

# Chapter 2

## Prospects for Monetary Coordination in the Mediterranean Region: More or Larger Monetary Unions?

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**Abstract** The purpose of the paper is to analyze some convergence criteria in the geographic region extending from the EMU all the way to the GCC including most MENA countries with the objective to determine the possibility of coordination between the EMU and the promised gulf monetary union and between other countries in the MENA region that are operating independently of other countries and the GCC. The aim is to conclude whether the EMU and the GCC can coordinate policy and whether the region can have another viable monetary union such as the gulf one or a larger one by having some other MENA countries join the GCC monetary union. The analysis shows that the GCC countries have successfully met most if not practically all of the convergence criteria necessary for monetary integration. The paper reflects that coordination between the EMU and the GCC can take place at many levels except the exchange rate regime as the EMU follows an independent freely floating exchange rate with the GCC pegging to a different

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currency. The paper mostly addressed the possibility that other MENA countries coordinate individually with the GCC to join the union once established. The results of the model as well as casual empiricism show that a more efficient possibility exists for oil-producing MENA countries over non-oil producing ones based on performance concerning the convergence criteria and the initial position of each group and the GCC's target variables.

**Keywords** Financial integration • Monetary union • GCC and MENA countries

## 2.1 Introduction

The paper aims at discussing possible policy coordination and cooperation between the European Monetary Union (EMU) and the Middle-East and North Africa (MENA) countries east and west of the Mediterranean Levant. Specifically, we will divide the countries into three groups, namely the EMU, the Gulf Cooperation Council Countries (GCC) that are attempting a monetary union and a sample of other MENA countries representing oil and non-oil producing ones that are not even coordinating policies among each other or any other union.

In order to attempt this monetary and fiscal policy cooperation and coordination, a strategy of meeting a set of convergence criteria or conditions will be necessary among members of each group. These criteria include rules governing monetary policy variables such as exchange rates, inflation rates and interest rates as well as fiscal policy variables reflected in government debt and budget deficits in relationship to the size of each economy measured by its Gross Domestic Product (GDP). In addition, coordination may cause changes in the monetary policy framework among these countries reflected among other things in the nature of the exchange rate regime to be adopted and the choice of the anchor currency if any. Coordination and cooperation may also require changing various policy objectives and priorities for various individual countries causing them to incur major costs and obstacles. In this respect, the paper analyzes the possibility of cooperation and coordination among the set of countries considered by examining a set of convergence criteria, studies and recommends a conduct of monetary policy and exchange rate arrangements necessary for cooperation, coordination, and for a potential GCC monetary union if possible and examines the future prospects and the necessary conditions for creating a larger monetary union at a later stage among several MENA countries including the GCC. Additionally, the paper relies on a simple economic model showing various costs and obstacles facing some countries depending on the proximity of their criteria to the ones of monetary unions. Such costs and obstacles determine whether coordination or even some cooperation is to take effect.

The paper is organized into five sections. After the introductory one, section two discusses various stages of monetary integration with differences between policy cooperation, coordination and unions. Additionally, this section discusses the set of convergence criteria adopted by the EMU and the GCC and examines each criterion for the EMU and the potential GCC monetary union to determine the similarities that could lead to cooperation and possibly coordination. Section three analyzes the nature

of exchange rate policies in the EMU, GCC, and a set of other MENA countries. Exchange rate arrangements play a crucial role in the success of policy coordination. The fourth section links the conditions needed for a monetary union with the ones currently prevailing in these countries. Specifically, the countries will be divided into two groups. The first includes ones approaching the convergence criteria levels such as the EMU and the GCC and the second, the group of some selected MENA countries. The second group is divided into two sub-groups representing a sample of oil producing countries and non-oil producing ones. A technical model is used to determine the costs and obstacles involved in achieving coordination policies between the two groups. Section five contains concluding remarks on the possible success of coordination and on the prospects of a larger GCC monetary union based on the costs and obstacles involved and the nature of exchange rate arrangements to be adopted.

## **2.2 Convergence Towards a Monetary Union: EMU, GCC and the Convergence Criteria**

The academic literature on monetary integration specifies that countries that usually enjoy geographic proximity ought to pursue macroeconomic coordination requiring them to adopt a cooperative set of policy changes. These changes are based on agreements leading to coordinated solutions that are Pareto-improving leaving all countries better-off. However, International policy cooperation rather than coordination refers to the sharing of information given that countries establish their macroeconomic objectives and policies independently. Cooperation can take the form of consultation, informal or partial coordination, and other activities that do not require a policy-making coordinating group. Therefore, policy coordination requires cooperation but not vice-versa.

The implementation of policies leading to integration usually takes effect in three stages.<sup>1</sup> First, nations must agree on the nature of changes they are willing to consider and the ones they would like each other to undertake. The second stage is one where countries negotiate the distribution of the gains from coordination by agreeing on policy economic indicators. This stage possibly represents the current state of the GCC as the convergence criteria constitute the policy economic indicators. The third stage is an enforcement stage where countries have to abide by various specifications of agreements. This is the stage of the EMU.

To achieve a successful European monetary union, a strategy was developed to support the arrangements through a coordination of monetary and fiscal policies by all member countries. The degree of coordination is measured by meeting a set of convergence conditions or criteria outlined in the Maastricht Treaty. The criteria are based on rules governing exchange rates, inflation rates, interest rates, budget deficits and government debt. The purpose of setting-up the convergence criteria in the EMU was to achieve a high level of policy coordination on the way to full-integration.

