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WHY IS FISCAL POLICY PROCYCLICAL IN MENA COUNTRIES?

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Abstract

The optimal fiscal policy is countercyclical, aiming to keep the output close to its potential. Nevertheless, it has been pointed out that developing countries are unable to run countercyclical fiscal policies. Several researchers have attributed these sub optimal fiscal policies to two groups of arguments. (i) The limited access to domestic or external funds may hinder the ability of government to pursue expansionary fiscal policy in bad time. (ii) The second group of factors explains that sub-optimal fiscal policies are associated with institutional theories. The standard argument suggests that countries pursuing poor fiscal policies also have weak institutions, widespread corruption, a lack of property rights and repudiation of contract. The main goal of this paper is to analyze empirically if the ability of MENA countries to conduct countercyclical fiscal policy is affected by the quality of their institutions, the nature of political regime and/or by the availability of financial resources either on the local or international capital markets. From our fiscal policy regression, we find that budget balance in MENA region is countercyclical. At the same time, total expenditure and total revenue are procyclical. We conclude that MENA countries are unable to run countercyclical fiscal policies if they have weak institutions, limited international access, a domestic credit market and democratic political regimes.

ملخص

أفضل السياسات المالية هي السياسة غير الدورية، التي تهدف إلي جعل الإنتاج قريبا من إمكانياتها، رغم ذلك، فقد ذكر أن الدول النامية ليست قادرة علي تبني سياسات مالية غير دورية، أرجعت أبحاث مختلفة السياسات المالية التي هي دون المستوى الأمثل إلي مجموعتين من العوامل (i) :التواجد المحدود للموارد المالية المحلية و الخارجية ربما يعوق قدرة الحكومة علي متابعة سياسة مالية توسعية في الأوقات العصيبة (ii) .المجموعة الثانية من العوامل توضح أن السياسات المالية التي هي دون المستوى الأمثل تربط بالنظريات المؤسسية. و الدليل المعياري يوحي بان الدول التي تتبع سياسات مالية دون المستوي يكون لديها مؤسسات ضعيفة و فساد واسع الانتشار و عدم وجود حقوق للملكية و تتنصل من العقود المبرمة. و الهدف الرئيسي من هذه الورقة هو أن تحلل تجريبيا ما إذا كانت قدرة دول منطقة الشرق الأوسط و شمال إفريقيا علي تبني سياسة مالية غير دورية متأثرة بنوعية مؤسساتها أو طبيعة النظام السياسي بها أو توافر الموارد المالية سواء في أسواق المال المحلية أو العالمية . و من انحسار سياستنا المالية، نجد أن رصيد الموازنة في منطقة الشرق الأوسط و شمال إفريقيا غير دوري، بينما نجد أن صافي الإنفاق و صافي العوائد دوري. و نخلص من ذلك إلي أن دول منطقة الشرق الأوسط و شمال إفريقيا ربما تكون غير قادرة علي انتهاج سياسة مالية غير دورية إذا كانت لديها مؤسسات ضعيفة و قدرة ضعيف علي الدخول في سوق الائتمان المحلي و العالمي.

1. Introduction

Compared to the large literature on determinants of economic growth, there has been less research on the cyclical behavior of macroeconomic aggregates in developing countries. One reason for this is the relatively weak quality of data and its frequency in many developing countries.

Understanding the factors underlying the cyclical dynamics of macroeconomic aggregates is very important for two reasons. (i) First, examining the co-movement between economic activity and fiscal policy has analytical value from the perspective of the business cycle modeling (Akitoby *et al* [2004]); (ii) second, this type of analysis can make a valuable contribution to the design of stabilization and adjustment program (Agénor and Montiel [1996]).

A large growing literature has argued that there is a fundamental difference between how fiscal policy is conducted in developing countries compared to industrial countries. While fiscal policy in industrial countries is either a-cyclical or countercyclical, fiscal policy in developing countries is, mostly, procyclical. Gavin and Perotti [1997] were the first to call attention to the fact that fiscal policy in Latin America appeared to be procyclical. Talvi and Végh [2005] claimed that procyclical fiscal policy seemed to be the rule in the developing world.

To date, a large number of authors have reached similar conclusions to the point that procyclical of fiscal policy in developing countries has become part of the conventional wisdom (Braun [2001], Kaminsky, Reinhart and Végh [2004], Alesina and Tabellini [2005], Manasse [2006], Ilzetski [2007]…).

It was argued that the ability of developing countries to adopt optimal stabilization fiscal policy is loaded by several factors; which can be classified in two groups.

***Structural arguments*:** limited access to domestic or external funds may hamper the ability of government to pursue expansionary fiscal policy in bad time (Gavin and Perotti [1997], Riascos and Végh [2003], Caballero and Krishnamurthy [2004]).

Institutional arguments: the second group of factors that explains sub-optimal fiscal policies is associated with the institutional theories. The standard argument suggests that countries pursuing procyclical fiscal policies also have weak institutions- widespread corruption, lack of property rights and repudiation of contract- (Acemoglu, Johnson, Robinson and Taicharoen [2003]).

Our paper (i) offers a theoretical and empirical framework to assess and explain cyclical proprieties of fiscal policy in developing countries, especially MENA countries. Empirical research about procyclical fiscal policy in MENA region is inexistent and previous works focus only on Latin American and African countries. (ii) Tests more exhaustively, the impact of institutions and political regime on fiscal policy cyclicality in MENA region. (iii) Assesses, simultaneously, the role of internal and external credit constraints in affecting fiscal procyclicality.

The main goal of the present paper is to find empirically whether the capacity of MENA countries to conduct countercyclical fiscal policy is affected by the quality of their institutions, the nature of political regimes or by the availability of financial resources either in the local or international capital markets.

To achieve these following objectives we analyze three hypotheses relating to the cyclical nature of fiscal policy in MENA region:

- Is fiscal policy procyclical or countercyclical in MENA countries?

