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Fixed Exchange Rate Regimes in Mediterranean Countries and the Experience of Cyprus

George Syrichas*

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Abstract

Mediterranean countries following a fixed exchange rate regime have been confronted with some challenges that test the efficacy of the regimes in place. These challenges mostly arise from the combination of inflationary pressures and the need for further capital account liberalisation amid conditions of ample liquidity in the banking system and rapid money and credit growth. Theoretical and empirical considerations do not point to the superiority of a particular exchange rate regime, but provide broad guidance on the factors and conditions that are predisposed to a fixed exchange rate regime and its sustainability in a liberalised environment. The case of Cyprus confirms the view that, under certain conditions, it is possible to maintain a credible fixed exchange rate regime while advancing capital account liberalisation and still achieve the primary objective of monetary policy. Adherence to a simple monetary rule, such as an exchange rate target, can confer credibility on a central bank and deliver price stability. Another important lesson drawn from the Cyprus case is that this strategy requires an independent central bank and needs to be supplemented by additional measures. Capital account liberalisation requires that the authorities have in advance a well-prepared and comprehensive plan, including, first and foremost, reforms in the conduct of monetary policy and banking supervision.

Keywords: Exchange rate policy, exchange rate pegs, monetary policy, Mediterranean countries, Cyprus.

JEL Classification: E31, E4, E52, F31, F33.

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1. Introduction

The majority of Mediterranean countries follow some type of fixed exchange rate regime, with most of them being pegged to the US dollar. It is acknowledged that exchange rate anchoring has contributed to monetary policy credibility, fostered price stability and exerted a disciplinary effect on other policy areas in the region, such as fiscal and structural policies. However, Mediterranean countries have, especially in recent years, been confronted with a number of challenges such as increased inflationary pressures driven, *inter alia*, by buoyant domestic demand (fuelled by strong money and credit growth) and increasing international energy and food prices.¹ In addition, efforts to further liberalise the capital (and financial) account appear to interfere with policy challenges and exacerbate constraints in the conduct of monetary policy. In this context, some of the exchange rate targeting Mediterranean countries are assessing the framework in place or even contemplating the change to a more flexible arrangement which would allow them greater freedom to pursue domestic objectives.

The theoretical and empirical exchange rate literature seems to provide limited guidance as to how to address the above challenges. This difficulty may be best captured in the statement that “no single exchange rate regime is right for all countries or at all times” (Frankel, 1999). Hence the policymakers are left with the difficult task of designing an evolving exchange rate policy that will be appropriate to a country’s characteristics and the prevailing conditions and institutional arrangements at any given point in time.

Against this background, the Cypriot experience may be particularly instructive for those Mediterranean countries committed to exchange rate targeting. Though one might argue that Cyprus is a too small country to serve as a basis for generalisation and there had been an exit point, namely accession to the euro area. Though both points are valid the long-standing commitment of Cypriot authorities with exchange rate targeting under various economic conditions and regimes, both locally and

¹ In the wake of the global financial turmoil and economic recession, the aforementioned inflationary pressures have been reduced significantly. This, however, was the result of the transmission of the global slowdown into the region’s real economy through lower exports, oil revenues, tourist receipts and remittances.

internationally, could be useful for those Mediterranean countries, or any country, trying to bring inflation down, proceed with financial liberalisation and achieve a high degree of nominal and real convergence with its regional peers and/or its trading partners. In Cyprus, a pegged exchange rate regime had been in place from 1963, the year of the Central Bank of Cyprus's (CBC's) establishment until Cyprus's accession to the euro area in 2008. The Cypriot case exemplifies how the pursuit of a credible pegged exchange rate strategy aimed at maintaining price stability through exchange rate stability, can lead to the smooth and successful monetary integration of a country, while dealing with the emerging challenges, including capital account liberalisation. This is especially plausible if such a strategy is reinforced and augmented by an independent central bank and the prudent monitoring of money (and credit) aggregates as well as the judicious screening of external balances.

After a brief review of the literature on the choice of an exchange rate regime, Section 3 summarises the existing regimes in Mediterranean countries. Section 4 focuses on economic developments and selected economic features of Mediterranean countries pursuing a fixed peg regime and discusses key challenges in these countries. Section 5 focuses on the experience of Cyprus and how policy reacted in response to adverse conditions and challenges similar to those faced by some Mediterranean countries. The last section draws some conclusions which may prove useful for Mediterranean countries.

2. Choosing an exchange rate regime: theoretical and empirical considerations

The early literature on the choice of the exchange rate regime focused on the importance of commodity prices and the sources of shocks, i.e. real or nominal, and the role of capital mobility. The consensus among economists in the 1960s favoured the pursuit of fixed exchange rates with the theory of optimal currency area, suggesting that small open economies are more likely to adopt fixed exchange rates compared with larger and relatively closed economies². The collapse of the Bretton Woods fixed exchange rate arrangements in 1970, brought about a wide range of

² Mundell (1961) and McKinnon (1963) emphasise an economy's openness and size as important elements of the selection of a fixed exchange rate arrangement. Similarly, Kenen (1969) stresses the importance of the geographical concentration of trade.

choices for exchange rate regimes, ranging from pure floating to intermediate regimes, hard pegs, currency unions and flexible exchange rates. The high inflation prevailing in the late 1970s shifted the attention of the literature to the use of the exchange rate as a means of reducing inflation. According to this view, by pegging its currency to that of a country with low inflation, a country can import the credibility of the foreign central bank (Barro and Gordon, 1983a, 1983b). The credibility gains of adopting a peg arrangement were emphasised by many other economists, including Giavazzi and Giovannini (1989) and Dornbusch (2001). Other studies emphasise the trade off between credibility and flexibility and seem to favour intermediate regimes (Rogoff, 1985 and Frankel and Rose, 1996). A flexible exchange rate regime allows a country to follow an independent monetary policy in order to address domestic and external shocks, in contrast to a fixed exchange rate regime which limits this ability but requires a higher degree of credibility. The intermediate regime was questioned in the light of large capital flows prevailing in the 1990s. The currency crises of, among others, Argentina in 1991, Mexico in 1982 and 1994 and East Asia in 1997, have demonstrated that intermediate regimes backed by inconsistent macroeconomic policies result in speculative attacks (Krugman, 1979 and Flood and Garber, 1984). Moreover, several studies concluded that in an environment of high capital mobility, intermediate solutions should be avoided and the choice should be between two corner solutions: either a hard peg or a floating exchange rate regime.

The empirical evidence reflecting the above theoretical considerations is also inconclusive, suggesting that a choice of regime depends on country specific characteristics and that generalisations across countries and over time are not possible. Part of the literature aims at assessing the impact of the exchange rate regime on economic performance, mainly on inflation and output. Both country-specific and multi-country studies fail to make generalisations and find it difficult to isolate the effect of the exchange rate regime on economic performance as other country specific characteristics come into play, such as the openness of the economy and simultaneous bias. With these caveats in mind, many studies seem to associate pegged exchange rates with lower inflation (Ghosh et al, 1997, 2002 and Levy-Yeyati

and Sturzenegger 2001, 2003a, 2003b). On the growth criterion, the first study finds no evidence of a strong link between output growth and the exchange rate regime, while the latter studies concluded that fixed rate regimes tend to be associated with lower growth. Bleaney and Francisco (2007), examining the relationship between inflation, growth and the exchange rate regimes for 91 countries over the period 1984-2001, conclude that countries with soft pegs have similar growth rates to countries with floats and slightly lower inflation; hard pegs, however, are superior to other regimes in the case of inflation, but fall behind on growth. Rogoff et al (2003) find that for countries which are in the early stage of development, fixed exchange rates seem to offer lower inflation without compromising growth objectives. For developed countries, more flexible exchange rate arrangements appear to deliver higher growth without the cost of inflation. In their study of South Eastern and Central European countries for the period 1994-2004, De Grauwe and Schnabl (2005) found that fixed exchange rates seem to be conducive both to low inflation and growth. It should be noted that the whole empirical investigation, and not just the aforementioned part, is further complicated by the classification of the exchange rate regime. Calvo and Reinhart (2002), among others, argue that many countries followed *de facto* an exchange rate regime which differed from the one officially declared (*de jure*).