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<sup>1</sup> A discussion of the three stages of international policy coordination is found in Frankel (1988), 2-5

Thus, the rationale for establishing convergence criteria necessary for the achievement of the EMU was to ensure price stability and sound public finances across member states after ensuring economic and institutional unity. Setting-up similar economic criteria and conditions significantly minimizes the prospects that countries with high inflation and interest rates and/or ones with high budget deficits and public debt will join a union requiring exchange rate coordination, low inflation levels and sound public finances. In fact, Article 3a of the Maastricht Accord made the EMU part of the European Community's principles.

In this same spirit, the history of policy coordination among GCC countries started as early as 1981 with the establishment of the Gulf Cooperation Council (GCC) composed of six countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. Later this year, the GCC Free Trade Area was established. At the end of 2001, GCC countries revised the economic agreement to advance economic integration and to establish a Common Market and Economic and Monetary Union by 2010. In fact, the common market was launched at the beginning of 2008 as a prelude for barrier reduction across countries.<sup>2</sup> However, Oman made a decision in February 2008 not to join the monetary union, while the United Arab Emirates made also a decision in May 2009 to withdraw from Gulf Arab plans for the monetary union.

Lately, in its meeting of December 15, 2009, in Kuwait city, it was reiterated that the 2010 deadline for the establishment of the monetary union will be extended and another 10 years might be needed before a common and unified currency is introduced.

To achieve this union, the GCC countries have introduced mechanisms for international monetary coordination like the convergence criteria to help countries coordinate their policy designs following the launch of the European monetary union based on the Maastricht treaty.<sup>3</sup>

The conditions or convergence criteria that the GCC set-up represent a slightly modified version from the one used by the European monetary union. They are five outlined broadly as follows<sup>4</sup>:

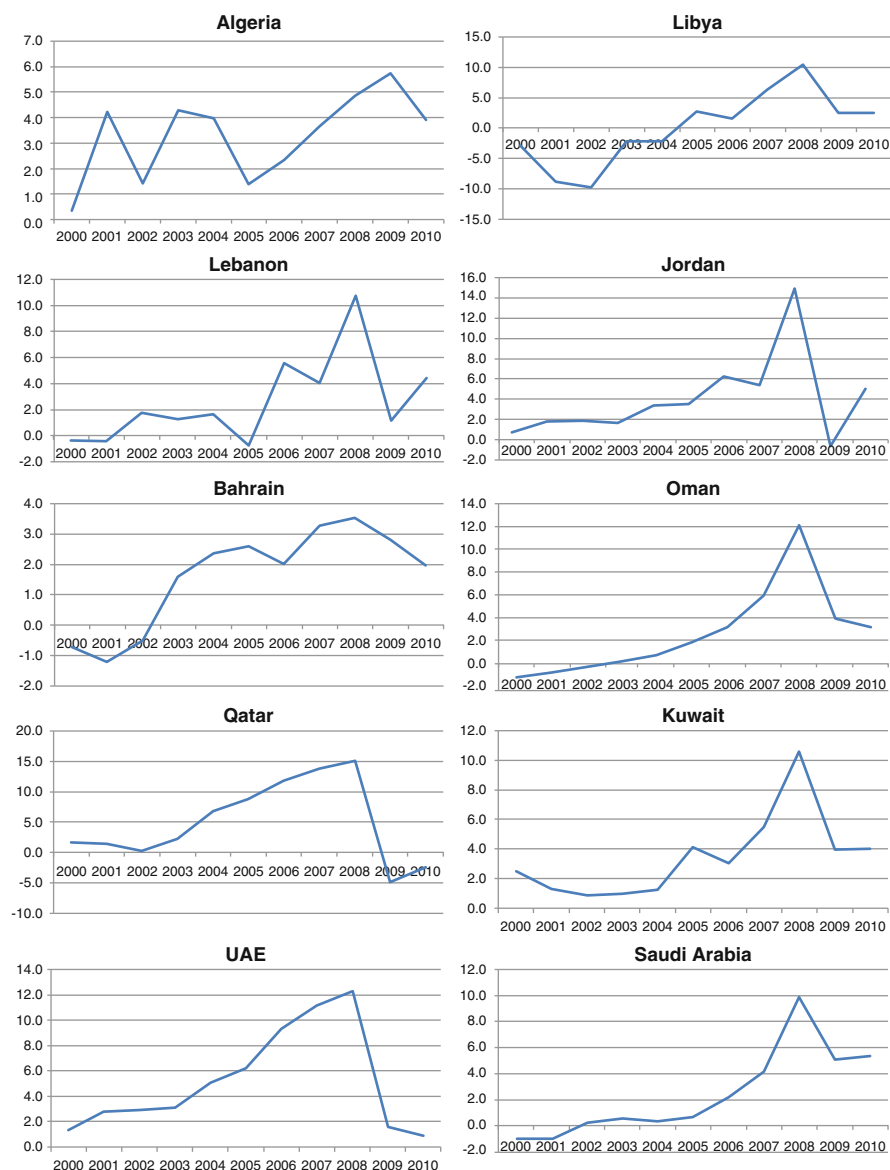
First, a country's inflation rate must not exceed the average rate of the six countries by more than 2 % points. Second, the long-term interest rate of any member state must not exceed the average interest rates of the three member countries with the lowest rates by more than 2 % points. Third, foreign exchange reserves should be at least in excess of 4 months imports. Fourth and Fifth, member countries are to keep their budget deficit to GDP ratio at no more than 3 % or 5 % when oil prices are weak and their total public debt to GDP ratio at less than 60 %. Figures 2.1, 2.2, 2.3, and 2.4 on inflation rates, interest rates, deficit to GDP and debt to GDP summarize the performance of the GCC countries over the last 11 years i.e. from 2000 till 2010. Given that the economic and monetary union leading to a single currency may not be achieved before 10 years, we