- Are MENA countries with deep financial systems and larger access to international financial markets able to pursue countercyclical fiscal policy?
- Are fiscal policies in MENA countries with strong institutions and regimes that are more democratic able to stabilize business cycle fluctuations?

In order to test these assumptions we collect data from a sample of 14 MENA countries (Algeria, Egypt, Bahrain, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabic, Syria and Tunisia, Yemen) for the period from 1980 to 2007.

Our main fiscal indicators are the budget balance, total revenue and total expenditure. We test whether these fiscal indicators are pro or countercyclical using instrumental variables approach.

This paper is organized as follows. Section 2 discusses the literature on fiscal policy cyclicality with focus on theories explaining procylicality of fiscal policy in developing countries. Section 3 presents a large empirical literature review in the objective to compare ours results with the findings of similar previous researches. Section 4 presents the stance of fiscal policy in MENA region. Section 5 examines the data and the methodology used to gauge the cyclical proprieties of fiscal indicators. Section 6 estimates and interprets fiscal policy regression for samples of MENA countries. Finally, section 7 concludes.

2. Literature Review

It has often been argued that there is a fundamental difference in how developing countries conduct fiscal policy in comparison to industrial countries. While fiscal policy in industrial countries is either a-cyclical or countercyclical, fiscal policy in developing is more often procyclical.

Gavin and Perotti [1997] argue that governments in developing countries are unable to run countercyclical fiscal policies due to the rigorous credit constraints that avoid them from borrowing during downturns. Additionally, these governments are constrained to repay their debt, which, in consequence, forced them to adopt procyclical fiscal policy.

In the same context, Gavin *et al* [1996] claimed that the limited access to international capital market involve a more pronounced procyclical fiscal policy. Therefore, developing countries cannot borrow resources in bad times and so have to cut their spending. On the other hand, they can borrow more easily during booms periods, which increases spending.

Perotti [1996], and Tornell and Lane [1999] introduced the notion of "voracity effect" to explain the overspending of transitory increases in fiscal revenues. A positive shock to income leads to more than proportional increase in public spending, even if the shock is expected to be temporary. This, in turn, is the consequence of weak institutional framework and the presence of multiple powerful groups in the fiscal process.

Kaminsky, Reinhart and Végh [2004] and Alesina and Tabellini [2005] give evidence that capital inflows to developing countries are procyclical, meaning that countries tend to borrow in good times and repay in bad ones. This procyclical access to international capital markets forced developing countries to adopt procyclical fiscal policies. To avoid the limited access to international capital markets, in bad times governments adopts fiscal adjustment. If investors raise doubts on the ability of governments to implement required adjustment, creditworthiness would weaken and further financing would disappear.

Caballero and Krishnamurthy [2004] invoke the limited financial depth to explain procyclical fiscal policy in developing countries. Accordingly, when the economy faces financial constraints to borrowing, increasing government spending may crowd out private investment and, hence, may be counterproductive.

Talvi and Végh [2005] developed an optimal fiscal policy model that incorporates a political distortion, which makes it costly to run budget surpluses due to the pressures that abandon fiscal resources created to increase public spending. Given this political distortion, a government that faces large fluctuations in the tax basis will choose to worsen taxes in good times to decline spending pressure. Nonetheless, reducing taxes in good times imposes inter-temporal distortions. Given their model prediction, optimal fiscal policy is procyclical.

Alesina *et al* [2005] try to explain why countries follow sub-optimal procyclical fiscal policies that add to macroeconomic instability. To answer this question, they adopt a political approach like Talvi and Végh [2005] and focus on diving political distortions. This political distortion leads to excessive accumulation of government debt and procyclical fiscal policy during both boom and recession and should be more prevalent in countries where political corruption is prevalent and the government is not responsible to the voters.

Using a different econometric approach, Braun [2001] reaches a similar conclusion for developing countries. Lane [2003] provides, also, evidence on the procyclicality of fiscal policy in developing countries compared to Organization of Economic Cooperation and Development (OECD) countries.

3. Empirical Research

A large empirical literature searches to improve the comprehension of these previous theoretical arguments and is deepened in two main directions. The first was to advance the assessment of the degree of cyclicality, mainly by adding more fiscal indicators like fiscal deficit, public investment, public consumption, subsidies and transfers (Akiboty *et al* [2004], Lane [2003]). The second direction of research was to explain why countries differ in terms of cyclicality of fiscal policy (Lane [2003], Gali and Perotti [2003], and Alesina and Tabellini [2005].
Lane [2003] found that most industrial countries adopt countercyclical fiscal policy and argued that countries with higher output volatility and dispersed political power are the most likely to run procyclical policies. Gali and Perotti [2003] documented countercyclicality of fiscal policy in OECD countries. They also test the effect of the adoption of the Maastricht Treaty reflecting the presence of fiscal policy rule. While the adoption of this treaty was constrained by the ability of policymakers to run discretionary policy, they found that countercyclical policy strengthened after the adoption of the Maastricht Treaty.

Kaminsky, Reinhart and Végh [2004], using a sample of 104 countries, recognized four stylized facts concerning capital flows, fiscal policy, and monetary policy. First, net capital inflows are procyclical (external borrowing increases in good times and falls in bad times) in most OECD and developing countries. Second, fiscal policy is procyclical (government spending increases in good times and falls in bad times) for the majority of developing countries. Third, for emerging markets, monetary policy appears to be procyclical. Fourth, in developing countries – particularly for emerging market – periods of capital inflows are associated with expansionary macroeconomic policies and periods of outflows with contractionary macroeconomic policies. From a policy point of view, macroeconomic policies in OECD countries aimed to stabilize the business cycle while macroeconomic policies in developing countries reinforce the business cycle.