Overall, theoretical and empirical considerations do not point to the superiority of a particular exchange rate regime, nor do they provide us with definitive criteria for choosing the appropriate regime. Instead, they support the importance of country specific characteristics and challenges ensuing from the international environment. However, the literature provides broad guidance on the factors and conditions that are predisposed to a fixed exchange rate regime and its sustainability in a liberalised environment.

3. Exchange rate regimes in Mediterranean countries

A multitude of monetary policy frameworks and corresponding exchange rate regimes exist in Mediterranean countries. With the exception of Israel, which follows a free float in the context of inflation targeting, Mediterranean countries pursue either a managed float or a pegged exchange rate (see Table 1). Algeria, Egypt and Mauritania follow a managed float regime, whereas Jordan, Lebanon, Libya, Morocco, Syria and Tunisia follow a fixed peg. As far as the last group is concerned, Morocco focuses on a basket of currencies with an 80% weight on the euro and 20% on the US dollar and Tunisia on a composite of the euro and the dollar. Jordan and Lebanon focus on the US dollar, while Libya and Syria are pegged to the SDR. Three countries, namely Egypt, Morocco and Tunisia, have stated their intention to adopt inflation targeting in the future. In addition, most of the Mediterranean countries maintain controls on the movement of capital (see Annex 1). Against this background and in view of plans by some Mediterranean countries to proceed with further capital account liberalisation, the issue arises concerning the challenges that these reforms present for existing exchange rate regimes, particularly for fixed pegs, as capital controls are inevitably more critical to the maintenance and success of fixed exchange rate regimes.

In this connection, it should be noted from the outset that exchange rate anchoring has contributed to monetary policy credibility, fostered price stability and exerted a disciplinary effect on other policy areas in the region, such as fiscal and structural policies. However, as will be made apparent in the next section, Mediterranean countries have been confronted, especially in recent years, with a number of challenges such as increased inflationary pressures driven, *inter alia*, by buoyant domestic demand (fuelled by strong money and credit growth) and an increase in international energy and food prices. In addition, efforts to further liberalise the capital (and financial) account appear to interfere with these challenges and exacerbate constraints in the conduct of monetary policy. These hindrances are particularly important in the case of Mediterranean countries following a fixed exchange rate regime, as monetary policy is focused on maintaining the exchange rate and is therefore relatively more constrained in the attainment of domestic

objectives. In this context, monetary policy may also be confronted with a dilemma which manifests itself in the “impossible trinity” (i.e. trying to maintain a fixed exchange rate while at the same time containing inflationary pressures in the face of increased capital inflows and excess liquidity in the domestic banking system). Policymakers are thus obliged to strike a balance between exchange rate and interest rate flexibility. Against this background, exchange rate targeting Mediterranean countries are reassessing the framework in place or even contemplating the change to a more flexible regime, which theoretically would allow them to better pursue domestic objectives. As Table 1 shows, with the exception of Jordan, all Mediterranean countries following a fixed peg regime maintain controls on capital movements (see also Annex 2).

4. Economic developments and selected economic features of Mediterranean countries³

This section examines economic developments in Mediterranean countries from a long-term perspective with a view to highlighting broad trends and selected features of their performance. The selected indicators, particularly growth and inflation, provide a broad assessment of the performance of the peg arrangements in the Mediterranean countries. In addition, fiscal and current account balances and the growth of monetary aggregates are important for the challenges that Mediterranean countries are confronted with, as negative developments in these might threaten the sustainability of the exchange rate regimes. In the same vein, institutional arrangements, such as the degree of capital controls and reserve requirements in the wake of financial liberalisation, have an important bearing on the exchange rate arrangements.

³ The analysis focuses on those Mediterranean countries whose exchange rate regime was characterised as a fixed peg at the end of 2008. According to the IMF, these are: Jordan, Lebanon, Libya, Morocco, Syria and Tunisia.

Real GDP growth

Taking a long-term perspective, strong real GDP growth averaging around 5% has prevailed in the Mediterranean region over the last decade (see Chart 1). A diversity of factors, such as the evolution of hydrocarbon prices, regional recycling of oil revenues from the Gulf region, structural reforms and political events have been key drivers of this growth pattern, which highlights the heterogeneity of the region's economic features. In addition, the vagaries of the weather seem to affect, to some extent, growth performance through the agricultural sector. Some moderation in the fluctuation of economic activity is also evident in the last decade, compared with the 1990s. Limited data available suggest that unemployment in the region remains high, especially among the young.

Comparing economic expansion under fixed and floating exchange rates (see Chart 2), it can be seen that GDP growth rates are similar under the two regimes, but growth is more volatile with fixed exchange rates. This cursory analysis provides support for Ghosh et al (1997, 2002), among others, who fails to find a strong link between output growth and fixed exchange rates.

Inflation

Inflation has been driven by both global and domestic factors and has exhibited an upward trend since 2002, averaging 5%-6% (see Chart 3). Global factors, such as rising commodity (mainly oil) and food prices, explain the increase in inflation, at least until the second half of 2008. Given that Mediterranean countries following a fixed exchange rate regime are oil-importers (except for Libya and Syria), the pass-through of global prices should be emphasised as an important factor contributing to domestic price developments. This pass-through should also be seen against the relatively important weight of food in the CPI baskets of Mediterranean countries. If nominal rigidities in wages and prices are removed, global price developments are set to further affect domestic prices for Mediterranean countries pursuing a fixed peg. Moreover, increasing inflation over the last seven years can be linked, at least to some extent, to strong domestic demand amid rapid money and credit growth.

Mediterranean countries with floating exchange rate regimes seem to have a higher inflation rate than countries with a fixed exchange rate (see Chart 4) as confirmed by a number of empirical studies (Ghosh et al, 1997, 2002 and Levy-Yeyati and Sturzenegger 2001, 2003a, 2003b). However, Chart 4 indicates that the trends in inflation rates do not differ significantly between the two types of exchange rate arrangements.

Fiscal policies

Overall, with the exception of Libya whose fiscal pattern reflects to a large extent the impact of oil production, budget deficits in non-oil producing countries have been significant, particularly in Lebanon and Jordan (see Chart 5). Foreign assistance, partly to finance the large number of Palestinian refugees, has enabled Lebanon and Jordan to sustain relatively large fiscal deficits. In contrast, Morocco has exhibited a favourable fiscal position over time with these countries. Fiscal slippages ensuing from discretionary and pro-cyclical policies constitute a serious impediment to the conduct of exchange rate targeting-monetary policy and, therefore, Mediterranean countries may wish to consider introducing fiscal rules or legislative provisions to deter unwarranted policies. This can be particularly important for oil-exporting countries, as oil revenues are often linked to expansionary policies. Apart from a very high level of public debt in Lebanon, Mediterranean countries have experienced a gradual reduction in their debt levels over the last four years (see Chart 6).