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<sup>2</sup> See Khan (2009)

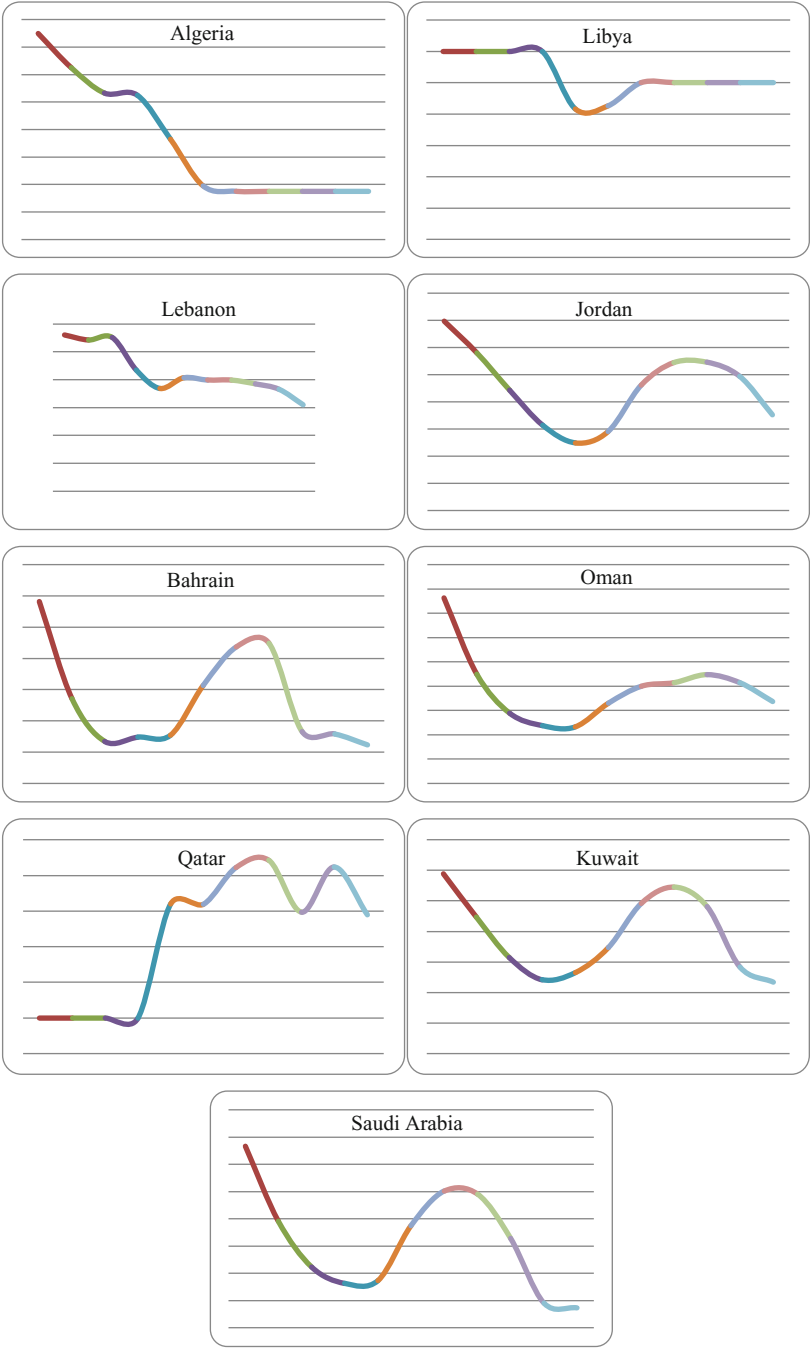
<sup>3</sup> The history of the Maastricht Accord, the stages of implementation and the rules of the convergence criteria are discussed in Fratianni et al. (1992), 7-10

<sup>4</sup> See Khan (2009)