Manasse [2006] assesses the role of shocks, rules and institutions as possible sources of procyclicality in fiscal policy. Using parametric and non-parametric techniques on a sample of 49 emerging and industrial countries for the period 1974-2004, he reached the following main conclusions. First, policy makers' reactions to the business cycle are different depending on the state of development. Second, fiscal rules and fiscal responsibility laws tend to reduce the deficit bias on average. Third, strong institutions are associated to a lower deficit bias, but their effect on procyclicality is different in good and bad times.

Thornton [2007] analyzed the cyclicality of government revenue, spending and the fiscal balance in South Africa during 1972-2001. The results suggest that while government revenues were largely acyclical, government spending appears to be predominantly countercyclical, in line with the recommendation of the neoclassical model. In addition, countercyclical government spending policy appears to have translated into a countercyclical policy stance in general, as measured by the overall fiscal balance.

Jaimovich and Panizza [2007] explain that the majority of literature is based on OLS regressions that focus on the correlation between a fiscal variable and either GDP growth or some measure of the output gap. They recognize that when looking at the correlation between GDP growth and macroeconomic policies there is an important endogeneity problem and they address this problem with new instruments for GDP growth to deal with the reverse causality issue in a large number of countries (23 industrial countries and 95 developing ones). In fact, the instrumental variable estimations suggest that statistically, there is no difference between the cyclicality of fiscal policy in developing and industrial countries.

Calderon *et al* [2004] argued that the cyclical proprieties of macroeconomic policies depend critically on policy credibility. This paper tests this proposition by using the country risk spread on sovereign debt (a proxy for the lack of policy credibility) as a principal determinant of the cyclicality of fiscal and monetary policies in emerging countries. The evidence supports that countries with higher credibility, as reflected by lower country risk, are able to conduct countercyclical fiscal and monetary policies. Conversely, countries with less credible policies contribute to larger cyclical fluctuations by applying procyclical policies.

Calderon and Shmidt-Hebbel [2008] evaluated empirically whether countries which conduct countercyclical fiscal policy are affected by the quality of their institutions and/or by the availability of financial resources either in domestic or international capital markets. In order to test this hypothesis they used a large sample of industrial and developing countries for the period 1970-2005. The main fiscal indicators are budget balance, total revenue and total expenditure of the central government. They used the index of political risk (0-100) from the International Country Risk Guide and test for the validity of sub indices of the ICGR index (political institutions, the quality of institutions, socio-economic environment and conflict).

4. Fiscal Policy in Mena Region

MENA countries have many fiscal challenges concerning deficit, debt reduction and the maintenance of fiscal discipline. However, most countries in the region face some specific fiscal issues, such as relatively high public debt, dependence on some form of aid and financial concessions, exposure to fluctuations in hydrocarbon prices, high defense expenditure and weak tax bases.

The general government balance to GDP ratio of the MENA region has, on average, improved from Medium term perspective (figure 1). However, many countries continue to exhibit large deficits, in particular the non-oil producing countries, especially Lebanon and Syria. The recent improvement is mainly explained by the positive development in the region's oil producing countries, notably Algeria, Bahrain, Kuwait and Oman, which have accumulated large fiscal surpluses in the wake of higher oil prices. Some non-oil-producing MENA countries (Tunisia, Morocco and Yemen) were also able to reduce deficits through consolidation efforts, stimulated by relatively strong and regional growth. Nevertheless, in Egypt and Lebanon, fiscal deficits remain continually high reflecting the necessity for more active fiscal consolidation effort.

While public debt-to-GDP ratios have somewhat declined, on average, for the overall MENA region, many countries remain highly indebted. Table 2 shows that public debt continuously

declined in oil-producing countries over the last years. However, concerning non-oil-producing countries, the ratio remains close to 85% of GDP on average.

The decline of public debt in several MENA countries was the consequence of both debt rescheduling and macroeconomic program of stabilization. Nevertheless, two countries (Egypt and Lebanon) have debt-to-GDP ratios above or around 100%, whereas Jordan, Morocco, Tunisia and Yemen have debt levels well above 50% of GDP.

Lebanon faces a particularly challenging situation, as public debt is not only very high at 170% of GDP, but has also steadily increased in recent years. By contrast, oil-producing countries have used part of the windfall profits resulting from high oil prices to repay public debt.

Public revenue as a percentage of GDP has been broadly stable, around 30-35% for the MENA region as whole. Recently, the share of public revenue increased to almost 40% in oil-producing countries reflecting the higher hydrocarbon revenue. For these countries, hydrocarbon revenues represent the most important source of income, which distinguishes their budgetary structure and fiscal development from other MENA countries. Concerning non-oil producing countries, public revenue is relatively lower and stable at 24-28%.

Kuwait is an outlier, with a 56%-73% revenue to-GDP ratio, reflecting the high oil revenue in this non-diversified economy. Lebanon sticks out as the country with the lowest revenue in the region, highlighting the difficulties in generating sufficient revenue to cover public expenditure, which explains the country's high deficits and the accumulation of public debt.

Public expenditure in oil-producing countries of the region – around 40% of GDP – is significantly higher than in non-oil-producing countries (around 27% of GDP). Many outliers drive up the average figures: Kuwait, Saudi Arabia and Oman, where public expenditure stands at around 45-50%. In other countries, public expenditure accounts for 25-35% of GDP. However, even this level is above the average for developing countries, where public expenditure accounts for around 25% of GDP.

Many arguments explain the high expenditure level: political tension in region (defense expenditure), high debt repayment and interest expenditure, energy subsidies and expenditure on wages and salaries to address unemployment problems with job creation in public sector.

Table 5 and 6 provide data on percentage share of each type of tax in total revenue for oil-producing and non-oil-producing countries separately. These tables give an idea about fiscal revenue structure in MENA region.

