public debt in the LDCs in 2008. External public debt of LDCs reported a steady increase from commercial banks and other private creditors from a 2.5 billion in 2008 to 4.6 billion in 2018 (figure 8B).

Another notable trend is that the share of concessional debt of the official creditors to the LDCs has been declining since mid-2000s. The share of concessional bilateral debt reduced sharply to

[14] It may be noted that using $55 billion external public debt for Sudan, the total external public debt (PPG) of the five LDCs will be about $63.7 billion in 2018 as against $23.7 billion as per the IDS debt statistics.

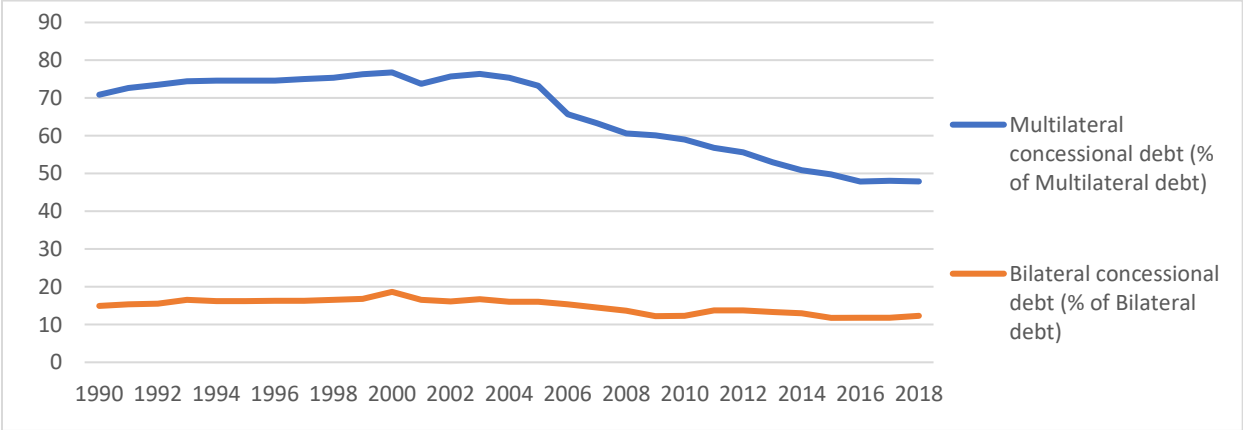
48 percent in 2018 as against that of 60 percent in 2008 (figure 9). During the same period, the share of concessional multilateral debt shows a relatively slow decline from 14 to 12 percent of their credit. Overall, the share of total concessional debt from official creditors has declined from the peak of 38 percent in mid-2000 to 25 percent in 2018.

Figure 8 - Size and composition of external public debt, LDCs



Source: Authors' calculations, based on World Bank, 2020.

Figure 9 -Concessional Debt Share (%) from Official Creditors to LDCs



Source: Authors' calculations, based on World Bank, 2020.

Several LDCs remain at risk of debt distress according to the Joint Bank-Fund Debt Sustainability Framework for Low Income Countries (LIC-DSF). According to the assessment, Somalia and Sudan are in debt distress, whereas Comoros, Djibouti and Mauritania are at moderate to high risk of debt distress (Table 2). These countries are experiencing steep output contractions at the same time that COVID-19 relief and recovery efforts are demanding a massive increase in expenditures. Sudan's large external arrears continue to hinder access to external financing.[15] Sudan has yet to meet all the requirements for reaching the decision point and qualify for HIPC debt relief. The Sudanese authorities have requested a 12-month Staff-Monitored program (SMP) to support their efforts to restore macroeconomic stability, lay the foundation for strong and inclusive growth, mobilize external financing, make progress toward debt relief under the Heavily Indebted Poor Country (HIPC) initiative, as well as cope with the impact of COVID-19.[16] Somalia has taken the necessary steps to begin receiving debt relief under the enhanced Heavily Indebted Poor Countries (HIPC) Initiative. Debt relief will help Somalia to reduce the debt from US$5.2 billion at end-2018 to US$557 million in net present value terms (NPV) once it reaches the HIPC Completion Point in about three years' time.[17]

COVID-19 and its economic fallout are exacerbating already high debt risks. The international community has taken action to provide relief – through the G20 debt service suspension initiative (DSSI), and debt relief by the IMF for 25 countries from the Catastrophe Containment and Relief Trust (CCRT). An estimate of potential DSSI savings suggests that the participating countries would have a potential saving of $294 million, based on projected debt service payments owed during May through December 2020[18] (Table 2). However, this is not enough, even with extension of the DSSI to mid-2021, since the total public debt service of LDCs in the region is about $1 billion while only interest payment of public external debt is about $550 million. The DSSI needs to include multilateral debt, which is currently limited to bilateral debt only. The Table 3 shows the IMF debt service relief assistance from the CCRT to Comoros, Djibouti, and Yemen, amounting to nearly $23.4 million. In parallel, Comoros, Djibouti, Mauritania and Somalia have borrowed from IMF totaling $423 million under the concessional lending mechanisms of RCF and ECF. Comoros has also borrowed $5.93 million non-concessional loans under the RFI mechanism.

[15] As of December 31, 2018, arrears to the IMF amounted to SDR 968.4 million (about US$1,346.9 million). Arrears to the World Bank Group amounted to US$962.8 million and to the AfDB SDR 254.4 million (or US$353.8 million). See HIPC and MDRI Statistical Update 2019. Accessible at [http://documents1.worldbank.org/curated/en/419661565316083523/pdf/Heavily-Indebted-Poor-Countries-HIPC-Initiative-and-Multilateral-Debt-Relief-Initiative-MDRI-Statistical-Update.pdf].

[16] IMF Press Release No 20/245. June 23, 2020. Accessible at [https://www.imf.org/en/News/Articles/2020/06/23/pr20245-sudan-imf-staff-completes-mission-for-a-staff-monitored-program].

[17] Somalia to receive debt relief under the extended HIPC initiative. Press Release March 25, 2020. Accessible at [https://www.worldbank.org/en/news/press-release/2020/03/25/somalia-to-receive-debt-relief-under-the-enhanced-hipc-initiative].

[18] The G20 DSSI is extended to mid-2021 in the November meeting of G20 member countries.

Table 2 - DSSI participants and their potential savings based on amounts they owe to creditors

Country	DSSI Participation?	Risk of external debt distress	Risk of overall debt distress	Date of DSA Publication	Potential DSSI Savings (US$ million)	Potential DSSI Savings (% of 2019 GDP)
Comoros	Yes	Moderate	Moderate	Apr-20	2.3	0.2%
Djibouti	Yes	High	High	May-20	59.2	1.6%
Mauritania	Yes	High	High	Apr-20	90.0	1.2%
Somalia	No	In distress	In distress	Mar-20	..	
Yemen	Yes	…	…	…	142.7	0.5%

Note: Potential DSSI savings are estimated debt service payments owed, based on monthly projections for May-December 2020, based on end-2018 public and publicly guaranteed debt outstanding and disbursed.

Source: The World Bank 2020. COVID 19: Debt Service Suspension Initiative. Accessible at [https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative].

Table 3 - Emergency Financing and Debt Service Relief from IMF to Arab Countries (LDCs)

Country	Type of Emergency Financing[19]	Amount approved (SDR)	Amount Approved (US$ million)	Date of approval
Comoros	Debt service relief: CCRT	0.97 million	$1.33 million	April 13, 2020
	Rapid Credit Facility (RCF)	2.97 million	$4.05 million	April 22, 2020
	Rapid Financing Instrument (RFI)	5.93 million	$8.08 million	April 22, 2020
Djibouti	Rapid Credit Facility (RCF)	31.8 million	$43.4 Million	May 8,2020
	Debt service relief: CCRT	1.69 million	$2.3 Million	May 8,2020
Mauritania	Rapid Credit Facility (RCF)	95.68 million	$130 Million	April 23,2020
Somalia	Extended Credit Facility (ECF) and the Extended Fund Facility (EFF)	292.4 million	$395.5 million	March 25,2020
Yemen	Debt service relief: CCRT	14.44 million	$19.76 Million	April 13, 2020

Note: CCRT - Catastrophe Containment and Relief Trust. According to IMF, the debt service relief from CCRT benefitted countries for debt service falling due during the period April 13 through October 13, 2020.

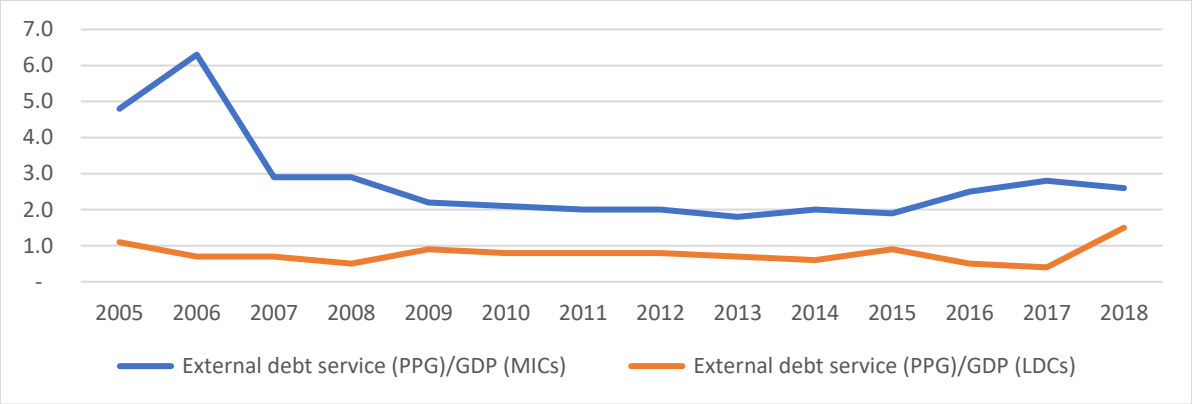
[19] IMF provides concessional financial support (currently at zero interest rates until June 2021) through the Poverty Reduction and Growth Trust (PRGT), which is tailored to the diversity and needs of low-income countries (LICs). *Standby Credit Facility (SCF); Extended Credit Facility (ECF)*; *Rapid Credit Facility (RCF)* are three main concessional finance tools to assist LICs in case of balance of payment problems in short term, medium term, and urgent needs respectively.