External sector

As is the case with fiscal balances, current account balances reflect to a great extent the asymmetric impact of oil production on oil producing and non-oil producing Mediterranean countries (see Table 2). In particular, for Jordan, Lebanon and Morocco the deterioration of current account balances in the last few years is mainly the result of increasing oil prices, whereas for Libya and Syria declining current account balances can be linked to expansionary fiscal policies and import growth. On the other hand, Tunisia has maintained low and manageable current account deficits over time.

Furthermore, the evolution of the current account reflects buoyant domestic demand (both consumption and investment), often accompanied by strong money and credit growth. Mediterranean countries have been gradually increasing trade links and flows since 1999 (see Chart 7) and there is room to further expand the openness of trade. However, this welcome development increases the sensitivity to imported inflation, rendering the pass-through into domestic prices more significant.

The financing of the current account deficit becomes a critical factor for the accumulation of foreign reserve assets and the ability to maintain a fixed peg exchange rate regime in adverse economic conditions. Since 2003, Mediterranean countries have recorded an increase in FDI flows (see Chart 8), which has helped accelerate structural reforms. And all countries managed to increase their foreign exchange reserves, reflecting the aforementioned increase in FDI flows, at least since 2003. In this respect, adequate foreign exchange reserves have provided a safety cushion to policymakers, while allowing intervention in foreign exchange markets to support the fixed peg.

Capital account liberalisation

As far as capital account liberalisation is concerned, all Mediterranean countries, except for Lebanon, had significant controls in place in the early 1990s (see Annex 2). Indeed at the end of 2008, only Israel and Jordan maintained no or few minor restrictions on the movement of capital, respectively, in contrast to other countries, where extensive controls still exist. Mediterranean countries following a fixed peg regime have maintained, at least to some extent, capital controls. Egypt and Israel which had more liberalised capital flows moved towards more flexible exchange rate regimes, while the case of Jordan demonstrates that it is possible to advance capital account liberalisation while maintaining a fixed peg regime.

The potential destabilising features of a rapid and unprepared liberalisation should not be underestimated as these may have a detrimental effect on the smooth conduct of monetary policy and may even be associated with financial crises, threatening the sustainability of the fixed exchange rate regime. It is widely agreed that there is an

optimal path for economic liberalisation (McKinnon, 1982, 1991) and there is now widespread agreement as to the characteristics of that path, which in conjunction with some related preconditions, can guide policymakers through a smooth capital account liberalisation. These preconditions, which refer to the existence of an overall framework that is fully aligned with the exchange rate objective, will be highlighted while studying the case of Cyprus in Section 5.

Gibson et al (2006) argue that the first step should be the liberalisation of the current account, otherwise the burden of adjustment in the event of shocks would mainly fall on the capital account. It is important that the liberalisation of trade takes place before either domestic or external financial liberalisation, since tariffs distort relative prices. Otherwise, if financial markets are liberalised with prices remaining distorted, finance will be attracted to artificially profitable sectors and a misallocation of resources will occur.

A sound financial sector should, in principle, be in place before the liberalisation of the external sector so as to facilitate the convergence between domestic and foreign interest rates, thereby deterring any destabilising capital flows. Turning to the banking systems in Mediterranean countries, which are the main source of financial intermediation, the evidence is that up to now there has been limited domestic liberalisation and the financial systems remain underdeveloped. More specifically, despite strong credit growth observed over the last few years the overall low level of credit to the private sector points to underdeveloped financial systems, especially in Libya and Syria (see Charts 9 and 10). Indicative of the relatively low development of the financial sector is the level of broad money as a percent of GDP (see Chart 11). As a proportion of GDP, Lebanon has by far the most developed banking sector. Accordingly, it is expected that Mediterranean countries will further develop their financial sectors before proceeding with more capital account liberalisation.

Finally, with respect to FDI inflows, which in general operate within a liberalised environment, Gibson et al (2006) show that, despite liberalisation, there is evidence that some Mediterranean countries are not performing to potential and should be

attracting more FDI. This indicates that there is scope for national and regional policies which could help boost FDI flows in these countries. Furthermore, appropriate policies can increase the effectiveness of the FDI attracted in terms of the benefits for the host economies.

Challenges for monetary policy

Overall, Mediterranean countries are small open economies exhibiting robust growth performance and, over the last years, increasing trade integration. At the same time, elevated inflation and unemployment rates point to some rigidity in product and labour markets, while a cursory analysis suggests that the pass-through of global prices into domestic price developments is important.

In these circumstances, stepping up the requisite structural reforms that will *inter alia* attract foreign investment becomes even more important for Mediterranean countries. Critical reforms relating to the enhancement of competition in product markets and liberalisation of labour markets and the external capital account are needed. With regard to the latter, Mediterranean countries following a fixed exchange rate regime may be faced with some challenges, as opting for more capital mobility may call for increased exchange rate (and interest rate) flexibility so as to overcome or avoid the “impossible trinity”. In this context, besides volatile and destabilising capital flows, external shocks, such as an inflationary shock, are also likely to hamper the smooth conduct of monetary policy. As was the case with European countries that joined the euro area, Mediterranean countries are likely to experience significantly increased inflows and outflows following liberalisation, even if a country has in place a sound and liberalised banking system, a credible monetary policy regime and adheres to the suggested path of capital account liberalisation. This challenge calls for increased vigilance by the monetary authorities.

Moreover, reflecting the pursuit of fixed pegs, high net foreign assets held by the central banks of these countries has contributed to the existence of a liquidity surplus in the banking system, which complicates the conduct of monetary policy.

Within the context of excess liquidity in their banking systems, Mediterranean countries may be hesitant to increase interest rates in response to inflationary pressures, as this may trigger increased capital inflows and consequently exacerbate the problem of excess liquidity. In addition to its limited room for manoeuvre, monetary policy in exchange rate-targeting Mediterranean countries is further constrained by underdeveloped operational frameworks, characterised by reliance on high minimum reserve ratios and interest rate ceilings⁴.

As far as minimum reserves are concerned, the high minimum reserve ratio and the low remuneration rate are impediments to the efficient functioning of the system, as is the relatively high use of deposit facilities. In response to the financial crisis, Mediterranean countries have tried to ease monetary policy conditions by lowering interest rates and reserve requirements. The degree of reduction depends on country specific circumstances, including the exchange rate regime, the intensity of the economic slowdown and inflationary pressures, as well as considerations concerning capital inflows and current account positions.

5. Exchange rate policy in Cyprus: a story of pegs

In Cyprus pegged exchange rates were long considered as an anti-inflationary tool. In fact, following the establishment of the Central Bank of Cyprus (CBC) in 1963, i.e. three years after the island's independence, a pegged exchange rate regime was in place up until accession to the euro area in 2008. It was believed that the establishment of an unambiguous objective anchor for economic policy would induce greater discipline, instil confidence in the currency and help to establish credibility for measures to contain inflation. A number of other characteristics of the Cypriot economy, such as its size and openness, wage indexation and, in the past, administratively determined interest rates as well as the existence of capital controls, all made a strong case for a fixed exchange rate arrangement, placing the burden of containing inflation on the exchange rate.

⁴ See European Central Bank (2006).

