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Fiscal policy response to public debt in the Arab region

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Executive Summary

The paper examines three crucial aspects of fiscal sustainability in Arab countries: (1) general government gross debt to GDP; (2) the fiscal balances to GDP and; and (3) the fiscal policy responses to debt, which essentially assesses whether governments take corrective measures when the debt to GDP ratio starts rising or do they let it grow. The focus is on low and middle-income countries of the region as they face major concerns of fiscal sustainability challenges than the oil-rich countries. Adapting from Bohn (1998), in our specification of the fiscal reaction function, 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. Furthermore, we examined fiscal sustainability gap by computing the difference between the actual primary balance and the debt-stabilizing primary balance, by factoring in the interest rate and growth differentials.

Recent trends so that there is a significant concern for the oil-poor low and middle-income countries regarding the deteriorating trends of debt to GDP ratio as well as fiscal balances to GDP ratio. The association between average fiscal balance ratios and debt ratios remained either negative or non-deterministic in the past decade. The model estimates show that primary balance ratio was negative and deteriorated with increase in lagged debt ratio as against the required condition that primary balance ratio should respond positively to increasing lagged debt ratio ($0 < \rho < 1$).

Consequently, unlike the standard “flattened u-shaped” response of fiscal policy to debt ratio in other studies, our results show a “steep u-shaped” curve. The average debt stabilizing primary balance ratio in the last three years in all the five middle-income countries remained higher than the average actual primary balance ratio. Such a behavior indicates to laxity of fiscal policy across the countries in addressing debt challenges. The solution is to put more emphasis on mobilizing revenues, which is largely neglected by most Arab countries, in addition to public expenditure policy adjustments in a medium to long term framework with clear fiscal rules. Mobilizing revenues is not easy but it is essential for permanent increases in the ratio of spending-to-GDP to boost human capital and finance development deficits.

Fiscal policy response to public debt in the Arab region

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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 Though, the impact varies across countries, depending upon the fiscal space and level of development of the countries.

The current situation of debt across the countries in the world raises alarm in the contemporary global context. More than the total volume of debt, the composition of debt is becoming a major concern for several countries for debt servicing. For countries with high share of external debt, particularly dollar denominated debt, debt servicing is becoming more expensive as a relatively strong dollar is putting pressure on borrowers to service foreign currency obligations.² Another group of countries face the challenge of the ability to repay debt due to constrained fiscal space, particularly with lower tax to GDP ratio, or those who have lost a significant part of their revenues due to plummeting commodity prices in recent years. Furthermore, the prevailing mixed global economic growth picture — underscored by the forecasts in the recent IMF World Economic Outlook — prompts questions as to how outstanding debts will be paid or brought under control. While the global economy is recovering from the shocks of the recession in the U.S or the debt crises in Europe, the present debt situation in major economies of the world still raises serious concerns.

The patterns of debt build up and the fiscal space challenges are more alarming for the Arab region. The patterns vary across the countries. For instance, multiple episodes of socio-economic and political shocks since 2011, including the Syrian crisis, adversely affected the current fiscal balances of the oil-poor countries and also amplified their development deficits. On the other, the decline in exports, tourism revenues, remittances, and foreign direct investments (FDIs) severed the current account deficits because most

¹ Chudik *et al* 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).

Arab countries are heavily reliant on imports for most of their daily use goods. Among the low-income countries, the commodity exporter countries, such as Mauritania, faced severe dent in its export revenues due to a significant drop in iron ore prices. Yemen, on the other hand, went through catastrophic loss of growth and fiscal space amidst conflicts and crises since 2015. The oil-rich countries, who used to generate surpluses in their current account from oil export revenues, were faced with a big dent in export revenues due to the low oil prices since 2014. The consequence was the significant loss of fiscal space to finance the planned expenditures, which were already high in the oil-boom period. These adverse developments in the global and regional context widened fiscal deficit in all countries in the region in the recent years and forced the oil-poor countries of the region to resort to external borrowing, in addition to increasing domestic borrowing to finance the deficits.³ It is quite worrisome to see the deteriorating trends and patterns of debt and fiscal space across the countries, as discussed in the later part of the paper.

Given this context, the paper analyses the fiscal space challenges across the countries in terms of their fiscal sustainability challenges.⁴ Our analysis of fiscal space in the paper takes a fairly simple and straight forward approach that examines the three crucial aspects of fiscal sustainability challenges: (1) general government gross debt to GDP, which indicates the stock of public debt and the burden of debt service payments; (2) the fiscal balances to GDP, which assess the government's overall fiscal stance and the management of revenues and expenditures in relation to the evolution of debt situation; and (3) finally, the fiscal policy responses to public debt buildup, which is examined by the fiscal reaction functions and the fiscal sustainability gap. The fiscal sustainability gap is computed by taking the difference of the actual primary balance against the debt-stabilizing primary balance.⁵ The fiscal sustainability gap analysis is essentially a crucial

³ Seigniorage is another instrument in the hands of governments to finance the deficits, but without a proper strategy it can directly pass through the effect to skyrocket inflation. The government of Lebanon had resorted to seigniorage during the period 1989-91 and consequently the inflation rate, which was already high at 100 percent in 1989, jumped to 490 percent in 1991. This ultimately led to exchange rate depreciation and currency crisis in 1991 (Neaime 2015).

⁴ It may be noted that there is no unique definition of fiscal space. The World Bank Development Committee (2006) illustrated fiscal space as a fiscal space diamond that has four crucial dimensions, (1) revenues, (2) borrowings, (3) aid, and (4) expenditure efficiency. The discussions of financing the SDGs have broadened the discussion on fiscal space in terms of its scope (such as harnessing private finance) and enablers (such as trade, technology, capacity building, system issues, among others). Ref AAAA

⁵ See also Huidrom *et al* 2016.

tool for budgeting purposes to set targets for revenues and expenditure (less interest payments) in a medium to long term debt stabilization framework.

Our approach for assessing fiscal sustainability in this paper is motivated by Ley (2009). According to Ley, fiscal space can be defined as “availability of budgetary resources for a specific purpose--typically growth enhancing investment uses--without jeopardizing the sustainability of the government’s financial position or the sustainability of the economy”.⁶ However, we interpret fiscal space by enhancing its scope and objective, it should not be just typically “growth-enhancing” but it should be “growth-equity-development-enhancing”. This implies that fiscal space should consider available budget resources for (a) increasing social expenditure priorities to address the development deficits, (b) growth-enhancing investment choices, (c) revenue maximizing and equity enhancing progressive taxation systems, and (d) utilizing the leverages for accessing external finance that does not jeopardize fiscal sustainability and national sovereignty. Fiscal space in the context of financing the costs of reconstruction in post-conflict situation is a special situation that requires fostering regional and international partnerships for development, in addition to domestic efforts. By these considerations, the available fiscal space for developing countries would appear to be much more constrained than that of the growth-enhancing framework, which may be more applicable for the developed countries.

The following sections of the paper assess the fiscal policy in Arab countries according to the three aspects of fiscal sustainability, in order, as mentioned above. What the fiscal sustainability targets should be to achieve these objectives, as outlined in the above paragraph, are beyond the scope of the current paper and are issues for future research.

1. Recent trends in gross public debt in Arab countries, 2008-2016

The context of the Arab countries is important to understand the debt trends. Considering the sharp contrasts in sources of revenue mobilization and development challenges across countries, the region can be classified into three clusters of countries: (1) oil-rich high and middle-income countries (OR-HMICs), (2) oil-poor middle-income countries (OP-HMICs) and (3) Low income countries (LICs).

⁶ See Ley 2009; Huidrom *et al* 2016.

The “oil-rich high and middle-income countries (OR-HMICs)” include: Algeria, Bahrain, Iraq, Kuwait, Libya, 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 “oil-poor middle-income countries (OP-HMICs)” include: Egypt, Jordan, Lebanon⁷, Morocco, Palestine, Syrian Arab Republic,⁸ and Tunisia. They rely on a mixture of sources of revenue, but mainly taxation. 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 “low income countries (LICs)” include: Comoros, Djibouti, Mauritania, Somalia, the Sudan and Yemen.⁹ They have high levels of poverty and significant development challenges as well as severely constrained fiscal space.

We acknowledge the difficulty in availability of information for building a long-time series. It is particularly severe in countries affected by conflict and political instability. 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) over the past decade, particularly from 2005 or 2008 as the starting point, given a reversal in the trend of general government gross debt.

1.1. . Gross public debt (% of GDP)

The years since the global economic downturn in 2008 have seen an increase in public debt in several major economies around the world.¹⁰ In the global context, the high-

⁷ Lebanon’s findings of oil mines can make it potentially oil-rich in near future. But at present Lebanon doesn’t report any revenue from oil-gas sector.

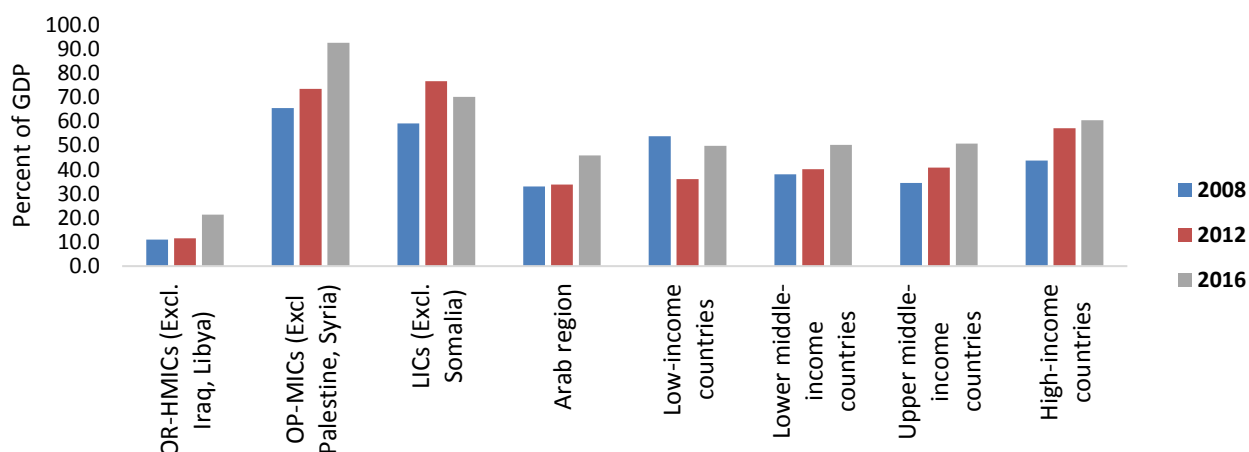
⁸ Syria has a relatively large oil sector, but its contribution to GDP is not large enough to qualify as an oil-rich country. Further, its oil revenues are not sustainable in the long run.

⁹ Yemen’s major source of revenue comes from the oil sector at present. However, it has severe development challenges as a LDC. The development challenges supersede the available fiscal space that can be derived from the oil sector. Importantly, the oil reserves are available for the near future only and that may be exhausted in the short or near medium term.

¹⁰ 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

income group of countries have the highest debt to GDP, at 60 percent in 2016 (Figure 1). Debt to GDP has increased continuously from about 44 percent in 2008. Higher debt for the high-income countries, such as Japan (above 200 percent), the United States of America and Singapore (above 100 percent), and others (Figure 2), may not necessarily be a concern for these countries in the short period, given their high level of per capita income (the economic capacity to repay) and the composition of debt itself (currency of repayment), which is mainly raised from domestic market. This level of comfort does not exist for the middle-income and low-income countries who are also witnessing a debt surge during the same period. The average debt to GDP for each of the low-income, lower middle-income and upper-middle income groups of countries reached 50 percent in 2016. Average debt to GDP is expected to continue rising as low economic growth and lower revenues, due to commodity price fluctuation in the recent period, has widened fiscal deficits in several of the middle income and commodity reliant countries.

Figure 1. General government gross debt across country groups in the Arab region and rest of the World



Source: Based on data from IMF, 2017g.

Note: The first four sets of bars represent Arab countries sample only. The last four sets represent global sample. The middle-income countries are based on World Bank classification with per capita gross national income (GNI) between \$1,006 and \$12,235 (as of 1 July 2017). Among them, GNI below \$3,956 are classified as lower-middle income countries, while the countries with GNI above that benchmark are classified as the upper-middle-income countries.

debt liabilities in the form of SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable.

Similar to the worldwide trends, the Arab region is witnessing a rising trend in debt to GDP since the global economic downturn in 2008, which was followed by the 'Arab Spring' and crises in several parts of the region. For the region as a whole, the average debt to GDP (weighted) increased from nearly 33 percent in 2008 to 46 percent in 2016 (Figure 1). The high GDP of oil-rich countries and their corresponding low debt to GDP pushes the regional aggregate debt to GDP downward significantly. The image looks very different when the oil-rich countries are separated from the rest. As shown in Figure 1, the Arab oil-poor middle and low-income country groups report much higher level of debt to GDP than other regions of the world at any of the time point in the sample.

Particularly, debt to GDP is high and rising sharply for the Arab oil-poor middle-income countries (OP-MICs), increasing to 93 percent in 2016 from an average of about 66 percent in 2008. This increasing debt to GDP trend during 2008-2016 is quite remarkable as it indicates a sharp reversal in the trend that the middle-income countries reported during the decade and half prior to 2008. Furthermore, the level of debt to GDP in the oil-poor middle-income countries of the region is noticeably high for their level of development (Figure 2). For instance, debt to GDP for the United Kingdom in 2016 was around 90 percent, with a per capita income of above 40,000 USD. In Egypt, the debt to GDP for the same year was at 97 percent, with a per capita income of less than one-tenth of that of the United Kingdom. Lebanon stands out for having the highest debt to GDP in the region, at 143 percent, next to Greece (181 percent). With high increasing gross debt to GDP in the oil-poor middle-income countries, the net interest payment as a percent of GDP has doubled from about 3 percent in 2008 to 6 percent in 2016 (Figure 3). The average interest payment for the middle and low-income countries of the region is about 5.5 percent of their total GDP.

