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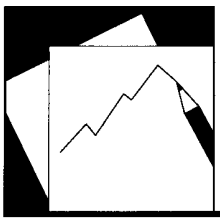

IMF Working Paper

The Cyclicality of Fiscal Policy in the Middle East and Central Asia: Is the Current Crisis Different?

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Abstract

The countries of the Middle East and North Africa, and the Caucasus and Central Asia have the highest output volatility in the world. Fiscal policy is a powerful tool that can help dampen the business cycles. This paper analyzes the cyclical properties of fiscal policy in the region during the past four decades and explores whether the response during the current global economic crisis is different in 2009. Across a sample of 28 countries, we find that fiscal policy has typically amplified the business cycles and that it has been more procyclical in good times than in bad times. However, the response to the current crisis has differed from the past in that about half of the countries responded countercyclically in 2009. Going forward, the fiscal space during downturns varies widely across countries, depending on the level of debt, access to capital markets, and natural resource wealth. Not surprisingly, the oil exporters have more fiscal room than oil importers, although there are some oil importers that still have room to respond countercyclically in bad times.

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I. INTRODUCTION

Macroeconomic policy response has taken center stage during the current global crisis. While the shock emanated mainly from financial centers of advanced economies, it spread quickly, threatening to bring global economic activity to a halt around the world for a long period. Countries in the Middle East and North Africa (MENA) and the Caucasus and Central Asia (CCA), albeit some more integrated in the global economy than others, were not immune and policy makers attempted to use a variety of measures to contain the damage.[2] Given that most countries in the region have explicit exchange rate pegs or manage their exchange rates or have dollarized economies, the ability to use monetary policy is limited. Instead, fiscal policy potentially became the most effective tool to stimulate the economies.

Given the strong global and regional linkages of the countries in this study, the relevance of the fiscal policy response to the current crisis has an added dimension. A large stimulus in the oil exporting countries such as those of the Gulf Cooperation Council (GCC) helps maintain FDI, tourism, and remittance flows in the oil importing countries in the Middle East. Furthermore, an increase in spending by the oil exporters creates external demand in the advanced economies. To understand the nature of the fiscal policy response in this region, we ask three questions in this paper: first, how have the countries typically responded to shocks in the past—procyclically or countercyclically? Second, is there a difference in the way fiscal policy was conducted before and during the 2009 global economic downturn? And finally is there fiscal space to withstand such shocks in the future and how effective is it likely to be?

The effectiveness of fiscal policy depends on its ability to smooth the volatility of output during business cycles. One should expect fiscal policy to expand during downturns and contract during booms. Indeed, the evidence on industrial countries confirms this pattern. Contrary to expectations, however, Gavin and Perotti (1997) and Talvi and Vegh (2005) find that, in sharp contrast to industrial countries, procyclical fiscal policy was the norm in several developing countries, particularly Latin America. Two main explanations have been put forward to explain this pattern. During bad times, limited access to international capital markets stifles the ability of policy makers to conduct countercyclical policies (Gavin and Perotti, 1997; Riascos and Vegh, 2003; IMF, 2005). During good times, political pressures or complacency that such times will continue for a long time can lead to fiscal profligacy (Tornell and Lane, 1999; Talvi and Vegh, 2005; Alesina et al., 2008).

[2] This study covers oil exporters in the Middle East and North Africa (Algeria, Bahrain, Iran, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Sudan, UAE, and Yemen), oil importers in that region (Djibouti, Egypt, Jordan, Lebanon, Mauritania, Morocco, Pakistan, Syria, and Tunisia), and countries in the Caucasus and Central Asia (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan). Iraq and Afghanistan are excluded from almost all of the analysis in the paper because of lack of data.

Procyclical fiscal policy is particularly undesirable in developing countries. It not only exacerbates the business cycle, but the high output volatility, in turn, hurts the poorer sections of the society more because of the relatively weaker safety nets (IMF, 2005). Moreover, high output volatility hampers long-term growth by increasing macroeconomic uncertainty—which generates less incentives for capital accumulation (Serven, 1998) and squeezes resources from productive activities (Montiel, 2003). Aizemann and Pinto (2005), Kose et al. (2005), and Goyal and Sahay (2006) empirically find an inverse relationship between volatility and growth in advanced economies as well as developing countries.

However, there are two caveats to the desirability of countercyclical fiscal policy: fiscal adjustments in bad times—a procyclical fiscal stance— may be needed to signal credibility of policies and preserve the sustainability of public finances and the current account (IMF, 2005). And second, even if countercyclical fiscal policy is feasible, it may not be effective because fiscal multipliers may be low (Iletzki et al., 2009).

The contribution of this paper is three fold: first, it is the first systematic effort to document empirically the cyclical properties of fiscal policy in the Middle East, North Africa, and Central Asia. Second, it analyzes the response during the current global economic crisis and compares it to past patterns. And third, it explores whether countercyclical policies are feasible in the future, given country specific circumstances.

Based on data for 28 countries, we find that fiscal policy in the region has typically been procyclical and that procyclicality has been more pronounced in good times. We also find that the procyclical bias has been more evident in the oil exporters than the oil importers. Interestingly, however, the response to the current crisis has differed from the past in that about half of the countries responded countercyclically. Finally, as expected, we find that the scope of countercyclical fiscal policy going forward is higher in the oil exporters than the oil importers, although there are differences within these sub-groups.

The rest of the paper is organized as follows. Section II discusses some special characteristics of the region that are relevant for our analysis. Section III presents the main features of the cyclical behavior of fiscal policy during 1970-2007. In Section IV, we analyze the fiscal policy response to the current crisis. Section V assesses the available fiscal space for pursuing countercyclical policies in the near future and attempts to identify countries where fiscal policy is more likely to be effective in stimulating economic activity. Finally, in Section VI, we offer some concluding remarks.

II. BACKGROUND

Before starting our analysis, we highlight some salient features of the region that underscore the importance of understanding the cyclical behavior of fiscal policy. First, macroeconomic volatility in the region has historically been the highest in the world (see Gavin and Hausmann

(1995) for 1970-1992). Figure 1 confirms this pattern for the most recent decade. Such high output volatility could simply reflect structural characteristics of the region (for example, oil production and revenues that vary widely across time in response to external developments) but could also be an outcome of policies which have not helped dampen the cycles. Thus, from a policy perspective it is important to understand the distinction.

The region is very heterogeneous in terms of resources, the size of the economies, as well as per capita income. The per capita income varies from $85,371 in Qatar to $737 in Afghanistan (Table 1). Saudi Arabia has the highest GDP at almost 400 times that of Djibouti (Figure 2). As Figure 3 indicates, oil production is significant in 19 out of 28 countries in the sample, accounting for more than 30 percent of GDP in nearly one-third of the countries.

Developments in the oil sector have substantial macroeconomic consequences, not only because the sector is large but also because oil prices, and therefore government revenues, are volatile (Davis et al., 2003). Oil prices rose from $14 a barrel in 1998 to over $100 a barrel in 2008 before declining sharply to an average of $62 in 2009. Figure 4 shows that oil revenues account for a very substantial fraction of total government revenues in nearly half the countries in our sample. Under these circumstances, formulating and implementing fiscal policy is complicated because oil prices are volatile and difficult to forecast. A key short-term macroeconomic policy challenge is to insulate the provision of important public goods and protect the social sector (for example, education and health) from the unavoidable oscillations of oil revenues.

III. FISCAL POLICY IN THE PAST

This section presents the conceptual framework and defines fiscal policy cyclicality. We then explore the cyclical properties of fiscal policy during the 38 years prior to the 2008-09 global economic downturn. Two main stylized facts emerge: first, fiscal policy in the region has been procyclical, and second, the procyclicality is more pronounced in the good times than the bad times.