Having chosen fixed exchange rates as the appropriate regime, the remaining issue for the authorities was the choice of a proper anchor currency. Initially, the Cyprus pound was tied to sterling with a fixed parity. The “generalised floating” that came about with the demise of the Bretton Woods exchange rate arrangements called for a revision of this policy since continuation of pegging to sterling, or for that matter to any of the major currencies, would in effect have meant floating vis-à-vis all other currencies.

Following the collapse of Bretton Woods in 1970, the Cyprus pound was first linked to an import-weighted basket and then in 1984 to a trade-weighted basket. In the early 1990s, Cyprus’s aspiration to become a member of the EU rekindled the debate about the appropriate exchange rate policy. The question that was brought to the fore related to the optimal exchange rate strategy for the eventual adoption of the euro, as the design of such a strategy needed to take into account the specific requirements that the euro adoption process entailed. In particular, the road to the euro required the complete abolition of capital controls by the time of EU accession, along with various structural reforms and the fulfilment of the Maastricht criteria, which entailed, *inter alia*, participation in the Exchange Rate Mechanism II (ERM II) for at least two years.

On 19 June 1992, the Cyprus pound was unilaterally pegged to the ecu, with the central rate of CY£1=ECU 1,7086 and fluctuation margins of $\pm 2,25\%$, reflecting the policy of linking the economy more closely to the economies of the EU.

With the birth of the euro a decision was taken to link the Cyprus pound to the euro with a central rate and margins equal to those of the ecu⁵. The same exchange rate policy was followed after Cyprus joined the EU in 2004 and the following year when the Cyprus pound officially participated in ERM II. The policy of unilaterally linking the Cyprus pound to the ecu and then to the euro culminated in the adoption of the euro as the island’s legal tender in 2008.

⁵ See Kyriacou and Syrighas (1999) on the macroeconomic implications of the introduction of the euro for the Cypriot economy.

Assessing the exchange rate policy in Cyprus

To assess the impact of the exchange rate policy on Cyprus's economic performance we turn our attention to inflation and growth paths over the entire period when fixed exchange rates prevailed on the island. Cyprus has a small, open and services oriented economy with the ratio of total trade (exports plus imports of goods and services) to GDP of around 100%. Real GDP growth has been historically robust, averaging 5,1% between 1961 and 2009, which is consistently above the average trend for the euro area as well as for the EU as a whole (see Chart 12). As a result, Cyprus has achieved a satisfactory degree of sustainable real convergence with the EU. In 2007 Cyprus's per capita GDP in PPS terms accounted for 91,9% of the EU average.

In line with this robust track record of real GDP growth, the unemployment rate has historically been lower and more stable than in the rest of the EU (see Chart 13). Indeed, this stability has been remarkable⁶.

Though one might expect high economic growth in conjunction with low unemployment to be linked to higher inflation, this did not materialise in Cyprus. As shown in the next section, inflation remained relatively contained throughout the years, an outcome that could be attributed to the prudent monetary and exchange rate policies followed by the CBC since its establishment in 1963.

Containment of inflation

Inflation in Cyprus has been contained over time. Spanning a period of more than 40 years, price increases averaged between 2%-3% with the most noteworthy exception being the experience of the 1970s (see Chart 14). The spike recorded in the 1970s was the consequence of two oil shocks. But even during that decade, inflation in Cyprus was significantly lower than in the countries of its anchor currencies. Chart 14 shows that the only country with a superior performance in price stability was Germany. Germany's performance was the outcome of the Deutsche Bundesbank's clear price stability mandate and the monetary target strategy pursued after the collapse of the

⁶ The short-lived spike during the period 1974-75 was due to the Turkish invasion.

fixed exchange rate regime (Issing, 2005). In Cyprus, no monetary switching took place in the face of the collapse of Bretton Woods. However, this policy of fixed exchange rate targeting delivered price stability even in the face of severe adverse conditions vis-à-vis the invasion of 1974. As noted in Orphanides (2008) "*in retrospect, the experience of Cyprus may serve as an instructive example of the long-term benefits of a monetary policy focused on price stability, even in the presence of dislocations that might have been seen as providing cover for looser, less responsible monetary policy in other contexts*" (pp. 372-373).

Valuable information is also revealed by examining the components of the CPI. Most of the CPI's volatility during 1984-2007 is the result of the variability exhibited by locally produced products. Chart 15 illustrates that locally produced products are mainly responsible for the spikes observed in the CPI index. Within this category, agricultural products are the most volatile. In addition, Chart 15 confirms the previous analysis that inflation in Cyprus has remained at low levels on the back of imported products, whose prices follow a distinct negative trend. In other words, under the fixed exchange rate regime, Cyprus was importing, on average, the inflation of its trading partners⁷.

Key features of the success

The strategy of achieving price stability through exchange rate stability was applied resolutely in a credible and consistent fashion by the CBC. The long track record of price stability in Cyprus is the most obvious proof of the success of this strategy. The CBC's strict adherence to this simple rule was observed during the period of the Turkish invasion and its aftermath as well as during the ERM crisis in 1992. During these two critical periods, the Cyprus pound remained firmly pegged despite the fact that significant competitiveness losses were experienced, which were the result of devalued currencies. These two events further strengthened the CBC's reputation for maintaining macroeconomic stability. The behaviour of the Cypriot authorities

⁷ For other determinants of inflation in Cyprus see Syrichas (2008).

was in line with the prevailing consensus that favoured a fixed exchange rate regime on the basis of the discipline that peg arrangements were believed to induce⁸.

The CBC's commitment to price stability through the targeting of the exchange rate was a simple and transparent rule that could be evaluated at any moment by looking at the external value of the Cyprus pound. The testing of this rule during difficult times enhanced confidence in this policy and anchored inflation expectations. This strategy's success also lay in the fact that CBC decisions were politically independent. Even though CBC independence was only granted officially in 2002, the government's representative on the CBC's Board of Directors never objected to the Board's monetary policy decisions.

The resolve, credibility and independence of the CBC were essential but not adequate for the success of the exchange rate targeting strategy. The authorities recognised the impossible trinity and needed to make sure that monetary conditions were consistent with economic fundamentals.

Orphanides (2008) recognises additional elements which had contributed to this policy's success. The first element was the close monitoring of monetary aggregates and credit, especially credit to the private sector, with a view towards reigning in excessive rates of expansion that might be a threat to stability. The second element was the close monitoring of the current account deficit, both as an indicator of inflationary pressures and as a warning signal which helps to avoid external imbalances. This strategy's theoretical underpinnings can be found in the literature of the balance of payments crises (see, among others, Krugman, 1979 and Flood and Garber, 1984). Using a simple monetary model, Flood and Garber have shown that in a small country with purchasing power parity and free capital mobility, excessive credit growth will result in a gradual draining of foreign reserves. Agents expecting the eventual exhaustion of reserves and the collapse of the fixed exchange rate

⁸ It was also recognised that apart from losing one's credibility, a policy of devaluation would have eventually exacerbated inflation. Full employment conditions, the existence of the cost of living allowance (COLA), and low price elasticity for the demand for exports and imports of goods, meant that a currency devaluation in Cyprus would have brought a worsening of the trade account, with the higher demand for exports almost completely offset by the resulting higher increase in expenditure on imports.

regime will launch an attack on the regime. Hence, one might infer from Flood and Garber the significance of closely monitoring credit expansion and the current account (i.e. the level of foreign reserves) for the sustainability of parity, which is what the Cypriot authorities had been doing.