The low-income countries of the region (LICs) reported significantly high government gross debt to GDP in 2016, at 70 percent on average, against the global average of 50 percent for all low-income countries (Figure 1). This average for LICs in the region is historically high and rising. However, there is a slight drop after 2012 due to the external debt relief granted to Comoros in 2013, under the initiative of HIPC. In the recent years, particularly during 2015-16, the gross debt to GDP surged in most of the LICs of the region, except for Sudan where access to external financing was restricted due to its unresolved arrears with its creditors and the imposed US sanctions since 1997. The debt dynamics in the low-income countries is a bit different than those of the middle-income

countries, because most of them depend upon external debt that mostly comes through concessional external borrowing. However, the latest Article IV assessments of these countries indicates that several LICs of the region are at high risk of debt distress, including Djibouti, Mauritania, and Sudan. We will discuss it later in the paper when we discuss the external debt in greater detail.

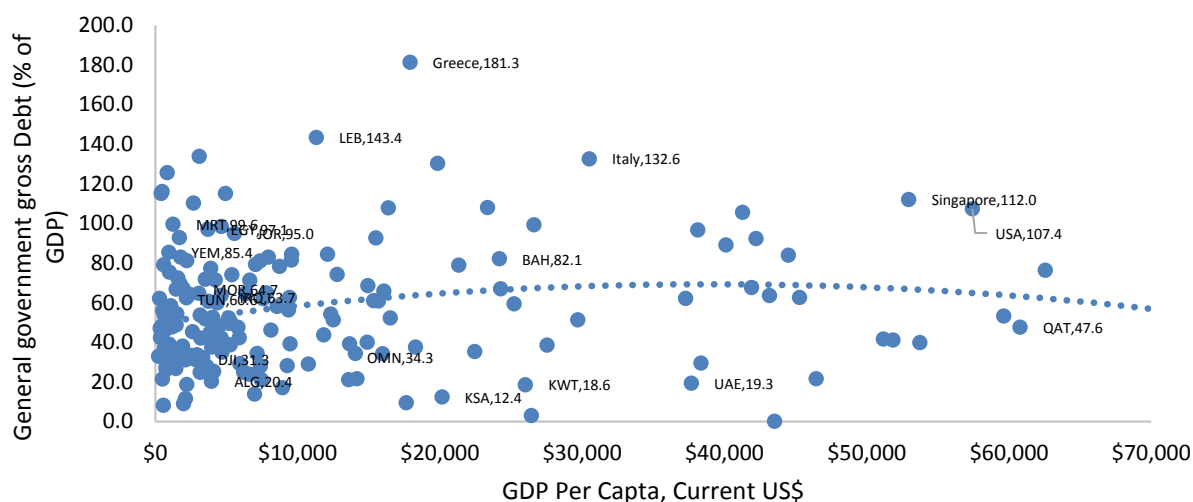
The oil-rich countries used to have low debt to GDP on average. But they also reported a significant jump in average debt to GDP recently, from nearly 10 percent in 2014 to 21 percent in 2016.¹¹ The rise in debt was particularly due to the loss of oil revenues linked to the plunge in oil price in 2014. A similar jump in debt to GDP was noted for this group of countries in 2009, from an average 11 percent in 2008 to 17 percent in 2009, which can be attributed to the drop in oil price in 2009. The debt to GDP in these countries is linked to volatility in oil-prices. With low oil prices becoming the new normal, all oil-rich countries in the region have reported increasing debt during 2015-16. Consequently, most of these countries have started adopting fiscal adjustment measures mainly by cutting expenditure levels, and through the introduction of VAT, in order to improve their fiscal balances.

At this stage, the medium-term projections of general government gross debt is moderate and declining for several oil-rich countries, except for Saudi Arabia that may face the heat of rising debt in near future (Annex figure 1).¹² However, they are well below any threshold of debt that can be seen as a high risk situation, particularly because most of these countries have invested significant amount of their oil revenues in the sovereign wealth funds.

¹¹ The estimated average for the oil-rich countries includes Iraq and Libya who reported significantly higher debt in recent years than the GCC countries.

¹² IMF, Saudi Arabia: Article IV Consultations.

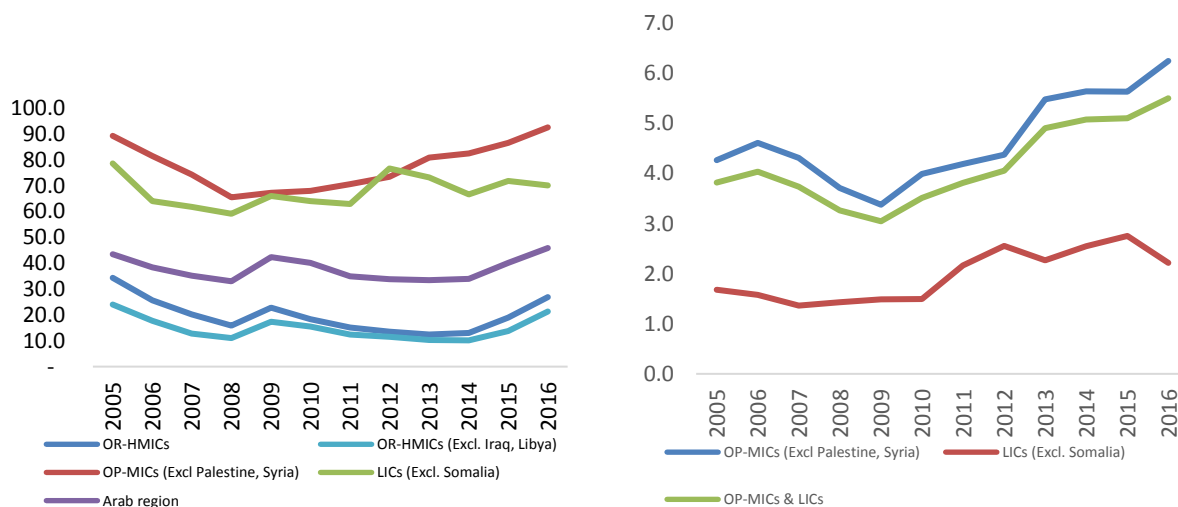
Figure 2: Gross debt (% of GDP) of Arab countries vis-à-vis other countries, 2016



Source: Based on IMF, 2017g.

Note: The countries are ordered in terms of their per capita income in current US\$

Figure 3: Gross debt (% GDP) and interest payment (% GDP) trends



Source: Authors' calculations, based on IMF, 2017g; World Bank 2017b.

1.2. External debt (% GDP, GNI)

In addition to high and rising general government gross debt, the external borrowing part of the debt stock and associated debt servicing challenges, owing to low and declining growth as well as deteriorating current account balances over the years, poses

further challenges for most oil-poor Arab countries. Particularly for the oil-poor middle-income countries, the weighted average of total external debt¹³ to GDP (and GNI) has slightly increased from about 28 percent (30 percent) in 2011 to 31 percent (32 percent) in 2015, as per the latest available data. The increase is mainly led by the long-term PPG external debt to GDP,¹⁴ which increased from 21 to 22 percent, on average, during the same period (Figure 4 & 5, Annex figure 3). In fact, about 72 percent of the total external debt in the oil-poor middle-income countries¹⁵ is public and publicly guaranteed external debt. In 2016, the share of debt service against total external debt was about 12 percent of the export earnings of the oil-poor middle-income countries, while a majority of that, 10.5 percent, was for servicing the public and publicly guaranteed external debt.

The concessional¹⁶ part of the external debt is minimal for the middle-income countries (Figure 6). Except for Tunisia, other countries have reported a consistent decline in the concessional external debts they receive. For instance, in Jordan, concessional loans, as a percent of GDP, declined from 16 percent in 2008 to less than 10 percent in 2016. A similar decline is noted in Egypt. Given that concessional funds are no longer easily available, governments have relied on non-concessional external loans. Between 2012-2016, long term public and public guaranteed (PPG) external debt to GDP increased in four out of the five countries: Egypt, Jordan, Morocco, Tunisia.¹⁷

Tunisia has witnessed a continuous rise in external debt particularly since 2011, reflecting higher fiscal and current account deficits following a series of external shocks and rising social pressures. Most of it is in the form of PPG external debt.¹⁸ A sizable part of the

¹³ 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.

¹⁴ External debt stock, public and publicly guaranteed debt, 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.

¹⁵ They include Egypt, Jordan, Lebanon, Morocco and Tunisia.

¹⁶ 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).

¹⁷ Long-term external debt is defined as debt that has an original or extended maturity of more than one year and that is owed to non-residents and repayable in currency, goods, or services.

¹⁸ Most of the new debt commitments in Tunisia are either with official creditors or backed by a third-party guarantee, except for a US\$1 billion Eurobond issued in January 2015 and a €850 million Eurobond in February 2017.

external debt is also short term in nature and it has reached up to 15 percent in 2016. Jordan and Lebanon¹⁹ have significantly high external debt to GDP, around 68 percent and 61 percent respectively, in 2015. The PPG external debt to GDP is 52 percent in Lebanon and 30 percent in Jordan. Lebanon has a unique situation of high non-resident stock deposits in banks, mainly from the GCC countries and non-resident Lebanese citizens, but most of those are of short term maturity. Jordan has high short term external debt to GDP, about 28 percent, in 2015. A large share of short term external debt raises the risk of debt sustainability challenges, particularly when the countries are facing high current account deficits and low foreign exchange reserves.

In Morocco, external debt to GDP almost doubled from 22 percent in 2008 to 42 percent in 2015. The PPG external debt to GDP increased continuously from 18 percent in 2008 to 30 percent in 2015. However, Morocco is relatively better off among the five countries in terms of debt sustainability. In fact, the recent debt sustainability assessments suggest that Morocco and Tunisia are relatively well placed to tackle debt challenges owing to the fact that growth is picking up in these two countries along with favorable FDI flows and current account dynamics in recent years.²⁰ Other countries in the OP-MICs are however facing a situation of debt distress.

For the low-income countries (LICs), the total external debt to GDP (or GNI) and the long-term PPG external debt to GDP, on average, remained 27 percent (or 25 percent) and 21 percent respectively in 2016.²¹ Both indicators declined steadily during the period 2005-2015 (Figure 4 & 5, Annex figure 3). The slight decline in average external debt ratio, however, is not due to an improvement in the capacity of these countries to pay back the arrears nor to an improvement in their macro-fiscal balances. Instead it is partly due to debt relief for some countries under the Heavily Indebted Poor Countries (HIPC) initiative, such as for Comoros, and assistance under Multilateral Debt Relief Initiative

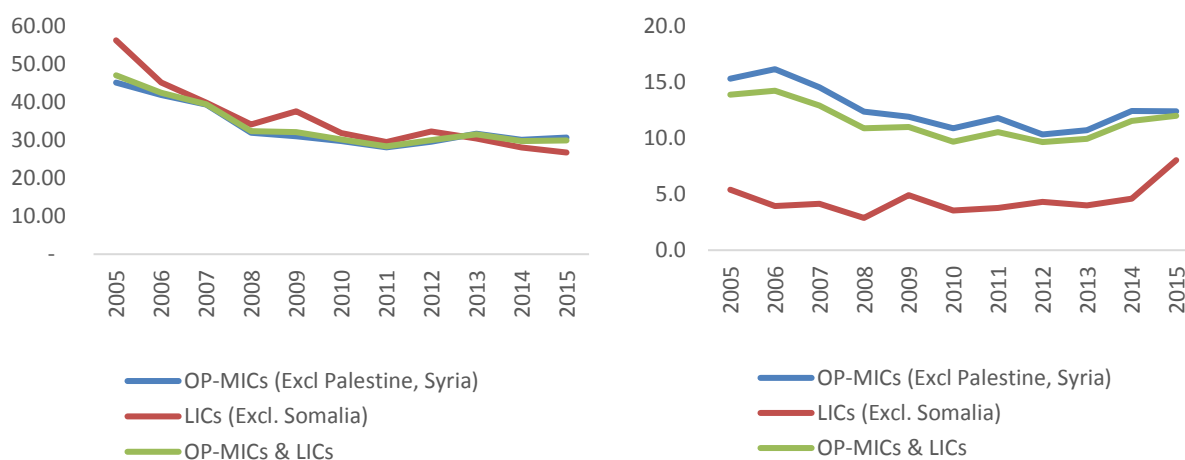
¹⁹ Lebanon's total external debt to GDP is estimated at 175 percent of GDP in 2015 if the non-resident deposits in the banking sector are taken into account (IMF Article IV 2016).

²⁰ Article IV references

²¹ The averages of external debt indicators are based on the IDS data. For Sudan, the IDS external debt reports consistently lower value than that was reported by IMF Article IV assessments. For example, according to IDS, Sudan's external debt stock was about US\$ 21.5 billion in 2015 (26% of GDP), as against US\$ 50 billion (61% of GDP) reported by IMF Article IV 2016. This data discrepancy is not resolved. We used the IDS data source for all countries for the purpose of consistency. It may be noted that applying the 61 percent debt to GDP ratio for Sudan, the average external debt to GDP for the LICs would turn out to be 49 percent in 2015.