A. The Conceptual Framework and Measurement Issues

Kaminsky et al. (2004) persuasively argue that fiscal policy cyclicality can be meaningfully defined only in terms of the policy instruments as opposed to fiscal outcomes since only the former is under the direct control of policy makers. We follow their approach in that our variables of interest will be government spending and tax rates (rather than other measures such as fiscal balance or tax revenues). Using this approach,

i. Fiscal policy is defined as countercyclical if and only if tax rates increase (decrease) and government spending decreases (increases) in good (bad) times. This policy is expected to dampen business cycles.

ii. Fiscal policy is defined as procyclical if and only if tax rates decrease (increase) and government spending increases (decreases) in good (bad) times. This policy is expected to amplify business cycles.

iii. Fiscal policy is defined as acyclical if and only if tax rates and government spending remain constant across time. This policy will neither dampen nor amplify business cycles.

In practice, however, systematic time series data on tax rates, including for the countries in our sample, do not exist in developing countries (other than perhaps the inflation tax rate but is of importance when inflation is very high which is not the case in this region). Thus, we will use government spending as the main indicator to assess the cyclical properties of fiscal policy.

The periods for which data on government spending and GDP are available are 1969-2007 for the MENA oil exporters and importers, and 1994-2007 for the CCA. We split the real GDP annual time series into its trend and cyclical components using the Hodrick-Prescott (HP) filter and define "good" times as the years in which the cyclical component of GDP is positive, and "bad" times as those years in which the cyclical component of GDP is negative. To measure the fiscal policy response we construct a time series on real government spending for each country using the average CPI as deflator. Due to data limitations on comprehensive measures of government spending, spending by the central government is used. Then, we run the HP filter to obtain the cyclical component of real government spending. In applying the HP filter to extract the cyclical components of the series, we follow Backus and Kehoe (1992) and use a smoothing parameter $\lambda = 100$ for all countries.[3]

B. Two Stylized Facts

Figure 5 shows the correlation coefficient between the cyclical components of real government spending and real output. This measure is positive in twenty two countries and negative in only six countries. This suggests that fiscal policy in the region has been predominantly procyclical. A binomial test confirms this finding: it rejects the null hypothesis that fiscal policy has not been procyclical with 99 percent level of confidence.

As a complementary approach, we build aggregate series for real GDP and real government spending for the whole region.[4] We also distinguish between MENA oil exporters (MOE), MENA oil importers (MOI), and the CCA. We then extract the cyclical component of each series using the HP filter for the region as a whole and for each of the subgroups. Table 2 shows the

[3] Even though the amplitude and length of business cycles could differ across the countries in the region, for lack of a better alternative we employ a standard technique used in the literature. The concept of business cycles is particularly complex in the Caucasus and Central Asia (CCA) region where market oriented structural reforms that affect the productive capacity of economies are still ongoing.

[4] We first measure real output and real government spending for each country in US dollars. Then we sum each series across all countries to obtain the regional aggregate.

correlation coefficients between the cyclical components of real GDP and real government spending at both the regional and sub-regional levels.

Once again, the hypothesis that fiscal policy is procyclical in the region cannot be rejected with 99 percent level of confidence. The same result holds for both the MENA oil exporters (MOE) and the CCA but, interestingly, it does not hold for the MENA oil importers (MOI). The absence of procyclicality for the oil importers is probably driven by Egypt—one of the largest economies within that subgroup— where fiscal policy has been uncorrelated with the cycle (Figure 5).

We now assess whether the link between the cyclical components of fiscal policy and GDP is equally strong in "good" times and in "bad" times. We divide the sample into episodes where the cyclical component of real GDP is positive ("good times") and those where the cyclical component of real GDP is negative ("bad times"). Table 3 shows the correlations between the cyclical components of real GDP and real government spending in good and in bad times at both the regional and sub-regional levels.

For the region as a whole, fiscal policy is particularly procyclical in good times—the correlation coefficient is about 0.8 and is statistically significant at the 1 percent level. In contrast, while the correlation coefficient is still positive in bad times, it is not statistically significant. Hence, the cyclical behavior of fiscal policy is asymmetric in the sense that the procyclical behavior is stronger in good times. The same results hold for the MENA oil exporters and the CCA. Once again, however, we do not see any statistically significant link between the cyclical components of government spending and output for the MENA oil importers.

In sum, fiscal policy in the Middle East, North Africa, and Central Asia has been predominantly procyclical, especially in good times. This suggests that political economy factors that result in excessive spending pressures in good times might have played a more important role than financial constraints in explaining the cyclical behavior of fiscal policy.

IV. Fiscal Policy Response to the Crisis in 2009: Was it Different?

A. Selecting Appropriate Variables of Measurement

As elsewhere in the world, the global crisis has taken a toll on the region —with virtually all countries projected to face a sharp deceleration in growth in 2009. What has been the fiscal policy response to the growth slowdown? Did countries follow their broad historical pattern of procyclicality or was it different this time around?

To assess the fiscal policy response to the growth slowdown in 2009, unfortunately we cannot rely on the methodology used in the previous section. This is because it is not possible to compute the correlation coefficient between fiscal policy instruments and real output for only one year.

Hence, the natural starting point to gauge the fiscal policy response in the region in 2009 is to look at commonly used fiscal indicators that reflect discretionary behavior on the part of the authorities. A *change in the primary balance* (defined as overall fiscal balance minus interest payments) would seem to be an appropriate instrument: it can be measured, is an aggregate policy instrument, and reflects the discretionary component of fiscal policy, unlike a change in the overall fiscal balance. The latter includes interest payments that are largely the result of policy decisions in previous years and are therefore out of the authorities' control in the current year. [5] Fiscal policy is considered contractionary when the primary balance increases, and expansionary when the primary balance decreases.

Measuring the primary balance as a share of GDP, Figure 6 shows that fiscal expansions are projected in almost all the countries in the sample in 2009.[6] In contrast, fiscal contractions are projected only in Iran, Pakistan, and Mauritania. Interestingly, fiscal expansions larger than 10 percent of GDP are projected for seven oil producing countries.

However, as Medas and Zakharova (2009) note, relying on the change of the primary balance (in percent of GDP) to assess the effects of fiscal policy on domestic demand could be misleading in the case of oil producing countries. Contrary to tax revenues, government oil revenues largely come from abroad (i.e., exports) and do not directly affect domestic absorption. Hence, the change in the non-oil primary balance (i.e., primary balance net of oil revenues) is a better measure of the impact of fiscal policy on domestic demand.[7]

Figure 7 shows that, when we leave aside oil revenues, fiscal expansions are still projected in most countries in 2009. However, the size of the projected fiscal expansions is substantially lower (but still sizable) in several oil producing countries (e.g., Saudi Arabia, Algeria, and Oman), and even turns into fiscal contractions in three additional cases: Egypt, Sudan, and Yemen. This implies that a significant fraction of the fiscal expansions in Figure 6 is explained by a large reduction in oil revenues. This is not surprising since the price of oil fell by 36 percent in 2009.

An additional complication with fiscal indicators in oil producing countries is that the high volatility of the price of oil is translated into a high volatility of (nominal) GDP as a result of the impact of oil prices on the GDP deflator. Hence, using GDP to scale the non-oil primary balance could be difficult to interpret because changes in the ratio could be mainly driven by changes in

[5] Note that our measure of the primary balance does not cover quasi-fiscal activities implemented by central banks or any other fiscal activities that are implemented outside the budget. We will abstract from all these activities.

[6] Data for 2009 reflect projections as of September 2009.