We will start the analysis with non-oil-producing countries, which are characterized, in general, by higher tax revenue than oil producer. Tax revenue as a share of total revenue is the highest in Morocco and Tunisia (80%-90%) and the lowest in Jordan and Egypt (less than 50%) due, notably, to the dependence on foreign grants. The part of direct taxation (on income and profits) in total revenue appears highly mixed. It is the highest in Tunisia and Morocco (25%) and the lowest in Jordan and Lebanon (10%-11%). In comparison with other regions, the contribution of direct taxes to total revenue is relatively low, reflecting the problems of tax compliance and weakness in tax administration (Strum and Gurtner [2007]).

Indirect taxes contribute more largely than direct taxes and the part of indirect taxation to total revenues is higher than non-oil-producing countries, in particular VAT which has been introduced in all Mediterranean countries except Libya and Syria and presented as a relatively efficient tax revenue instrument and a stable source of budgetary income.

The relative weight of taxes on international trade and transactions in total revenue also appears to be heterogeneous. It is the highest at 12% in Egypt and 11.45% in Lebanon. Even so, foreign trade taxes continue to provide a non-negligible share of revenue to the budget

also in the other Mediterranean countries, in particular Tunisia and Morocco. We observe that the part of this fiscal instrument in revenue is nevertheless declining in most countries in line with trade liberalization agreements.

The contribution of non-tax revenues appears significant in many countries, in particular, Egypt, Jordon and Lebanon. For instance, entrepreneurial and property income constitute the large part of non-tax revenue in Lebanon, while in Egypt the main components of this revenue are transfers from the Petroleum authority, the Canal Suez authority and Central Bank. We observe also, that many countries continue to be dependent on foreign grants or other forms of donor assistance and concessional financing. In Jordan, grants have accounted for around 30% of total revenues.

In the oil-producing countries, hydrocarbon revenues certainly constitute the largest source of fiscal revenues. In addition, the significant oil prices increasing in the past years has supplementary increased the weight of hydrocarbon revenue. In the case of Gulf Cooperation Council (GCC) countries, dependence on oil and gas is particularly high, as the revenue derived from these resources account for about 75% in Bahrain, 65% in Iran, 97% in Kuwait, 71% in Oman

The contribution of tax revenues in the budget is comparatively low. The exception is the Qatar budget in which the non-hydrocarbon revenues represents more than half of budgetary income, with significant share of indirect tax.

The low ratio of tax revenue-to-GDP reflects the difficulty of increasing taxes due to the existence of underdeveloped tax and customs systems. It is important to mention that oil-producing countries in the region do not establish VAT taxation.

5. Empirical Strategy

Understanding the factors underlying fiscal cyclicality is a subject which has been extensively explored in the literature. However, this intense research generally tends to concentrate on industrial and emerging countries and gives little space to MENA countries.

The main objective of this paper is to characterize and explain the cyclical proprieties of fiscal policy in MENA region. We also attempt to establish the differences in the cyclicality of fiscal indicators between oil-producing and non-oil producing MENA countries.

We underline the role of institutional quality, political regimes, international financial integration and financial development . We will also determine the ability of governments to conduct countercyclical fiscal policies.

According to recent work by Calderon and Schmit-Hebbel (2008), the fiscal policy regression equation is represented by:

$$\Delta FP_{i,t} = \beta_0 FP_{i,t=1} + \beta_1 \Delta Y_{i,t} + \beta_2 \Delta Y_{i,t} FI_{i,t} + \beta_3 \Delta Y_{i,t} FD_{i,t} + \beta_4 \Delta Y_{i,t} QI_{i,t} + \beta_5 \Delta Y_{i,t} POL_{i,t} + \xi_{i,t}$$

FP Represents the fiscal indicators (Budget Balance, Total Expenditure, Total Revenue) expressed as percentage of GDP.

Y is the level of output measured by the log difference of real GDP obtained from World Development Indicators (WDI 2009)

FI Measures the degree of financial openness which is obtained from Lane and Milesi-Ferretti Dataset

FD Correspond to the level of financial development. We use domestic credit to private sector as percentage of GDP as proxy of financial depth.

QI , Is the index of political risk obtained from International Country Risk Guide (ICRG).

POL Gives information on political regime characteristics (executive recruitment, executive constraints, political participation) and obtained from the Polity IV codebook (Marshall and Jaggers)

Given the above, we argue that difference between MENA countries to run optimal fiscal policy can be explained by the difference in:

1. Structural characteristics reflecting the presence of borrowing constraints as measured by the degree of international integration and the level of domestic financial markets' development
2. Institutional characteristics as proxied by the quality of institutions and the nature of political regimes.

We assume that if β_1 is positive or (negative), the budget balance and tax revenue are countercyclical (procyclical). On the other hand, if the fiscal indicator is the government expenditure, $\beta_1 \geq 0$ implies the procylicality of this indicator.

We believe that a country is more able to conduct optimal fiscal policy if it has a larger access to international capital markets, a deeper domestic financial market and a suitable institutional environment. According to Calderon and Schmidt-Hebbel (2008), democracy involves a political system with multiple veto points in the process of policymaking, implying that governments with much less power dispersion are more able to run countercyclical policies

We study the cyclical proprieties of fiscal policy in the MENA region using an unbalanced panel covering 16 countries over the 1975-2008 periods. Our data are drawn from publicly available sources (the International Financials Statistics and Government Finance Statistics produced by International Monetary Fund) and Focus on Central government.

We estimate our fiscal policy regression by introducing three different fiscal indicators (Budget Balance, Total Revenue and Total Expenditure as percentage of GDP), for three samples of countries (MENA region, oil-producing countries and non oil-producing countries) by using instrumental variable estimates.

We recognize in this paper that when looking at the correlation between GDP growth and fiscal indicators (budget balance, total expenditure, total revenue) there is an important endogeneity problem or reverse causality. Therefore, shocks to fiscal indicators may also affect the real output growth. To address this problem, we use the standard instrumental variable approach *(IV)*.