(MDRI) for Mauritania. The relatively low average external debt to GDP is mainly due to the increasing difficulty of accessing external finance by the LICs. This is either due to non-clearance of arrears, such as in Sudan, or due to a reduction in grants and concessional loans, which is linked to the poor ratings of these economies by the International Development Association (IDA). Some LICs are facing high risk of external debt distress as well, namely Djibouti and Sudan. For Djibouti, the debt risk was particularly aggravated in 2013 when it contracted large non-concessional loans amounting to US\$ 860 million to finance its investment programme. The IMF data on external debt for Sudan reported that Sudan's external debt to GDP was 61 percent in 2015, out of which 84 percent was in arrears.²² While the country is eligible for debt relief under the HIPC Initiative, it must come to an amicable understanding with its main creditors in partnership with South Sudan.²³

Figure 4: External debt (% GDP) and external debt service (% GDP) trends

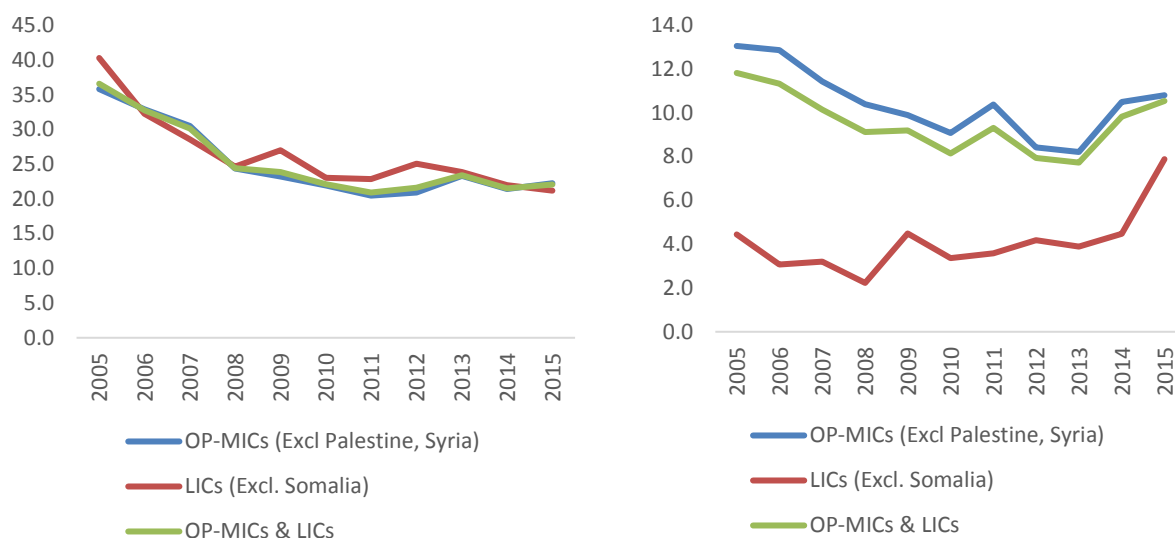


Source: Authors' calculations, based on IMF, 2017g; World Bank, 2017b.

²² Sudan retained all the external debt under the "zero-option" following the secession of South Sudan, provided that (i) South Sudan joined Sudan in outreach efforts for debt relief, and (ii) the international community gave firm commitments to the delivery of debt relief (IMF Article IV 2016).

²³ The World Bank in Sudan ([n.d.](#))

Figure 5: External debt, PPG (% GDP) and external debt service, PPG (% GDP) trends



Source: Authors' calculations, based on IMF, 2017g; World Bank, 2017b.

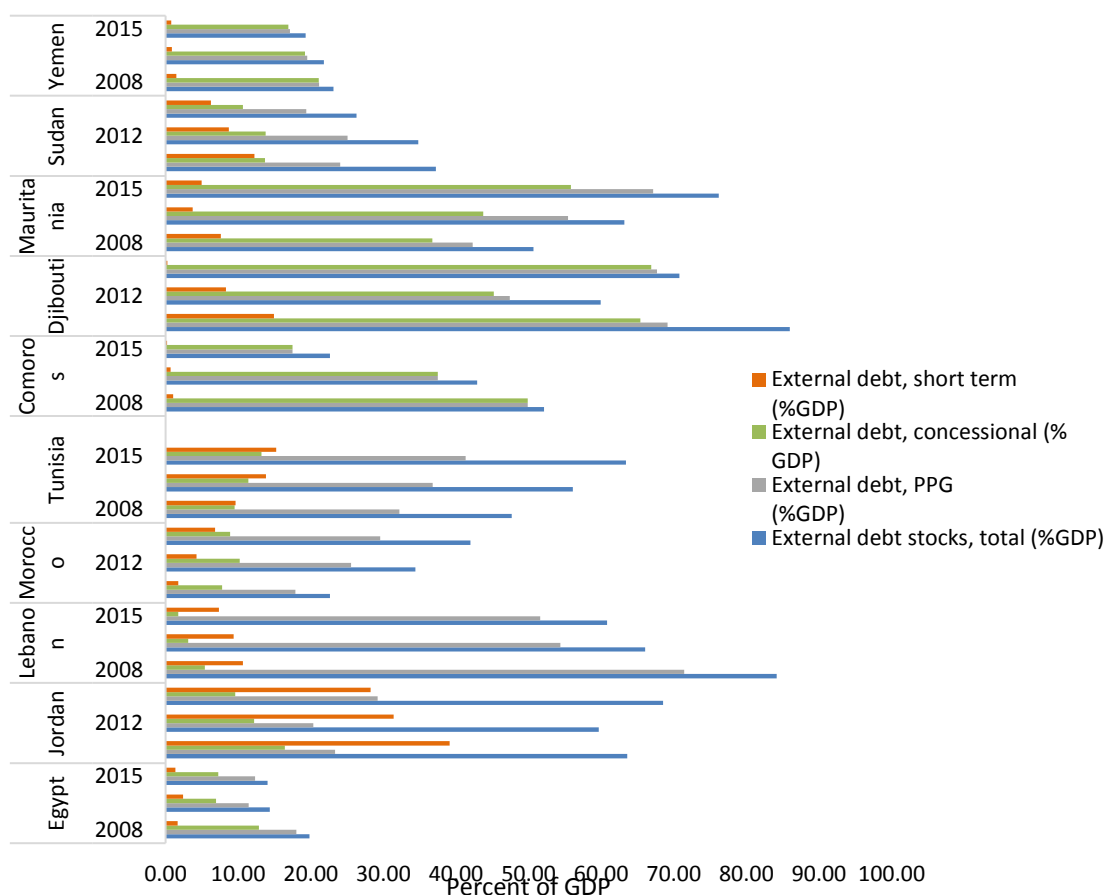
The International Development Association (IDA) is the part of the World Bank Group, which provides concessional loans and grants to the poorest countries for programs aimed at boosting economic growth and improving living conditions. IDA resources are allocated to a country on per capita terms based on its IDA country performance rating²⁴ and, to a limited extent, based on its per capita gross national income. The country performance ratings, which is the results of the Country Policy and Institutional Assessment (CPIA) ratings vary between a minimum of 1 (low) and maximum of 6 (high). Figure 7 shows the CPIA ranks for fiscal policy and debt policy in the LICs of the Arab region and the average for all LICs in the world. The ratings of the Arab LICs in both fiscal policy and debt policy are clearly lower than that of the average ratings for all LICs in 2016. Between 2012 and 2016, the ratings of Arab LICs in debt policies, such as Djibouti, Sudan and Yemen has gone down or remained stagnant at very low levels (Sudan). Since the CPIA is an important instrument for allocating aid and concessional funds, the low

²⁴ The World Bank's IDA Resource Allocation Index (IRAI) is based on the results of the annual Country Policy and Institutional Assessment (CPIA) exercise, which covers the IDA-eligible countries. Country performance is assessed against a set of 16 criteria grouped into four clusters: economic management, structural policies, policies for social inclusion and equity, and public-sector management and institutions.

and deteriorating ratings of Arab LICs confirms the difficulty for these countries to access such funds.

Another concern for the LICs is that about 80 percent of the total external debt stock was in the form of public and publicly guaranteed debt in 2015. In Mauritania, it is around 90 percent. As a share of GDP, it is about 70 percent in Djibouti and 67 percent in Mauritania (Figure 6). It is not necessarily bad if the funds are allocated to productive sectors in the economy to enhance productive capacity and create jobs for the growing labour force. On the contrary, the public external debt is closely associated with financing the current liabilities and implicit subsidies incurred by large public sector and state-trading enterprises.²⁵ The high share of external debt in PPG also indicates that capacity of the private sector in leveraging external financing is limited or negligible.

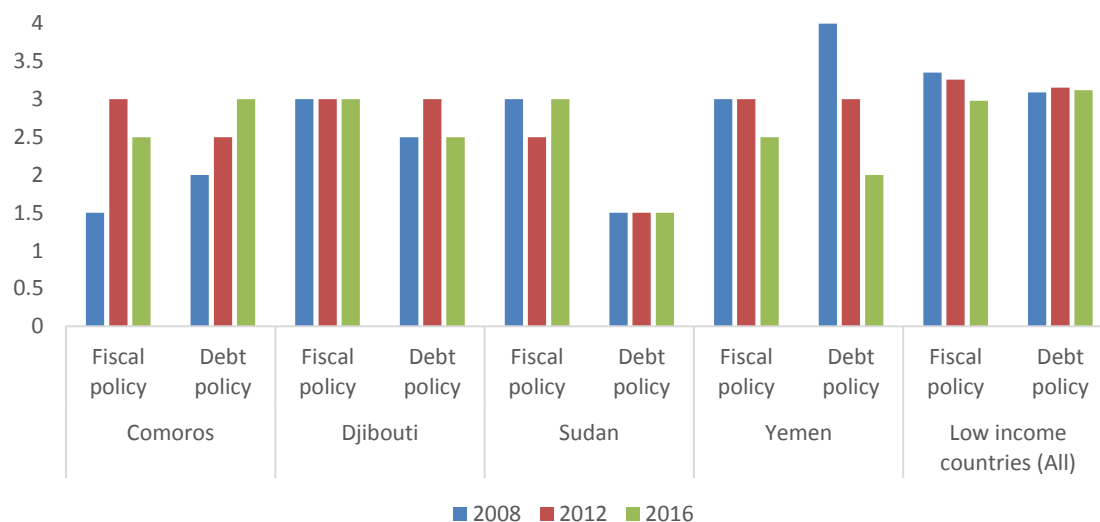
Figure 6: External debt profile (% of GDP)



Source: Authors' calculations, based on World Bank, 2017b.

²⁵ Abed and Davoodi (2003)

Figure 7: CPIA ratings are low for the Arab LICs



Source: World Bank, 2017a.

Note: *Debt policy ratings* assess whether the debt management strategy is conducive to minimizing budgetary risks and ensuring long-term debt sustainability. *Fiscal policy ratings* assess the short- and medium-term sustainability of fiscal policy (taking into account monetary and exchange rate policy and the sustainability of the public debt) and its impact on growth.

To sum, the gross public debt to GDP in the oil-poor middle-income countries (OP-MICs) started a trend reversal since 2008 toward an increasing trajectory, after a relatively long period of a declining trend from the mid-1990s. In 2016, the high gross public debt to GDP has become a major fiscal sustainability concern for the OP-MICs than for any other country in the Arab region. Lebanon (143%), Jordan (95%) and Egypt (97%), are among the highest debt to GDP ratio countries in 2016. Low growth (below potential), high current account deficits and low tax revenue to GDP are major structural challenges that affected the debt surge and fiscal balance dynamics in these countries.

The low-income countries of the region (LICs) rely mostly on external financial aid and concessional financing, which is increasingly becoming difficult to access in recent years. Overall gross public debt to GDP has increased in LICs over the past decade as well. Importantly, overall interest payment to GDP increased substantially from that of the year 2010.

External debt ratio and the average PPG external debt ratio are increasing steadily, on average, for the oil-poor middle and low-income countries (OP-MICs and LICs). Particularly, the average for the OP-MICs shows a steady rise in external debt ratio, while that for the LICs shows a slight decline. The share of non-concessional borrowing and short term external liabilities are increasing for most countries. Access to concessional external loans is becoming increasingly difficult for most of the LIC, given their poor ratings by IDA. The high short-term external debt ratios such as in Jordan, Lebanon, Sudan, raises the risks and vulnerabilities to contingent liabilities. The increasing external debt service to exports is another major concern for the oil-poor countries, which further increases the risks to debt and fiscal unsustainability in the future.

2. Fiscal balances ratios, 2008-2016

We looked into four indicators that provide a multi-dimensional understanding of domestic and external balances of Arab countries: Overall fiscal balance (that shows the overall deficit or surplus in the economy), primary balance (that provides an assessment of revenue and expenditure management, excluding the interest payment component from expenditure), current account deficit (that provides a picture of balance of payment situation) and reserves in months of imports²⁶ for the low and middle income oil-importing countries (that provides an indication of strength or vulnerability to finance the imports). The first three indicators are measured in percentage of GDP.

The linkages between fiscal deficits, current account deficit, and public debt are well studied.²⁷ The Keynesian view suggests that fiscal deficits would significantly influence

²⁶ Total reserves comprise holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF, and holdings of foreign exchange under the control of monetary authorities.

²⁷ Associated to this linkage is also the exchange rate that influences external debt sustainability. According to some studies, a flexible exchange rate may adjust to external shocks and, therefore, it can reduce the likelihood of an external debt crisis. When the exchange rate is fixed, monetary policy will be subordinated to defend the exchange rate peg, and it is unlikely to absorb external shocks, which increases the likelihood of a crisis. Reinhart (2002) analysed debt and exchange rate crises in 59 countries over the period 1970–1999. She observed that 84 per cent of all default episodes were followed within 24 months of currency crises, while 66 per cent of all currency crises in the developing-country subgroup sample were followed within 24 months of debt defaults. However, there can be ways for optimizing government's choice to alter an exchange rate peg along with other fiscal instruments in a context (Obstfeld 1996). These are lessons to learn particularly for Egypt since it went through a significant adjustment in its exchange rate in November

deficits in current account through the channel of upward pressure on interest rate and consequently exchange rate appreciation (Mundell 1963; Haug 1991). The Ricardian Equivalence Hypothesis (Barro, 1989) suggests that budget deficits do not result in current account deficits. In other words, changes in government revenues or expenditures have no real effects on the real interest rate, investment, or the current account balance. Khalid and Guan (1999), however, observed from their empirical analysis that the two deficits are strongly linked in the long run for developing countries than is the case for developed countries. The direction may pass from the current account deficits to budget deficits when current account deficit is financed by internal and external borrowings, or it may pass from fiscal deficit to current account deficit, as noted in case of Lebanon.²⁸ Our paper does not delve into examining the direction of these linkages, but rather we analyse their trends in the framework of debt and fiscal sustainability.