[7] Similar to taxes, fuel subsidies directly affect the purchasing power of consumers. Hence, we include them in the definition of the non-oil primary fiscal balance because of their impact on domestic demand. As explained by Medas and Zakharova (2009, p. 31), " Fuel subsidies should be included in the non-oil balance on the grounds of fiscal sustainability, their impact on domestic demand, and their contribution to fiscal vulnerabilities and fiscal effort."

the denominator. For instance, a lower non-oil fiscal deficit in nominal terms might come hand in hand with a higher non-oil primary deficit ratio if nominal GDP falls proportionally more than the non-oil fiscal deficit. Thus, the change in the non-oil primary balance expressed as a share of non-oil GDP is likely a more appropriate measure of the impact of fiscal policy on domestic demand.

Figure 8 shows that, when we exclude oil revenues and we scale the non-oil primary balance by non-oil GDP, fiscal expansions are still observed in two-thirds of the countries in the sample in 2009. However, there are now three additional countries (Libya, Oman, and Kuwait) for a total of nine countries which had fiscal contractions rather than expansions by this measure. The most striking change is apparent in Libya. Furthermore, the size of the fiscal expansion, while still sizable, falls in several oil producing countries such as Saudi Arabia and UAE.

B. Defining Fiscal Impulse versus Automatic Stabilizers

To assess whether policy makers' respond proactively to recessionary or boom conditions, it would be useful to distinguish between automatic features that are built in the tax and expenditure systems (such as a fall in tax revenues or a rise in unemployment benefits because output falls), known as *automatic stabilizers,* and discretionary actions, or the *fiscal impulse*. To measure this distinction, it is important to know whether the output gap (the different between actual and potential output) is falling or rising. An increase in the output gap means that it becomes less negative if output is below potential and more positive if output is above potential. Similarly, a decrease in the output gap means that it becomes less positive if output is above potential and more negative if output is below potential. Note that without any discretionary actions, the non-oil primary balance (NOPB) will automatically increase (decrease) when the output gap (OG) increases (decreases). This is due to the fact that revenues are more responsive than expenditures to changes in the output gap simply because tax bases automatically change when the output gap changes.

Thus, a higher non-oil primary deficit cannot always be associated with a discretionary fiscal expansion and may simply reflect that the output gap (OG) is decreasing. In other words, fiscal policy outcomes are influenced by cyclical factors that are not under the control of policy makers. Therefore, to assess the discretionary fiscal policy response to the recent growth slowdown, we need to leave aside the influence of cyclical factors on fiscal outcomes. In order to do that, we break down the change in the non-oil primary balance (NOPB) into the change in the cyclically adjusted non-oil primary balance (CANOPB) plus the change in the cyclical non-oil primary balance (CNOPB):

$$\Delta NOPB = \Delta CANOPB + \Delta CNOPB \qquad (1)$$

The change in the CANOPB reflects the fiscal impulse (FI) while the change in the CNOPB

represents automatic stabilizers (AS). These concepts can now be used to redefine contractionary /expansionary fiscal policy. Fiscal policy is contractionary *when the change in the cyclically adjusted non-oil primary balance is positive* (ΔCANOPB > 0), and is expansionary *when the change in the cyclically adjusted non-oil primary balance is negative* (ΔCANOPB < 0).

To assess whether fiscal policy is countercyclical or procyclical, we have to examine the link between the change in the output gap, OG, and the change in the CANOPB. The sign of the change in the OG tells us if the economy is in the upward or downward phase of the business cycle: if the change in the OG is positive (negative), then the economy is in the upward (downward) phase of the business cycle. The sign of Δ CANOPB tells us whether fiscal policy is expansionary or contractionary.

If the change in the output gap is negative (positive), then expansionary (contractionary) fiscal policy—ΔCANOPB< (>) 0—represents a countercyclical fiscal stance. By the same virtue, expansionary (contractionary) fiscal policy in the face of a positive (negative) change in the output gap represents a procyclical fiscal stance.

C. The Evidence

The first step in assessing the cyclicality of fiscal policy is to estimate the change in the output gap in 2009. We first take the non-oil real GDP (Y) time series and apply the HP filter to obtain a series of potential (non-oil) output (Y^p).[8] We then compute the output gap (OG) in period t as the deviation of actual non-oil real output from potential (non-oil) output expressed as a percent of potential (non-oil) output:

$$OG_t = (Y_t - Y_t^p)/ Y_t^p \qquad (2)$$

Figure 9 shows that the output gap is projected to decrease in almost all countries in the region in 2009—that is, the economies are in the downward phase of the business cycle. Algeria, Morocco, and Lebanon are the only countries in which the output gap is projected to increase. It is interesting to note that in about half of the countries the output gap is positive (i.e., output is projected to be above potential) in 2009 but is still decreasing.

Following IMF (2009a), we estimate fiscal impulses (FI) as the change in the cyclically-adjusted non-oil primary balance (CANOPB) as a share of potential (non-oil) output (Y^p):

[8] When applying the HP filter, we follow Backus and Kehoe (1992) and use a smoothing parameter $\lambda = 100$ for all countries. To address the end point problem of the HP filter, we use IMF's output projections through 2014.

$$FI = \Delta \frac{CANOPB}{Y^p} \qquad (3)$$

and automatic stabilizers (AS) as the residual obtained after subtracting the fiscal impulse (FI) from changes in the non-oil primary balance (NOPB) as a fraction of actual (non-oil) output (Y):

$$AS = \Delta \frac{NOPB}{Y} - FI \qquad (4)$$

In turn, the CANOPB measured in relation to potential (non-oil) output can be expressed as a function of the ratio of (non-oil) revenue and expenditure to GDP, the output gap, and the elasticity of (non-oil) revenue and expenditure with respect to the output gap:

$$\begin{aligned} \frac{CANOPB}{Y^p} &= \frac{R^{CA}}{Y^p} - \frac{G^{CA}}{Y^p} = \frac{R}{Y}\left(\frac{Y^p}{Y}\right)^{\varepsilon_R - 1} - \frac{G}{Y}\left(\frac{Y^p}{Y}\right)^{\varepsilon_G - 1} \\ &= r(1+OG)^{-(\varepsilon_R - 1)} - g(1+OG)^{-(\varepsilon_G - 1)} \\ &\cong r(1-(\varepsilon_R - 1)\text{gap}) - g(1-(\varepsilon_G - 1)\text{gap}) \end{aligned} \qquad (5)$$

where R^{CA} is the cyclically adjusted (non-oil) revenue, G^{CA} is the cyclically adjusted expenditure, R is (non-oil) revenue, G is nominal expenditure, ε_R is the elasticity of (non-oil) revenues with respect to the output gap, ε_G is the elasticity of expenditures with respect to the output gap, Y is actual output and Y^p is potential output, and *r* and *g* denote ratios of (non-oil) revenue and expenditure to GDP, respectively. As is standard in studies of other developing and emerging market countries, and following IMF (2009a), we assume that $\varepsilon_R = 1$ and $\varepsilon_G = 0$ for all countries.[9]

Figure 10 shows that fiscal policy was expansionary in half of the countries in the sample. In most cases, the expansionary fiscal policy stance occurred during the downward phase of the business cycle (Figure 9). Thus, the fiscal policy response in 2009 has mostly been countercyclical, representing a departure from historical patterns of procyclicality.[10] The few countries where fiscal policy was contractionary were also those in the downward phase of the business cycle—implying that the fiscal policy stance was procyclical.

[9] Estimating these elasticities would require high frequency data for government revenues and government spending. This information is simply not available.

[10] However, in Algeria, Lebanon, and Morocco, the projected expansionary fiscal policy came hand in hand with an upward phase of the business cycle, making the fiscal policy response procyclical.

It is interesting to note that automatic stabilizers reinforced the fiscal impulse in countries pursuing countercyclical policies—further worsening the primary non-oil fiscal balance. For most countries whose policy stance has been procyclical, the contractionary fiscal impulse outweighed the effect of automatic stabilizers, leading to improvements in the projected non-oil primary balances.