Source: IMF 2020. COVID-19 Financial Assistance and Debt Service Relief. Accessible at [https://www.imf.org/en/Topics/imf-and-covid19/COVID-Lending-Tracker#ftn].

D. Burden of debt service and interest payments

Burden of external debt service as a share of GDP of low- and middle-income countries has increased since 2015. During 2009 to 2015, the share of external debt service remained stable at around 2 percent of GDP of the MICs and 0.9 percent of GDP of the LDCs. Thereafter, the corresponding shares increased to 3 percent of GDP of MICs and 1.5 percent of GDP of LDCs in 2018 (Figure 10).

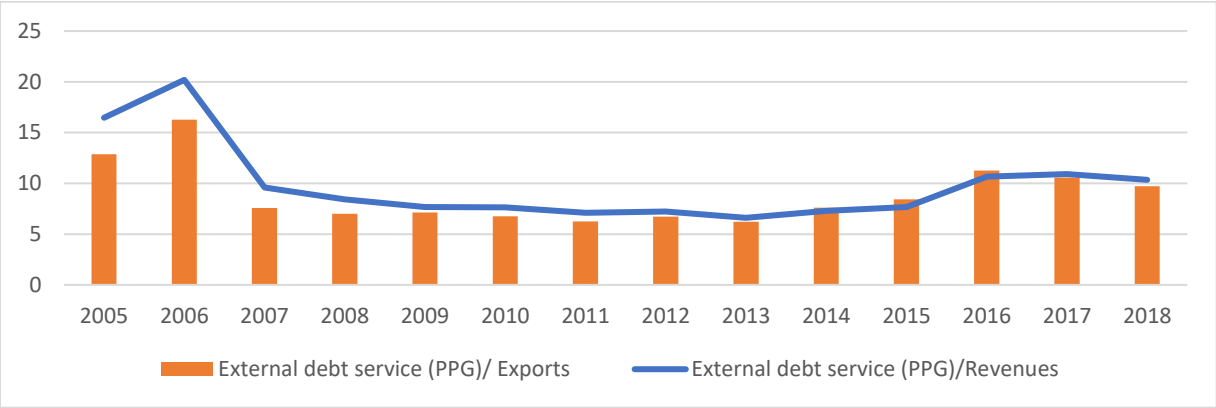
Figure 10 - External debt service (PPG) (% GDP)



Source: Authors' calculations, based on IMF 2020 & World Bank 2020.

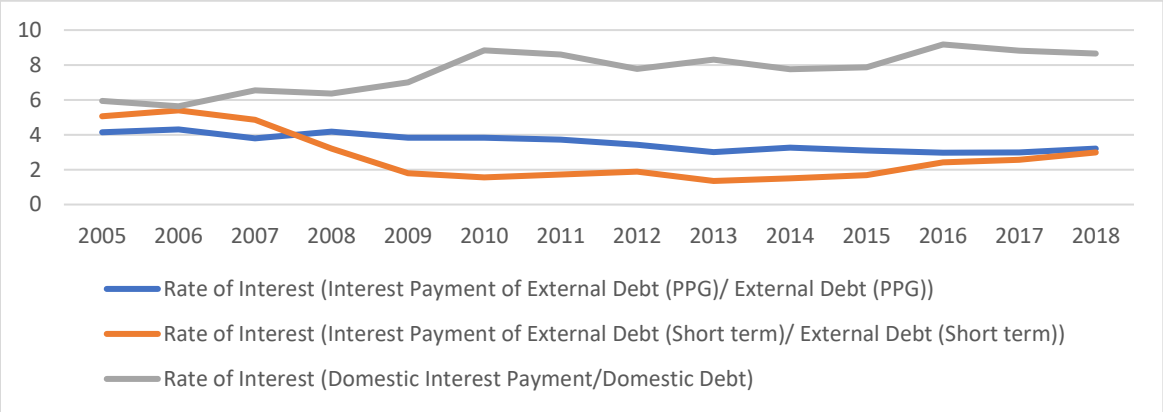
Of the MICs, the average share of external debt service to exports earnings increased from around 7 percent in 2015 to 10 percent in 2018 (figure 11). The share of external debt service to revenues shows same pattern. The increasing share of debt service to exports earnings or revenues is largely due to rising cost of borrowing especially short-term borrowing from the private creditors. The figure 12 shows that the cost of short-term debt, measured by average effective rate of interest, has steadily increased since 2015 from 1.7 percent to 3 percent in 2018. The average short-term rate of interest was lower than the average long term rate of interest of public debt since global recession in 2008, however the rate has steadily been rising toward converging with the long term rate of interest in 2018.

Figure 11 - Debt service burden (MICs): Share of exports and revenues (percent)



Source: Authors' calculations, based on IMF 2020 & World Bank 2020.

Figure 12 - Cost of borrowing (MICs): Effective rate of interest (percent)

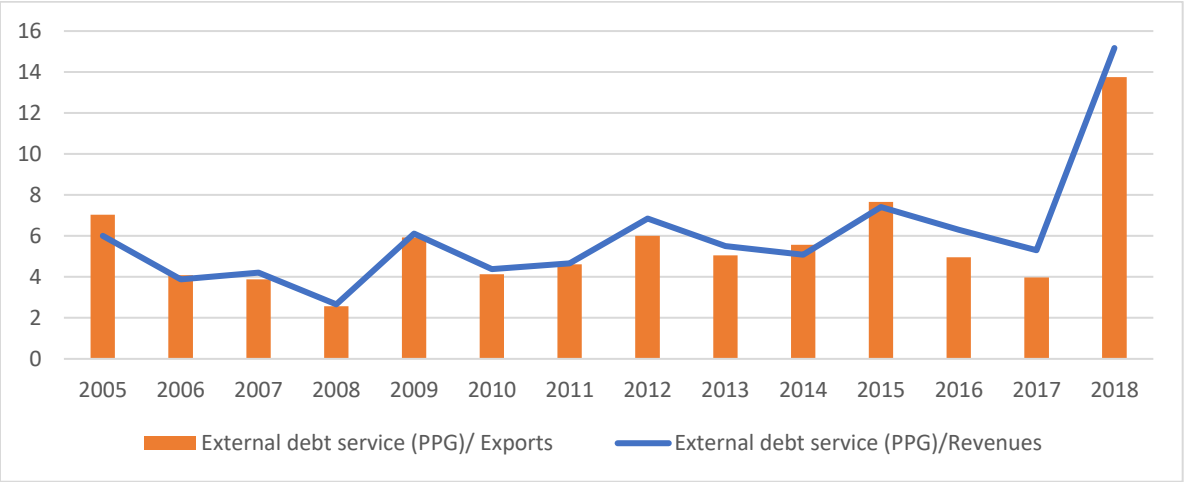


Source: Authors' calculations, based on IMF 2020 & World Bank 2020.

Of the LDCs, the average debt service share to exports and revenues have gone up between 2017 and 2018 (figure 13). Between 2008 and 2018, the shares were hovering between 4 to 6 percent. Average share of debt service to exports and revenues reached 14 percent and 15 percent respectively in 2018, as against 4 percent and 5 percent respectively in 2017.

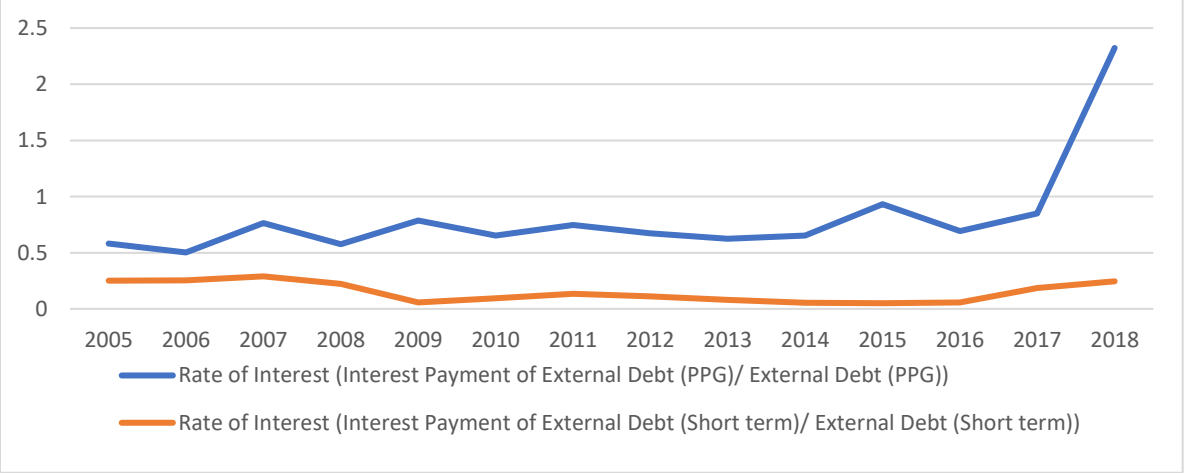
The effective rate of interest for external debt service of public debt went up between 2017 and 2018, which was fairly stable below 1 percent until 2017 (figure 14). The effective rate of interest of short term external debt has remained lower than that of the public debt consistently over time. It was 0.24 percent in 2018. The higher share of concessional debt in total external debt, eligibility to HIPC debt relief initiatives, and access to short term concessional debt from IMF influences the debt dynamics of the LDCs. Even then most of them are at high risk of debt stress, as discussed in Table 2 earlier in the text.