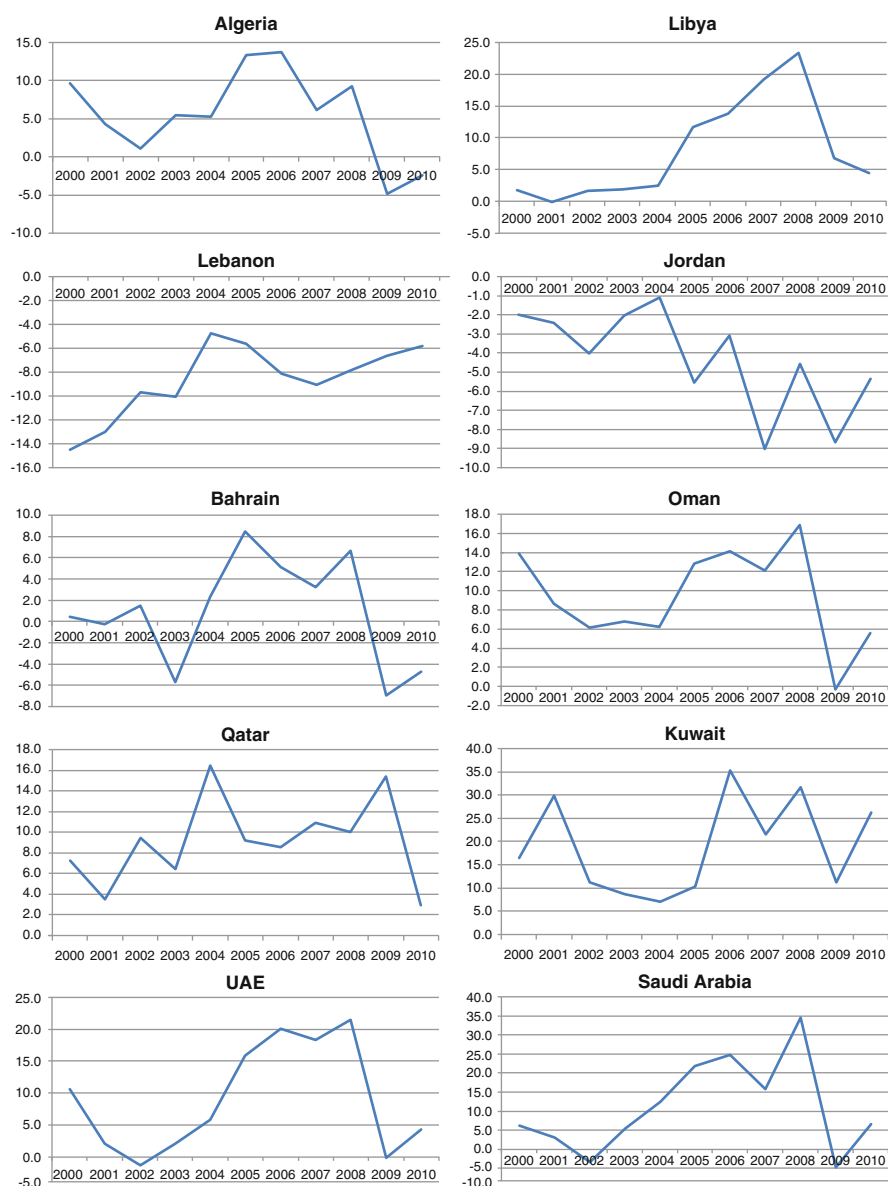


**Fig. 2.1** Inflation (percent change of period average consumer prices) (*Source: International financial statistics*, IMF, for all countries except Lebanon and UAE. *World economic outlook databases*, IMF, for Lebanon and UAE)

felt more appropriate to look at the average of the last several years of data for each variable included in the convergence criteria. The six countries of the GCC have the strongest performance concerning the fiscal policy variables reflected in deficit and debt as percent to GDP. For the last 5 years, the deficit variable is in fact a surplus most of the

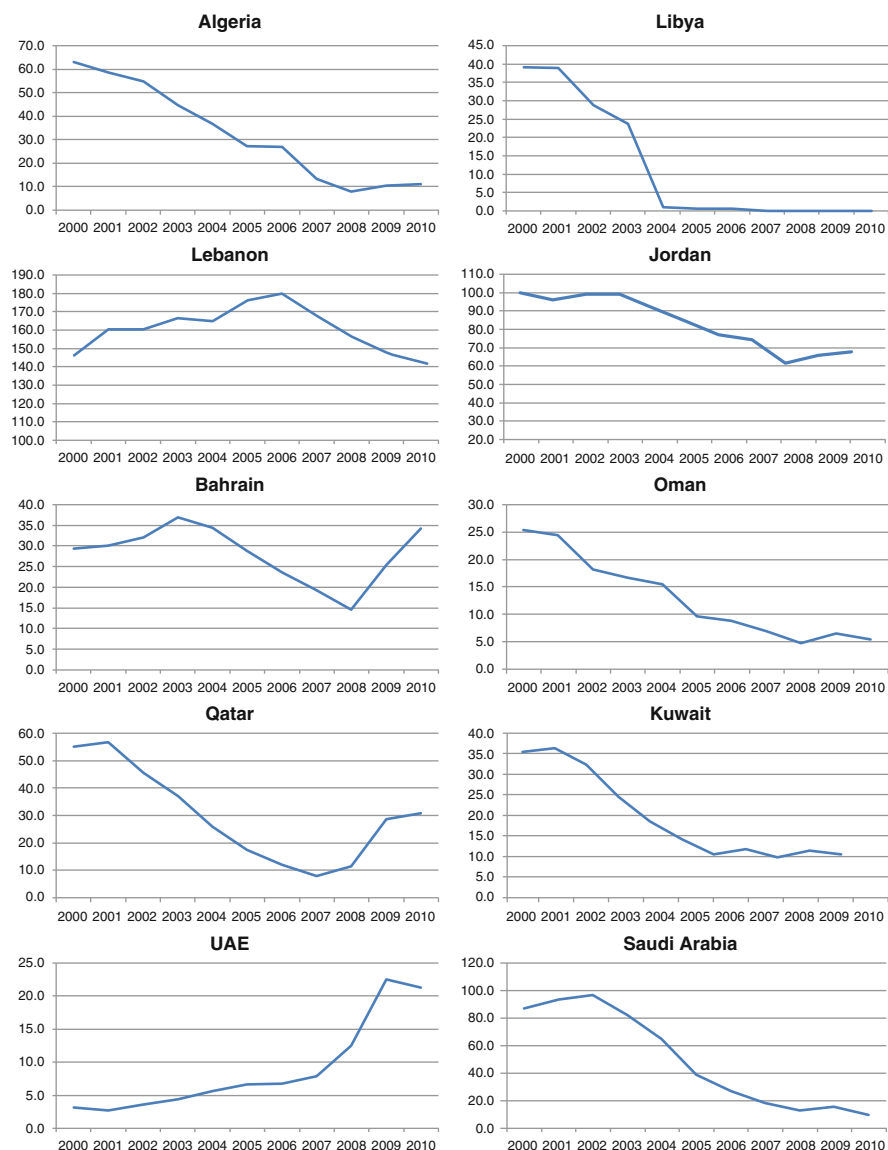


**Fig. 2.2** Interest rates (nominal time deposit rate on the domestic currency, percent per annum)  
(Source: *International financial statistics*, IMF, for all countries except Saudi Arabia. *SAMA annual and statistical reports for Saudi Arabia*)