V. LOOKING FORWARD: ARE STIMULUS PACKAGES AFFORDABLE AND WILL THEY BE EFFECTIVE?

In this section, we attempt at identifying countries that have the fiscal space going forward to pursue an expansionary fiscal policy during an economic downturn. As noted in IMF (2009b), several countries may wish to pursue a countercyclical policy but are unlikely or unable to do so due to a variety of constraints discussed below that reduce their room of maneuver. Somewhat related, an expansionary fiscal policy may not always be effective in stimulating output because the repercussions of the fiscal expansion on the rest of the economy might undo the initial expansionary effect.

A. Room to Maneuver—Fiscal Space

According to Heller (2003), fiscal space is defined as "the room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy". Similarly, Ghosh et al. (2009) define fiscal space as "the scope for financing a deficit without undue crowding out of private activity, sharp increases in funding costs, or undermining debt sustainability."

There is no standard method of constructing an index of fiscal space based on the existing definitions in the literature. In fact, Perotti (2007) argues that the concept of fiscal space often suffers from loose definitions, and as such can be a source of confusion. We take a simple intuitive approach by focusing on two indicators that contain a lot of information: the stock of existing public debt and the level of interest rates.[11]

The stock of existing public debt matters because it entails servicing the debt that could limit the resources for pursuing countercyclical fiscal policy. In addition, even if the resources are available in the present, it may send a negative signal to creditors and domestic tax payers if countries already have high debt levels. Creditors may be concerned that the country could face debt servicing difficulties in the future. Domestic tax payers could interpret a further increase in

[11] IMF (2009b) makes reference to several considerations that could be important to assess fiscal space. Some important macroeconomic considerations relate to inflation rates, the current account position, and international reserves coverage. Some microeconomic considerations are the quality of spending and the capacity to spend. There could also be institutional constraints such a fiscal responsibility laws that reduce the room to maneuver.

debt as a sign of higher tax rates to come and may decide to save more today, thereby reducing private demand which would counter the impact of the fiscal stimulus on aggregate demand. The level of the interest rates on government borrowing reflects the opportunity cost of fiscal stimulus. If government borrowing is from domestic sources, higher interest rates will crowd out borrowing by the private sector. If borrowing is from external sources, higher interest rates will attract capital inflows, causing an appreciation in the real exchange rate which, in turn, reduces the country's international competitiveness.

Figures 11 and 12 combine public debt ratios with real interest rates in a cross plot for countries in the region in 2009. Two alternative interest rate measures are used to maximize country coverage: t-bill rates (Figure 11) and lending rates by commercial banks (Figure 12). Several noteworthy observations emerge:

- MENA oil importers face relatively high interest rates and high debt–to-GDP ratios, suggesting relatively less space for fiscal stimulus in the near future. In fact, four out of eight countries that have interest rates and debt ratios above the median are MENA oil importers.

- In contrast, MENA oil exporters face relatively low interest rates and low debt–to-GDP ratios, suggesting more scope for fiscal stimulus. Seven out of the ten countries that have interest rates and debt ratios below the median are MENA oil exporters. These countries have more room for fiscal stimulus and could pursue expansionary fiscal policy in the near term given that the global recovery is expected to remain muted.

- Oil importing CCA countries—in particular, Armenia, Georgia, and Tajikistan—face very high interest rates, signaling that future fiscal expansions entail a high opportunity cost.

B. Effectiveness of Fiscal Expansions

The effectiveness of fiscal expansions in stimulating output is very closely related to the notion of fiscal policy multipliers. Ilzetzki et al. (2009) demonstrate that the estimated size of fiscal multipliers varies across countries depending on certain key characteristics of the economy such as the degree of openness, the exchange rate regime, and the level of public debt.

Their study finds that fiscal multipliers are lower for relatively open economies (exports plus imports higher than 60 percent of GDP). This is consistent with the traditional view that fiscal spending is less effective in more open economies as a larger fraction of spending leaks through imports, benefiting output and employment in other countries. They also find that fiscal multipliers are higher in economies with fixed exchange rate regimes. This is in line with the Mundell-Fleming model in which, under fixed exchange rates, monetary policy accommodates fiscal policy, and hence reinforces the initial output effect of a fiscal expansion. Finally, countries with relatively high public debt (higher than 50 percent of GDP) have lower fiscal policy multipliers. This is because countries with already high public debt ratio can issue more

debt only at high interest rates, which may crowd out the private sector and hence dampen the output effect of the fiscal expansion.

Based on these findings, we classify all countries in our sample according to whether they have an exchange rate anchor, degree of openness, and public debt level. Countries with no exchange rate anchor which are relatively open and have relatively high debt are the ones with relatively less effective expansionary fiscal policy. On the other hand, a country which is relatively closed and has a low level of debt and an exchange rate anchor is more likely to benefit from a fiscal stimulus package.

Table 4 presents the countries in our sample cross-classified by the presence of an exchange rate anchor (yes/no), degree of openness (open if exports plus imports exceed 60 percent of GDP), and public debt level (high if it exceeds 50 percent of GDP). In the last column, we construct a simple measure of fiscal effectiveness ranging from zero to three, as follows: if a country has all three characteristics (no exchange rate anchor, high debt, and is open), it is assigned a value of three. If it has only two of the three characteristics, then it is given a value of two, and so on. This allows us to rank order the group of countries by their potential for pursuing expansionary fiscal policy effectively. By this measure, there appears to be considerable heterogeneity across the region but some systematic patterns emerge.

Our key findings are:

- There are eight countries which have less room for maneuver than others. With the exception of Sudan, they are oil and gas importers—two from the CCA region and five from MENA.

- MENA oil exporters appear to have more scope to pursue expansionary fiscal policy than the MENA oil importers. Of the 14 MENA countries that have the lowest index (an index of one/zero), only four are oil importers—Syria, Morocco, Tunisia, and Djibouti. These countries have the preconditions because they have an exchange rate anchor and low debt, but are open.

- Among the CCA countries, the oil and gas exporters (Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan) are well ranked in terms of potential for fiscal policy effectiveness.

VI. Conclusion and Policy Implications

Fiscal policy is an important macroeconomic policy tool for dampening the amplitude of business cycles in the countries of the Middle East and North Africa, and the Caucasus and Central Asia. This importance derives from the fact that the region has the highest volatility of output in the world and that a majority of countries have exchange rate pegs or manage their exchange rates, thereby limiting the scope of monetary policy. From a policy perspective, it is

therefore critical to know whether the countries have the space to undertake countercyclical policies, especially during downturns, and if so, will such policies be effective.

To address the policy questions, this study looked at the fiscal policy response of the region in the past. To the authors' knowledge, it is the first attempt to document the cyclical properties of fiscal policy in the twenty eight countries under study over the period 1970-2007. A standard approach widely used in the literature was taken, but adapted to the special circumstances of oil exporters where oil prices, revenues, and output are highly dependent on the external environment and where it is difficult to predict the price of oil. This study found that, in the past, most countries have responded procyclically, that is, countries have spent more in good times and less in bad times. This behavior has exacerbated the amplitude of business cycles and contributed to higher output volatility. At the same time, procyclicality was more pronounced during good times than bad times, indicating that domestic pressures to spend more during good times dominated any financing constraints they may have faced during bad times.

In contrast to past behavior, the fiscal policy response in the region during the current crisis has tended to be more countercyclical. We look at the cyclical properties during the current crisis in greater detail, distinguishing between automatic stabilizers and the discretionary component or the fiscal impulse. We find that automatic stabilizers played a less dominant role than fiscal impulse in most economies, reinforcing the fiscal impulse in countries pursuing countercyclical policies but dwarfed by the contractionary fiscal impulse in procyclical countries.