Figure 13 - Debt service burden (LDCs): Share of exports and revenues (percent)



Source: Authors' calculations, based on IMF 2020 & World Bank 2020.

Figure 14 - Cost of borrowing (LDCs): Effective rate of interest (percent)



Source: Authors' calculations, based on IMF 2020 & World Bank 2020.

III. Understanding the key drivers of debt accumulation in the Arab region

A. High fiscal and primary deficits

For the GCC countries, the fiscal and primary balances, on average, converge because these are primarily net receivers of interest payment and therefore the difference between the two is marginal. These countries, on average, incurred surpluses in their fiscal, primary and current accounts, during most of the years since 2005, except for those years when oil prices dropped significantly. The average fiscal and primary balances (% of GDP) slipped to deficits for a short period in the year 2009 due to the drop in oil prices but it picked up again from 2010 with the rise in oil prices. Following the plunge in oil prices in 2014, fiscal surpluses turned into deficits since 2015 (figure 15A and 15B). The average fiscal deficit and primary deficit of the GCC were at

-1.8 percent and -2.8 percent of GDP respectively in 2018. These countries are increasingly considering borrowing by issuing sovereign bonds in international capital markets in order to meet the expenditure needs, in addition to introduction of new policy measures such as the introduction of value-added tax (VAT), reduction of subsidies and drawing from reserves.

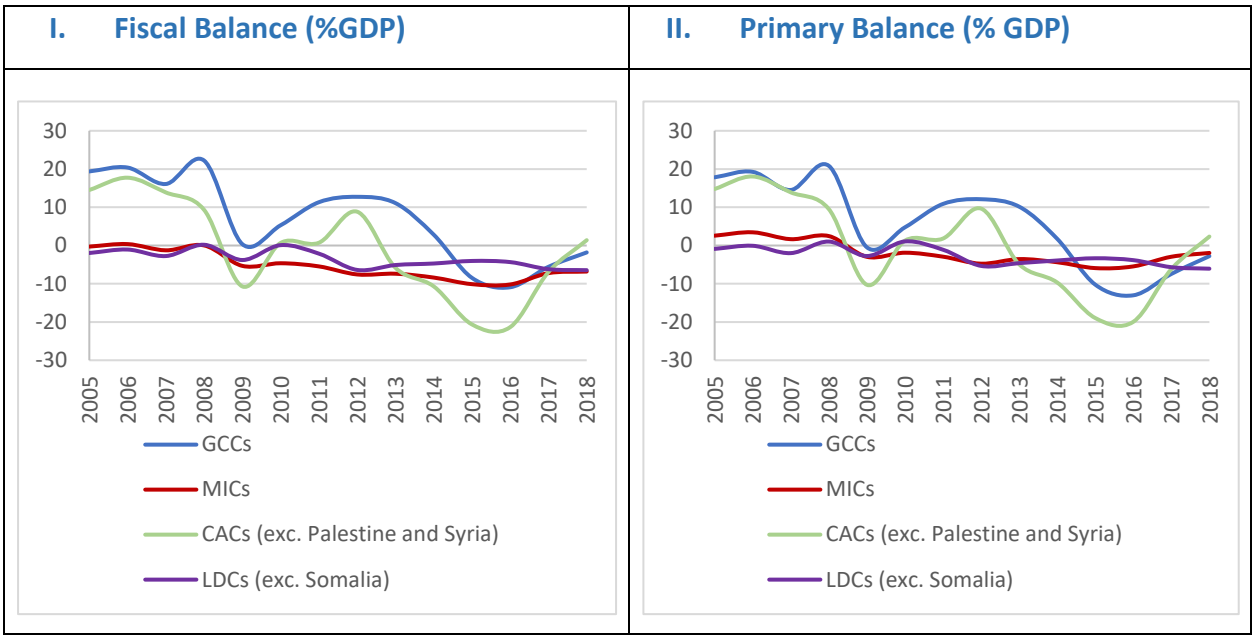
The fiscal balances of MICs and LDCs are different than that of the GCC countries. Fiscal balances across these countries were mostly in deficits, and the average fiscal and primary balances worsened between 2008 and 2018. Particularly, the middle-income countries witnessed a continuous decline in fiscal and primary balances (% of GDP) since 2008, which reached -10 percent and -6 percent respectively during 2015, and subsequently at -7% and -2% respectively in 2018. The average fiscal and primary balances in LDCs swung up and down during the corresponding period, however these remained negative through the period. In 2018, the average fiscal and primary balance of LDCs were about -6.4 percent and -6.1 percent respectively.

The low oil prices after 2014 does help in improving fiscal balances of the net oil-importing low- and middle-income countries, however, the fiscal accounts remained negative largely due to low growth and revenues mobilization remained below potential. The high current account deficit is a major constraint for most low- and middle-income countries in the region because on the one hand they are heavily reliant on imports for local consumption while their exports are limited to largely primary products. For instance, between 2010 and 2018, peak imports to GDP in Jordan and Lebanon were at 74 percent and 75 percent respectively, as compared to their peak exports to GDP at 48 and 55 percent respectively, in the same period. Morocco and Tunisia also have huge gaps in imports and exports. The persistence of a current account gap is closely linked to recurrent budget deficits and debt surge. Neaime (2015) observed that the persistence of budget deficit deteriorated trade deficit in Lebanon through the channel of upward pressure on domestic interest rate and exchange rate appreciation since the mid-1990s, which results in high debt surge. The twin deficits and challenges to debt sustainability are interrelated in most of the developing countries.[20]

COVID-19 has exacerbated the deficits and debt in the low- and middle-income countries who are highly indebted and are at high risk of debt stress, as discussed in the earlier section. The projection for 2020 shows that fiscal balance in GCC will be -10.4 percent, while in the MICs and LDCs that will be -10.2 percent and -7.7 percent respectively (figure 16).

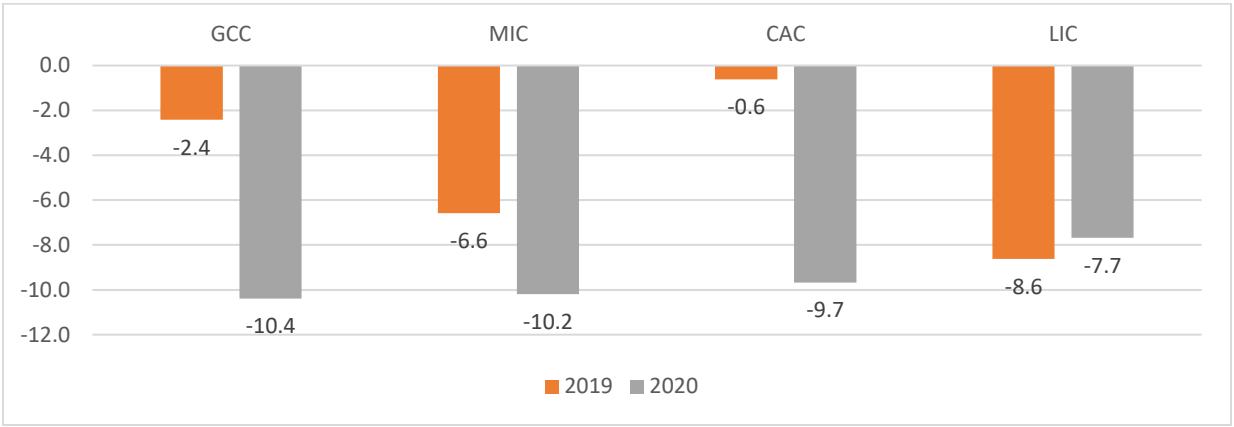
[20] See Khalid and Guan, 1999.

Figure 15 - Fiscal balances (% GDP)



Source: Authors' calculation based on IMF, 2020.

Figure 16 - Projected fiscal deficit to GDP (%) due to adverse impact of COVID-19



Source: Authors' calculations, based on World Economic Forecasting Model (ESCWA 2020).

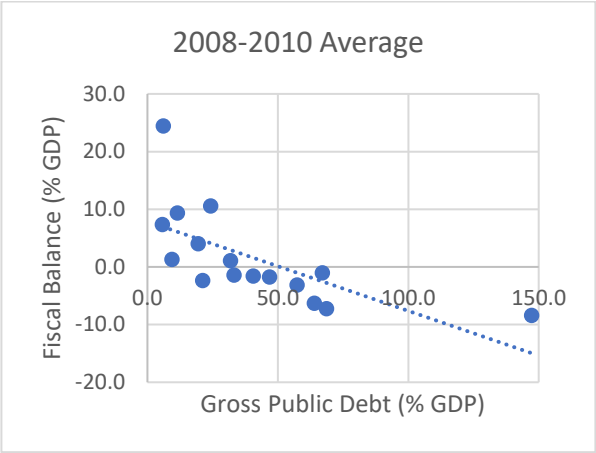
We examined the association between fiscal policy and public debt ratios. Figure 17 displays cross-country association between the average fiscal balance and average gross public debt, expressed in percent of GDP, during 2008-2010 and 2016-2018. At the same time points, Figure 18 plots the relationship between primary balance and gross public debt ratios, expressed in percent of GDP.

Quite clearly, the fiscal balance and primary balance, measured as share of GDP, were positive for several countries during 2008-2010 as compared to the negative balances observed during 2016-18 period. The deterioration in fiscal and primary balances are associated with increasing

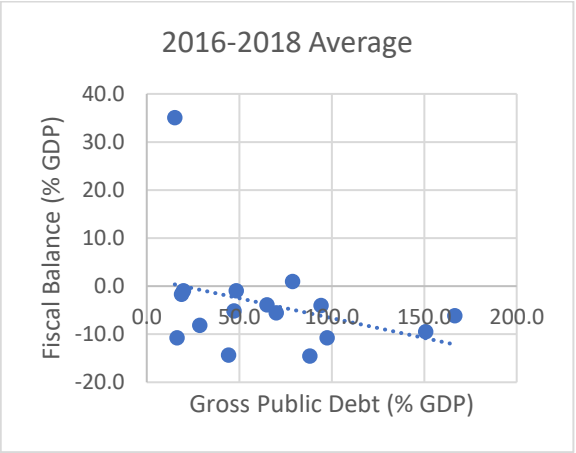
gross debt to GDP share, as seen from the figure that debt in several middle income countries is above 90 percent of GDP in the later period.