There were some cases where economic behaviour (as reflected in monetary aggregates) was inconsistent with economic fundamentals. The trinity was violated and therefore the regime's sustainability was threatened. Capital controls prevailing in Cyprus for most of the period under review definitely helped the authorities circumvent the impossible trinity and sustain the fixed exchange rate regime. However, the significance of capital controls cannot be overemphasised. The literature (e.g. Wyplosz, 1986) and country experiences worldwide have demonstrated that capital restrictions may delay a speculative attack but cannot stop the eventual collapse of a fixed rate regime if inconsistent policies are followed over the long run. The longevity of the Cypriot regime should principally be attributed to the fact that, for most of the time, the authorities followed prudent policies. In periods of adverse economic developments, the authorities followed a flexible strategy which adapted to the prevailing economic environment. The success of the strategy in Cyprus relates to the deployment of non-traditional policy tools such as quantitative credit constraints. Chart 16 shows the timing of imposition and relaxation of credit ceilings in periods of hardship. The most significant ones were in: 1967, when credit ceilings were relaxed to promote growth; 1980, when credit ceilings were enforced to contain inflationary pressures; and 1999, when credit ceilings were imposed to contain stock market exuberance.

According to Orphanides (2008), *these tools "proved useful supplements to the more traditional tools---and indeed sometimes the crucial main tools---for controlling threats towards imbalances. Non-traditional tools were used with caution, however, in order to control and correct imbalances in the short term, and not to obscure and prolong them. Care was needed, of course, because it was well understood that, when improperly used, controls and restraints can easily engender unsustainable imbalances, thus increasing the risk of economic collapse at a later stage"* (p. 374).

Exchange rate policy in view of EU accession and financial liberalisation

In the 1990s, the Cypriot economy was entering new phase of capital liberalisation and structural changes in order to pave the way for EU accession and eventual adoption of the euro. Preparations were not restricted only to exchange rate policy but were extended to other areas, particularly the monetary and banking sectors. This was to ensure that the transition to a new liberalised environment was based on a well thought-out and comprehensive programme. In the mid-1990s a new operational framework for conducting monetary policy through open market operations was initiated. During this period reverse repo operations became the CBC's main instrument for managing liquidity, replacing the liquid asset ratio which was the main tool of monetary policy for over 20 years. These monetary instruments were at the heart of the monetary reforms launched in early 1996, with the aim of influencing monetary conditions through more market oriented methods. Under the new monetary regime, reserve requirements were substantially reduced, with the freed liquidity in the form treasury bills. This liquidity entered the market gradually over a seven year period. At the same time, two standing facilities were established. The overnight deposit facility and the marginal lending facility, which allowed banks to place their overnight surpluses or to borrow overnight from the CBC respectively.⁹

The introduction of the new framework led the way for the initiation of two important structural reforms in Cyprus. First and most important was the abolition of the long-lived statutory interest rate ceiling, which was accompanied by a relaxation of all restrictions on medium and long-term foreign borrowing by Cypriots. Since the interest rate liberalisation came into force in 2000, this meant that the CBC was running a market based operational framework with the key instrument, the interest rate, having a statutory ceiling. This unorthodox regime functioned well most of the time, however there were instances when the ceiling was reached and liquidity could not be controlled. In these instances the CBC had to resort to more direct methods.

⁹ See Central Bank of Cyprus (1996).

The second reform was the new *Banking Law* introduced by the CBC with the intention of strengthening supervision and prudential rules. This reform was necessary so as to enable the banking system to cope in an environment of potential destabilising capital flows and asset booms. With the aim of ensuring that the banking system remained sound, a new *Banking Law* was enacted in 1997. The law provided the legal basis for prudential rules and made supervision more effective, with the minimum authorisation requirements and prudential rules being in compliance with the EU banking directives. The *Banking Law* also included enforcement provisions and penalties. The responsible Division in the CBC had the necessary expertise in supervision and was well staffed with qualified and competent personnel. All aspects of regulatory and prudential concern were under the CBC's responsibility. Moreover, banks possessed the prerequisite in terms of experience, human resources and technological infrastructure to move into the liberalised environment safely.

In addition to the aforementioned essential reforms, the policy of keeping relatively fixed exchange rates in a liberalised environment was soon to be tested. Following the abolition in January 2001 of restrictions on medium-term and long-term borrowing with maturities of over two years by residents, there was a significant increase in capital inflows, as private individuals and firms increased their borrowing in foreign currency, mostly euro, taking advantage of the interest rate differential between euro-denominated and Cyprus pound-denominated loans. This exerted upward pressure on the exchange rate, exposing borrowers to increased exchange rate risks. As a result, the CBC abolished the narrow bands of $\pm 2,25\%$ on 13 August 2001, so that only the $\pm 15\%$ margins remained in line with ERM II. But despite the abolition of the $\pm 2,25\%$ bands, the Cyprus pound, though fluctuating, remained within these narrow bands. Thus, investors in general showed confidence in the exchange rate policy and, more specifically, in the currency.

The policy decision of 13 August 2001 was taken simultaneously with another important decision, i.e. the reduction in interest rates by 50 basis points, which was necessary due to the anticipated negative impact of the global economic slowdown

on the Cyprus economy. The decline in interest rates in Cyprus also led to the reduction in the interest rate differential between euro-denominated and pound-denominated loans, which removed some of the incentive for residents to borrow in foreign currency. Interest rates were subsequently reduced further in September and November 2001, by 50 basis points each time.

Moreover, significant capital flows were difficult to manage and could undermine the effectiveness of monetary policy. Substantial capital inflows were principally responsible for the excess liquidity observed in Cyprus since the beginning of 2001. The CBC regularly intervened in the market so as to absorb this excess liquidity and prevent monetary policy from becoming too lax. The operations conducted by the CBC at the time were facilitated by the subdued demand for credit in 2002, compared with the previous year, since commercial banks were willing to place their excess liquidity at the CBC. The financial dimension of these operations should not be ignored as sterilised interventions were depleting the profits of the CBC. The problem was complicated further by the fact that limited exchange rate flexibility caused the build-up of unhedged foreign liabilities by domestic firms. In the case of a successful attack on the peg, the ensuing devaluation that would result would create a significant cost to the firms' balance sheet, the banking system and, ultimately, the economy.

The conduct of monetary and exchange rate policy became even more complicated in 2004 by adverse fiscal conditions, in conjunction with political uncertainty surrounding the prospects for the solution of the Cyprus problem and groundless rumours of an imminent devaluation of the Cyprus pound. The severe capital outflows and the concomitant currency depreciation pressures following these developments, required the CBC to exercise increased vigilance and support the exchange rate by all means. At an extraordinary meeting on the eve of EU accession, the Monetary Policy Committee of the CBC decided to increase its interest rates by 100 basis points and at the same time send a strong signal supporting the Cyprus pound. As a result, markets calmed and capital flows returned to their normal seasonal pattern. In this connection, proper communication and the readiness of the

CBC to maintain policy consistency towards achieving the primary objective at any cost was imperative. This enabled the stabilisation of market expectations.