2.1 Fiscal balances and reserves ratios

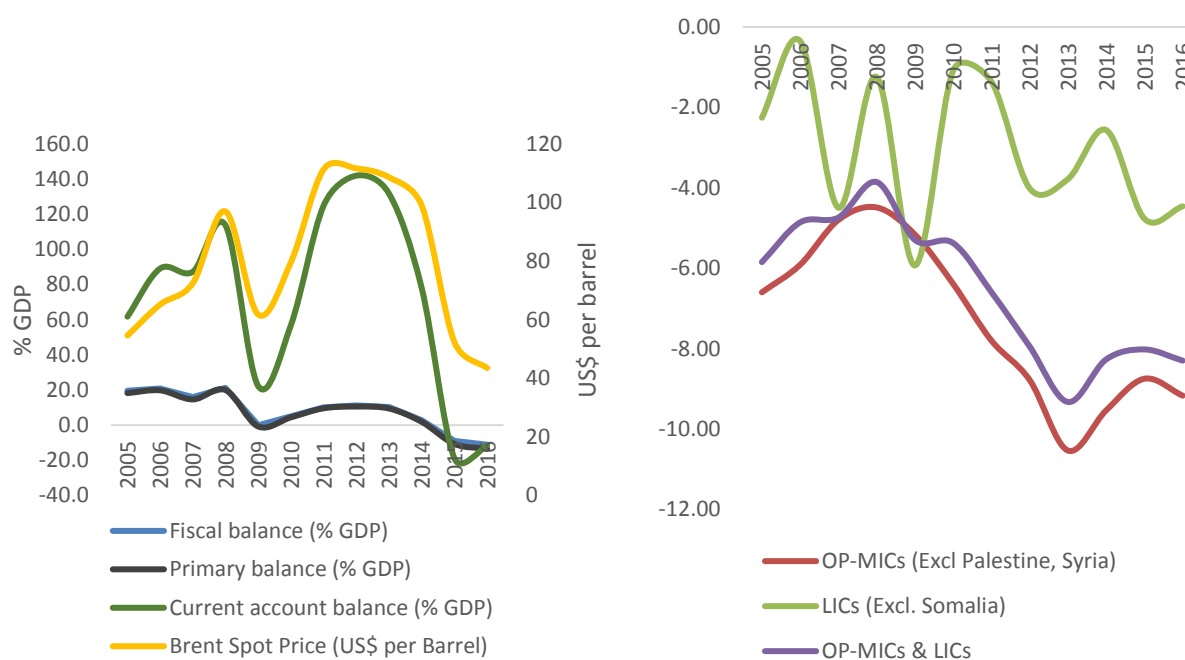
The figure 8A shows the balances in oil-rich countries (OR-HMICs). Quite clearly, the fiscal and primary balances, on average, converge because these are primarily net receivers of interest payment and therefore the difference between the two is marginal. These countries, on average, incurred surpluses 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 slightly in the year 2009 due to the drop in oil prices but it picked up again from 2010 with the rise in oil prices. The recent plunge in oil prices turned the balances into deficits since 2015. The average primary balance is at a deficit of 13 percent of GDP in 2016. In fact, Saudi Arabia and Oman reported negative primary balance since 2014, Kuwait and United Arab Emirates reported negative primary balance since 2015. Qatar is the exception in the GCC countries to report primary balance surplus. 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), and a reduction of subsidies.

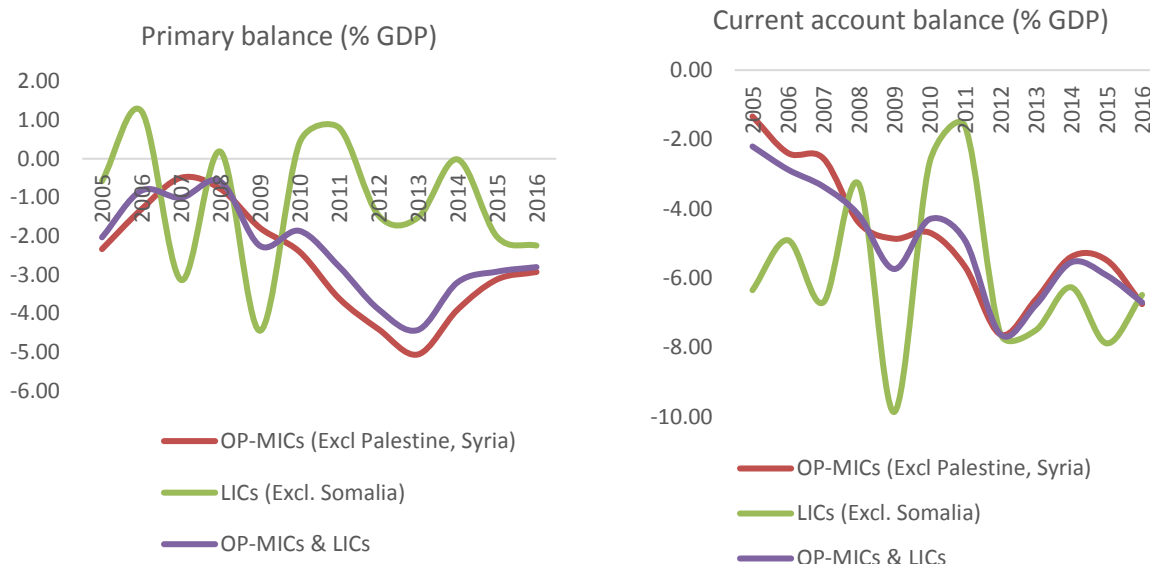
2016. Other countries in the region have pegged their currencies either to USD or to a basket of currencies, rendering the monetary policy essentially ineffective.

²⁸ See Neaime 2015.

The fiscal balances of oil-poor middle and low-income countries (OP-MICs and LICs) are contrastingly different than that of the oil-rich countries. Fiscal balances across the countries in these two groups were mostly in deficits, and the average fiscal and primary balances worsened between 2008 and 2013, (figure 7B & 7C), this period affected growth and spending negatively in these countries due to the global economic recession and the 'Arab Spring'. Particularly, the middle-income countries witnessed a continuous increase in fiscal and primary deficits (% of GDP) since 2008, reaching around 11 percent and 5 percent respectively, in 2013. The average balances in LICs swung up and down although these countries incurred mostly deficits in both their fiscal and primary accounts. The fiscal balances started improving slowly from 2014, partly because low oil prices benefitted the oil-importing countries and some middle-income countries adopted fiscal adjustment policies due to IMF interventions through stand-by arrangement (SBAs). In Jordan, for example, subsidies decreased from 11 to 4 per cent of GDP between 2013 and 2015. Tunisia and Morocco also introduced subsidy reforms. However, the average fiscal balances are still negative, with an average primary deficit at 3 percent of GDP and fiscal deficit at 8 percent of GDP for the OP-MICs and LICs together in 2016.

Figure 8: Fiscal balances in OR-HMICs, OP-MICs and LICs





Source: Authors' calculation based on IMF, 2017g.

The average current account deficits (percent of GDP) for the OP-MICs and LICs together went down from 4 percent to 8 percent between 2008 and 2012, during the peak of the Arab spring situation. The average current account deficit slightly improved during 2013-14, but then it dropped again to 7 percent in 2016 (Figure 7D). Even though these countries saved considerably in the oil import invoice in the last couple of years, the average net interest payment has increased continuously during the same period, from 3 percent in 2008 to 5 percent in 2013 and to 5.5 percent of GDP in 2016. The high current account deficit is a major constraint for most oil-poor (or resource-poor) economies 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 2016, 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. For instance, Lebanon has been running permanent current account deficits for the past three decades and budget deficits since the early 1990s. 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.²⁹

The average reserves in months of imports is another indicator for assessing the strength or vulnerability of the fiscal situation of the oil importing countries (Figure 9). Between 2008 and 2012, the reserves declined in most middle-income countries of the region, except for Lebanon, which received significant flow of funds in its capital account in the form of remittances from Lebanese working abroad (averaging about US\$ 6 billion between 2005-2015). In addition, its banking system attracted significant deposits from the GCC countries and Arab capital seeking investment in Lebanon's Treasury Bills.³⁰ In Egypt, the reserves reduced to finance only about two months of imports, while in Jordan and Tunisia they were able to finance nearly four months of imports. The situation in Jordan and Morocco slowly improved during the last couple of years, particularly after the fall of oil prices. Tunisia's reserves are low but it maintains almost the same level of reserves from 2008 to 2015. Egypt, Jordan, Morocco and Tunisia have resorted to IMF borrowings to finance the rising primary deficits as well as rising debt servicing needs, in addition to adopting significant reforms, including exchange rate and expenditure reforms (Box 1).

However, Egypt is in a situation of distress. Egypt's devaluation of the exchange rate in November 2016 significantly increased the cost of borrowing and debt service. If this is not responded to positively by flow of capital into the country, Egypt may have to face a situation of fiscal unsustainability. However, Egypt has prepared a vision plan on economic reforms and fiscal adjustment policies to improve the balances and to access IMF funds. The Government of Egypt has progressed in this direction, particularly through the implementation of a value added tax (VAT) and a fuel price increase to reduce subsidies during October-November 2016. In November 2016, the IMF extended an equivalent of US\$ 12 billion financing package after reviewing the on-going fiscal adjustment policies and to help carry out further adjustments as set out in the vision.³¹

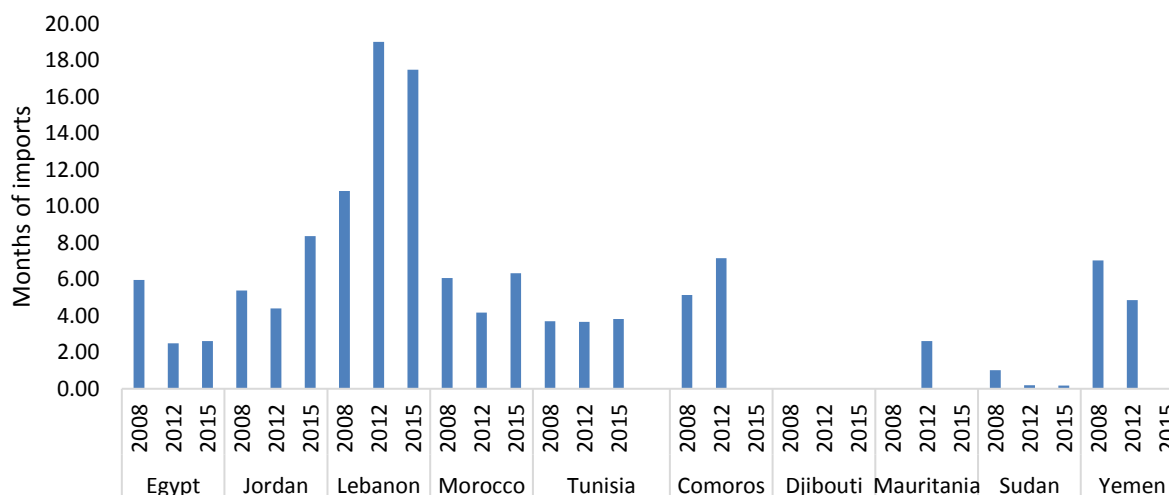
²⁹ See Khalid and Guan 1999.

³⁰ The capital account surpluses in Lebanon can turned into deficits quickly if for some reason there is a capital flow reversal. See discussion in Neaime 2015.

³¹ IMF Press Release reference

The foreign reserves in the LICs is also low and several of them face fiscal instability situation due to their narrow production base and structural weaknesses, such as Mauritania and Sudan (figure 9). Low iron ore prices have reduced economic growth, export receipts, and net international reserves for Mauritania, which consequently widened the fiscal deficit, and increased risks to financial stability.

Figure 9: Total reserves in months of imports is low in most countries



Source: IMF, 2017g.

Box 1. IMF's recent extension of financial support to the OP-MICs

Jordan: On August 24, 2016 the Executive Board of the International Monetary Fund (IMF) approved a three-year extended arrangement under the Extended Fund Facility (EFF) for Jordan for an amount equivalent to SDR 514.65 million (about US\$723 million, or 150 percent of Jordan's quota) to support the country's economic and financial reform program. It was approved after the expiry of the three year Stand-By Arrangement (SBA) in the amount of about US\$2 billion in August 2015. The objective is to put public debt on a downward path through gradual fiscal consolidation over the medium term while preserving essential social spending. To this end, it is critical to reduce the general sales tax and customs duty exemptions and to amend the income tax law. The electricity company NEPCO needs to reach operational cost recovery and Water Authority of Jordan's finances should be consolidated. Public financial management should be strengthened to enhance fiscal transparency and reduce fiscal risks.

Egypt: On November 11, 2016, the Executive Board of the International Monetary Fund (IMF) approved a three-year extended arrangement under the Extended Fund Facility (EFF) for the Arab Republic of Egypt for an amount equivalent to SDR 8.597 billion (about US\$12 billion, or 422 percent of quota) to support the authorities' economic reform program. Reducing fiscal deficits considerably and thereby placing public debt on a clearly declining path is an important objective of the authorities' program. To this end, the key policy measures are the introduction of a VAT, a reduction of energy subsidies, and the optimization of the public sector wage bill. To mitigate the impact of the reforms on the poor, the authorities intend to use part of the fiscal savings to strengthen the social safety nets. The planned fiscal consolidation is projected to reduce public debt by almost 10 percentage points of GDP by the end of the program.

Morocco: In August 2016, the IMF approved a two-year, \$3.47 billion liquidity line for Morocco to support the country continue its economic reforms and further strengthen its growth prospects. The arrangement is under the IMF's Precautionary and Liquidity Line, which provides insurance against external shocks in the light of heightened uncertainty worldwide. The two previous precautionary and liquidity arrangements—approved in 2012 and 2014—Morocco has implemented challenging reforms such as modernizing the budget framework, enacting energy subsidy reforms, strengthening the domestic financial sector, and most recently reforming the civil service pension system. These efforts, as well as a more favorable external environment in recent years, have contributed to the substantial decline in domestic and external imbalances – fiscal deficit (% of GDP) decline from about 7 percent in 2012 to about 3.5 percent in 2016. Current account deficit (% of GDP) dropped from 9 percent in 2012 to 1 percent in 2016.

Tunisia: In May 2016, the IMF has approved a four-year, \$2.9 billion loan for Tunisia to support the authorities' economic agenda aimed at promoting more inclusive growth and job creation, while protecting the most vulnerable households. Tunisia's reform program supported by the Extended Fund Facility (EFF) aims at reducing the fiscal deficit to stabilize public debt below 70 percent of GDP by 2020 while raising investment and social spending. The first program, the Stand-By Arrangement (SBA), helped Tunisia preserve macroeconomic stability during a very difficult time.