To run fiscal policy regression using this method we need to instrument the real output growth. The key problem is finding a good instrument, which needs to be correlated with GDP growth, be exogenous with respect to this variable, and have no direct effect on the dependent variable (fiscal indicators). We argue that a real external shock consisting of actual and lagged terms of trade shocks is presented as a good instrument for Δy. Calderon and Schmidt-Hebbel [2008] chart real output growth with lagged output growth, actual, lagged terms of trade shocks, actual, and lagged growth in external demand, and actual and lagged foreign real interest rates. Rigobon [2004] uses terms of trade as an instrument of real output, Gali and Perotti [2003] use the GDP of trading partners. Jaimovich and Panizza [2007] use the weighted average of GDP growth of the country's export partners.

We present our fiscal policy regression by using budget balance as fiscal indicator for three different samples. We find that our estimates have a positive and significant coefficient for real GDP growth. This result means that budget balance in MENA region is countercyclical and reflects the facts that output expansion would be associated with an increase in the budget balance. We show also that the estimates for growth in real GDP are significantly

larger in non oil-producing countries than in oil producing countries, reflecting therefore a stronger countercyclical position in non oil-producing countries.

Furthermore, we find a large significant coefficient relating to the lagged fiscal indicator given evidence concerning the important role of the lagged level of budget balance and indicating the presence of reversion behavior and intertie phenomenon which affects the running of fiscal policy in MENA countries. Additionally, the budget balance rises with favorable terms-of-trade shocks.

We conclude that countercyclical budget balance, for the three samples of countries, is associated with a strong institutional framework and large access to domestic and international capital market. Nevertheless, we find that the interaction between growth and democracy is significantly negative. We argue that governments with much less power dispersion are more able to run countercyclical policies. This is consistent with the theories of political distortions and voracity effects.

From our regression, we approve empirically that the ability of MENA countries to conduct counter-cyclical fiscal policy is affected by the quality of their institutions and/or the availability of financial resources either in local or international capital markets. We demonstrate that MENA countries with deep financial systems and larger integration to international capital markets are able to pursue countercyclical fiscal policies. Moreover, fiscal policies with weak institutions and the presence of multiple-power groups in the fiscal process explain the inability of MENA countries to establish countercyclical policies.

Government expenditure exhibits a procyclical pattern in all MENA countries groups, which confirms the results of previous empirical studies. Kaminsky et al [2004] find that fiscal policy is procyclical in their subsample of 83 low and middle-income countries. Braun [2001] finds that government expenditure is procyclical in a panel of 35 developing countries for the periods 1970-98. Gavin and Perotti [1997] find that in Latin America, total expenditure and its components are highly procyclical. Similarly, for their sample of 36 countries in Asia, MENA and Latin America, Talvi and Végh [2000] find that government consumption is highly procyclical.

One explication of this sub-optimal fiscal policy is related to the structure of budget in these countries. MENA countries have few automatic stabilizers built into their budgets, which would lead one to expect government spending to display procyclical patterns.

According to our estimates, procyclical behaviour in MENA countries is due to the limited access to domestic financial markets, weak institution frameworks and more dispersed political power. For this reason, MENA countries would be able to run countercyclical government expenditure if they are granted a larger access to domestic capital market and improve their institution environment and adopt more less power of interest groups.

We also show that the coefficient of real output growth is larger in oil producing countries than in non-oil producing countries. We conclude that total expenditure is highly procyclical in oil producing countries than non-oil producing countries. We find analogous results concerning lagged of total expenditure which confirms the presence of mean reversion behavior.

Total revenue, on the other hand, follows a procyclical pattern in all MENA countries groups. The output growth coefficient for total revenue equation is negative and significant, thus implying procyclical behaviour in countries with weak institutions and smaller access to domestic and international capital markets. We find that the interaction between growth and democracy is positive and significant. This result suggests that MENA countries may be able to run countercyclical fiscal policies because they have multiple players intervening in fiscal

process. These findings are consistent with theories that explain procyclical biases due to political distortions and voracity effects.

6. Robustness Checks

According to our empirical assessment, we have found that MENA countries are more able to run optimal fiscal policy if they are guaranteed a larger access to either domestic or international capital markets and stronger institutions and less democratic regimes.

In the objective to generalize these findings, we have to check the robustness of our results through introducing different measures of dependent variables. In this paper, we test whether the ability to conduct countercyclical fiscal policies with stronger institutions changes with different indicator of institutional quality. We replace the ICRG index of political risk with the control of corruption index. We conduct these new regressions for the budget balance, total expenditure and total revenue for the full sample of countries.

Real output growth affects positively the budget balance. The results are comparable with those reported for overall ICRG index. The interaction between real output and the corruption index is significantly positive. This means that MENA countries are more able to run countercyclical fiscal policies if they effectively control the corruption.

We find analogous results to those of political risk index for both total expenditure and total revenue. We observe that the coefficient of output growth is positive and significant thus indicating that government expenditure and revenue are procyclical in countries showing widespread corruption. MENA countries are unable to stabilize business cycles through expenditure and tax because of the problem of corruption and less transparency.

7. Conclusion and Policy Implications

There is strong evidence that fiscal policy is procyclical in MENA region: Fiscal expansions tend to take place in good times, and not during bad times when they might play some role in smoothing output declines. This applies to a variety of measures of fiscal policy – including the share of total expenditure in GDP, and the share of total revenue in GDP.

Fiscal procyclicality in MENA region arises from both the weakness of automatic stabilizers and the procyclical bias of discretionary policies. Despite the fact that in industrial countries countercyclical discretionary policy contributes to dampen aggregate fluctuations, in developing economies discretionary policy is usually procyclical. In addition, in most MENA countries automatic fiscal stabilizers – such as income taxes and transfer programs built into the fiscal system – are too small to have a significant smoothing effect on aggregate fluctuations.