An additional challenge faced in the period under review relates to the real estate market. More specifically, the strong increase in house prices which was mainly fuelled by increased foreign and domestic demand, had already begun in the run-up to EU accession. The high rate with which prices increased and the exposure of the banking sector to the real estate market through the granting of mortgage loans, raised concerns about possible negative repercussions for household debt and servicing as well as for the banks' loan portfolios, particularly in the case of tighter monetary conditions. With the aim of safeguarding financial stability and protecting deposits, the CBC issued a circular to banks requiring them to assess the creditworthiness of loan applicants more thoroughly and to strictly adhere to the set mortgage loan ceiling after accounting for adequate security pledged by the borrower. In addition, the CBC communicated extensively to the general public the risks inherent in mortgage borrowing.

During the ERM II period, the Cypriot economy continued to face some old and some new challenges. As a result of the prevailing interest differential between Cyprus and the euro area, capital continued to flow into the island partly in the form of foreign currency borrowing, and was mainly used for property purchase and consumption. Rapid credit growth, together with the brisk pace of economic activity, further exacerbated inflationary pressures. Inflation, particularly in the second half of 2007, followed an upward trend as a result of rising oil and food prices. At the end of 2007, the current account deficit had reached its highest level since 1978. The CBC responded to these developments in terms of its communication to the public. More specifically, it issued frequent reminders to the public of the exchange rate risk associated with borrowing in foreign currency. On the prudential side, the CBC, through the issuing of guidelines, reduced the maximum loan to value ratio for mortgages and delayed decreases of the minimum reserve ratio to much lower euro area levels. The prevailing conditions at the time prevented the CBC from fully

converging the interest rates and the ratio of minimum reserve to the euro area levels ahead of time. Both were converged just before the adoption of the euro.

The irrevocable fixing of the exchange rate, i.e. the setting of the conversion rate of the Cyprus pound to the euro, meant the relinquishment of monetary policy by the CBC. Setting domestic interest rates to contain inflation at the national level was no longer possible. At the time when this loss in policy tools was taking place, inflationary pressures had already begun mounting in the Cypriot economy. In particular, HICP inflation surged to 5,4% in August 2008, which was the result of both external and domestic factors as well as policy decisions precipitated by the accession of Cyprus to the euro area. Domestically, rapid credit expansion was fuelling domestic demand, which added to higher inflation in the context of already strong economic activity (i.e. close to or above the potential rate). The reduction in the official CBC interest rates by 50 basis points in December 2007 and in the minimum reserve ratio to the level applied in the Eurosystem on 1 January 2008, were two key factors propelling the rapid credit and money expansion. The surge in oil and food prices was exacerbating domestic inflationary pressures even further. In addition, heightened inflation expectations, linked to perceptions formed in the run-up to euro adoption, played a role, albeit a limited one, in aggravating price pressures through wage and price setting behaviour. It should be mentioned that excessive credit growth was also reflected in the widening of the current account deficit.

Against this background and in the context of Cyprus's monetary integration, it soon became clear that the CBC could do little to reverse the situation and that the burden of tackling these challenges would mainly fall on other policy areas. In fact, as most of the credit growth was channelled to the real estate and construction sectors, the CBC took macro-prudential measures in the field of banking supervision and, among other things, reduced the loan to value ratio with the aim of restraining excessive credit growth and moderating the exposure of the banking sector to risks related to these sectors. These were in fact the only measures that the CBC could take

and were subsequently relaxed in the light of some deceleration in key credit aggregates.

6. Conclusions and policy lessons

Mediterranean countries following a fixed exchange rate regime have recently been confronted with some challenges that test the efficacy of the regimes in place. These challenges mostly ensue from the combination of inflationary pressures (fuelled by strong domestic demand and rising energy and food prices) and the need for further capital account liberalisation amid conditions of liquidity surplus in the banking system and rapid money and credit growth. In light of these developments, some of these exchange rate-targeting Mediterranean countries are assessing the framework in place or even contemplating the change to a more flexible arrangement, which would allow them greater freedom to pursue domestic objectives.

The case of Cyprus confirms the view that, under certain conditions, it is possible to maintain a credible fixed exchange rate regime while advancing capital account liberalisation and still achieve the primary objective of monetary policy within a sustainable macroeconomic environment. These conditions refer to the existence of a policy framework that is fully consistent with the exchange rate objective. In particular, as far as monetary policy is concerned, the previous analysis has shown that the adherence to a simple monetary rule, such as an exchange rate target, can confer credibility on a central bank and deliver price stability, something particularly important for a small open economy. Maintaining a clear and unambiguous policy stance, even under strain, can boost policy credibility and facilitate future policies. This hard earned credibility requires that a central bank enjoys full independence. Over a relatively long period of time, when there are phases of economic downturn or volatility, the regime might be tested as political pressure for devaluation increases. Succumbing to these pressures could seriously undermine the credibility of a central bank. Another important lesson drawn from the Cyprus case is that this strategy needs to be supplemented by additional measures. Monetary aggregates, and in particular credit, should be closely monitored and controlled, if necessary. To that end, any use of non-traditional measures, such as quantitative credit restraints,

should be prudent so as not to engender potential market distortions and inefficiencies which would subsequently undermine the regime in place. The current account also warrants close monitoring, both as an indicator of inflationary pressures and as a warning signal helping to avoid unsustainable external imbalances.

Capital account liberalisation requires that the authorities prepare well in advance a comprehensively thought-out plan, including, first and foremost, reforms in the conduct of monetary policy and banking supervision. A sound banking sector should exhibit the requisite human resource and technical capabilities to adapt to the new liberalised environment safely. Notwithstanding the existence of a comprehensive liberalisation plan and a vigorous banking system, the Cypriot experience has shown that challenges are still likely to emerge, e.g. destabilising capital inflows and outflows (triggered by interest rate differentials), excess liquidity in the banking system and unwarranted asset price movements. The central bank will need to be vigilant and respond decisively, including recourse to macro-prudential measures. Fiscal and structural policies should, in any case, be supportive of monetary policy. A rule-based fiscal framework may be warranted in order to entrench fiscal discipline, while reforms should aim at removing nominal rigidities in wages and prices, particularly downward rigidities.

All in all, the longevity of the fixed exchange rate regime in Cyprus should be seen as testimony to prudent fiscal and monetary policies. This macroeconomic framework was utilised by a credible and independent central bank to maintain parity and achieve price stability. The competitiveness of the economy was not pursued through the adjustment of the parity, but rather through structural adjustments.

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Table 1: Exchange rate regimes and capital controls in Mediterranean countries

Country	Currency	Regime	Capital controls
Algeria	Algerian dinar	Managed floating with no predetermined path for the exchange rate	Yes
Egypt	Egyptian pound	Managed floating with no predetermined path for the exchange rate	Yes
Israel	Israeli sheqel	Independent floating	No
Jordan	Jordanian dinar	Officially pegged to the SDR, but in practice pegged to the dollar since late 1995 – conventional pegged arrangement	Few (minor) restrictions
Lebanon	Lebanese pound	Pegged to the dollar – conventional pegged arrangement	Yes
Libya	Libyan dinar	Conventional pegged arrangement involving more than one foreign exchange market - the arrangement shown is that maintained in the major market (SDR)	Yes
Mauritania	Mauritanian ouguiya	Managed floating with no predetermined path for the exchange rate	Yes
Morocco	Moroccan dirham	Conventional pegged arrangement - pegged to a basket of currencies consisting of EUR at 80% and USD at 20%.	Yes
Syria	Syrian pound	Pegged to SDR within horizontal bands	Yes
Tunisia	Tunisian dinar	Conventional pegged arrangement to EUR/USD composite	Yes

Source: IMF(2007, 2008).