Looking forward, we investigated whether countries still have the fiscal space to ease fiscal policy during future downturns, and if so, were they likely to help expand output. The answer to these questions depended on the economic characteristics of the countries—namely, financing costs and constraints, existing level of public debt, degree of openness, and type of exchange rate regime. We found that the oil exporting countries in MENA and the CCA, not only had greater room to maneuver but were also likely to be more effective. On the other hand, the opposite was true for the oil importers with some important exceptions.

The conclusions reached in this study would benefit from additional work in refining the concept of business cycles in this region and exploring further the links and transmission channels between business cycles and fiscal policy. The role of quasi-fiscal operations, the differential impact of the composition of public spending, the quality of public expenditures, and ways to estimate fiscal multipliers in the short and medium run are clearly important questions that should be looked at in greater detail. There are limitations, however, regarding the quality and frequency of macroeconomic data, as well as the coverage, which would probably need to be first addressed.

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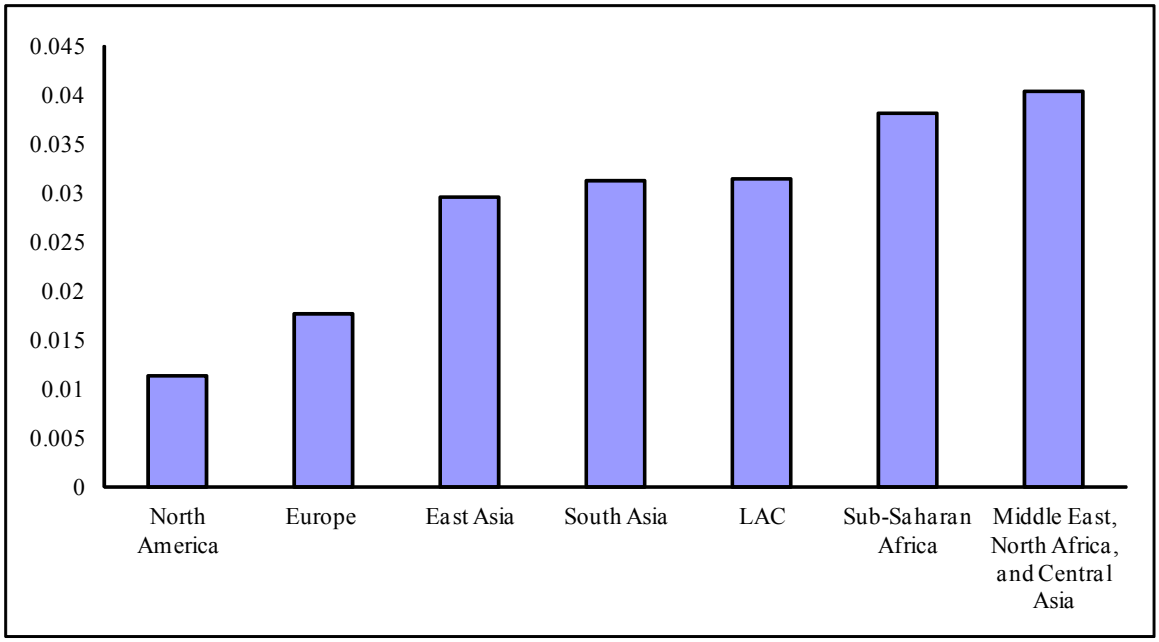
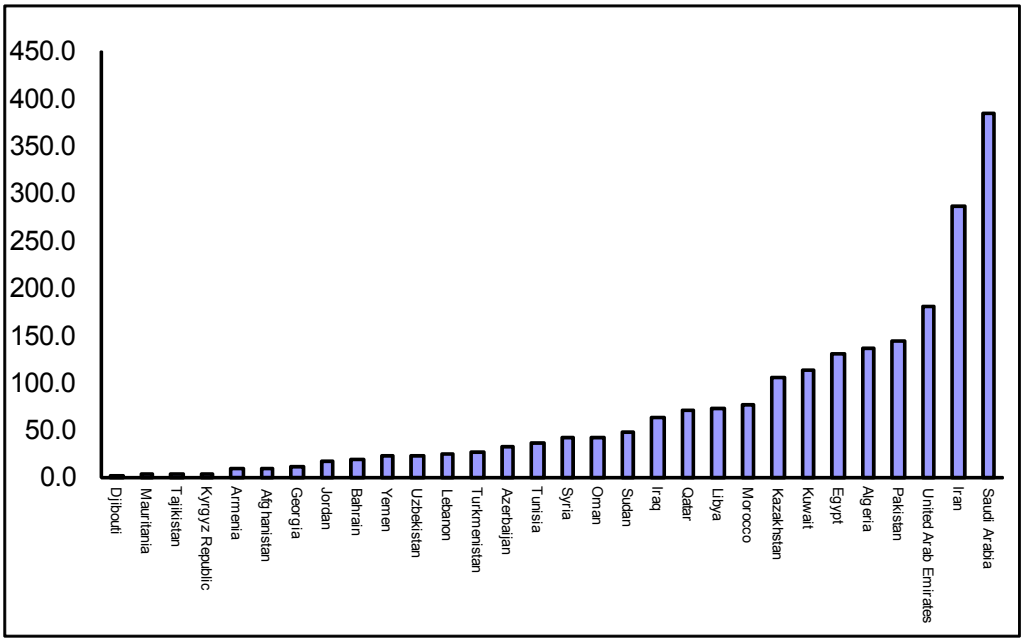
Figure 1. Standard Deviation of Real GDP Growth Rates, 2000-2007 (simple averages)



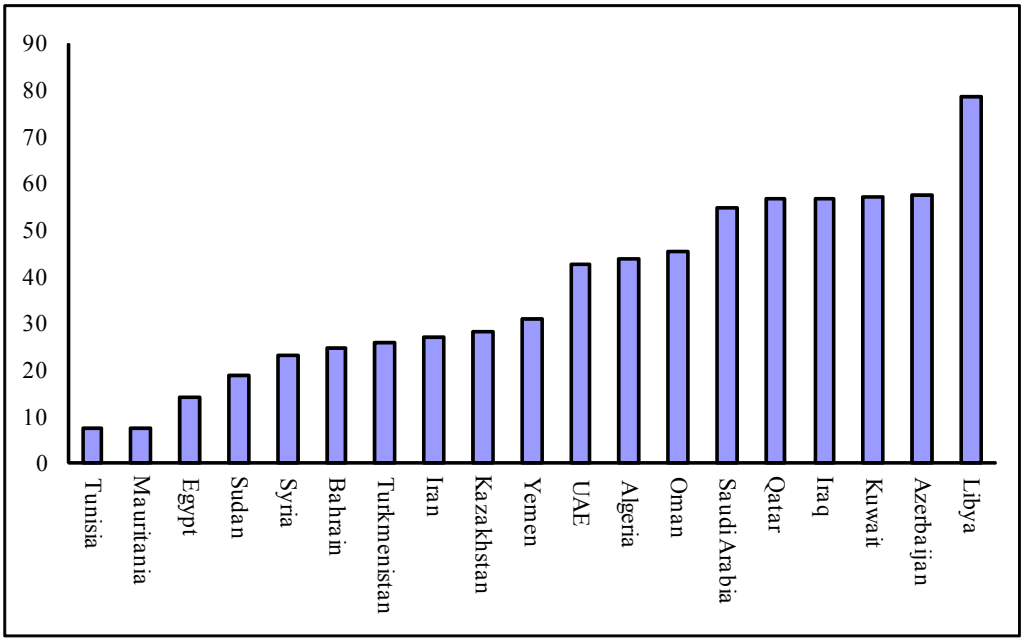
Sources: Authors' estimates; World Development Indicators, World Bank

Figure 2. Nominal GDP, 2007 (billions of US dollars)