Source: IMF press releases.

2.2 Fiscal balances and public debt ratios

For another perspective on fiscal positions of Arab countries would look into the relationship between fiscal policy and public debt ratios provided by the fiscal balances as well as the behavior of primary balances. Figure 10 displays cross-country association between the average fiscal balance and average gross public debt, expressed in percent of GDP, during 2008-2010 and 2014-2016. At the same time points, Figure 11 plots the relationship between primary balance and gross public debt ratios, expressed in percent of GDP.

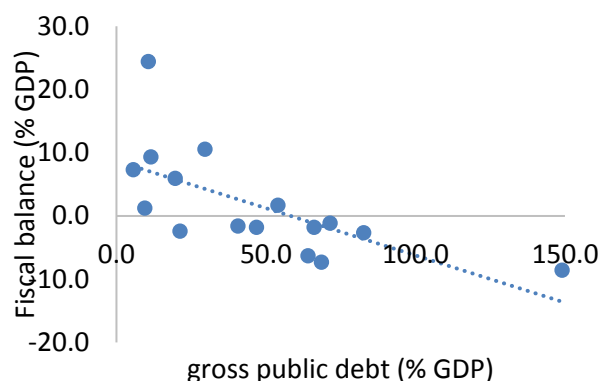
In principle, the relationship between fiscal balance and public debt ratios can be negative or positive. It will be negative if the countries having high gross public debt ratios run low fiscal balances. Conversely, if the countries with high public debt ratios were running larger fiscal surpluses then the relationship would be positive. In Figure 10A (years 2008-2010), there seems to be a negative relationship between overall fiscal balance and gross public debt ratios, whereas in Figure 10B (years 2014-2016) there is no significant pattern of association visible between the two variables. This makes sense because many low and middle-income Arab countries incurred larger fiscal deficits during 2008-2010, while their public debt ratios went up. During 2014-2016, there is no significant pattern between public debt ratios and fiscal deficit to GDP. During this period public debt ratios were low in some countries but fiscal deficit was high (oil-rich countries). In some other countries with high public debt ratios, the fiscal deficits were relatively lower than others due to adoption of fiscal adjustment policies. From the simple exercise, the negative correlation in the earlier period and the non-deterministic pattern during the later period does indicate to lack of fiscal policy or laxity of fiscal policy across the countries in addressing potential stress on fiscal sustainability. However, movement of fiscal deficit to GDP is not the most appropriate indicator to look at fiscal response to debt dynamics because a part of the balance is due to servicing debt.

A better way of looking at debt dynamics is to examine the nexus between gross public debt to GDP and the behavior of primary balance to GDP ratio (See methodological note in Annex 1). It is quite interesting to see that Figure 11A (years 2008-2010) shows a slightly negative association between the two variables but Figure 11B (years 2014-2016) shows a relatively strong positive association between the two variables. The later (positive relationship) tends to suggest that countries with higher public debt ratios are generating larger primary balances or they are reducing primary deficits (since most of

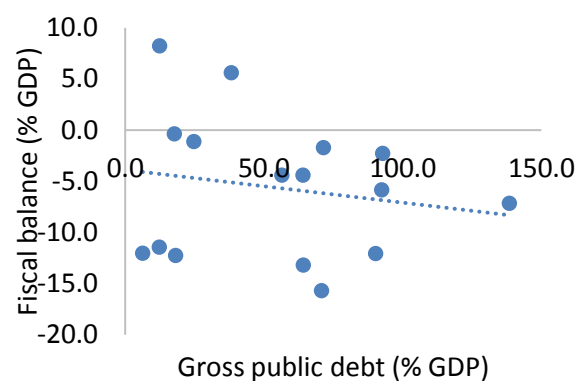
the countries are still having negative primary balance). This is possible since several countries have recently adopted some or other forms of fiscal adjustment policies, by cutting expenditure mainly, in order to reduce primary deficits.

Figure 10: Gross public debt and fiscal balances in Arab countries (% GDP)

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



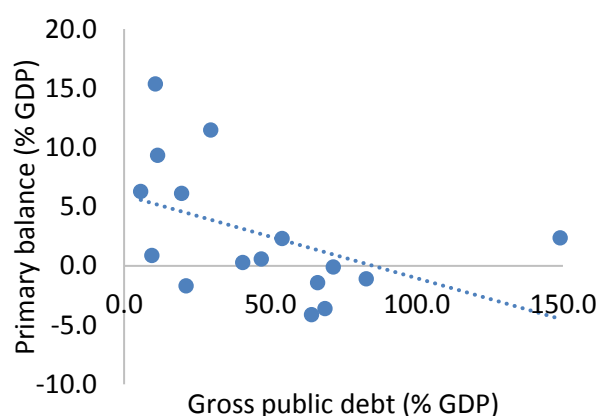
Fiscal balance (% GDP), 2014-2016
(average)



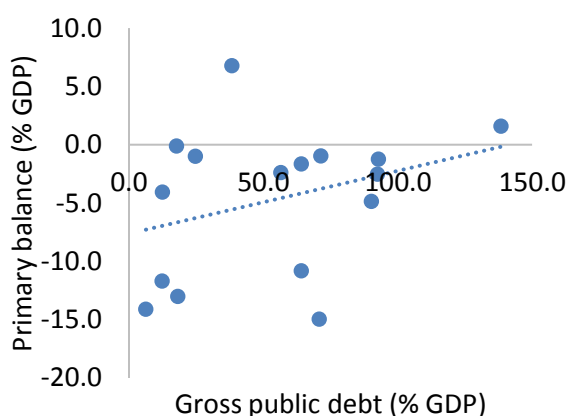
Source: Authors' calculations.

Figure 11: Gross public debt and primary balances in Arab countries (% GDP)

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



Primary balance (% GDP), 2014-2016
(average)



Source: Authors' calculations.

To sum, there is a significant trend reversal in fiscal and primary balances of the middle and low-income countries from the year 2008 onwards. The average fiscal balances of the oil-poor countries continued to deteriorate from 4 percent in 2008 to about 10 percent in

2013, which was mainly led by the significant deterioration of fiscal balances of the OP-MICs. At the same time, the average primary balances of the oil-poor countries witnessed a trend reversal from near zero in 2008 to 4.5 percent in 2013. Fiscal and primary balances in the low-income countries of the region remained volatile and on average those balances to GDP deteriorated during the same period. There has been some improvement in fiscal and primary balances of the oil-poor countries since 2013, particularly due to fiscal adjustments undertaken by some countries and largely due to the drop in oil prices in 2014. Despite that the fiscal and primary balance ratios of oil-poor countries remained at 8 percent and 3 percent respectively in 2016. The current account deficit to GDP deteriorated from 4 percent in 2008 to about 7 percent in 2016. The total reserves in terms of months of imports declined in most oil-poor middle-income countries during 2008-2016. The foreign reserves in the LICs remained low and their access to external finance remained constrained due to their poor CPIA scores and sanctions.

The association between average fiscal balance and debt ratios remained either negative or non-deterministic during 2008-2010 and 2014-2016, which indicates to laxity of fiscal policy across the countries in addressing debt challenges. During 2008-2010, the association between primary balance and debt ratios was also negative. However, the association has turned positive between the two ratios during 2014-2016, which tends to suggest that countries with higher public debt ratios are reducing primary deficits although their primary deficit is still high. We explore this phenomenon more systematically through different approaches of testing fiscal sustainability, but largely focusing on fiscal reaction function analysis and debt stabilizing primary balance analysis in the next section.

3 Fiscal policy prudence in Arab countries

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.³² The standard IMF approach of DSA tests provides comprehensive information about the dynamics and sustainability analyses of public sector debt and external debt in market-access countries, and it presents forecasting of future debt under certain assumptions to growth rate,

³² A great deal of analysis of this literature is in Adams et al (2010); Jha (2012).

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 judgement 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”.³³ In this spirit, we summarized the IMF DSA analysis for selected countries in the region in section 5 and the country-wise assessments are presented in Annex 1.

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 cointegration 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.³⁴ However, the time series tests have limited application in the debt sustainability literature. The stationarity and cointegration 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 cointegrated. Rejections of low-order difference-stationarity and of cointegration 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

³³ See IMF (2003); Wyplosz (2007).

³⁴ Neaime (2015) for instance applied this method for looking into debt sustainability in Lebanon.

perspective, we examined the fiscal reaction functions and debt stabilizing primary balances that can be considered useful tools for the governments in budgeting exercises.

3.1 Fiscal reaction functions

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 reaction functions' to assess fiscal prudence. Following Bohn (1998), several studies have estimated fiscal reaction functions³⁵ 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.

Fiscal reaction functions

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:

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

Where

ps_t is primary balance to GDP

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

³⁵ Celsun et al 2007; Mendoza and Ostry 2007; Ferrarini and Ramayandi 2012; Ghosh *et al* 2013; among others.

τ_t represents temporary influences on ps_t due to discretionary expenditure in the current year for which actual expenditure deviates from the trend³⁶

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

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 *et al.* 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 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.³⁷

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.³⁸ 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.³⁹ 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.⁴⁰ The

³⁶ 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.

³⁷ The long-run expected value (E) of the debt ratio can be written as the following: $E(b_t) = \left[\frac{\bar{\tau}(1-\rho) \text{cov}(1+\theta, b_{t-1})}{\rho(1+\theta)-\theta} \right]$, where θ is the IRGD (assumed to be positive in the long run) cov stands for covariance and $\bar{\tau}$ stands for the long-run value of τ .

³⁸ For instance, de Mello 2008, Budina and Wijnbergen 2008.

³⁹ See Mendoza and Ostry 2008; Gali and Perroti 2003; Celasun *et al.* 2007.

⁴⁰ See Adams *et al.* 2010; Ferrarini and Ramayandi 2012; Ghosh *et al.* 2013 among others.

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 need 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,⁴¹ 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 two sets of countries -- all seven oil-poor low-income countries and five oil-poor middle-income countries (Egypt, Jordan, Lebanon, Morocco, Tunisia) for data years ranging from 2000 to 2016. 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 1 presents the estimation results of different specifications for the two sets of sample observations. The first three columns are for all eight countries, and the last three columns are for the five middle income countries. Most of the coefficients of the regressors across the two sample groups follow a similar direction, according to respective specifications, but the coefficients vary by their significance levels. We focus our discussion largely on the oil-poor 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.

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

⁴¹ 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).

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.⁴² 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. It implies that an increase of real expenditure above its trend can lower contemporaneous primary balance by an average factor of 0.16. At the same time, 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 requires further investigation, particularly about tax revenue buoyancy or tax revenue elasticity of GDP, as discussed later.

Table 1. Fiscal reaction function: Panel regression results

Dependent variable: Primary balance (% GDP)

VARIABLES	(1) OP-MICs & LICs, Linear FE	(2) OP-MICs & LICs, FGLS Quadratic	(3) OP-MICs & LICs, FGLS Cubic	(4) OP-MICs Linear FE	(5) OP-MICs, FGLS Quadratic	(6) OP-MICs, FGLS Cubic
	Low and middle-income countries sample			Middle income countries sample		
Debt/GDP, lag 1	-0.0233 (0.0481)	-0.0981* (0.0507)	-0.314** (0.137)	-0.0621 (0.0457)	-0.160*** (0.0510)	-0.563*** (0.121)
Debt/GDP, lag 2	-0.0707 (0.0668)	-0.0407 (0.0350)	-0.0448 (0.0375)	0.00888 (0.0535)	-0.0165 (0.0362)	-0.0216 (0.0383)
Debt/GDP, lag 3	0.112** (0.0468)	0.0816*** (0.0294)	0.0821*** (0.0307)	0.118*** (0.0360)	0.0720** (0.0316)	0.0857*** (0.0312)
Lagged debt_square		0.000453** (0.000184)	0.00263* (0.00137)		0.000667*** (0.000182)	0.00463*** (0.00120)
Lagged debt_cubic			-6.55e-06 (4.20e-06)			-1.21e-05*** (3.67e-06)
Exp_gdp	-0.426***			0.0774		

⁴² Ghosh *et al* 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 ρ is found to be positive and significant (Adams *et al* 2010; Ferrarini and Ramayandi 2012).

	(0.135)			(0.116)		
Output gap	-0.326**	0.0885	0.0496	-0.000646	0.100	-0.00828
	(0.126)	(0.0876)	(0.0921)	(0.0993)	(0.0906)	(0.0893)
Expenditure gap	0.0321	-0.122***	-0.116***	-0.186***	-0.163***	-0.158***
	(0.0450)	(0.0248)	(0.0253)	(0.0492)	(0.0290)	(0.0291)
Constant	9.607**	-0.486	6.148	-9.576***	1.582	13.10***
	(4.220)	(1.896)	(4.308)	(3.432)	(1.807)	(3.682)
Observations	112	112	112	70	70	70
Number of id	8	8	8	5	5	5

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, * p<0.1

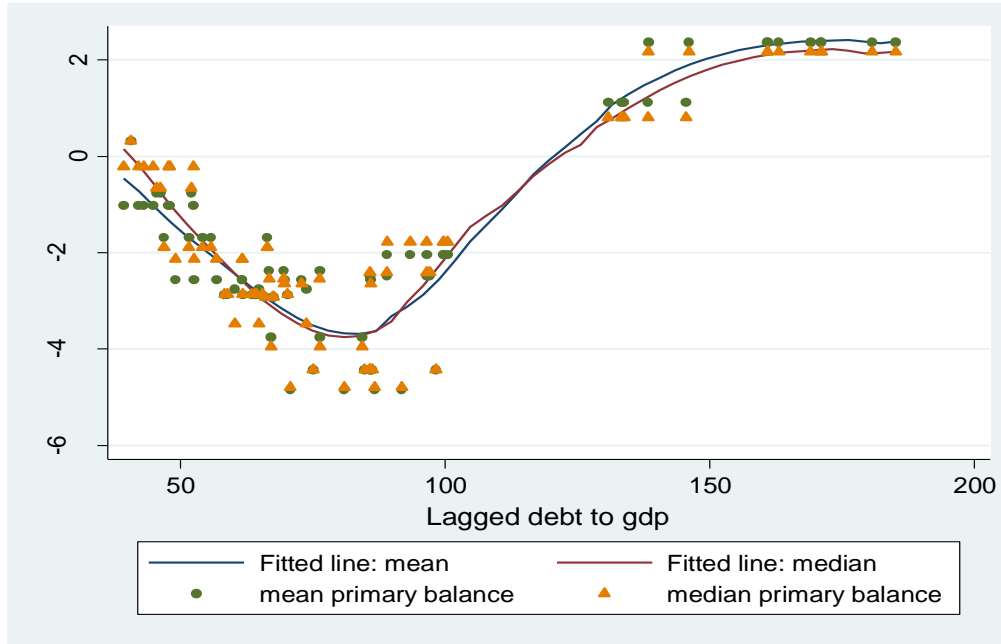
Output gap: GDP gap from the trend, percent; Expenditure gap: Expenditure gap from the trend, percent

Source: Authors' calculations.