**Fig. 2.3** Government surplus/deficit to GDP (in %) (Sources: *International financial statistics*, IMF, for Algeria, Jordan, Bahrain, Kuwait, and Lebanon. *World economic outlook databases*, IMF, for Libya, Oman, Qatar, UAE, and Saudi Arabia)

time, yet Bahrain had a deficit averaging 5.9 % for the years 2009 and 2010, exceeding the maximum 5 %, whereas the debt to GDP ranges between a minimum of 4.7 % for Oman and a maximum of 34.1 % for Bahrain, well below the 60 % ceiling. The average



**Fig. 2.4** Gross public debt to GDP (in %) (Source: *World economic outlook databases*, IMF)

lowest three countries' interest rate (Saudi Arabia, Bahrain and Qatar) is 3.13 % meaning that countries meeting the convergence criteria ought to have their interest rates less than 5.13 % which is the case for all countries except the United Arab Emirates where data sources are not available. The average inflation rate for the six countries is 5.5 % implying that countries need to have a rate lower than 7.5 % which is not missed by any GCC country after 2008. The foreign exchange reserves in excess of 4 months



imports is missed by Bahrain in 2006 and 2008, by Qatar in 2006, and by the UAE in 2006, 2008, 2009 and 2010. Given however 2010 data, the ratio of total official reserves minus gold to monthly imports ranges from as low as 3 times for UAE to as high as 13 times for Kuwait, 17 times for Qatar, and 55 times for Saudi Arabia, much surpassing the criteria. It is worth to mention, however, that on average, large oil exports revenues and current account surpluses have helped GCC countries to accumulate over the years considerable foreign exchange reserves necessary to reinforce the peg credibility, limit currency fluctuations, and discourage speculation on their currencies.

As far as the EMU is concerned, many countries have lately missed the fiscal policy variables as a result of the current crisis in Europe. This does not apply only to Greece, Spain, Portugal, Ireland and Italy but to some others such as Belgium, Germany and France. However, it is believed that through proper fiscal discipline, planning and austerity measures, the EMU countries will return back to their convergence criteria. The methods of moving back towards these stable levels are beyond the scope of this paper. Additionally, given one European central bank, the one exchange rate, interest rates and inflation rates seem to remain within the convergence criteria. The comparative figures between the EMU and the GCC show that there exists ample room for coordination as the GCC have adopted and achieved the convergence criteria established by the EMU. One single issue though remains concerning the nature of the exchange rate arrangement of the GCC countries and the euro which is the subject of the next section.

### 2.3 Monetary Policy and Exchange Rate Arrangements

The EMU has established the European Central Bank to conduct monetary policy and achieve the goal of price stability in a hierarchical mandate style where the inflation rate has to be less than 2 %. In order for the European Central Bank to adjust interest rates to achieve its inflationary and very few times lately its growth targets, the Euro freely floats on international currency markets following the fundamentals governing this currency.

Exchange rate arrangements for the GCC for the last decades have followed a United States dollar peg except for Kuwait since 2007 which pegs to a basket of currencies. Thus, it is believed that the peg can maintain macroeconomic stability, strengthen confidence in the economies of the council, and allow GCC member countries to go into the single currency at the existing parities.<sup>5</sup> Along these lines, in 2001, GCC countries decided to establish by the first of January 2010 a monetary union and chose the exchange rate regime for their single currency. It is the conventional fixed peg arrangement against one currency or more specifically the use of a US dollar peg as an external anchor for monetary policy. In fact, GCC currencies have been de facto pegged to either one currency, the US dollar, or a basket of currencies for decades, inconsistent most of the time with the de jure, or the officially declared to the

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<sup>5</sup> See for example Abed et al. (2003), and Khan (2009)

IMF, except for Kuwait and Oman. According to IMF various Financial Statistics sources, from 1980 until 2001, Saudi Arabia, UAE, Qatar, and Bahrain currencies were formally pegged to a basket of currencies, the SDR (The IMF's Special Drawing Rights), but effectively they were fixed to the U.S. dollar. Kuwait and Oman currencies were both officially and actually pegged to an undisclosed basket of currencies and the U.S. dollar respectively. Based on a joint decision taken during a summit meeting at the end of 2001, all GCC members have officially pegged their currencies to the US dollar by the end of 2002 as an advanced step toward the monetary union, but in May 2007 Kuwait announced its intention to shift from the dollar peg to an undisclosed currency basket peg again, without dishonoring its commitment to the monetary integration and the common currency. Figure 2.5 shows that since 2001, the currencies of the GCC countries have been pegged to a single dollar value for each. The de facto classification of exchange rate regimes in Bahrain, Oman, Qatar, Saudi Arabia, and UAE has been therefore Conventional fixed peg arrangements against a single currency. The Kuwaiti de facto regime shifted between Conventional fixed peg arrangement against a composite and Conventional fixed peg arrangement against a single currency.

In light of the above mentioned facts, it was natural therefore for GCC to consider the dollar peg for the gulf monetary union as the countries have practiced this policy for more than two decades.