Fiscal procyclicality is the consequence of fiscal stance in MENA region. Regarding the stance of fiscal policy in MENA region, we observe that high deficits characterise the economic history of these countries. The consequences of this situation have been destructive. By stimulating aggregate demand, high deficits can add to inflationary pressure and/ or put strain on balance of payment. It can also accumulate large public debts, which eventually put pressure on interest and prices. They also limit the ability of government to accommodate unexpected fiscal shocks and run a countercyclical fiscal policy.

Given the above, we can explain the procyclicality of fiscal policy in MENA region as the result of high fiscal deficits and the accumulation of large public debts.

The procyclical bias in fiscal policy reflects underlying fundamental challenges facing developing countries. Our paper suggests that two main sets of factors account for this procyclicality of discretionary fiscal policy:

1. The inability of developing countries to access domestic and external finance to run countercyclical fiscal policy
2. Political economy problems that contribute to an overspending of public revenues when they are abundant in good times. Such fundamental factors are difficult to overcome in the short run, suggesting deep underlying limits on the ability of most countries to run optimal fiscal policies in MENA region.

We argue that MENA countries are more likely to conduct optimal fiscal policy if they have:

1. A wider access to international capital market
2. Deeper domestic financial market,
3. Stronger institutional framework
4. Much less power dispersion

These results seem to be coherent with the notion that political distortions and structural market failures may explain the procyclical bias of fiscal policy in many developing countries.

Fiscal policies need to be credibly and sustainably financed. As noted above, lack of access to finance has been an important obstacle to expansionary fiscal policy during downturns in developing countries. Many MENA countries have limited capacity for domestic and external borrowing to finance increased spending, and monetizing fiscal deficits is potentially very risky. Regarding this, only those developing countries with strong fiscal positions and large reserve stocks can afford to finance a fiscal expansion during downturns.

The fiscal expansion must be well- timed. There is consensus that fiscal interventions need to be timely in order to be effective, and that mistimed interventions can be counter-productive. This has been a challenge in MENA countries, where data quality (to identify downturns and recoveries in real time) and fiscal institutions (to design and implement any proposed spending increases) are weak.

Overall, MENA countries should consider two priorities in the use of fiscal policies as a hedge against macroeconomic fluctuations. Firstly MENA countries must develop again their domestic financial market and grant a wider access to international capital markets. The relaxing of credit constraints may give MENA countries fiscal space to run countercyclical policies. Secondly, institutional pre-requirement implies that MENA countries need to improve their institutional framework through greater attention to securing property rights and controlling corruption.

Running optimal fiscal policies in the MENA region requires a reduction of public indebtedness. This can only be achieved via reform of public finances, continued fiscal discipline and sustained economic growth. Enhancing and maintaining fiscal discipline will be facilitated by improving the institutional framework in which fiscal policy operates, via more effective budgetary management and transparency and eventually via fiscal rules, which so far are not being widely used in the region.

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Table 1: Central Government Fiscal Balance (As a percentage of GDP)

	2003	2004	2005	2006	2007	2008
Oil producing	**4.75**	**7.75**	**11.25**	**11.00**	**11.60**	**12.75**
Algeria	7.8	6.9	11.9	13.6	11.8	**13.3**
Bahrain	1.8	4.6	7.6	4.7	3.6	**7.9**
Iran	1.3	1.7	1.1	-0.9	1.8	**0.0**
Kuwait	17.4	22.3	33.9	30.3	39.2	**27.2**
Qatar	6.4	16.4	9.2	9.7	14.5	**18.8**
Saudi Arabia	1.2	10	18.4	21.4	12.8	**22.1**
Syria	-2.6	-4.2	-4.4	-5.7	-4.6	**-4.8**
Oman	4.7	4.5	12.1	14.2	13.7	**16.1**
Non Oil producing	**-4.56**	**-4.53**	**-5.21**	**-3.58**	**-5.3**	**-4.83**
Tunisia	**-3.2**	**-2.6**	**-3.0**	**-2.8**	**-2.9**	**-2.7**
Morocco	**-4.3**	**-3.8**	**-4.7**	**-1.4**	**-0.2**	**-1.7**
Jordan	**0.2**	**-1.7**	**-5.0**	**-3.8**	**-6.1**	**-5.6**
Egypt	**-9**	**-8.3**	**-8.4**	**-9.2**	**-7.7**	**-6.9**
Lebanon	**-13.3**	**-8.6**	**-8.4**	**-11.1**	**-10.1**	**-9.6**
Yemen	**-4.2**	**-2.2**	**-1.8**	**1.2**	**-4.8**	**-2.5**
MENA	**0.19**	**3.22**	**6.04**	**7.42**	**6.30**	**7.92**

Source: IMF database and author's calculations

Table 2: Total Government Debt (As a percentage of GDP)

	2003	2004	2005	2006	2007	2008
Oil producing	**48,95**	**41,54**	**26,99**	**22,33**	**18,11**	**15,04**
Algeria	43,90	36,60	27,30	23,80	12,20	**9,60**
Bahrain	36,90	34,20	28,60	23,30	19,90	**17,30**
Iran	26,50	26,30	23,60	19,70	15,00	**11,90**
Kuwait	23,00	17,30	11,80	8,50	7,00	**5,50**
Qatar	41,60	27,80	19,30	15,00	11,80	**8,50**
Saudi Arabia	82,20	65,00	38,90	27,90	23,50	**15,90**
Syria	121,00	109,70	56,80	51,30	49,20	**46,90**
Oman	16,50	15,40	9,60	9,10	6,30	**4,70**
Non Oil producing	**93,48**	**90,28**	**89,87**	**84,82**	**80,82**	**75,00**
Tunisia	60,50	59,40	58,30	53,90	51,50	**50,30**
Morocco	60,60	58,40	61,70	56,50	54,30	**52,40**
Jordan	99,60	91,80	84,20	81,50	78,80	**61,50**
Egypt	114,80	112,90	112,80	98,80	88,50	**82,30**
Lebanon	168,60	167,10	178,40	177,40	170,60	**166,50**
Yemen	56,80	52,10	43,80	40,80	41,20	**37,00**
MENA	**71,22**	**65,91**	**58,43**	**53,57**	**49,46**	**45,02**