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 declines (the coefficient turned negative) at a very high level of lagged debt ratio (around 150 percent) (Figure 12). The plateau and decline in the curvature can determine a debt limit, which is referred as “fiscal fatigue”, by Ghosh *et al* (2013). Our results appear to be more like that of Ghosh *et al* (2013) than those found in the case of Asian countries, by Adams *et al* (2010) or in case of the USA by Bohn (1998), 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 12. Furthermore, the coefficient in the cubic function for all countries is not statistically significant. Therefore, we would tend to conclude that the low and 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.

Figure 12: 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

3.2 Fiscal sustainability gap: Debt stabilizing primary balance

Finally, we examined fiscal sustainability gap by computing the difference between the actual primary balance and the debt-stabilizing primary balance. In this context, the interest rate and growth differential (IRGD) plays a key role. 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.⁴³ 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

⁴³ A general framework of sustainability or "no-ponzi game condition" takes the following identity: $B_t = \sum_{j=0}^{\infty} r_{(t,t+j)}^{-1} PS_{t+j} + \lim_{T \rightarrow \infty} (t, t+T)^{-1} B_{t,T+1}$, where r is the discount factor between periods $t, t+j$, which is defined as $\prod_{k=0}^j r_{t+k}$, and $B_{t,T+1}$ is terminal or very long-term debt. Initial notion is that debt is sustainable if $B_{t,T+1}$, 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 *et al* 2010).

current level. The opposite conclusion holds for the situation in which interest paid on the debt is greater than the growth rate of the economy ($IRGD > 0$).⁴⁴

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):⁴⁵

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

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 :

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

While IRGD provides interesting insights about stabilizing debt conditions and it can be a useful tool to inform budget processes regarding arriving at a critical primary balance ratio, the IRGD may not be taken as the ultimate condition. Escolano *et al* (2011) found that the IRGD is negative in many emerging market economies, which is favorable for stabilizing debt, but it may not be seen at its face value as the real interest rate is artificially low. Financial repression and other factors often deliberately undervalue the cost of capital. Therefore, Escolano *et al* (2011) argued that as capital markets are liberalized in the emerging market economies and become integrated with global capital markets, their interest rates are likely to more accurately reflect the cost of capital and, hence, IRGD is expected to climb sharply.

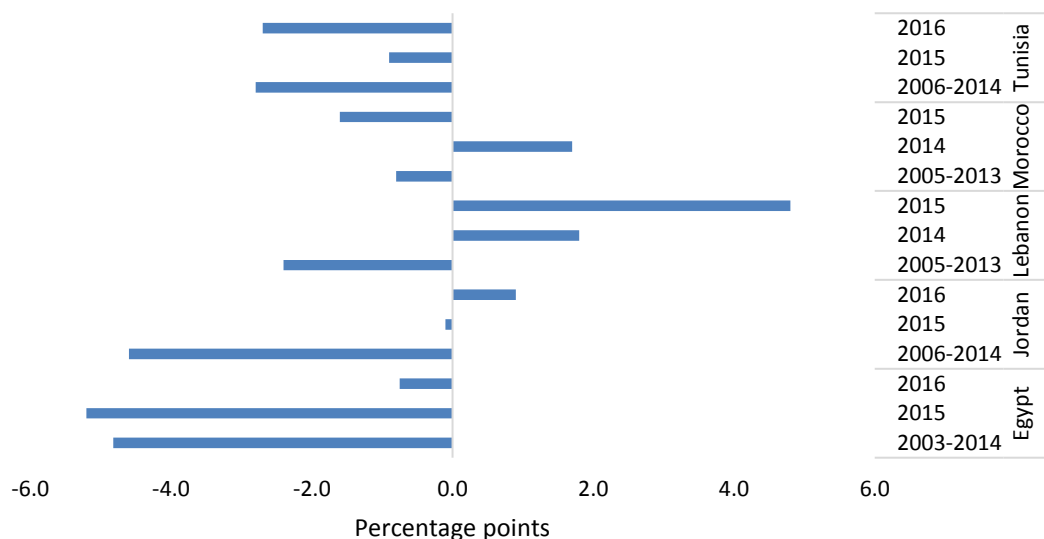
However, a negative IRGD is favorable to middle-income countries where economic growth can erode the debt ratio more quickly than it can build it up by accumulating interest, all else being equal. For Asian economies, Ferrarini and Ramayandi (2012) observed that a large IRGD in most cases eroded the debt ratio enough to more than offset

⁴⁴ 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.

⁴⁵ See Ley 2009; Escolano *et al* 2011.

debt accumulation through fiscal deficits. In our sample of Arab countries, all five have historically negative and large IRGD during mid-2000s to 2013/14. But in recent years, the IRGD became low in most countries than their historical levels and even positive for Lebanon and Jordan in 2015 and 2016 respectively⁴⁶ (Figure 13).

Figure 13: Interest rate – growth differential (percentage points)

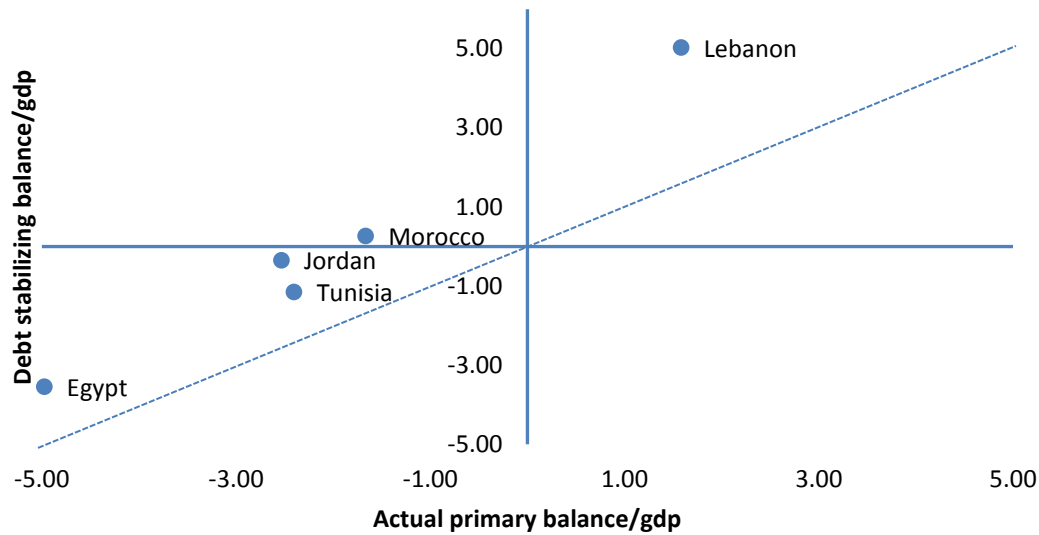


Source: Authors' calculations.

In Tunisia, for instance, the average primary deficit fell below -5.5 in 2013 from its historical average of -1.3, but its debt-stabilizing primary balance improved in 2014 considerably due to a favorable and large IRGD. But in the case of Egypt, despite a considerably high and negative IRGD, the debt stabilizing primary balance continued falling during 2014-15. The comparison between the average of 2014-2016 actual and debt stabilizing primary balances provides a useful insight to visualize the fiscal sustainability gaps in the selected countries (Figure 14). The 45-degree line indicates to equalizing the actual and debt-stabilizing primary balance ratios, implying stability in the debt ratio. The area above the 45-degree line in Figure 14 shows that debt-stabilizing primary balance ratio is higher than the actual primary balance ratio and the debt ratio tends to increase. The area below the 45-degree line shows the opposite.

⁴⁶ Interest rate refers to the effective rate of interest, based on interest paid on debt stock (IMF Article IV).

Figure 14: Debt stabilizing primary balance vs actual primary balance (2014-16 average)



Source: Authors' calculations.

Apparently, over the period the average debt stabilizing primary balance ratio in the last three years in all the five countries is higher than the average actual primary balance ratio, indicating rising debt to GDP. Interestingly, the debt stabilizing primary balance in several countries is negative, indicating that interest rates were below the growth rate of those economies.⁴⁷ In such cases, debt ratios can be stabilized even when primary balances are in deficits, as the case of Egypt, Tunisia and Jordan. However, this condition may not hold indefinitely. For instance, the interest rate in Egypt has gone up significantly between 2016 and 2017, as the government is trying to stabilize inflation. Jordan is also facing significant upward pressure of interest rate in 2017. Given this situation, the debt ratios will tend to further deteriorate. Robust debt-stabilizing fiscal policy conditions, therefore, refers to a situation where the debt ratio can be stabilized in circumstances where the interest rate is even higher than the growth rate.⁴⁸ Among all countries in the sample, Tunisia and Morocco are slightly better-off. Lebanon and Egypt need significant mobilization of revenues to stabilize their debt ratios at the current level. Sensitivity analysis, by applying innovations to IRGD, can provide further information about the possible variations in debt stabilizing primary balance.

⁴⁷ The negative debt-stabilizing primary balance may also mean that the interest rate doesn't represent the true cost of capital, as argued by Escolano et al (2011).

⁴⁸ See Modified golden rule efficiency condition of Blanchard and Fischer (1989).

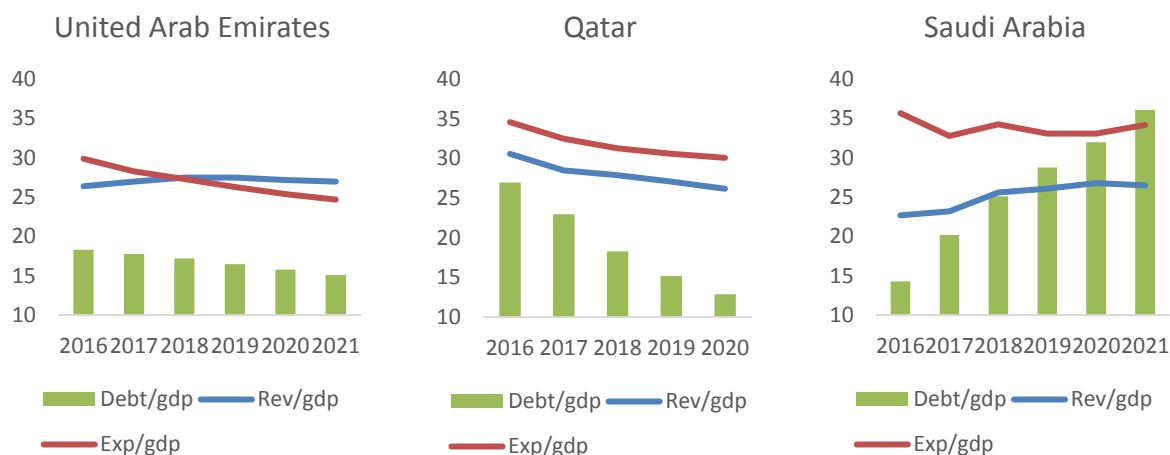
4 IMF on fiscal response to public debt

IMF undertakes fiscal and macroeconomic review of every member country and produces a country report (Article IV consultation), which is countersigned by the respective governments. This section briefly draws upon these country reports to examine the projections and recommendations by IMF on debt sustainability in Arab countries, given its limitations as discussed in section 4. The country-wise summary of the reports is given in the Annex 1.