Figure 17 - Gross public debt and fiscal balances in Arab countries (% GDP)

Fiscal balance (% GDP), 2008-2010 (average)



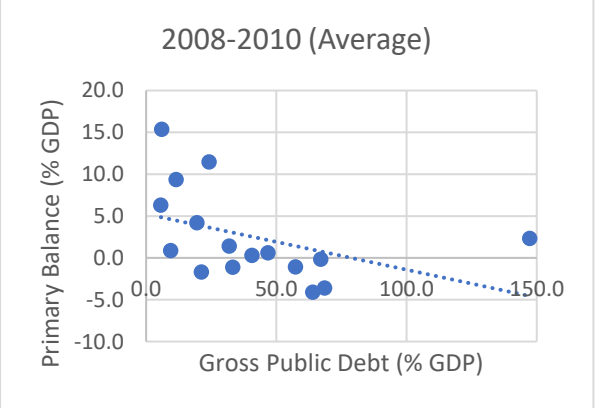
Fiscal balance (% GDP), 2016-2018 (average)



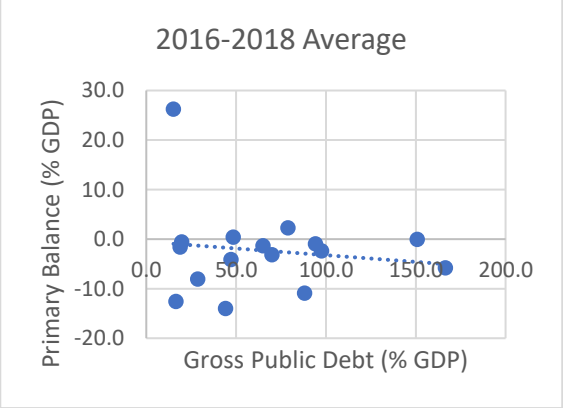
Source: Authors' calculations, based on IMF, 2020.

Figure 18 - Gross public debt and primary balances in Arab countries (% GDP)

Primary balance (% GDP), 2008-2010 (average)



Primary balance (% GDP), 2016-2018 (average)



Source: Authors' calculations, based on IMF, 2020.

A. Weak fiscal reaction function rooted in laxity of fiscal policy behavior

There are several approaches of analyzing public debt sustainability, including the most popular debt sustainability analysis (DSA) and fan chart analysis by the IMF, time series stationarity tests and cointegration tests between revenues and expenditures, fiscal reaction functions and debt stabilizing primary balance calculations.[21] The standard IMF approach of DSA tests provides comprehensive information about the dynamics and sustainability analyses of public sector debt

[21] A great deal of analysis of this literature is in Adams, Ferrari and Park, 2010; and Jha, 2012.

and external debt in market-access countries, and it presents forecasting of future debt under certain assumptions to growth rate, inflation, interest rate and exchange rate, in addition to considering domestic and external debt ratios and primary balances. While the approach is more comprehensive than any other tests, the forecasting of debt ratios and their poor track record have often come under criticism due to their exclusive reliance on past data and their judgment about the future debt sustainability challenges. The evaluations of the performance of DSA suggest that they should be interpreted only "within the bounds of the underlying guesses".[22]

The time series tests assess whether the stock of public debt to GDP ratio (and/or public debt) is stationary or it has a unit root. In the case of the latter, the debt ratio will be not sustainable. The co-integration tests assess whether government expenditure and revenue follow a common stochastic trend, which essentially implies that any increase in government expenditure is financed by revenue. In this case, debt will be sustainable.[23] However, the time series tests have limited application in the debt sustainability literature. The stationarity and co-integration tests are not only based on past data trends, but they give little guidance on the kind of fiscal reaction needed to assure that debt will be sustainable. Furthermore, Bohn (2007) strongly argued that "time series tests are incapable of rejecting sustainability. The intertemporal budget constraint proves to be satisfied if either the debt series or the revenue and with-interest spending series are integrated of arbitrarily high order, i.e., stationary after differencing arbitrarily often. Revenues and spending do not have to be co-integrated. Rejections of low-order difference-stationarity and of co-integration are thus consistent with the intertemporal budget constraint."

The fiscal reaction function analysis and the debt stabilizing primary balance calculations rely on actual data and they minimize any guess work. However, they are more useful and reliable conditions of budgeting for fiscal sustainability in a long-term framework than for the short term, given that contingent liabilities, emergency expenditure or shortfall in revenues can severely affect short term debt sustainability, which may not be factored into the analysis in an ex-ante exercise. In this medium to longer term perspective, we examined the fiscal reaction functions and debt stabilizing primary balances that can be considered useful tools for the governments in budgeting exercises.

In the context of U.S fiscal policy, Bohn (1998) raised some direct questions to understand the behavior of government's response to rising debt levels, such as "How do governments react to the accumulation of debt? Do they take corrective measures when the debt to GDP ratio starts rising or do they let it grow?" He observed that "one can find direct evidence of corrective actions by examining the response of the primary (noninterest) budget surplus to changes in debt-income ratio". This seminal piece of work became popular in the form of estimating 'fiscal

[22] See IMF, 2003; Wyplosz, 2007.
[23] Neaime (2015) for instance applied this method for looking into debt sustainability in Lebanon.

reaction functions' to assess fiscal prudence. Following Bohn (1998), several studies have estimated fiscal reaction functions[24] to identify the behavioral pattern underlying the decision-making process for primary fiscal expenditure and revenue in the context of debt sustainability, along with cyclical developments and institutions affecting a government's incentives.

We used the basic framework put forward by Bohn (1998) to assess the fiscal prudence of Arab countries, particularly the oil-poor countries that have more constrained fiscal space than others in the region, as discussed below. Following Bohn (1998), the basic empirical specification involves the primary balance (ps_t) and lagged public debt (b_{t-1}), both as ratios to GDP, as well as temporary factors (τ_t) impacting the primary balance ratio, such as swings in government spending and the business cycle:

$$ps_t = \rho b_{t-1} + \beta \tau_t + \varepsilon_t \dots\dots\dots\dots eq(1)$$

Where

ps_t is primary balance to GDP

b_{t-1} is lagged public debt to GDP

τ_t represents temporary influences on ps_t due to discretionary expenditure in the current year for which actual expenditure deviates from the trend[25]

$$\varepsilon_t \backsim (0, \sigma^2)$$

The direction and significance of the coefficient ρ is central to fiscal sustainability condition. Essentially, ρ measures the response of the primary balance ratio to changes in the debt ratio, which should be ideally between 0 and 1 ($0 < \rho < 1$) to satisfy fiscal sustainability condition. A larger value of ρ will imply stronger response of primary balance to debt ratio. On the contrary, if $\rho = 0$ or $\rho < 0$ and the estimated values are statistically significant, then the primary balance either does not respond or tends to make the debt ratio explosive.

It is evident from the equation that the approach of examining debt or fiscal sustainability relies on current response of primary balance to past debt, which may or may not be a good guide to the sustainability of the debt, at least in the short run (Adams and others, 2010). For instance, if the growth rate of the economy is higher than the interest rate, the debt may be sustainable, even if ρ is near zero. The interest rate and growth differential condition on fiscal sustainability

[24] Celasun and others, 2007; Mendoza and Ostry, 2007; Ferrarini and Ramayandi, 2012; Ghosh and others, 2013 (among others).

[25] It includes, for instance, sudden spikes in expenditure in a year due to emergencies (military or natural calamity etc), meeting contingent liabilities, or any other policy measure introduced by government that had a significant temporary effect on government spending.

is discussed in the following section. However, in the long run, the equation (1) needs to be satisfied with $0 < \rho < 1$ for sustainability to hold.[26]

There have been several applications of the fiscal reaction function for different countries and also for cross-country analysis. Some studies have included seigniorage revenue and other monetary factors as regressors into the fiscal reaction function.[27] Other studies have controlled for the effect of business cycles, crude prices, and trade openness in estimating the response of primary surplus to debt ratios.[28] However, the basic fiscal reaction function has not changed much, except that some recent specifications have taken into consideration non-linearity in primary balance response to lagged debt ratios.[29] The underlying assertion is that the intensity of fiscal policy adjustments varies with the level of debt in a country, which causes the changes in curvature of the primary balance ratio. In addition, the estimation of the fiscal reaction function needs to consider the issues of heterogeneity (unobserved country specific effects) and serial correlation in the case of panel regression.

In our specification of the fiscal reaction function,[30] we allowed for the possibility of non-linear shape by including quadratic and cubic models. Country-specific unobserved effects and serial correlation of the error terms were accounted for in the OLS and FGLS models. The regressors across different specifications includes output gap (to control for cyclical effects of output) and expenditure gap (to control for temporary fluctuations in government outlays) in addition to lagged values of debt ratio (lagged gross public debt ratio) and expenditure ratio in different models (Table 1). The reaction functions were estimated for a balanced panel of middle-income countries (Egypt, Jordan, Lebanon, Morocco, and Tunisia) for data years ranging from 2000 to 2018. Furthermore, as suggested, our main interest is to examine the behavior of primary balance ratio in the oil-poor middle-income groups.

Estimation results

Table 4 presents the estimation results of different specifications for the five middle income countries of the region considering that they are facing high and rising debt and debt service payments, and unlike the LICs they are not eligible for any debt relief initiatives.