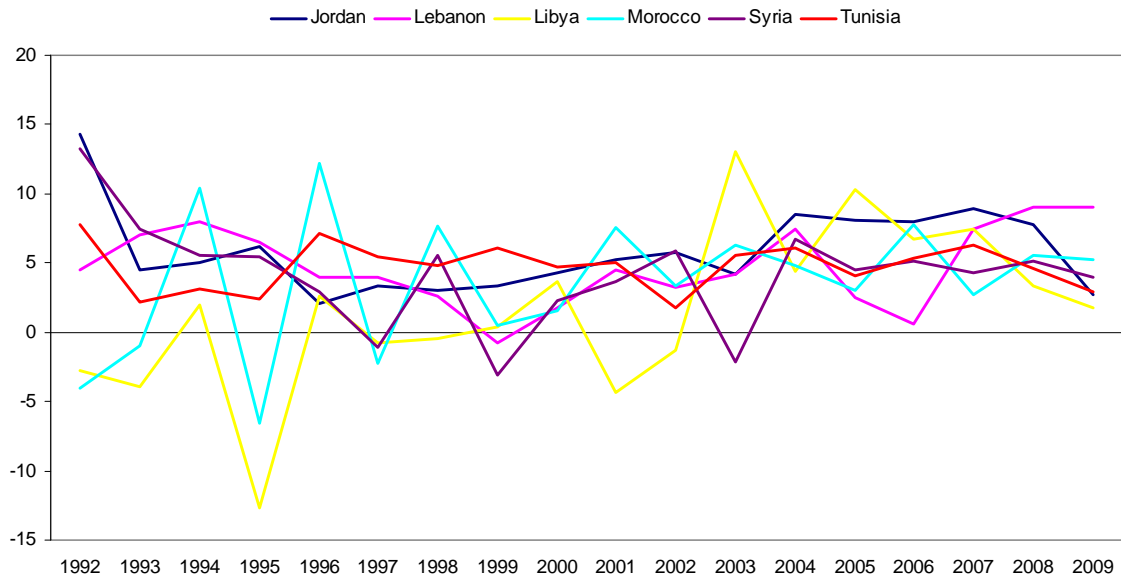
Table 2: Current account balances

	Jordan	Lebanon	Libya	Morocco	Syria	Tunisia
1992	-14.407	-49.857	5.219	-1.882	3.964	-6.598
1993	-11.643	-6.106	-2.734	-1.733	-1.775	-8.781
1994	-6.447	-6.166	0.523	-2.136	-5.633	-4.182
1995	-3.813	-9.634	15.674	-3.218	1.251	-4.308
1996	-3.205	-10.129	12.16	0.086	-0.233	-2.444
1997	0.403	-31.891	11.301	-0.234	2.482	-3.14
1998	0.276	-29.633	7.411	-0.345	0.802	-3.407
1999	4.967	-19.001	13.26	-0.427	1.803	-2.153
2000	0.704	-17.218	29.8	-1.291	5.722	-4.218
2001	0.051	-19.306	12.286	4.271	6.284	-5.109
2002	5.689	-14.141	3.015	3.654	-3.64	-3.55
2003	11.495	-13.203	19.918	3.194	-12.564	-2.946
2004	0.068	-15.523	21.388	1.694	-1.583	-2.695
2005	-17.986	-13.385	38.88	1.787	-2.313	-1.028
2006	-11.634	-5.266	44.581	2.152	-1.834	-1.991
2007	-17.609	-6.779	40.655	-0.093	-2.182	-2.574
2008	-10.272	-11.524	40.709	-5.217	-3.564	-4.191
2009	-5.564	-11.073	16.87	-5.03	-4.512	-3.361

Sources: IMF, CBC.

Chart 1: Real GDP growth

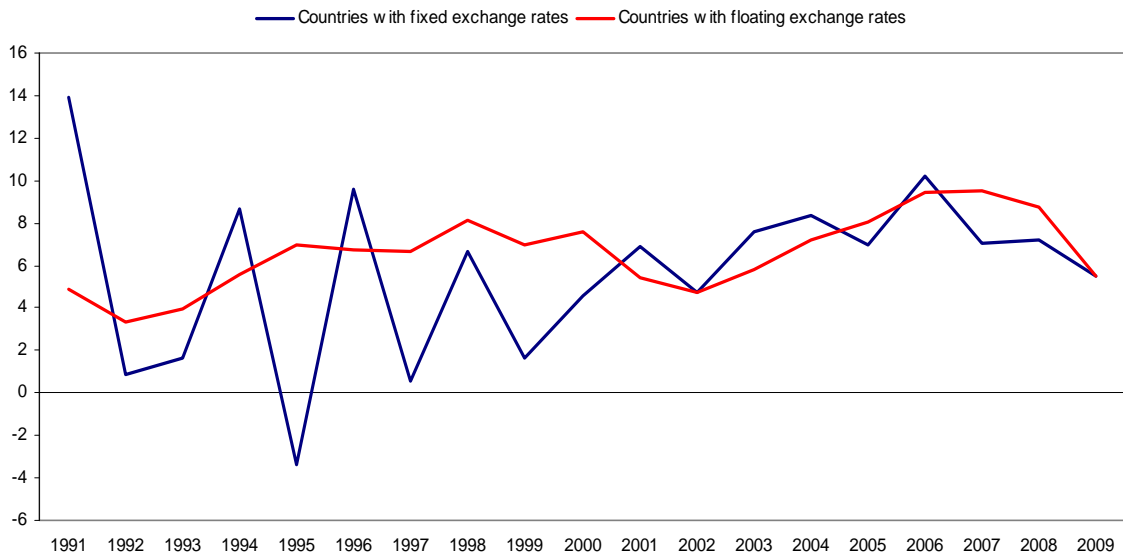
(%)



Sources: IMF, CBC.

Chart 2: Weighted GDP of countries with fixed and floating exchange rate regimes

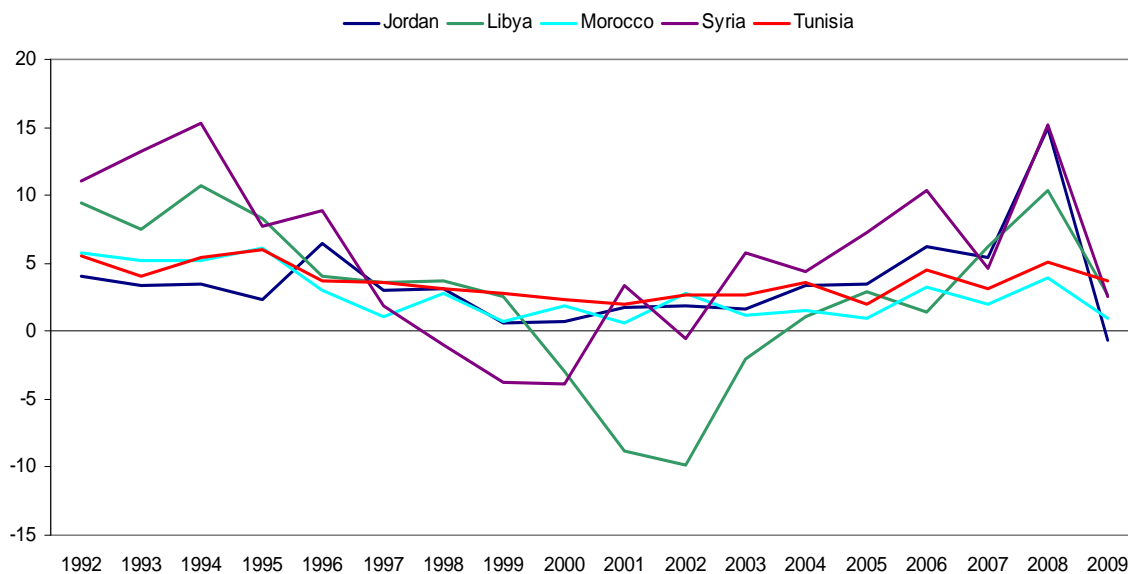
(Annual % change)



Sources: IMF, CBC.