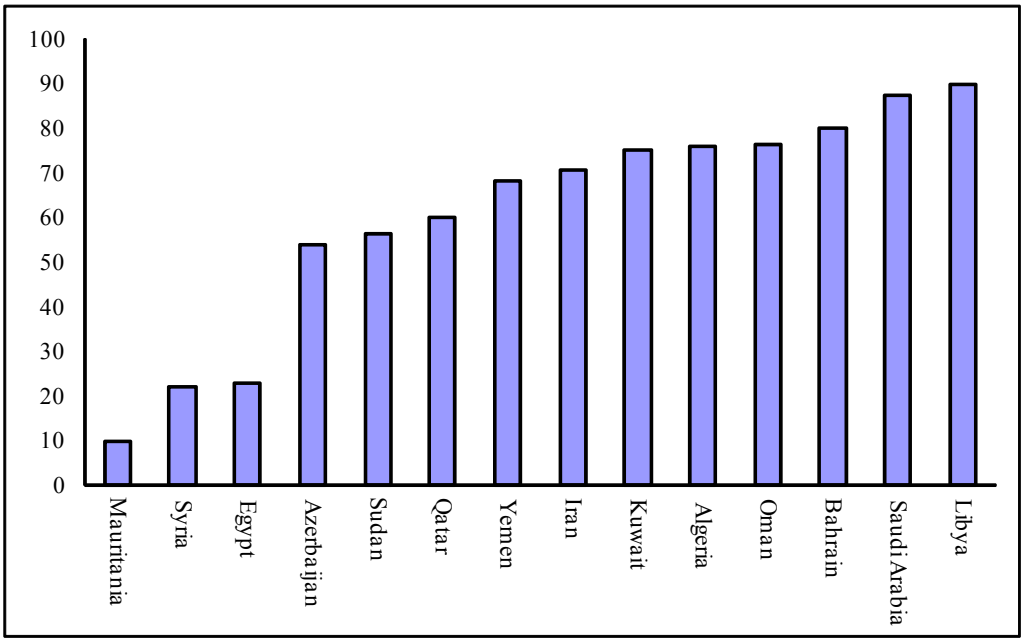
Sources: Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 3. Oil GDP, 2007 (percent of total GDP)



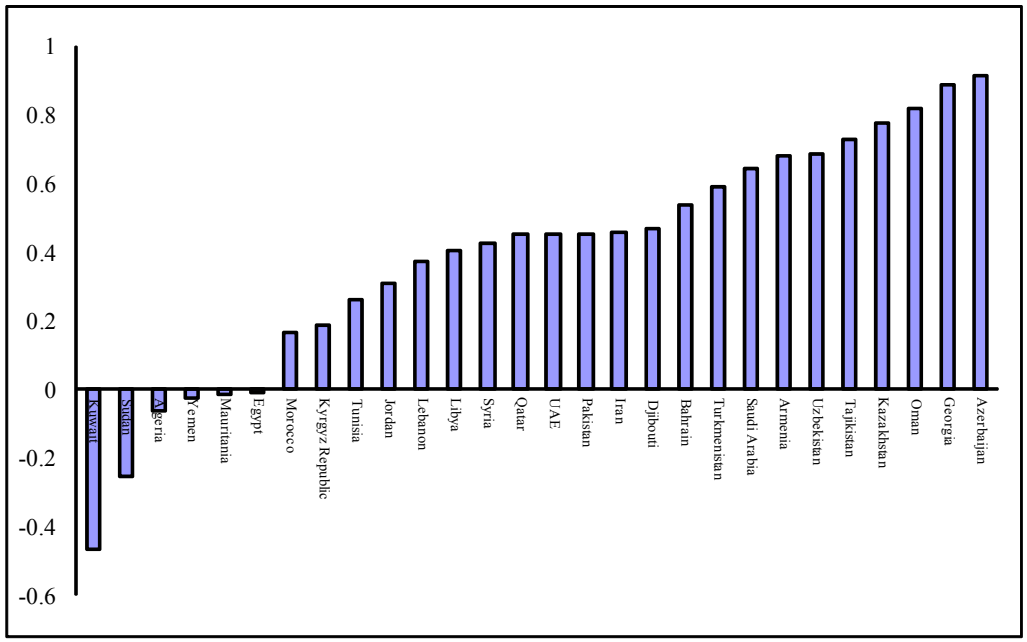
Sources: Authors' calculation; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 4. Oil Revenues of the Government, 2007 (percent of total revenues)



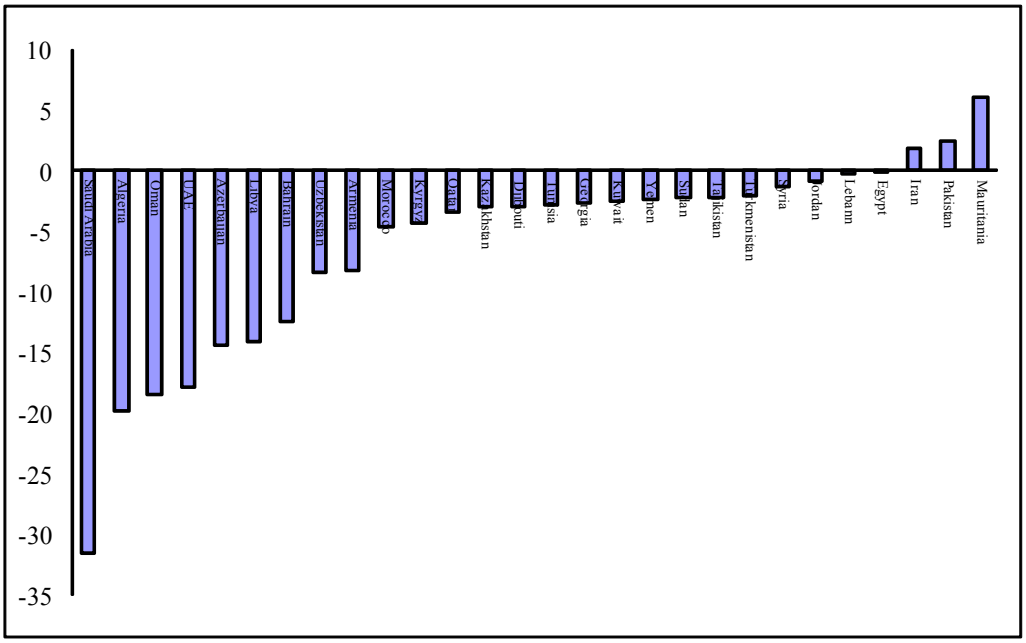
Sources: Authors' calculation; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 5. Correlation between Real Output and Real Spending
(cyclical components)



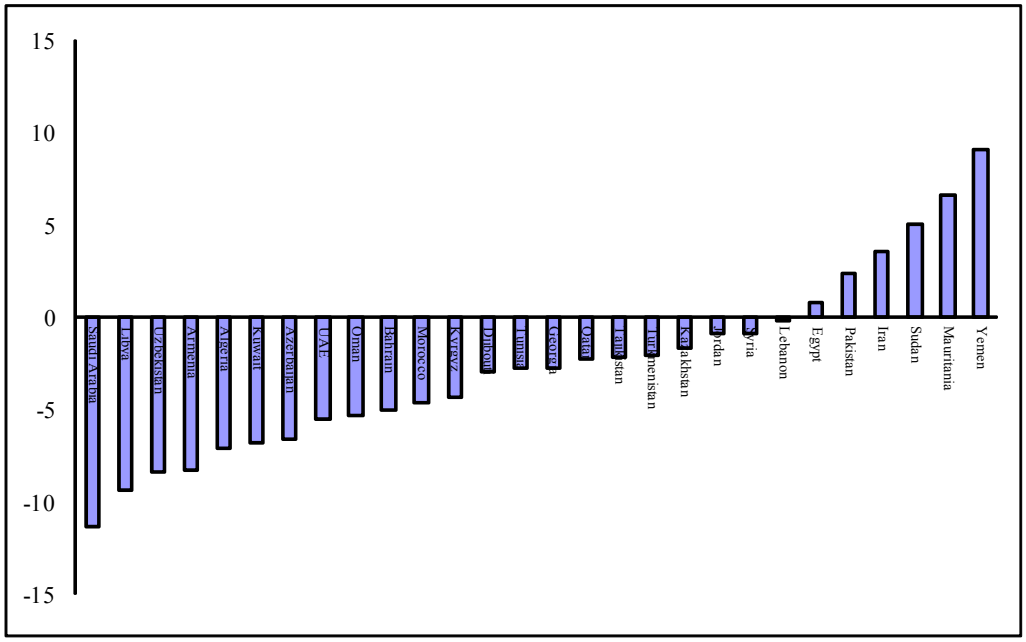
Sources: Authors' estimates; World Economic Outlook, International Monetary Fund