[26] The long-run expected value (*E*) of the debt ratio can be written as the following: Ebt= 1-ρ cov 1+θ, bt-11+θ-θ, where is the IRGD (assumed to be positive in the long run) cov stands for covariance and stands for the long-run value of .

[27] For instance, de Mello, 2005.

[28] See Mendoza and Ostry, 2008; Gali and Perroti, 2003; Celasun and others, 2007.

[29] See Adams and others, 2010; Ferrarini and Ramayandi, 2012; Ghosh and others, 2013 (among others).

[30] In line with literature, we considered total debt sustainability (gross public debt ratio) for the fiscal response analysis. The distinction between the domestic and external debt is blurred in a world with open capital accounts, and it is further blurred in emerging market economies where domestic debt is traded in international bond markets (see Panizza, 2008).

Our results are to some extent in line with other literature but there are significant departures. An important aspect of fiscal policy for debt sustainability is that primary balance ratio should respond positively to increasing lagged debt ratio ($0 < \rho < 1$), as discussed above. In our sample, the coefficient of lagged debt ratio is negatively and significantly correlated with primary balance. One would infer that primary balance ratio deteriorates with increase in lagged debt ratio by one period.[31] In our case, the ρ turns out positive (and significant) by a third period lag only. This behavior needs to be interpreted carefully, as there may be other factors that influence or force primary balance to respond positively rather than own systematic mechanisms of fiscal policy of governments.

Temporary increases in government expenditures, captured by the government expenditure gap, has significant negative effect on the primary balance. This is expected and the results are broadly in line with other studies, which is typically associated with quality of economic governance. In our sample, an increase of real expenditure above its trend can lower contemporaneous primary balance by an average factor of -0.13. Budget institutions and the strength of institutions are important determinants of fiscal outcomes.[32] An IMF study of 20 countries indicated that those with stronger budget institutions plan and deliver better on fiscal adjustments, including responding to counteract adverse shocks while countries with weaker institutions did not attempt to counteract these adverse shocks through additional fiscal effort.[33] Furthermore, it may look surprising that a positive shock to the cyclical component of output has no significant impact on raising primary balance (the coefficient of output gap is insignificant in the sample of middle-income countries). This can be explained through the low tax revenue buoyancy such as in Lebanon.[34]

The coefficients of lagged debt ratio in the quadratic and cubic functional specifications (positive and negative respectively) are interesting findings. They indicate that the marginal response of primary balance to lagged debt increases after a certain threshold (around 90 percent) but then it turns into a plateau and eventually tends to decline (the coefficient turned negative) at a very high level of lagged debt ratio (around 150 percent) (Figure 19). The plateau and decline in the curvature can determine a debt limit, which is referred as “fiscal fatigue”, by Ghosh and others (2013). Our results appear to be more like that of Ghosh and others (2013) than those found in the case of Asian countries, by Adams and others (2010) or in case of the USA by Bohn (1998),

[31] Ghosh and others (2013) found similar results for a sample of 23 advanced countries during the period 1970-2007. However, in other middle countries such as in Asia, the coefficient is found to be positive and significant (Adams and others, 2010; Ferrarini and Ramayandi, 2012).
[32] ESCWA 2017.
[33] IMF 2014.
[34] ESCWA 2019.

which indicates that fiscal adjustment efforts strengthen after a certain critical level of debt ratio (a "u-shaped" form of the fiscal reaction function).

A careful look at our results would also indicate that except for Lebanon, most countries have debt ratio below 100 percent. It is therefore intuitive that the "fatigue" position is driven by Lebanon's high debt ratio than any other country, as evident in the Figure 19. Furthermore, the coefficient in the cubic function for all countries is not statistically significant. Therefore, we would tend to conclude that most of the middle-income countries of the Arab region do follow a "u-shaped" fiscal reaction function, if we take out Lebanon from the sample. However, unlike the standard "flattened u-shaped" response of fiscal policy to debt ratio in other studies, our results show a "steep u-shaped" curve and the primary balance ratio looks like perpetually negative. That raises concern about existence and effectiveness of fiscal rules in handling debt sustainability in the long run. A decomposition of change in public debt suggests that persistent primary deficits is the main contributor to increasing debt build up across the MICs in the region, which corroborates well with the panel regression analysis. In addition, exchange rate pressures, and high interest rates relative to economic growth also contribute to increasing debt build up in some years (see Annex 1). We examine the issue of interest rate and growth differential in the next section.

Dependent variable: Primary balance (% GDP)

Table 4 - Fiscal reaction function: Panel regression results

	(1)	(2)	(3)
VARIABLES	MICs Linear FE	MICs, FGLS Quadratic	MICs, FGLS Cubic
	Middle income countries sample		
Debt/GDP, lag 1	-0.007	-0.061	-0.313*
	(0.18)	(1.21)	(2.31)
Debt/GDP, lag 2	0.007	-0.021	-0.024
	(0.13)	(0.59)	(0.64)
Debt/GDP, lag 3	0.089*	0.039	0.046
	(2.62)	(1.34)	(1.57)
Lagged debt_square		0.0004*	0.003*
		(2.00)	(2.10)
Lagged debt_cubic			-0.000
			(1.78)
Output gap	0.028	0.113	0.061
	(0.36)	(1.41)	(0.77)
Expenditure gap	-0.120**	-0.133**	-0.128**
	(3.48)	(5.05)	(4.70)

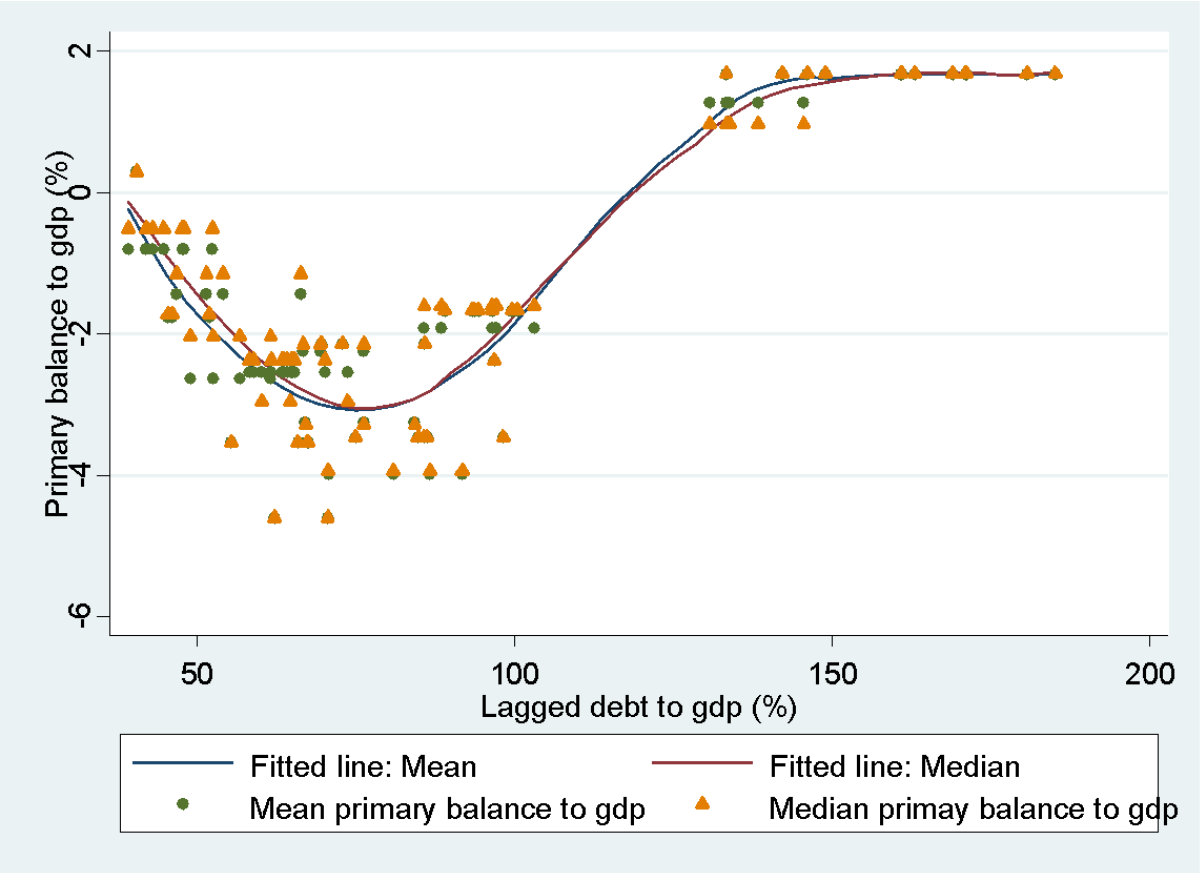
Constant	-6.701*	-1.251	6.384
	(2.23)	(0.62)	(1.46)
Observations	80	80	80

Source: Authors' calculations.

Notes: FGLS - Feasible Generalized Least Squares (FGLS) estimation, allowing for country-specific autocorrelation (AR1) and heteroskedasticity. Standard errors in parentheses; ** p<0.01, * p<0.05

Output gap: GDP gap from the trend, percent; *Expenditure gap*: Expenditure gap from the trend, percent

Figure 19 - Fiscal response to gross public debt in middle-income countries



Source: Authors' calculations.