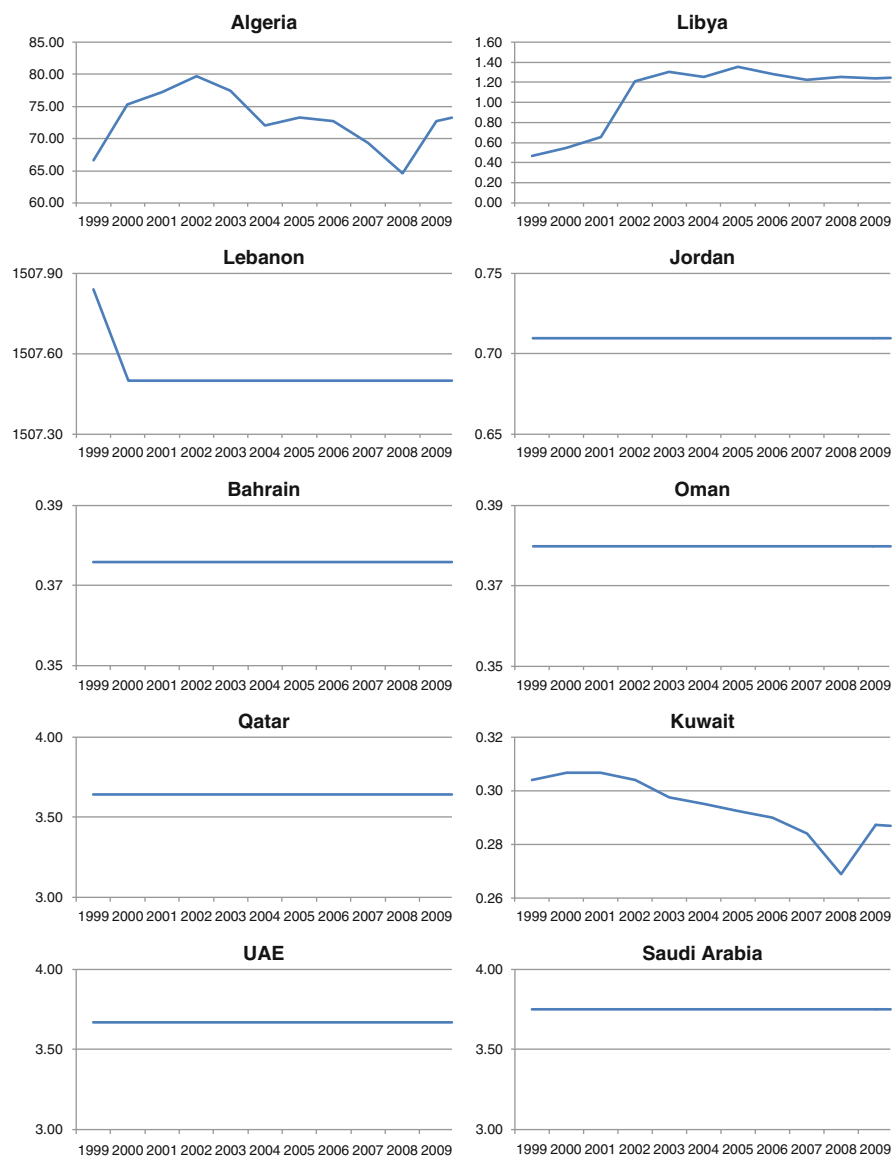
The fact that the peg to the dollar in the past turned-out to be successful does not necessarily imply that a union should also peg to the currency of one country. Many believe that unions classify as large countries that should either peg to a vast basket of currencies or adopt managed floating arrangements.<sup>6</sup> Thus, EMU and GCC cannot coordinate on the exchange rate front as the first pursues a policy of free floating while the other pegs to a different currency. Coordination possibilities will improve when the GCC countries start pegging to a basket in which the euro weigh heavily or when they adopt a managed or freely floating arrangement.

## **2.4 Coordination Between MENA Countries, GCC and EMU: Convergence Criteria and Obstacles**

As was stated in the introduction, the paper analyzes the geographic region extending from the EMU all the way to the GCC including other MENA countries. One of the aims is to analyze whether the region can have a larger monetary union by having some other MENA countries join the GCC gulf monetary union. Thus, this section analyzes two issues. First, we discuss the internationally accepted convergence criteria for forming economic and monetary unions for a set of selected four MENA countries representing oil and non-oil producing ones and relate the performance to figures on GCC and EMU criteria analyzed in Sect. 2.2. The purpose is to link these MENA figures with GCC and EMU data in order to draw conclusions on the possibility of

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<sup>6</sup> See Khan (2009)



**Fig. 2.5** Exchange rates (national currency per USD, period average) (Source: [International financial statistics](#), IMF, various issues)

coordinating policies between the two groups based on conditions stipulated for entry to monetary unions. Second, we use a theoretical framework to discuss many obstacles faced by these four MENA countries if they attempt to coordinate policies with GCC and EMU. This is the reason we divide the MENA group into the oil producing countries and the non-oil producing ones as it is believed that the oil

producing countries may have closer economic characteristics to the GCC than the other countries. For convenience, rather than conducting the analysis on a country by country basis, we select Libya and Algeria to represent the first group (group one hereafter) and Lebanon and Jordan to represent the second one (group two hereafter). Additionally, the comparison will be conducted based on GCC figures instead of both GCC and EMU since both GCC and EMU meet similar criteria except for exchange rate arrangements which will be mentioned accordingly. Viewing data for countries in groups one and two from Figs. 2.1, 2.2, 2.3, and 2.4 on interest rates, inflation rates, and fiscal policy variables reveal the following. For both Libya and Algeria, viewing the average for the last 5 years of data, the four major criteria are met. To meet the GCC condition, inflation rates have to be less than 7.5 % and interest rates less than 5.13 %. Inflation figures show an average of 4.6 % for Libya and 4.1 % for Algeria, while interest rates figures show 2.50 % for Libya and 1.75 % for Algeria. Therefore, both countries in group one meet the conditions. Fiscal policy figures also meet the conditions as there exist a surplus in budget for Libya and a recent acceptable deficit following surpluses for Algeria, averaging 3.6 % for the period 2009–2010, in addition, the debt to GDP is almost nil for Libya and well below the 60 % for Algeria (around 11 %).