Figure 6. Change in Primary Balance, 2009 (percent of GDP)



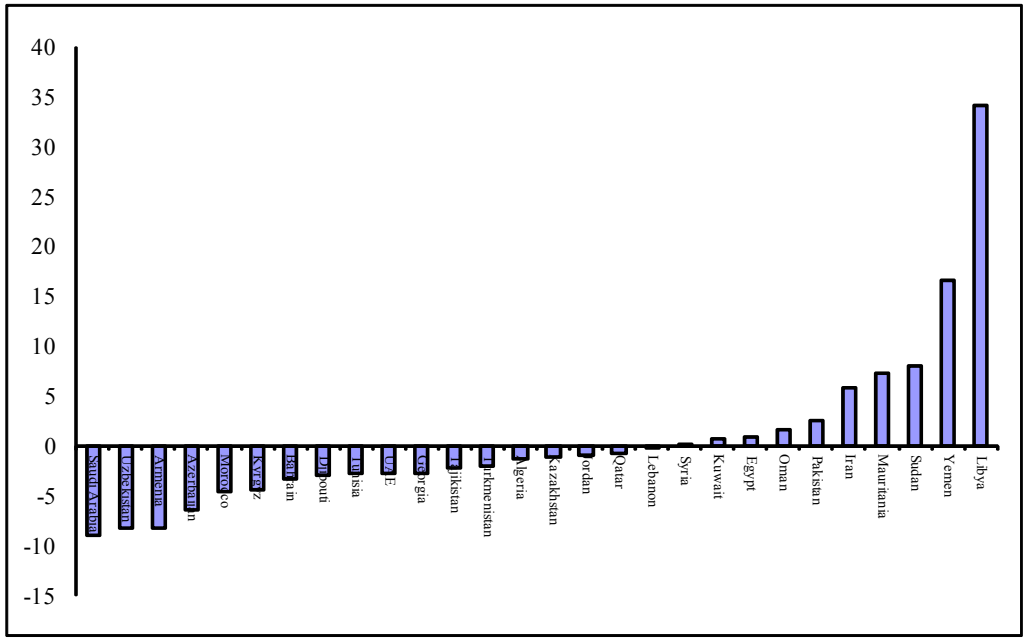
Sources: Authors' estimates; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 7. Change in Non-Oil Primary Balance, 2009 (percent of GDP)



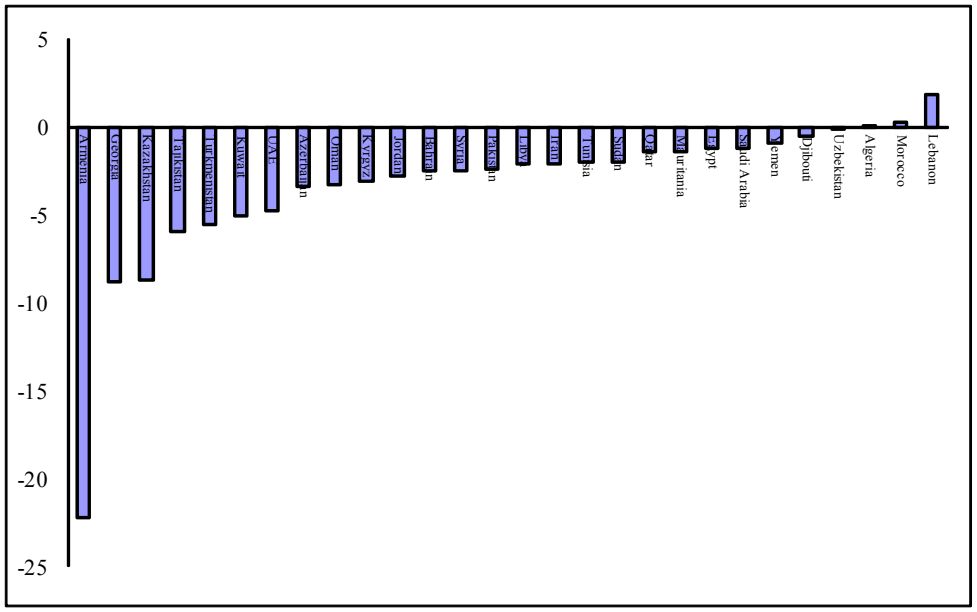
Sources: Authors' estimates; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 8. Change in Non-Oil Primary Balance, 2009 (percent of non-oil GDP)



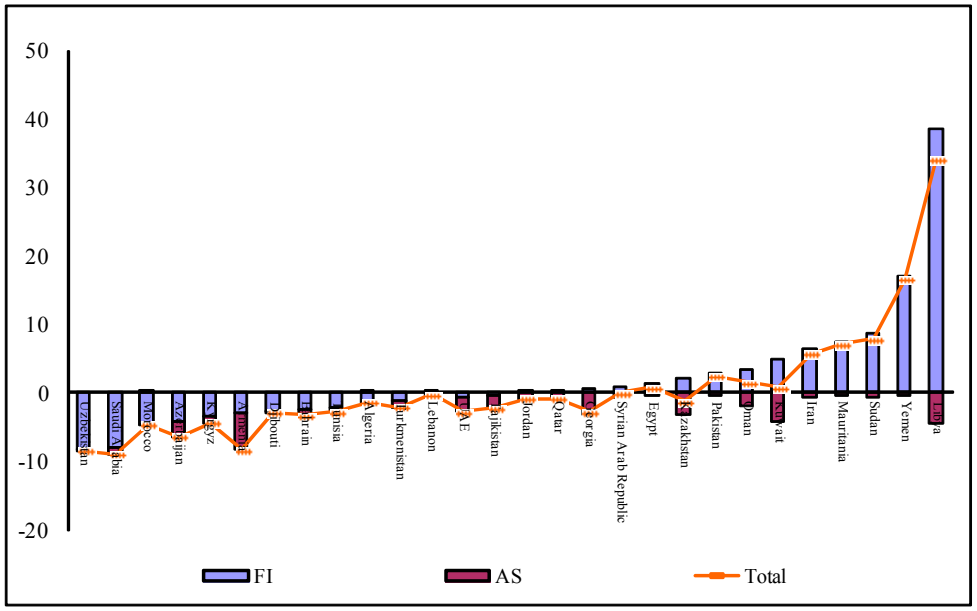
Sources: Authors' estimates; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 9. Change in Output Gap, 2009 (percentage points)



Sources: Authors' estimates; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 10. Change in Non-Oil Primary Balance Breakdown, 2009 (percent of non-oil GDP)



Sources: Authors' estimates; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Figure 11. T-Bills and Public Debt, 2009