Note: The fitted line is derived from the cubic function of the middle-income countries sample

B. Influence of interest rate and growth differential on public debt build up

The interest rate and growth differential (IRGD) plays a key role in examining debt sustainability gap through assessing the difference between the actual primary balance and the required debt-stabilizing primary balance. In this context. In a situation where the government is financing the deficits by issuing bonds, the interest payment on the last period's bonds less the government's current primary surplus must be covered by issuing new bonds. If primary surplus is zero, then

debt will grow by the nominal rate of interest.[35] In terms of debt to GDP ratio, a sustainability condition or "no-ponzi game condition" is that the terminal nominal rate of interest should be no larger than the rate of growth of nominal GDP. If the interest paid on this debt is lower than the growth rate of the economy (IRGD < 0) then, all else being equal, the debt will stabilize below the current level. The opposite conclusion holds for the situation in which interest paid on the debt is greater that the growth rate of the economy (IRGD > 0).[36]

The debt stabilizing primary balance (DSPB) can be derived from the identity relating to changes in a country's public debt ratio ($\Delta b_t = b_t - b_{t-1}$) to the IRGD ($\theta_t = r_t - g_t$) and the primary fiscal surplus (ps_t):[37]

$$\Delta b_t = \frac{\theta_t}{1+g_t} b_{t-1} - ps_t \dots\dots eq\ 1$$

From eq 1, one can derive changes in debt ratio over a horizon (stable or explosive) by using assumptions about the IRGD (θ_t) and primary balance (ps_t). Alternately, the primary balance for stabilizing the debt (ps^*) is defined as the primary balance required to keep the debt ratio fixed at its existing level (b^*_{t-1}), given θ_t:

$$ps^* = \frac{\theta_t}{1+g_t} b^*_{t-1} \dots\dots eq\ 2$$

A negative IRGD is favorable to countries where economic growth can erode the debt ratio more quickly than it can build it up by accumulating interest, all else being equal. Using the equation 2, one can arrive at estimating primary balance required for different share of debt to GDP targets over time.

$$ps^T = \frac{\mu}{(1+\mu)^n} ((1+\mu)^{-n} b^*_n - b_0)$$

Where $\mu_t = \frac{\theta_t}{1+g_t}$, b^*_n is the share of debt to GDP in the target "n" years and b_0 is the share of debt to GDP in the base year. The critical issue is applying the interest rate. It is not available from

[35] A general framework of sustainability or "no-ponzi game condition" takes the following identity: Bt=j=0r(t, t+j)-1PSt+j+(t, t+T)-1Bt, T+1 , where r is the discount factor between periods t, t+j , which is defined as k=0jrt+k, and Bt, T+1 is terminal or very long-term debt. Initial notion is that debt is sustainable if Bt, T+1, discounted at a positive rate, approaches zero as T becomes arbitrarily large. Dynamic sustainability therefore requires that the present value of all primary surpluses matches the value of the current debt stock (Adams and others, 2010).

[36] The "modified golden rule" efficiency condition is that IRGD should turn out to be positive eventually for any economy close to steady state. So long as the IRGD is negative and the debt/GDP is falling, rational agents will have the incentive to borrow at low interest rates and finance higher consumption and rollover debt (Blanchard and Fischer, 1989). See also Escolano, 2010.

[37] See Ley, 2009; Escolano and others, 2011.

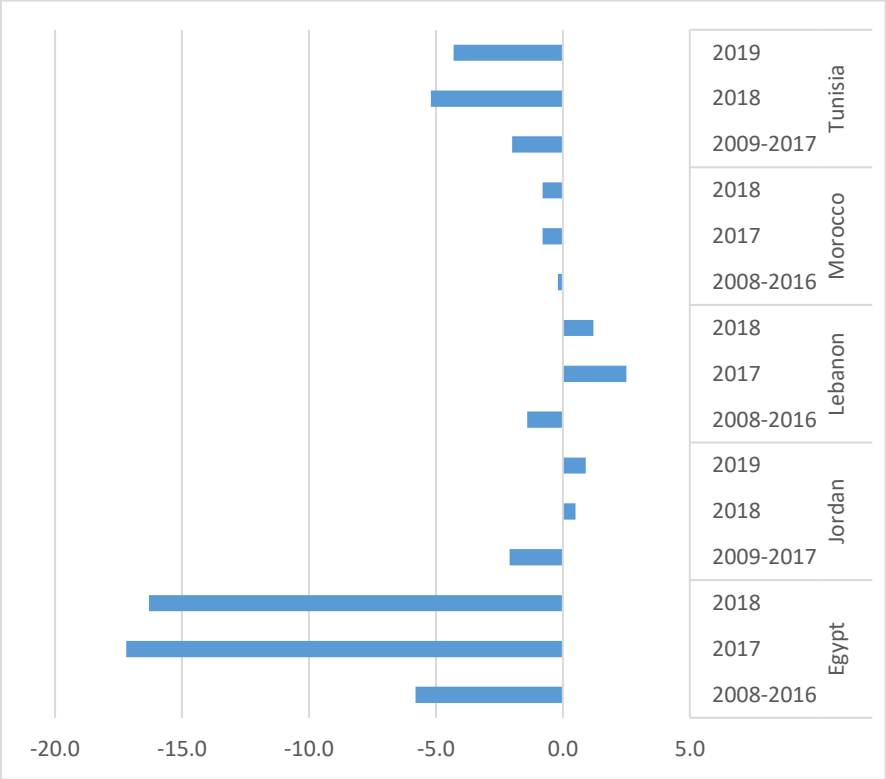
the data, but it can be calculated by using interest payments on debt stock, which essentially means effective rate of interest.[38]

In the Arab countries, Egypt and Tunisia show improved situation with widening negative IRGD during the recent years than their historical average. In case of Morocco, the IRGD is near zero. Jordan and Lebanon have deteriorating situation during 2017 and 2018 where the IRGD are turning positive as compared to their historical average (Figure 20). In fact, Lebanon's IRGD is positive from 2013 onwards, which contributes to significant buildup of debt stock. In case of Jordan and Lebanon, higher interest rates relative to economic growth are strong contributing factors to increasing debt build up in some years, among other factors such as exchange rate and primary deficit as discussed above (see figures in Annex 1). Interest rate thus has a critical role in improving solvency and correcting debt roll over, *ceteris paribus*. In case of most Arab countries, monetary policy is passive, given their pegged exchange rate regimes. Role of interest rate is rather limited in correcting inflation, except for some countries that have recently adopted more flexible exchange rate regime. High interest rate is mainly set by the oligopolistic banking industry, which is the main creditor of government such as in Lebanon. In the absence of high growth, the high interest rates pose high risks of insolvency and snowballing debt, as happened in Lebanon during the past several years. While IRGD provides interesting insights about stabilizing debt conditions, a caution is that it may not be taken as an ultimate condition due to possible undervalue of cost of capital in emerging markets, aside from the issue that monetary policy can indirectly affect IRGD.[39]

Figure 20. Interest rate – growth differential (percentage points, nominal)

[38] Using interest payments to domestic debt and foreign debt, a weighted average of interest rate is calculated. The domestic component is adjusted for domestic inflation and the external component is adjusted for foreign inflation to arrive at real effective rate of interest.

[39] See Escolano *et al* 2011; Obstfeld and Rogoff 1996.



Source: IMF Article IV for respective countries.

IV. Debt sustainability gap and scenarios for debt stabilization

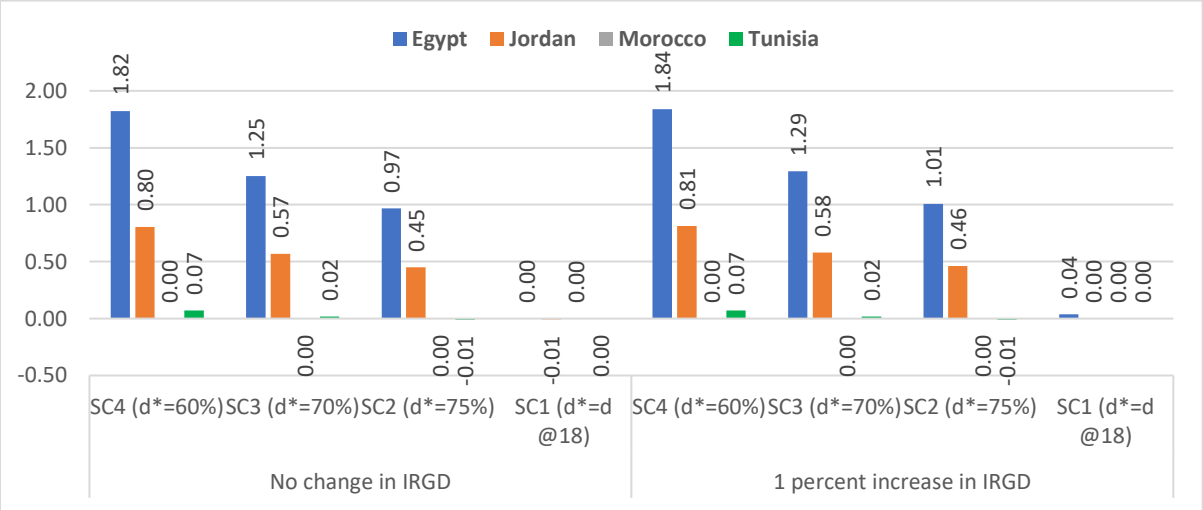
Using IRGD, the required primary balance can be worked out through simulation exercise to arrive at debt targets or maintaining debt to GDP stabilization ratios. In order to do so, we used ten year average and five-year average IRGD by taking into consideration weighted real effective interest rate, weighted by share of foreign debt and domestic debt, and real growth rate.[40] We undertook a simulation exercise to estimate four scenarios while allowing for variations or shocks to IRGD. The exercise is undertaken for the MICs with IRGD less than zero or near zero, as a precondition stated in the methodology. Lebanon is not part of the exercise since the IRGD at current and at historical averages turn out to be strongly positive.