Average results for the last 5 years of data are not the same for group two including Jordan and Lebanon. Jordan meets the interest rate criterion (4.8 %) and the inflation criterion (6.2 %), but fails both the deficit/GDP (6.1 %) and the Debt/GDP (68.3 %). Lebanon meets only the inflation criterion (5.2 %) but does not meet the other three criteria of interest rates (7.43 %), Deficit/GDP (7.5 %) and Debt/GDP (158.7 %). Regarding the exchange rate criteria, both Lebanon and Jordan are de facto pegging against a single currency which is the US dollar. This is similar to the practice of most GCC countries. Libya pegs de facto against a composite currency basket while Algeria follows a de facto managed exchange rate arrangement. It is not clear what exchange rate policy will the GCC adopt after a single currency is agreed upon. Later on, if the GCC chooses to adopt a peg against the US dollar, Lebanon and Jordan will be following the same policy, making coordination easier. However, if gulf monetary union pegs against a composite basket or pursue a managed floating arrangement, Libya and Algeria will have an easier task respectively. This will place the last two countries closer to the EMU and the first ones closer to the GCC.

An important question then becomes the issue of the ability of both groups to coordinate with the GCC based on their performance in the convergence criteria. The answer is threefold: First, a comparison of the initial position of each of the groups to GCC countries shows that group two stands at a distance from the convergence criteria especially in public finances. Group one meets all convergence criteria. Second, the objectives and goals of both groups however, may differ from GCC members. Different countries may place different weights on policy objectives and goals, especially concerning output growth. Third, a major obstacle for coordination regards the cost that group two is willing to incur to move closer to the convergence criteria as compared to the benefits from international economic policy coordination. To meet the conditions for entry, for example, group two has to reduce public spending

risking lower growth and higher unemployment, and has to lower interest rates in the case of Lebanon thus endangering currency stability.

To highlight the issues more, we use a theoretical framework to address the obstacles facing policy coordination between both groups and the GCC. Assume that a certain group and GCC set goals for price stability and output growth and rely on the convergence criteria to achieve them in a situation of an economic slow-down under a system of pegged exchange rates pursued by these countries. In the absence of coordination and if a certain group uses expansionary fiscal policy to stimulate economic activity, output growth may be achieved but the group could in the process deviate from the convergence criteria for deficits, debt and price stability. Under a system of policy coordination, and had this group and the GCC agreed to achieve output growth simultaneously through expansionary fiscal policies, the average price level would increase in all countries and there would be a similar relative deviation from fiscal policy criteria.

For the previous example to hold, the given group and GCC must have achieved similar convergence criteria and are ready to coordinate policies to gain from the exchange while preserving each country's relative position with respect to others. The analysis of the convergence criteria shows that this is only valid for group one only which would have to conduct specific changes to move closer to the convergence criteria. Therefore, two major questions arise for any of the groups: The costs of the policy changes to this group and the uncertainties regarding which criteria rules are of interest to the group.

Therefore, three issues are to be determined by any of the groups before considering coordinating policies with GCC through meeting the convergence criteria: the initial position of the group relative to the optimal values of the target variables of GCC, the correct weight to put on these variables, and the effect of each unit change in the group's or the GCC's macroeconomic policy instruments on the targets. These issues were discussed and formalized in a general manner in models developed by Frankel (1988) and Humpage (1990).<sup>7</sup>

Let there be a function of two target variables for a group specified in Eq. 2.1 and a similar one for the GCC in Eq. 2.2.

$$XG = 1/2 w_y Y^2 + 1/2 w_p P^2 \quad (2.1)$$

$$XGC = 1/2 w'_y Y'^2 + 1/2 w'_p P'^2 \quad (2.2)$$

Where X represents a quadratic loss to be minimized, G stands for group and GC for GCC, Y is output expressed relative to its optimum, P is the inflation rate expressed relative to its optimum,  $w_y$  is the relative welfare weight placed on output and  $w_p$  is the relative welfare weight placed on the inflation, and a (') denoting the

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<sup>7</sup> The models used in both studies slightly differ but could be extended to many countries, targets and instruments. The results reached are very similar. This model was also used in Shahin (1996)

analogous variable for the GCC.  $Y$  and  $P$  represent two target variables viewed as policy ones, although the specification could include more.

We will use one policy instrument (even though the model allows for many):  $g$ , standing for government expenditure as a percentage of GDP approximating the criteria for fiscal policy convergence or the budget deficit to GDP ratio. The marginal welfare effects of changes in these policy variables are given by:

$$dXG/dg = w_y(Y)Y_g + w_P(P)P_g \quad (2.3)$$

$$dXG/dg' = w_y(Y)Y_{g'} + w_P(P)P_{g'} \quad (2.4)$$

$$dXGC/dg = w'_{y'}(Y')Y'_g + w'_{P'}(P')P'_g \quad (2.5)$$

$$dXGC/dg' = w'_{y'}(Y')Y'_{g'} + w'_{P'}(P')P'_{g'} \quad (2.6)$$

The policy multiplier effect of government expenditure on output is given by  $Y_g$  and of government expenditure on the inflation by  $P_g$  etcetera. The model could be solved by setting the derivatives equal to zero with the target variables  $Y$  and  $P$  first expressed as linear functions of the policy variables  $g$  and  $g'$  etcetera.