4.1 Projections

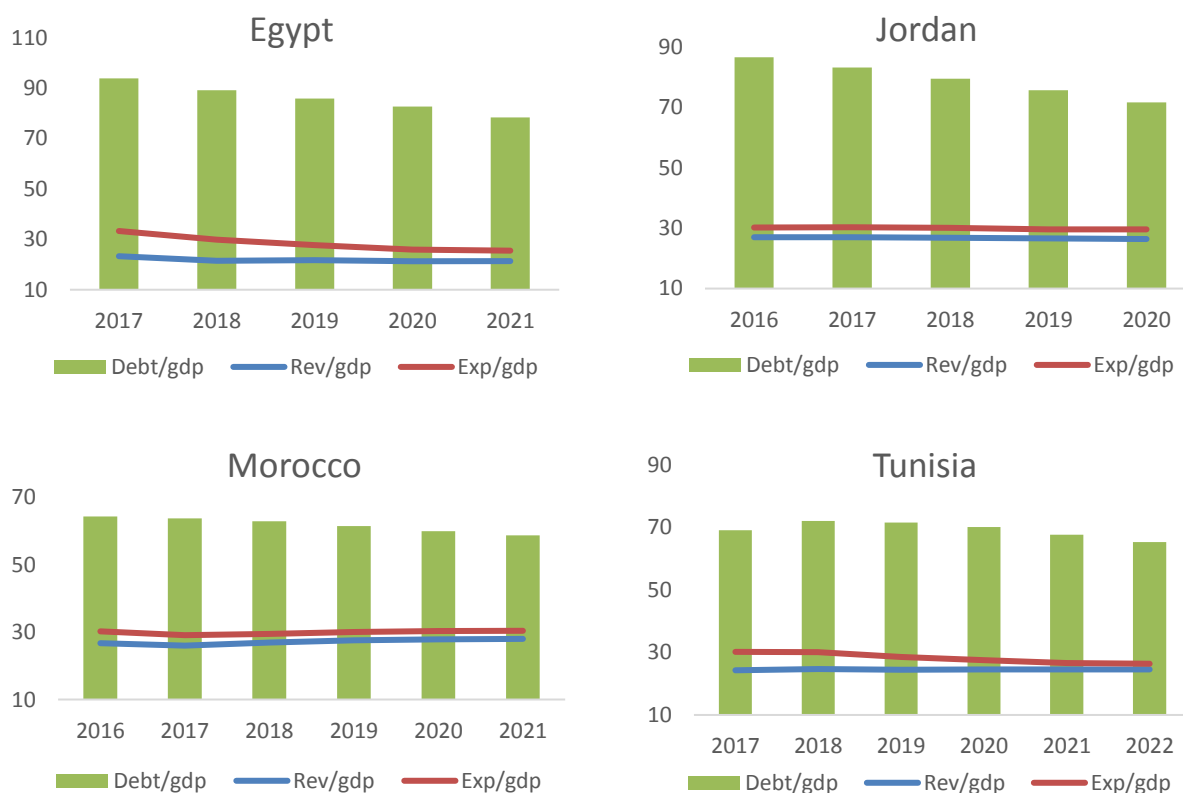
The oil-rich countries of the region have been negatively influenced by low hydrocarbon prices, which led to a deterioration of fiscal and external balances from large surpluses to deficits for most countries since 2015. Some countries are more adversely affected than others, depending on the levels of their fiscal buffers on which they can rely in times of crises. For instance, Bahrain and Oman have very limited buffers as compared to Saudi Arabia, Qatar and UAE. Governments in these countries have already resorted to spending cuts on wages and benefits, subsidies, defense, and capital investments by civil ministries. IMF suggests that given the weakening of the fiscal buffers in Oman and Bahrain, and the low growth prospects in near future, they must undertake further strong fiscal adjustment measures to maintain fiscal sustainability and support the exchange rate peg over the medium- to long-term. The rising debt levels could soon be a concern for Saudi Arabia, given the jump in debt to GDP since 2015 (Figure 15). IMF projections on debt sustainability analysis for Saudi Arabia, Qatar and UAE suggests significant cuts in expenditure to GDP. The figures also show that revenue to GDP ratio projections are almost constant for UAE and declining for Qatar, while it may improve for Saudi Arabia.

Figure 15: Projections on debt and expenditure for oil-rich countries



Source: IMF Article IV reports of respective countries.

Figures 16: IMF projections on debt expenditure for middle-income countries



Source: IMF Article IV reports of respective countries.

The oil-poor middle-income countries have been navigating multiple external shocks for almost a decade, following the global economic crises in 2008. Most of these economies are lagging behind on productivity and per capita income growth.⁴⁹ The Syrian crisis dominates Lebanon's economic outlook, since the proportion of refugees has grown to account for a quarter of the population. Higher interest rates and subdued nominal growth could push public debt to 160 percent of GDP by 2021—almost 20 percentage points higher than today. Egypt and Jordan remain high debt stressed. Among the oil-poor middle-income countries, the economies of Morocco and Tunisia remain more resilient than others.

4.2 Cutting expenditure vs. mobilizing revenues

The IMF projections and recommendations for the countries discussed in the sample above suggest that reducing expenditure to GDP in the next five years is the main channel for improving fiscal balances. In fact, around the world, IMF has been suggesting implementing fiscal consolidation policies mainly through expenditure cuts in 48 out of 50 low and middle-income countries (Islam et al 2012). The IMF of course is a BW institution that advocates for downsizing public expenditure to focus on macroeconomic balances and growth and, therefore, the recommendations are quite understandable. But reduction of state in developing economies, where the private sector is not developed, often leads to contraction of economies and low growth in employment that further augments the development deficits. Nevertheless, governments often have no option than to cut expenditure in order to quickly respond to fiscal challenges. While this saves the government of the day, the challenge of addressing long term fiscal sustainability is hardly worked on by any government in the region.

For instance, the projections of revenue to GDP for Egypt do not show any sign of increase in the next five years. The stagnant revenue to GDP holds for other countries in the sample as well. The countries that are operating at lower than their potential, cutting expenditure *per se*, for the sake of improving macro balances, would adversely affect aggregate demand and deteriorate growth prospects for the future. An example is Jordan, where expenditure cuts reduced output growth and employment rate growth during

⁴⁹ The economies of Morocco and Tunisia remain more resilient than other middle-income countries among the oil-poor countries.

2014-15. This is more plausible because reduction in public expenditure in these countries has not led to crowding in private investment in the past. The lower growth prospects would further accentuate the development deficits, which may continue as a “vicious circle”.

Overcoming such “vicious circles” would require much greater efforts, including addressing the structural challenges of the economies. Low tax to GDP ratio (non-oil GDP in case of oil-exporting countries) is a fundamental challenge to finance the development deficits in most Arab countries. Dudine and Jalles (2017) argue that a permanent increase in the ratio of spending-to-GDP should be accompanied by reforms aimed at mobilizing revenues in order to avoid a permanent deterioration in the fiscal balance. A sustained increase in mobilization of revenues would require addressing the challenges of tax administration that are ineffective against tax avoidance, tax evasion and illicit financial flows.⁵⁰ In addition, implementing progressivity in taxation is another source of generating revenue besides promoting tax fairness. Studies on Jordan and Lebanon indicate that the incidence of tax burden on the rich is lower than that of the middle class.⁵¹ The growing high inequality in wealth in Egypt is another testimony to the fact that ensuring fairness in tax policy is a bigger challenge to tackle.

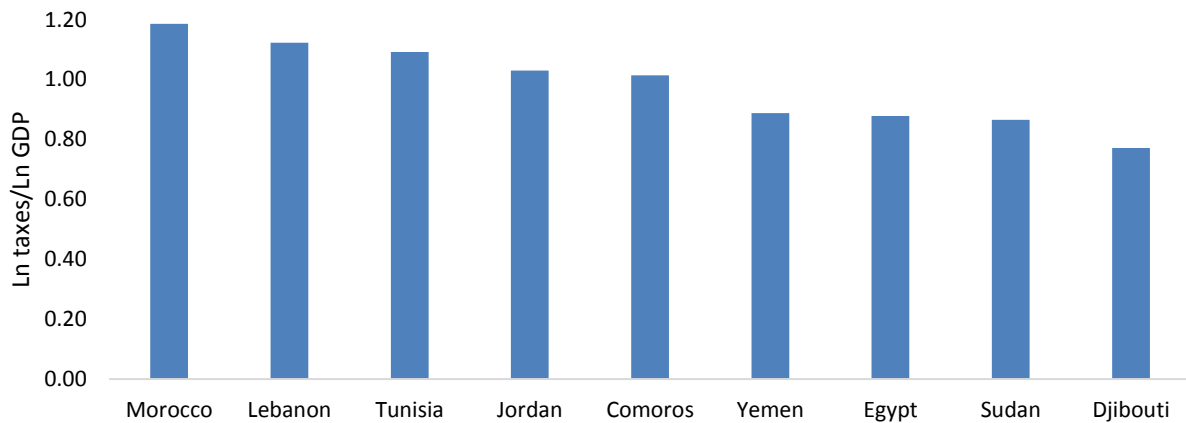
A simple tax buoyancy calculation for selected countries indicates that most countries in the region have tax buoyancy amounting to less than one (Figure 17). It essentially implies that growth in GDP will not appropriate growth in revenues proportionately. Morocco, Lebanon and Tunisia are relatively better in terms of tax buoyancy. Furthermore, majority of taxes are appropriated through the indirect taxes (taxes on goods and services), which is regressive in nature.⁵² Property taxes are low or marginal (or never implemented) in most Arab countries. Recently, Morocco and Tunisia have undertaken progressive reforms in income tax and property tax but there is much more to do to reform tax governance, promote equity and harness the potential of taxes.

⁵⁰ See Sarangi 2016.

⁵¹ See Sarangi *et al* 2015; Assoud 2016.

⁵² Sarangi 2016.

Figure 17: Tax buoyancy in the oil-poor middle and low-income countries



Source: Authors' calculations.

5 Main findings and discussion

The paper analyses the fiscal space of Arab countries by examining the three aspects of fiscal sustainability: (1) general government gross debt to GDP; (2) the fiscal balances to GDP and; and (3) the fiscal policy responses to debt, which is examined by the fiscal reaction functions and fiscal sustainability gap analysis. We aim to keep our analysis policy relevant in the medium to long term horizon and the tools in this context can be helpful for budgeting purposes to set targets for debt and fiscal sustainability. We classified the countries into three clusters in terms of their development challenges and sources of revenue: (1) oil-rich high and middle-income countries (OR-HMICs), (2) oil-poor middle-income countries (OP-HMICs) and (3) Low income countries (LICs). The fiscal space challenges very significantly across the three clusters of countries. The OP-MICs and the LICs have major concerns for fiscal sustainability while the OR-HMICs are relatively better off.

- After more than a decade of a declining trend in gross public debt to GDP ratio in the 1990s and 2000s, a trend reversal occurred in 2008 in the oil-poor middle-income countries (OP-MICs). In 2016, the high gross public debt to GDP has become a major fiscal sustainability concern for the OP-MICs than any other country in the Arab region. Lebanon (143%), Jordan (95%) and Egypt (97%), are among the highest debt to GDP ratio countries in 2016.
- External debt ratio and the average PPG external debt ratio are increasing steadily, on average, for the oil-poor middle and low-income countries. The share of non-concessional borrowing and short term external liabilities are increasing for most

countries. The low-income countries of the region (LICs) rely mostly on external financial aid and concessional financing, which is increasingly becoming difficult to access in recent years, given their poor ratings by IDA. The increasing external debt service to exports is another major concern for the oil-poor countries, which increases the risks to debt and fiscal unsustainability in the future.

- As noted in the case of debt ratio, there is a significant trend reversal in fiscal and primary balances of the middle and low-income countries from the year 2008 onwards. There has been some improvement in fiscal and primary balances of the oil-poor countries since 2013, particularly due to fiscal adjustments undertaken by some countries and largely due to the drop in oil prices in 2014. Despite that the fiscal and primary balance ratios of oil-poor countries remained at 8 percent and 3 percent respectively in 2016. The current account deficit to GDP deteriorated from 4 percent in 2008 to about 7 percent in 2016. The total reserves in terms of months of imports declined in most oil-poor middle-income countries during 2008-2016.

The association between average fiscal balance and debt ratios remained either negative or non-deterministic during 2008-2010 and 2014-2016, which indicates to laxity of fiscal policy across the countries in addressing debt challenges. During 2008-2010, the association between primary balance and debt ratios was also negative. This has turned positive between during 2014-2016, which tends to suggest that countries with higher public debt ratios are reducing primary deficits although their primary deficit is still high. We explore this phenomenon more systematically through a fiscal reaction function analysis and fiscal sustainability gap analysis.

- 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. Temporary increases in government expenditures has significant negative effect on the primary balance.
- The low and middle-income countries of the Arab region tend to follow a “u-shaped” fiscal reaction curve, in the sample excluding Lebanon. But 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 the existence and the effectiveness of fiscal rules in handling debt sustainability in the long run.

- The average debt stabilizing primary balance ratio in the last three years in all the five middle-income countries remained higher than the average actual primary balance ratio, indicating rising debt to GDP. Interestingly, the debt stabilizing primary balance in several countries tend to be negative, indicating that any positive shock to IRGD would tend to further deteriorate the debt ratios. Among all countries in the sample, Tunisia and Morocco are slightly better-off than others.

IMF debt sustainability projections and recommendations for improving fiscal sustainability focusses mainly on significant reductionary public expenditure across the countries in the next five years. In our view, 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. Very little attention has been paid to mobilizing revenues, if at all, it has been to increase revenues through indirect taxes (such as general VAT) which are regressive in nature. Growing wealth inequality across the region suggests that equity in tax policy is a pressing matter that needs to be tackled. Wealth inequality not only accentuates inequalities within society, but it also places severe budget constraints on governments to finance development deficits. As argued by Dudine and Jalles (2017), reforms aimed at mobilizing revenues is essential for permanent increases in the ratio of spending-to-GDP in order to boost human capital and structural conditions.

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ANNEX 1

Snapshot Review of IMF Debt Sustainability Analysis for Selected Countries

According to IMF, large fiscal vulnerabilities remain present in the region. Government gross debt to GDP ratios remain high, mainly in the oil-poor middle-income countries – ranging from 60 percent in Tunisia to 143 percent in Lebanon as of 2016. The only country with a low general government gross debt to GDP is Palestine at 18 percent in 2016, but it is a special situation, facing occupation and restrictions in activities, making much of its economy is reliant on aid.⁵³ In addition to facing high debt to GDP ratios, the oil-poor middle-income countries have seen their debt outlook deteriorating the ratio sharply increasing during the recent years. Moreover, the financing gap is significant for several economies, and dwindling balance of payment constraints raises concerns to service external debt.

In Lebanon, Jordan and Egypt, debt dynamics and financing needs under the stress testing scenarios are particularly sensitive to GDP growth and contingent liability shocks. The public debt position in Morocco is relatively resilient to a range of shocks. Stress test scenarios in Tunisia identify risks to exchange rate depreciation and contingent liabilities, especially if combined with lower growth. In Jordan, a negative growth shock of 5 percentage points in 2017– 18 will put public debt at over 110 percent of GDP in 2018, while a contingent liability shock increases it to above 100 percent of GDP for several years.

The debt sustainability analysis for the four low income countries (LICs) confirms that the risk of debt distress is rated high in Djibouti and Mauritania and moderate in Comoros. Sudan remains in debt distress. Among the four LICs, Comoros and Mauritania reached the completion point under Heavily Indebted Poor Countries (HIPC) Initiative and received extensive debt relief.

⁵³ For instance, Israel's manipulation of the Clearance Revenue Transfer (CRT) deprived Palestinians of essential revenues and arrears, which led the Palestinian economy to seek urgent donor support to address the financing needs (a \$600 million financing gap in addition to \$1,649 million in gross external debt) in the Ad-Hoc Liaison Committee (AHLC) meeting held in New York on 19 September 2016 (Hisham's paper/ESCWA Parliamentary Document – XXXX).