Scenario 1: Debt target (d*) to be maintained at the level of 2018 as percent of GDP by 2030;
Scenario 2: Debt target (d*) to be maintained at 75 percent of GDP by 2030;
Scenario 3: Debt target (d*) to be maintained at 70 percent of GDP by 2030;
Scenario 4: Debt target (d*) to be maintained at 60 percent of GDP by 2030;

[40] For arriving at real interest rates, we applied inflation based on GDP deflator for deflating the domestic component of interest rate and USA inflation for deflating the foreign interest rate component. Share of external debt is proxied for foreign currency debt as a weighting factor. The share of domestic debt is derived by subtracting the share of external public debt from general government gross debt.

For all four scenarios, we applied IRGD based on historical average of past ten years (since 2009 through 2018). Furthermore, we used a 1 percent increase in IRGD to take into consideration impact of possible rise in interest rate or deterioration of growth. It may be noted that foreign interest rates were picking up during 2018 and 2019 (pre-COVID). This is not a concern for the time being due to low interest rate pursued by most countries to ease liquidity conditions during the COVID-19. Interest rates may go up again when economies start recovering from COVID-19 or interest rates may come under pressure to contain inflation in the near future. Therefore, it is useful to see impact of shocks to IRGD on required primary balance to arrive at debt targets by using such simulations.[41] The required primary balance versus the actual primary balance, as a share of GDP, would show the adjustment in primary balance required in order to maintain the debt to GDP share at the baseline or that is required to arrive at the share of debt to GDP target at certain years.[42]

Figure 20 - Required debt stabilizing primary balance ratios under various debt target (period 2019-2030)



Source: Authors' calculations.

The figure 21 presents the estimated required primary balance, as a share of GDP, to achieve different debt targets, as share of GDP, by 2030. If countries decide to maintain the same debt to GDP ratio as in 2018 (d*=d@18), then they need to ensure that primary balance to GDP must be maintained at zero over the years while assuming no change in IRGD. If the decision is to maintain debt to GDP at 75 percent by 2030, Egypt would need to maintain a primary balance to

[41] A negative IRGD is essential but not a sufficient condition for stabilizing debt since fluctuations in IRGD can make it unfavourable. Robust debt-stabilizing fiscal policy conditions refers to a situation where the debt ratio can be stabilized in circumstances where the interest rate is even higher than the growth rate. See Modified golden rule efficiency condition of Blanchard and Fischer (1989).

[42] The scenario analysis doesn't include risks of the realization of contingencies due to lack of available information. It is an indicative tool to be applied to real cases to arrive at accurate required debt stabilizing primary balance.

GDP ratio at 0.97 percent, Jordan needs to maintain that at 0.45 percent, Morocco needs to maintain that at 0 percent, and Tunisia needs to maintain that at -0,01 percent. A lower target of debt to GDP would necessitate a higher primary surplus as show by different targets of debt to GDP. The critical assumption is that IRGD remain same. A favorable change in IRGD, mainly by an improvement in growth rate, would reduce the required primary balance. On the contrary, an increase in IRGD either due to contraction in growth or increase in interest rate, would necessitate a higher required primary balance to stabilize debt at the target level, as shown in the right side panel of the bar graph (figure 21).

Assuming no change in IRGD, Egypt would need to adjust its primary balance to bring it to 1.36 percent of GDP, or in other words create a primary balance of $3.41 billion in 2019. Jordan would need to maintain $0.80 billion, Morocco $1.51 billion and Tunisia $0.76 billion. The adjustments are reasonable as compared to that required for reducing debt stock as per IMF frameworks. It may also be noted that during the period 2005 to 2008, the average primary balance of MICs was 2.5 percent of their aggregate GDP. Achieving 0 to 1 percent of primary balance is therefore a necessity to improve debt sustainability and also release relatively more fiscal space for social development expenditure. How to raise primary balance is a fiscal policy question, which is beyond the scope of this paper, and dealt elsewhere.[43]

Table 5 - Required adjustments in primary balance for selected countries, assuming no change in IRGD and assuming debt to GDP to stabilize @ 75 percent by 2030

	Actual PB (% GDP) 2018	Required PB (% GDP) on average	Adjustment required for 2019 (PB as % of GDP)	Billion USD
Egypt	-0.40	0.97	1.36	3.41
Jordan	-1.45	0.45	1.90	0.80
Morocco	-1.28	0.00	1.27	1.51
Tunisia	-1.91	-0.01	1.90	0.76

Source: Authors' calculations.

Using IRGD, similar primary balance requirements can be computed for the LDCs. The interest rate would be the external rate of interest primarily. A critical issue is that calculating the effective rate of interest will not always present an accurate picture, since many of these countries have access to concessional loans and debt relief. An ideal situation would be to know the rate of interest of borrowing in order to compute the IRGD for which adequate data are not available. Furthermore, these countries are in debt distress as discussed in earlier text. Their primary balance, on average, is negative historically. They also face a persistent current account deficit. All these issues create complications in making sense of debt stabilizing primary balance

[43] See ESCWA 2017 and ESCWA 2019.

for the LDCs especially because they would need more finance to realize their potential capacities.

V. Conclusion and policy implications

a. The Arab region is experience increasing debt, as a share of its GDP, since 2008. The share increased from 26 percent in 2008 to 45 percent in 2018. The reasons of debt accumulation are many, including the negative impacts of global economic downturn through persistent trade deficits in MICs, adverse impacts of crises in several parts of the region, as well as commodity price fluctuations that widened fiscal deficits in oil and commodity export dependent countries of the region. The adverse impact of COVID-19 has pushed the countries to borrow furthermore.
b. The debt accumulation is a major challenge for the MICs and LDCs of the region. The aggregate gross public debt of MICs increased from $250 billion in 2008 to $531 billion in 2018. Majority of the public debt, nearly 63 percent, is financed by domestic borrowing. The total gross public debt of Comoros, Djibouti, Mauritania and Sudan together reached $125 billion in 2018, out of which Sudan's debt is $118 billion.
c. External public debt of the MICs amounts to $184 billion out of total $300 billion external debt in 2018. Private non-guaranteed debt and short term external debt show an increasing trend during the past decade. Of the external public debt of MICs, there is a steady decline in share of official creditors while issuance of bonds and commercial banks have increasingly become their source of external borrowing. Furthermore, the share of concessional debt from official creditors has declined substantially during the past decade. On top of these, the MICs have borrowed over $10 billion under IMF's short- and medium-term lending mechanisms to finance COVID-19 mitigation measures. All these indicate to a changing pattern of debt profile and increasing burden of debt that MICs are countering.
d. COVID-19 and its economic fallout are exacerbating already high debt risks for the LDCs and highly indebted MICs. The GCC economies too are facing a sharp rise in fiscal deficit. The aggregate external public debt of LDCs was $23.7 billion[44] in 2018 out of total external debt of $33 billion. More than 70 percent of total external debt is public debt and official creditors account for 80 percent of external public debt in 2018 though their share is slowly reducing. The share of concessional debt of the official creditors to the LDCs has been declining since mid-2000s. Several LDCs remain at risk of debt distress according to the Joint Bank-Fund Debt Sustainability Framework for Low Income Countries.
e. For the LDCs, the G20 debt service suspension initiative (DSSI), and the IMF's Catastrophe Containment and Relief Trust (CCRT), are extending some debt relief support to mitigate the impact of COVID-19. An estimate of potential DSSI savings suggests that the participating

[44] It may be noted that using $55 billion external public debt for Sudan, the total external public debt (PPG) of the five LDCs will be about $63.7 billion in 2018 as against $23.7 billion as per the IDS debt statistics.

countries in the region would have a potential saving of $294 million, given the current time bound DSSI. This is not enough, since the total debt service of LDCs in the region is about $1 billion in a year, assuming same in 2018. Interest payments of public external debt is about $550 million. Therefore, there is a need to extend the period of G20 DSSI not just to end 2020, which is extended to mid-2021 in the recent meeting in November 2020, but untill end 2021. In addition, the G20 framework of debt relief needs to expand its scope to include multilateral debt and private debt to effectively help the indebted countries to recover better from COVID-19. Furthermore, debt service suspension is not enough. There is a greater need for extending debt relief under the HIPC initiative to countries such as Sudan that is suffering from multiple shocks including COVID-19 and catastrophic flood.

f. The MICs are not beneficiaries of the G20 DSSI although many of them are highly indebted and they are experiencing a significant rise in their fiscal deficit in 2020 due to COVID-19. The total external public debt service payments of MICs amount to nearly $18 billion, assuming same debt service level as in 2018. Extending the DSSI to include at least highly indebted middle income countries would free up significant foreign currency obligations to purchase essential imports since external debt service account for a high share of revenues in several middle income countries of the region. Furthermore, private sector participation in the DSSI is essential since they constitute major share of debt in certain countries such as Lebanon. In Lebanon, 97 percent of interest payments on public debt goes to private creditors, as they hold 94 percent of external public debt. Therefore, the DSSI should consider a comprehensive coverage including bilateral and multilateral creditors as well as private creditors.
g. For the MICs, increasing access to concessional loans is essential for improving SDGs financing. The share of concessional loans to MICs has been declining over the past decade. Given the adverse impact of COVID-19, multilateral and bilateral creditors should consider concessional terms for any augmentation of existing lending programs or new financing arrangements to vulnerable and middle income countries. It is also imperative to review and redesign international debt sustainability frameworks toward supporting SDGs financing and recovering better from the COVID-19 without adding significant fiscal stress on countries. Debt restructuring[45] and debt swap for climate finance or SDGs related investment to benefit countries that do not necessarily have unsustainable debt burdens are other important mechanisms to free up fiscal space to mitigate the impact of COVID-19.
h. Evolution of public debt across the low- and middle-income countries of the region is rooted in high and persistent primary deficits, often led by discretionary expenditures, and persistent current account deficits due to greater reliance on imports than their exports. We explore the fiscal policy behavior more systematically through a fiscal reaction function analysis by

[45] Stigliz and Rashid 2020.

using a panel regression and fiscal sustainability gap analysis by taking into consideration difference between interest rate and growth rate (IRGD).