Source: IMF database and author's calculation

Table 3: Central Government Total Revenue (As a percentage of GDP)

	2003	2004	2005	2006	2007	2008
Oil producing	**36,38**	**38,74**	**40,88**	**41,74**	**42,06**	**42,75**
Algeria	37,10	36,10	40,90	43,00	42,20	44,40
Bahrain	30,70	30,30	32,30	30,40	32,40	32,90
Iran	24,10	24,50	29,70	28,90	27,30	27,50
Kuwait	54,70	56,80	62,20	63,10	73,10	68,70
Qatar	35,90	47,70	42,00	44,40	49,20	44,50
Saudi Arabia	34,50	42,20	48,00	51,90	44,30	53,20
Syria	28,80	27,20	24,00	21,90	21,80	21,70
Oman	45,20	45,10	47,90	50,30	46,20	49,10
Non Oil producing	**24,42**	**25,17**	**26,20**	**28,07**	**27,77**	**27,77**
Tunisia	23,70	23,80	23,60	23,80	24,00	23,30
Morocco	21,60	22,50	23,80	25,20	27,90	27,10
Jordan	23,00	25,70	28,20	31,20	31,50	31,40
Egypt	25,40	24,60	24,30	28,20	27,80	26,60
Lebanon	22,10	23,10	22,80	21,80	23,40	22,80
Yemen	30,70	31,30	34,50	38,20	32,00	35,40
MENA	**30,40**	**31,95**	**33,54**	**34,90**	**34,91**	**35,26**

Source: IMF database and author's calculations

Table 4: Central Government Total Expenditure (As a percentage of GDP)

	2003	2004	2005	2006	2007	2008
Oil producing	**31,61**	**30,90**	**29,68**	**30,85**	**30,85**	**30,24**
Algeria	29,30	29,20	29,00	29,40	30,60	31,10
Bahrain	29,50	26,10	25,50	26,20	29,50	25,50
Iran	22,80	22,80	28,60	29,80	25,50	27,50
Kuwait	37,70	34,50	28,30	32,80	33,90	41,50
Qatar	29,40	31,30	32,90	34,70	34,70	25,80
Saudi Arabia	33,30	32,10	29,60	30,50	31,50	31,00
Syria	31,40	31,40	28,40	27,60	26,40	26,50
Oman	39,50	39,80	35,10	35,80	34,70	33,00
Non Oil producing	**32,25**	**31,88**	**32,57**	**33,80**	**34,10**	**33,73**
Tunisia	27,10	26,60	26,90	26,60	27,00	26,30
Morocco	26,00	26,50	29,00	27,00	28,10	29,30
Jordan	34,50	38,30	38,30	38,30	40,70	40,30
Egypt	35,20	33,90	33,20	37,70	36,00	33,80
Lebanon	35,40	31,80	31,20	35,80	35,80	34,10
Yemen	35,30	34,20	36,80	37,40	37,00	38,60
MENA	**31,93**	**31,39**	**31,12**	**32,33**	**32,48**	**31,99**

Source: IMF database and author's calculations

Table 5: Revenue Structure of GCC Countries and Iran (As a percentage of GDP)

	Bahrain	Iran	Kuwait	Qatar	Oman
Tax Revenues (%GDP)	**5,11**	**7,52**	**0,95**	**23,33**	**7,27**
Direct Tax (% Revenue)					
Tax on Income and Profits	**28,26**	**10,99**	**0,46**	**49,07**	**22,4**
Indirect Taxation (% Revenue)					
Domestic Taxes on Good and Services	2,06	2,55	n. a	n. a	**1,26**
Tax on International Trade & Transactions	8,58	6,5	1,64	2,84	**2,66**
Other Tax Revenue (% Revenue)	**2,37**	**0,93**	**0,13**	**n. a**	**2,2**
Grants and Other Revenue (% Revenue)	**75**	**65,04**	**97,75**	**48,07**	**71,46**

Source: IMF database and author's calculations

Table 6: Revenue Structure of Mediterranean Countries (As a percentage of GDP)

	Tunisia	Morocco	Jordan	Egypt	Lebanon
Tax Revenues (%GDP)	**21,06**	**21,49**	**21,45**	**14,3**	**14,49**
Direct Tax (% Revenue)					
Tax on Income and Profits	**25,57**	**24,87**	**9,97**	**23,53**	**11,58**
Indirect Taxation (% Revenue)					
Domestic Taxes on Good and Services	**43,09**	**38,93**	**40,4**	**33,82**	**51,80**
(VAT revenues or General Sales Tax)	35,15	30,29	33,91	21,16	40,35
Taxes on International Trade & Transactions	7,94	8,64	6,49	12,22	11,45
Other Tax Revenue (% Revenue)	**4,22**	**4,71**	**11,04**	**3,19**	**12,59**
Grants and Other Revenue (% Revenue)	**11,38**	**18,19**	**33,1**	**45,61**	**26,32**