If a certain group and the GCC take the policies of each other as given, which is currently the case in a non-coordination situation (Nash non-cooperative equilibrium), one needs only Eqs. 2.3 and 2.6. Equations 2.4 and 2.5 do not enter as each country ignores the effects that its policies have on the other country. Cross-country effects enter only in the coordinated solution which is the standard reason why the non-coordinated equilibrium is sub-optimal.

If policies were to be coordinated, the above system of equations would illustrate the uncertainties or the main obstacles preventing a successful international policy coordination deal: uncertainty regarding the initial position of the target variables  $Y$ ,  $Y'$ ,  $P$ ,  $P'$ ; the welfare weights  $w_y$ ,  $w'_{y'}$ ,  $w_P$ ,  $w'_{P'}$ ; and the government expenditure policy multipliers  $Y_g$ ,  $Y_{g'}$ ,  $P_g$ ,  $P_{g'}$ , etc. The results in the previous studies of Frankel (1988) and Humpage (1990) show that uncertainties are so large that the signs of the cross effects in Eqs. 2.4 and 2.5 cannot be determined with confidence. This implies that, for example, a certain group cannot be sure whether it should ask the GCC to expand or contract its government spending variable  $g'$  to increase the group's own welfare. These uncertainties represent serious constraints on the attempts at policy-coordination.

Given these obstacles, and considering the data analysis on the convergence criteria of groups one and two and GCC discussed at the beginning of the section, three major issues are necessary to make coordination beneficial: First, the theoretical literature specifies that both groups, the larger entity such as the GCC and the smaller group or country that is seeking coordination need to start discussion on where to move their targets. Here, the difference between groups one and two considered in this section arises. The criteria met by group one are similar for the GCC ones whereas the ones for group two differ. Second, each group such as group one or group two must study the costs and benefits of moving into a direction set by the GCC criteria. The costs may not

be existent for group one but could be high for group two. Third, each group must determine the initial position of its and the GCC's target variables (similar for group one and different for group two), the appropriate weights of the targets, and the policy multipliers to prevent coordination from reducing welfare instead of increasing it. Therefore, based on the previous analysis, coordination seems more beneficial and easier to achieve for group one and may be possibly harmful and costly for group two. Therefore, there may exist some serious stumbling blocks for the success of policy coordination between group two and the GCC. Major obstacles for group two in the form of the initial positions of target variables, the appropriate weights of various targets, and the size of policy multipliers may cause very little gains from coordination and, under some assumptions, possible potential losses.

## 2.5 Conclusion

The purpose of the paper is to analyze the convergence criteria in the geographic region extending from the EMU all the way to the GCC including most MENA countries with the objective to determine the possibility of coordination between the EMU and the promised gulf monetary union and between other countries in the MENA region that are operating independently and the GCC. The purpose is to conclude whether the EMU and the GCC can coordinate policy and whether the region can have another viable monetary union such as the gulf one or a larger one by having some other MENA countries join the GCC. The analysis shows that the GCC countries have successfully met most if not practically all of the convergence criteria necessary for monetary integration. This convergence of various GCC economies especially in public finances and exchange rate arrangements should pave the way for interest rate and price stability in the GCC after ensuring economic and institutional unity. Setting-up the institutional framework necessary for the fulfilment of these criteria is beyond the scope of this paper. As far as exchange rate arrangements and the nature of the chosen exchange rate regime after the union are concerned, many believe that the peg to the US dollar remains the most viable policy option to GCC countries for achieving macroeconomic and external stability under existing conditions of various economies. Given this case, coordination between the EMU and the GCC can take place at many levels except the exchange rate regime as the EMU follows an independent freely floating exchange rate with the GCC pegging to a different currency. This may hinder the possibility of coordination. Should current conditions change in the future with a shift to a peg to a currency basket in which the euro is heavily weighed, or to a managed or freely floating regime, the possibility of coordination becomes very plausible and feasible based on the convergence criteria.

The paper also addressed the possibility that other MENA countries coordinate individually with the GCC to join the union once established. The results of the model as well as casual empiricism show that a more efficient possibility exists for oil-producing MENA countries such as Libya and Tunisia over non-oil producing ones such as Lebanon and Jordan based on performance concerning the convergence

criteria and the initial position of each group and the GCC's target variables. However, the oil-producing countries have to change their exchange rate arrangements in line with the gulf monetary union once established if this union adopts a dollar peg arrangement. Additionally, Lebanon, Jordan and other non-oil producing countries may not be able to embark on high levels of policy coordination with the GCC and the EMU given several costs and obstacles in moving their targets permanently towards the convergence criteria. They could, on the other hand, and possibly should cooperate in terms of many criteria while establishing their macroeconomic objectives and setting their economic policies independently. The cooperation could take the form of consultation, exchange of information, informal or partial policy coordination, and some other activities. Based on the model presented in the previous section these countries could, for example, exchange full information on the size and signs of policy multipliers and on the initial positions of target variables. Both groups could agree for example on avoiding sharp swings in the level of real exchange rates by sharing information about global economic conditions, shocks and various policy instruments. The economic literature suggests gains from policy cooperation especially that such cooperation is relatively costless in terms of economic as well as national sovereignty.

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