i. An important aspect of fiscal policy for debt sustainability is that primary balance ratio should respond positively to increasing lagged debt ratio ($0 < \rho < 1$). In our sample, the coefficient of lagged debt ratio is negatively and significantly correlated with primary balance, which indicates that primary balance ratio deteriorates with increase in lagged debt ratio by one period. In our case, the ρ turns out positive (and significant) by a third period lag only. It is also quite clear that temporary increases in government expenditures or discretionary expenditures has significant negative effect on the primary balance. This situation indicates to laxity of fiscal policy response in addressing debt accumulation, which is typically associated with quality of economic governance and strength of budget institutions.

j. The fiscal sustainability gap analysis indicates that the required primary balance for several countries is more than the actual primary balance. Hence, there is a need for adjustment of primary balance in order to achieve a debt to GDP target. A simulation exercise for selected MICs suggests that if countries decide to maintain the same debt to GDP ratio as in 2018 (d*=d@18), then they need to ensure that primary balance to GDP must be maintained at zero over the years while assuming no change in interest rate and growth difference (IRGD). If the decision is to maintain debt to GDP at 75 percent by 2030, Egypt would need to maintain a primary balance to GDP ratio at 0.97 percent, Jordan needs to maintain that at 0.45 percent, Morocco needs to maintain that at 0 percent, and Tunisia needs to maintain that at -0.01 percent. A lower target of debt to GDP would necessitate a higher primary surplus as show by different targets of debt to GDP.

k. Interest rate thus has a critical role in improving solvency and correcting debt roll over, *ceteris paribus.* A negative IRGD is favorable to countries where economic growth can erode the debt ratio more quickly than it can build it up by accumulating interest. For countries where IRGD > 0, monetary policy needs to correct rate of interest and in parallel fiscal measures to be designed to improve growth rate. A higher interest rate than economic growth poses high risks of insolvency and leads to snowballing debt, as happened in Lebanon. Stabilizing or reducing debt to GDP ratio would require reversing IRGD to negative. The IRGD for Morocco is closer to zero. Any appreciation in interest rate, without improvement in growth rate, would lead to debt roll over.

l. IMF debt sustainability projections and recommendations focusses mainly on significant reductionary public expenditure across the countries. As a proposition of financing package, these effects are viewed as short term hardships; in the long run the countries could improve their fiscal balances through economic growth. This is quite ironic as reduction of public expenditure in developing economies, where private sector investment is not easy to crowd in, often leads to the contraction of economies and low growth in employment, aggravating development deficits, as has been noted in the past. However, given the challenges of

meeting debt service payments and the need for financing the deficits, governments often adopt finance packages that do not have alternate policy suggestions. Often, measures are ad hoc and lack consistency without any medium to long term fiscal rule. The fiscal sustainability challenge, thus, keeps spiraling.

m. A practical proposal for governments is to work out debt stabilizing scenarios over medium to long term, considering any need for augmenting existing borrowing or new borrowings. That would help improving fiscal space for much needed increase in public expenditures to finance the SDGs and to boost economic growth. Fiscal policy needs to be used strategically to enhance fiscal space and growth,[46] and in parallel to reduce debt roll over through cutting wasteful discretionary expenditures. Strengthening budget institutions and mechanisms, including implementation of results based budgeting, and strengthening capacity of macro-fiscal and debt monitoring units to influence fiscal policy reforms to stabilize debt, put up medium term expenditure and revenues frameworks, and improve transparency in debt reporting and its coverage are key for improving overall public finance and debt management. A conducive monetary policy can complement and provide necessary conditions toward maximizing the value of fiscal measures. However, it is not enough to generate fiscal space to the scale that is required to mitigate the adverse impact of COVID-19. To recover better and faster, these countries would require additional fiscal support.47 For the GCC, fiscal adjustment is imperative but in parallel most GCC countries can increase debt finance to channel resources to strategic sectors to diversify their economies that can improve non-oil revenues, jobs and growth. In all cases, the bottom line is to improve economic growth more sustainably that can support reducing debt roll over and improving fiscal space for financing the SDGs.

[46] ESCWA and Ministry of Planning and Economic Development, Egypt, 2020. Fiscal Multiplier in Egypt. E/ESCWA/CL3.SEP/2020/TP.6

[47] ESCWA 2020. “Limited fiscal space puts the Arab region recovery from COVID-19 at risk”. ESCWA Policy Brief E/ESCWA/2020/Policy Brief.13.

Annex 1

Figure 21 - Contribution to change in public debt (% GDP) in Egypt

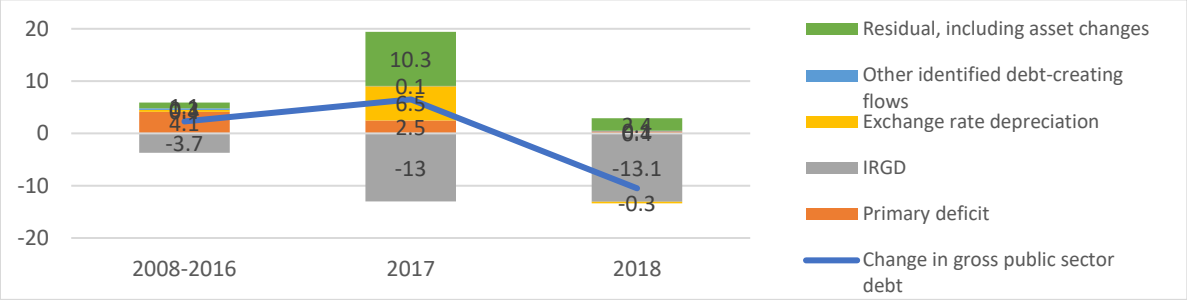


Figure 22- Contribution to change in public debt (% GDP) in Jordan

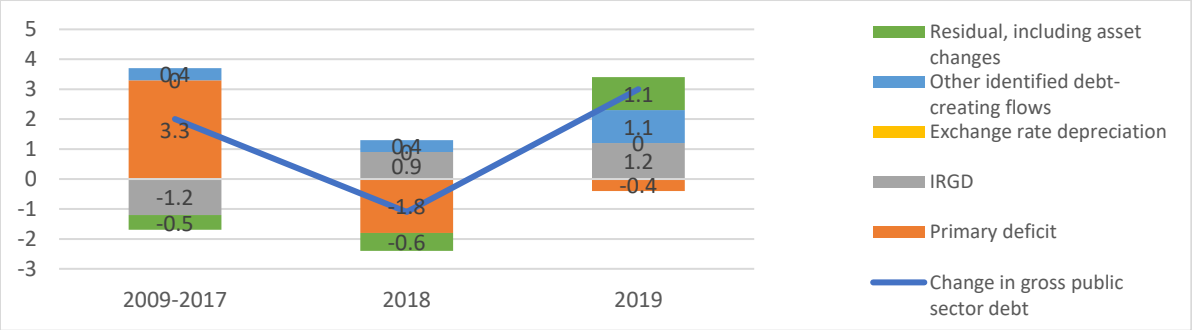


Figure 23 -Contribution to change in public debt (% GDP) in Tunisia

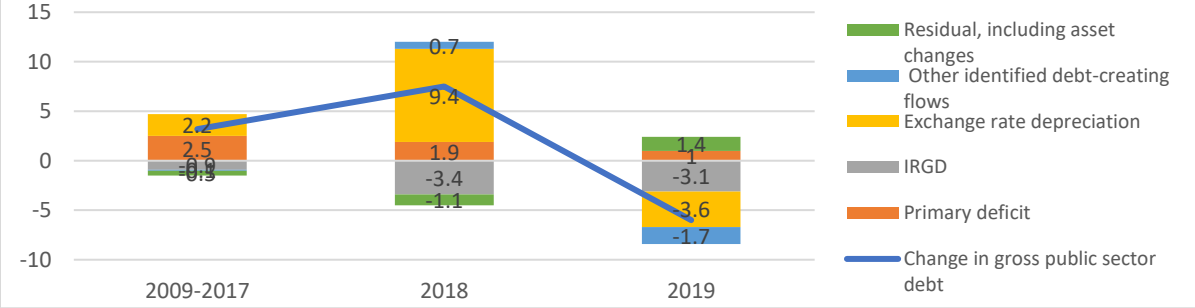
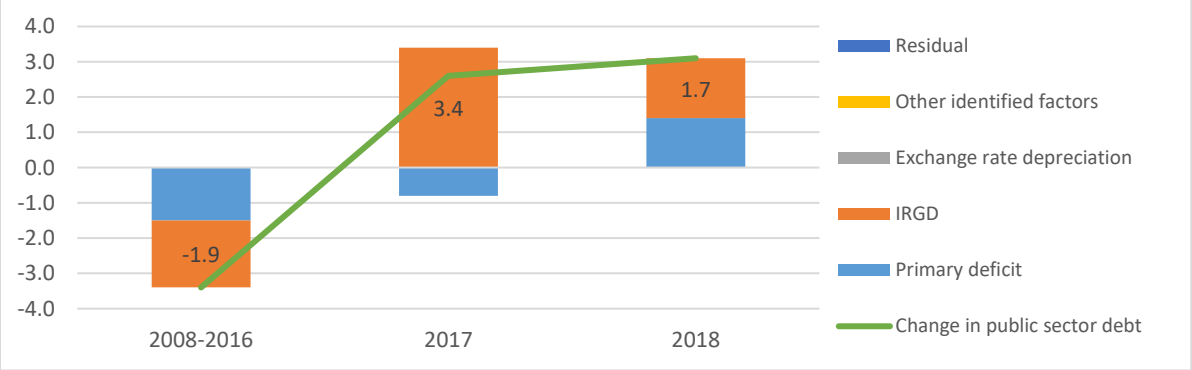


Figure 24 - Contribution to change in public debt (% GDP) in Lebanon



Source: IMF Article IV of respective countries.

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