Source: IMF database and author's calculations

Table 7: Cyclical Proprieties of Budget Balance

Variable	MENA region	Oil Countries	Non Oil Countries
Real Output	0.32509**	0.02344**	0.25387*
	(2.05)	(2.32)	(1.89)
Real Output×FI	0.09162***	0.05620**	0.04607**
	(3.03)	(2.24)	(2.33)
Real Output×FD	0.03344 **	0.00669***	0.02116***
	(2.14)	(2.96)	(2.79)
Real Output×POL	-0.03645***	-0.00311***	-0.00296 **
	(-3.22)	(-2.92)	(-2.11)
Real Output×QI	0.00727***	0.00182 ***	0.00675***
	(4.04)	(3.09)	(3.88)
Fiscal Indicator	-0.20037 **	-0.12826**	-0.13870**
	(-2.08)	(-1.99)	(-2.15)
Terms of Trade	0.00141 ***	0.05143	0.04765
	(3.46)	(0.04)	(0.03)
R2	**0.79**	**0.77**	**0.75**

Table 8: Cyclical Proprieties of Total Expenditure

Variable	MENA region	Oil Countries	Non Oil Countries
Real Output	0.47045**	0.43652**	0.29815**
	(2.25)	(2.05)	(1.99)
Real Output×FI	0.08391**	0.03314**	0.02956**
	(2.17)	(2.28)	(2.09)
Real Output×FD	-0.07744***	-0.05785***	-0.01516***
	(-4.46)	(-4.81)	(-3.07)
Real Output×POL	0.00329**	0.00179***	0.00592**
	(2.14)	(3.38)	(2.06)
Real Output×QI	-0.09781***	-0.00289***	-0.00429***
	(-3.63)	(-4.06)	(-4.81)
Fiscal Indicator	-0.22109*	-0.19136*	-0.15179*
	(-1.85)	(-1.94)	(-1.74)
Terms of Trade	-0.00213***	-0.081	-0.04756
	(-3.75)	(-2,73)	(-1.45)
R2	**0.88**	**0.85**	**0.87**

Table 9: Cyclical Proprieties of Total Revenue

Variables	MENA region	Oil Countries	Non Oil Countries
Real Output	-0.45491**	-0.41952*	**-0.38444****
	(-2.04)	(-1.96)	(-2.01)
Real Output×FI	-0.06548**	-0.07342**	-0.04871*
	(-2.22)	(-2.01)	(-1.88)
Real Output×FD	-0.02817 **	-0.02441*	-0.03562***
	(-2.05)	(-1.89)	(-2.05)
Real Output×POL	0.01875**	0.02539**	0.01219 **
	(1.99)	(2.34)	(2.11)
Real Output×QI	-0.00829**	-0.00575 **	-0.00656***
	(-2.07)	(-2.15)	(-2.81)
Fiscal Indicator	-0.23444***	-0.28516**	-0.25450*
	(-2.85)	(-1.99)	(-1.96)
Terms of Trade	0.01317 ***	0. 02345	0.009856
	(3.05)	(3.11)	(2.456)
R2	**0.88**	**0.87**	**0.89**

Table 10: Cyclical Proprieties of Budget Balance

Variable	MENA region	Oil Countries	Non Oil Countries
Real Output	0.28962**	0.25325**	0.23651***
	(2.05)	(2.09)	(2.85)
Real Output×FI	0.07104*	0.04389***	0.03534*
	(1.93)	(2.94)	(1.94)
Real Output×FD	-0.03812**	-0.01723***	-0.02175**
	(-2.12)	(-3.05)	(-2.24)
Real Output×POL	-0.00762*	-0.00534**	-0.00671***
	(-1.88)	(-2.07)	(-2.01)
Real Output×COR	0.00906**	0.00678*	0.00493*
	(-2.33)	(1.86)	(1.80)
Fiscal Indicator	-0.00517***	-0.00367**	-0.00716**
	(-2.74)	(-2.03)	(-1.99)
Terms of Trade	-0.00436***	-0.00213***	-0.01219 **
	(-3.36)	(-3.75)	(-2.11)
R2	**0.85**	**0.83**	**0.86**

Table 11: Cyclical Proprieties of Total Revenue

Variable	MENA region	Oil Countries	Non Oil Countries
Real Output	0.45491**	0.41952*	0.38444**
	(2.04)	(1.96)	(2.01)
Real Output×FI	-0.06548**	-0.07342**	-0.04871*
	(-2.22)	(-2.01)	(-1.88)
Real Output×FD	-0.02817 **	-0.02441*	-0.03562***
	(-2.05)	(-1.89)	(-2.05)
Real Output×POL	0.01875**	0.02539**	0.01219 **
	(1.99)	(2.34)	(2.11)
Real Output×QI	-0.00829**	-0.00575 **	-0.00656***
	(-2.07)	(-2.15)	(-2.81)
Fiscal Indicator	-0.23444***	-0.28516**	-0.25450*
	(-2.85)	(-1.99)	(-1.96)
Terms of Trade	0.01317 ***	0.04587***	**0.03435***
	(3.05)	(2.84)	**(1.84)**
R2	**0.88**	**0.87**	**0.89**

Table 12: Cyclical Proprieties of Total Expenditure

Variable	MENA region	Oil Countries	Non Oil Countries
Real Output	0.22219**	0.19344**	0.15098*
	(2.29)	(2.31)	(1.94)
Real Output×FI	0.03357***	0.02224***	0.03406***
	(2.76)	(2.88)	(3.01)
Real Output×FD	-0.09457**	-0.06159***	-0.07683**
	(-3.85)	(-2.94)	(-2.26)
Real Output×POL	-0.00441**	-0.00843**	-0.00340***
	(-2.23)	(-2.04)	(-3.05)
Real Output×COR	-0.00411*	-0.00361*	**-0.00276***
	(-1.96)	(-1.74)	(-1.82)
Fiscal Indicator	-0.00276***	-0.00843***	-0.00211***
	(-3.75)	(-3.20)	(-2.75)
Terms of Trade	-0.00197**	-0.37564**	**-0.256789****
	(-2.10)	(-2.05)	**(-1.89)**
R2	**0.88**	**0.85**	**0.87**