Based on latest IMF Article IV reviews of selected countries, the following section provides a snapshot of the actual and projected debt and financing gap levels under the baseline scenario which are based on a set of macroeconomic assumptions that are in line with government's intended policies. It also provides the results of a series of stress tests applied to the baseline scenario that assesses the vulnerability of countries.

Egypt: **Egypt's** public debt is assessed as sustainable, though not with a high probability. It stands at 94 percent of GDP in 2015/16 and is expected to decrease to 76 percent of GDP in 2020/21. The improved debt path reflects an ambitious fiscal consolidation program which mainly targets the primary balance⁵⁴ and interest rate growth differential. Adjustment under the program is expected to reduce the overall deficit from 12.1 percent of GDP to less than 5 percent of GDP and thereby decrease public debt and with it the interest bill which already stands close to 30 percent of government expenditure. Gross financing need-exceeding 55 percent of GDP - will also be narrowed to around 35 percent at the end of the projection period.

External debt in Egypt stood at a moderate rate of 14.3 percent of GDP in 2015 and external financing needs (at 5.5 percent of GDP) were slightly above the lower-risk assessment benchmark. Under the baseline scenario, external debt is expected to peak at 28.3 percent in 2019 before declining to 26.1 in 2021. External financing needs, will also peak in 2018 to 7.6 percent, before dropping below the 5 percent low risk assessment benchmark in the 2019-2021 projection period. Egypt's external debt is quiet resilient to shocks. The event of a one-time real depreciation of 30 percent has the biggest effect, putting the debt level at a projected 35 percent in 2021, and a non-interest current account shock increases debt to 31 percent of GDP

Jordan: In **Jordan**, debt sustainability is conditioned upon fiscal and structural reforms, mainly broadening the income tax base and streamlining tax exemptions, which are projected to put public debt at 77 percent of GDP target in the medium term. Total public debt increased to 95.1 percent in 2016 due to carry-over effect of revenue slippages and spending overruns. Gross financing needs are projected to remain high during the

⁵⁴ The program targets primary balance rather than overall because it excludes interest payments which are difficult to control given the uncertainty of interest rates during the transition (to the new exchange regime?).

program period-at around 14 percent of GDP - reflecting short maturities of domestic bonds.

Jordan's *public external debt*, amounting to 37.5 percent of GDP is moderate and is expected to rise to around 45 percent of GDP over the program period "reflecting continued placements of international bonds and concessional borrowing under the Jordan Compact"⁵⁵. Gross external financing need, at 14.2 percent of GDP in 2016, will remain elevated due to high current account deficits and as US Euro bonds come due in 2019-2020. It will gradually decline thereafter.

Lebanon: Lebanon's risk to debt sustainability is increasingly significant compared to the other middle-income countries. Government gross debt already stands at 138 percent of GDP in 2015 and is forecasted to reach 160 percent in 2021. The deteriorating trajectory is mainly driven by the path of the positive interest rate-growth differential.⁵⁶ Public gross financing needs-amounting to 26.2 percent of GDP- are also high and are projected to further increase to 33.1 percent in 2021.

External debt is particularly high in Lebanon, at 175 percent⁵⁷ of GDP in 2015- mainly shaped by the large current account deficit (18.2 percent of GDP) and non-resident stock deposits, mostly of short maturity. Despite improvements in current account deficits, mainly explained by lower oil prices, exports and financial inflows have slowed notably starting mid-2015. Such decline prompted BdL to undertake the financial operation in May 2016 to increase its reserves¹. Under the baseline, external debt is projected to increase to 180 percent in 2017 and slightly decline over the remaining projection period. External financing needs in Lebanon are high (166.5 percent of GDP in 2015) and well above IMF's upper risk-assessment benchmark reflecting large debt payments and non-resident short-term deposits.

⁵⁵ Jordan compact which was adopted in February 2016 and reaffirmed in April 2017 sets out a series of commitments to improve to deal with the Syrian refugee crisis while promoting its economic development.

⁵⁶ Over half of the country's T-bills and Eurobonds are held by domestic banks. In May 2016, BDL exchanged with the MoF Lebanese pound (LL) government debt for Eurobonds, which reduced public debt service costs and lengthened debt maturities)

The baseline scenario assumes: GDP growth to rise from 2 percent in 2017 to 3 percent in 2019-2021; inflation, as measured by the GDP deflator, to rise slightly in 2028-2021, but remain below 2 percent; primary balance to stay in surplus (between 1 and 1.5 percent of GDP) over the projection period.

⁵⁷ The value includes non-resident deposits.

Morocco: **Morocco's** government gross debt to GDP level stands at around 64 percent in 2015, up from 45 percent in 2008. The economy has been largely hit by the crisis in Europe and rising oil prices which contributed to a significant increase in fiscal deficit, culminating at 7.3 percent in 2012. Over the period 2012-2015, public debt increase was mainly driven by primary deficit and high interest rate/growth differential. The ongoing fiscal consolidation efforts⁵⁸ are expected to bring debt to GDP ratios down to 58.7 percent in 2021. As for public gross financing needs, they stand at 13.6 percent of GDP in 2015 after exceeding the 15 percent benchmark in 2014, and are projected to decline to 6.1 percent in 2021 due to favorable lengthening of average maturities.

Morocco's *external debt* forecasted to amount 32.4 percent of GDP in 2016- is contained and poses limited risks due to its favorable structure⁵⁹. It is expected to decline to 27.2 percent in the medium term because of the projected steady GDP growth and strong FDI inflows. External financing requirements amounting to 4 percent of GDP are below the 5 percent low risk assessment benchmark.

Tunisia: In **Tunisia**, public debt is sustainable yet increasing, with the 2011 revolution representing a turning point for Tunisia's debt levels. Public debt level is above emerging market debt burden benchmark under the baseline scenario and financing needs closely approach it. Exchange rate depreciation, weaker than expected growth levels and the reclassification of government deposits⁶⁰ were the main factors that pushed public debt to GDP ratios to 62.9 percent in 2016. Debt outlook is projected to further deteriorate with debt to GDP ratio expected to peak at 72.1 percent in 2018, breaching the 70 percent debt burden benchmark for emerging markets. However, the ratio is expected to decline to 65.3 percent in 2022 following strong fiscal consolidation which is assumed to start in 2018. On the other hand, gross public financing needs is projected to increase from 5.6 percent in 2016 to 14.9 percent in 2022 due to maturing market issuances.

In Tunisia, *external debt* has increased from 49 percent in 2010 to 70 percent in 2016, mainly driven by a series of external shocks that worsened the fiscal and current account deficit.

⁵⁸ Authorities have implemented spending cuts and energy and public pension system reforms which brought fiscal deficits down. Under the baseline scenario, public debt is projected to decrease to 60 percent in 2015 if key reforms are implemented: pursuing tax reforms, mainly by broadening the tax base; fiscal decentralization; and civil service reforms.

⁵⁹ Two thirds of external debt is owed to official bilateral and multilateral creditors of long maturity

⁶⁰ Government deposits are now included under debt stock.

The newly issued Eurobond ⁶¹ along with official funding are projected to increase the external debt to GDP ratio to 80.7 percent in 2018, before declining to a 72.3 percent in 2022, due to improving current account deficits (excluding interest payments) from 7.7 percent of GDP in 2016 to a 5.3 percent in 2022. Gross external financing need -at 28.1 percent of GDP- is well above the 15 percent upper early warning assessment benchmark and is projected to remain elevated.

Comoros: External debt to GDP in **Comoros** stood at 24.2 percent of GDP (PPG external debt is also 24.2 percent) in 2015. Under the HIPC Initiative, Comoros received extensive debt relief in 2013, which brought its external debt down from 40.5 percent of GDP in 2012 to 18.5 percent in 2013 and its debt indicators below the debt burden thresholds. Since its completion point, Comoros has received one loan, largely on concessional terms, from India. Disbursements on this loan and on a previous loan from China began in 2015. These external borrowing plans increase debt burden indicators under the baseline. The ratio of PV of PPG external debt to GDP plus remittances is well below the debt burden threshold in the projection period, and is projected to increase from 11.6 percent in 2015 to 14 percent in 2021 and to 22.9 percent in 2036. As for public DSA, PV of public sector debt stands at 14.8 percent in 2015 and is projected to increase to 27.2 percent in 2036. Gross financing needs will increase from 5.8 percent to 8.9 percent over same period.

Djibouti: In **Djibouti**, external debt has increased significantly after the government was engaged in three large infrastructure projects which were financed externally⁶². This has driven public sector debt to GDP ratio from 53.7 percent in 2014 to 72.1 percent in 2015 and which is expected to peak at 88.1 percent in 2017. External debt path mirrors that of the public debt since the share of external to public debt is large. PV of PPG external debt to GDP (at 69.2 percent in 2015) is expected to reach 82.8 percent in 2017 before steadily declining. The accumulation of external debt will contribute to an elevated PPG debt service to exports ratio, which is expected to increase from 7.4 percent in 2015 to 24.7 percent in 2021.

⁶¹ \$1 Billion issued in January 2015 and €850 million in February 2017

⁶² Mauritania contracted large loans in 2013 mainly to finance two public investment projects: the Addis Ababa–Djibouti railway and a water pipeline from Ethiopia for US\$860 million. Another government-guaranteed loan to finance the construction of a multipurpose port was contracted in 2016 for an amount of US\$340 million.

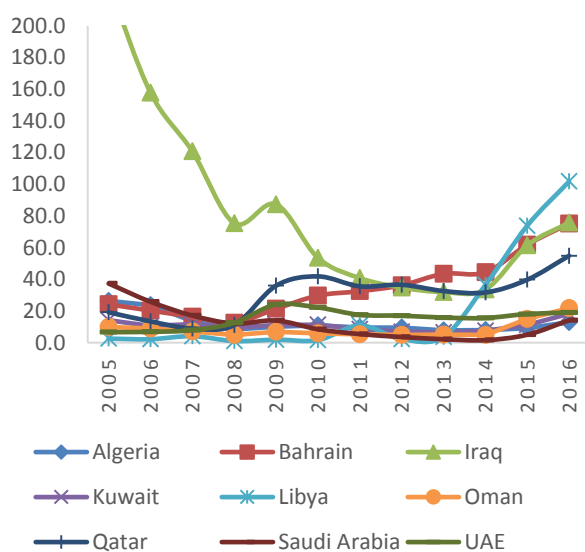
Mauritania: **Mauritania** has received debt relief under the HIPC Initiative. But unlike other HIPC countries, Mauritania's public debt is high, reflecting the low debt relief received from non-Paris club creditors and the accumulation of new borrowing for investment projects. The PV of external PPG debt stands at 69.8 percent in 2015 and is projected to fall to 51.7 percent in 2016 under the assumption that Mauritania will receive Kuwait Investment Authority (KIA) debt relief. In percent of export, the value stands at 208.1 percent and will remain elevated over the projection period. The analysis also points to elevated PPG debt service to exports ratio over the medium term, reflecting the repayment of bilateral financing contracted in 2015 to boost reserve and upcoming maturities that are falling due. The respective value will increase from 8.6 percent in 2015 to 24.5 percent in 2021, before dropping to 15.7 in 2036. Public DSA dynamics reflect those of external DSA, since public debt is largely composed of external debt. The PV of public sector debt, at 75.5 percent of GDP, falls over the projection period driven by pickup in growth rates, but remains elevated because of higher debt disbursements associated with new investment projects. Gross financing needs, at 14.9 percent in 2016, will also remain elevated in the medium term and rise to 18.3 percent in 2021.

Sudan: Public sector debt in **Sudan** stands at 73 percent in 2015 and is largely composed of external debt, amounting to 61.9 percent of GDP. The bulk of the external debt is public and publicly guaranteed (59.9 percent), owed mainly to bilateral creditors. Under the baseline scenario, external debt in Sudan remains unsustainable and its unresolved arrears with creditors hinders its access to external financing, including concessional borrowing. Sudan is eligible for the Highly Indebted Poor Countries (HIPC) Initiative assistance, but still has to meet certain requirements to reach the Decision Point. Mainly, it has to receive assurances of support from creditors for debt relief, as well as clear its existing arrears with the IMF and set a track record of cooperation with the IMF on sound macro-policies and payments. As of 2015, the present value (PV) of PPG external debt ratio stands at 93.2 percent- around three times higher than the 30 percent threshold for weak policy performers. Similarly, the PV of PPG external debt to exports ratio is 1414.5, is well above the threshold. Over the medium to long run, the ratios are projected to improve yet remain above the sustainable levels. As for the public DSA, it mirrors external DSA results. The PV of public debt to GDP ratio stands at 106.2 percent in 2015 and is expected to decline to 56.2 percent in 2021 and further to 49.2 percent in 2036. Total gross financing needs amount to 4.1 percent will remain in the range of 3.3-4.7 percent in the medium term.

Annex Figures

Figure 1: Gross debt (% of GDP) of selected Arab countries

A. Oil-rich countries: Low but increasing debt to GDP ratio since 2015



B. Oil-poor countries: high debt to GDP ratio

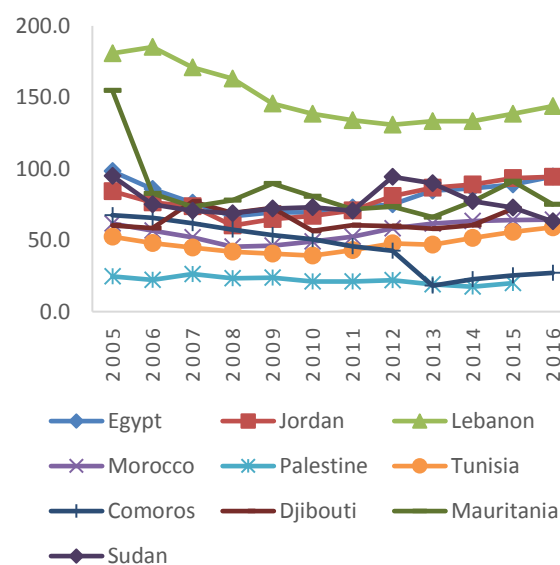


Figure 2: External debt stock, % GNI