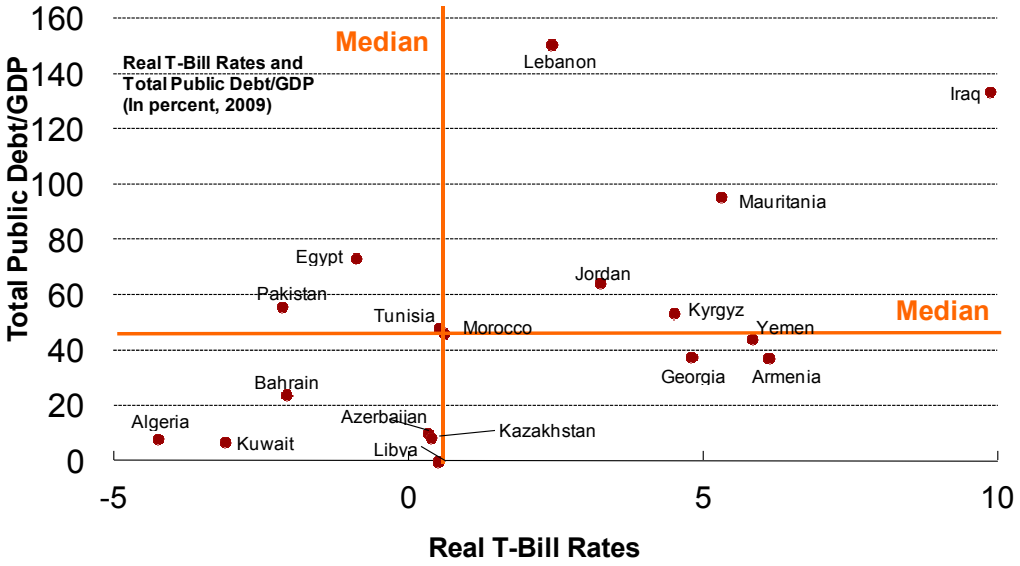


Figure 12. Lending Rates and Public Debt, 2009

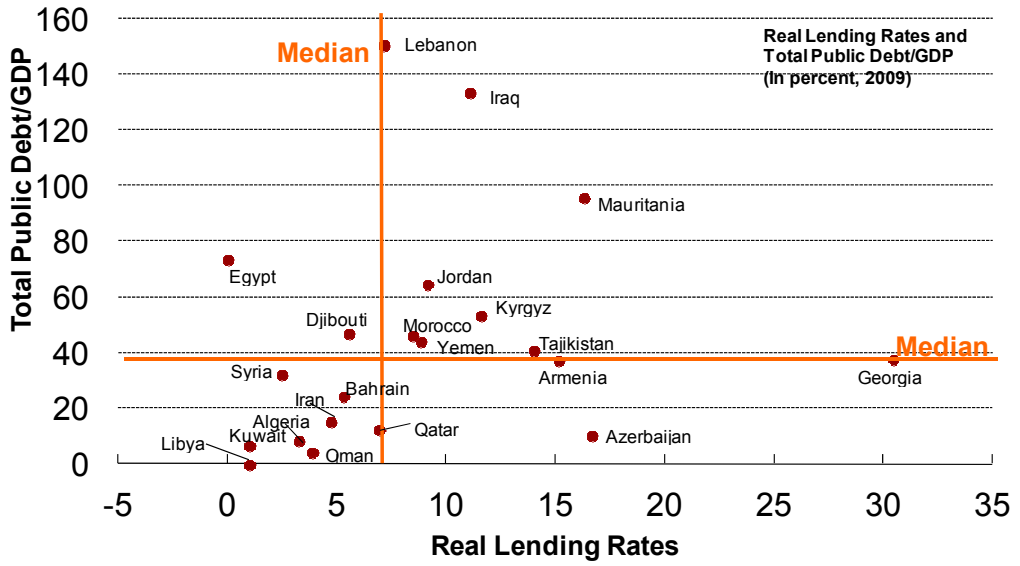


Table 1. Country Size and GDP per capita

	Nominal GDP (in billion of U.S. dollars)	Nominal GDP as a Share of the Sub-region	PPP GDP per capita (in U.S. dollars)
	2007	**2007**	**2007**
Middle East and North Africa	**1,911**	**100.0**	**6,176**
Saudi Arabia	384	20.1	22,881
Iran	286	15.0	10,734
United Arab Emirates	180	9.4	37,632
Pakistan	143	7.5	2,562
Algeria	135	7.1	6,452
Egypt	130	6.8	5,504
Kuwait	112	5.8	38,226
Morocco	75	3.9	4,102
Libya	72	3.8	13,708
Qatar	71	3.7	85,371
Iraq	62	3.3	3,189
Sudan	47	2.4	2,171
Oman	42	2.2	22,630
Syria	41	2.1	4,537
Tunisia	36	1.9	7,561
Lebanon	25	1.3	11,889
Yemen	22	1.1	2,348
Bahrain	18	1.0	32,620
Jordan	17	0.9	5,140
Afghanistan	10	0.5	737
Mauritania	3	0.1	2,016
Djibouti	1	0.0	2,273
Caucasus and Central Asia	**211**	**100.0**	**5,109**
Kazakhstan	105	49.6	10,859
Azerbaijan	31	14.8	7,633
Turkmenistan	26	12.3	5,182
Uzbekistan	22	10.6	2,394
Georgia	10	4.8	4,671
Armenia	9	4.4	5,324
Kyrgyz Republic	4	1.8	2,010
Tajikistan	4	1.8	1,846

Sources: Authors' calculation; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund

Table 2. Correlation between Real Government Spending and Real GDP

	Central Government	General Government
Middle East, North Africa and Central Asia	0.55**	0.79**
MENA Oil exporters	0.56**	0.71**
MENA Oil importers	0.008	0.04
Caucasus and Central Asia	0.92**	0.93**

** indicates significance at 1 % level.

Sources: Authors' estimates; World Economic Outlook, International Monetary Fund

Table 3. Correlation between Real Government Spending and Real GDP in Good and Bad Times

		Correlation
Middle East, North Africa and Central Asia	good times	0.82**
	bad times	0.28
MENA Oil exporters	good times	0.51*
	bad times	0.27
MENA Oil importers	good times	0.14
	bad times	-0.05
Caucasus and Central Asia	good times	0.97**
	bad times	0.23

** indicates statistical significance at 1% level; * at 5 % level.

Sources: Authors' estimates; World Economic Outlook, International Monetary Fund

Table 4. Index of Fiscal Effectiveness

	Exchange Rate Anchor [1]	Openess	Debt	index
Iran	Yes	closed	low debt	**0**
Yemen	Yes	closed	low debt	**0**
Algeria	Yes	open	low debt	**1**
Armenia	No	closed	low debt	**1**
Azerbaijan	Yes	open	low debt	**1**
Bahrain	Yes	open	low debt	**1**
Djibouti	Yes	open	low debt	**1**
Kazakhstan	Yes	open	low debt	**1**
Kuwait	Yes	open	low debt	**1**
Libya	Yes	open	low debt	**1**
Morocco	Yes	open	low debt	**1**
Oman	Yes	open	low debt	**1**
Qatar	Yes	open	low debt	**1**
Saudi Arabia	Yes	open	low debt	**1**
Syria	Yes	open	low debt	**1**
Tajikistan	Yes	open	low debt	**1**
Tunisia	Yes	open	low debt	**1**
Turkmenistan	Yes	open	low debt	**1**
UAE	Yes	open	low debt	**1**
Uzbekistan	Yes	open	low debt	**1**
Egypt	No	closed	high debt	**2**
Georgia	No	open	low debt	**2**
Jordan	Yes	open	high debt	**2**
Kyrgyz	Yes	open	high debt	**2**
Lebanon	Yes	open	high debt	**2**
Mauritania	Yes	open	high debt	**2**
Pakistan	No	closed	high debt	**2**
Sudan	No	closed	high debt	**2**

[1] As reported in the *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAR), International Monetary Fund, 2008.*

Sources: Authors' calculation; Regional Economic Outlook database, Middle East and Central Asia, International Monetary Fund