Chart 3: Inflation

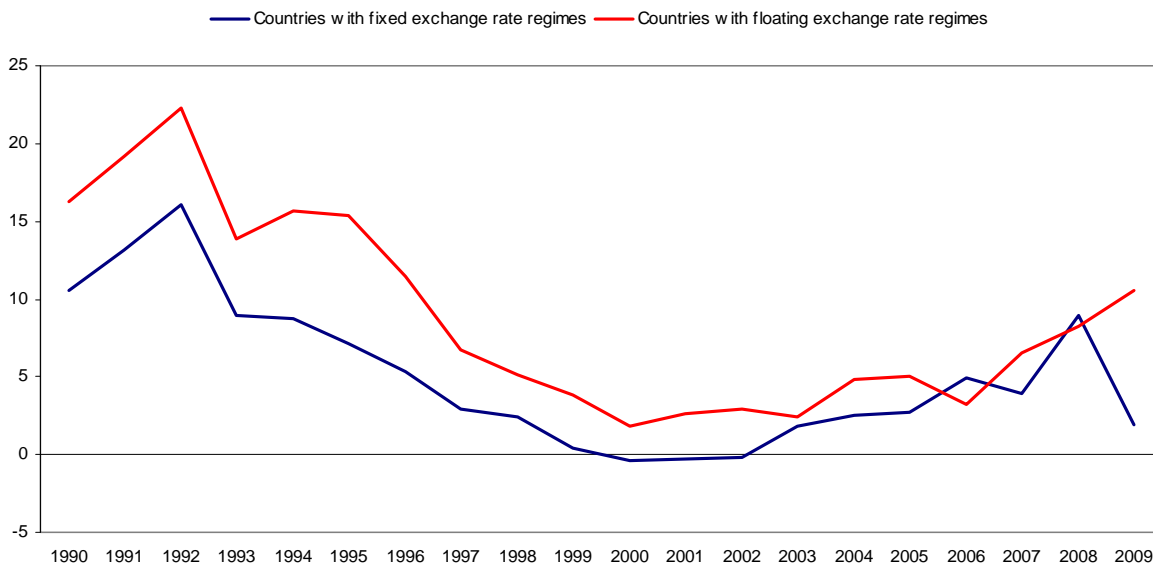
(% per annum)



Sources: IMF, CBC.

Chart 4: Weighted inflation rate of countries with fixed and floating exchange rate regimes

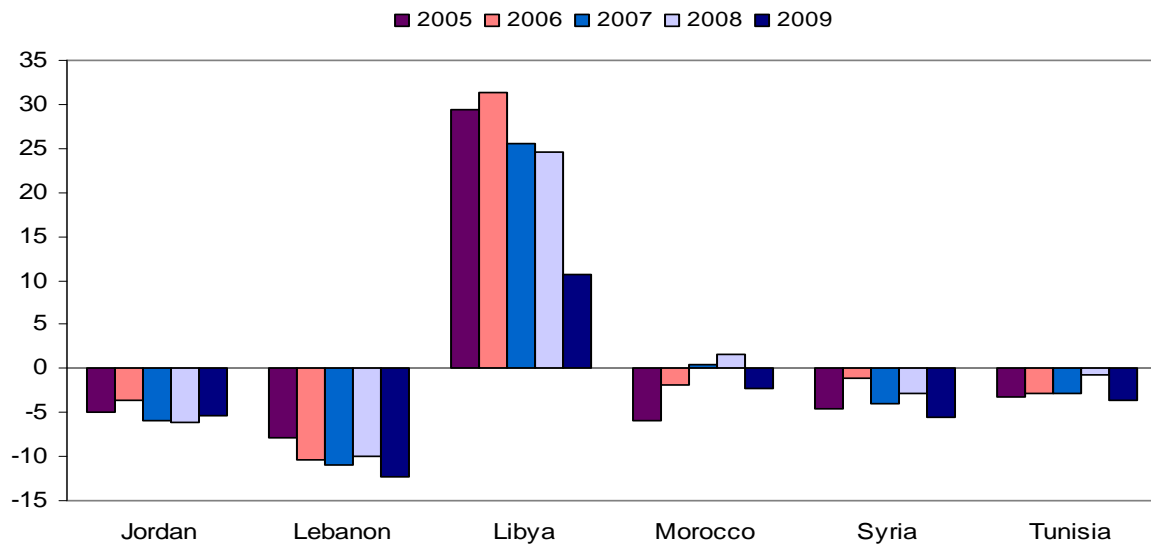
(% change)



Sources: IMF, CBC.

Chart 5: General government balances

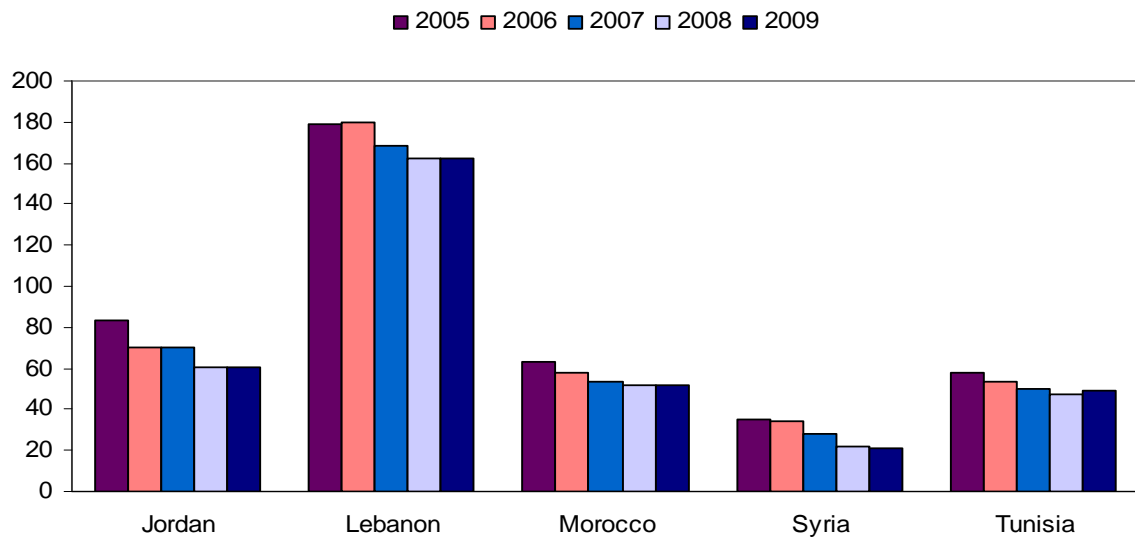
(% of GDP)



Sources: IMF, CBC.

Chart 6: Public debt

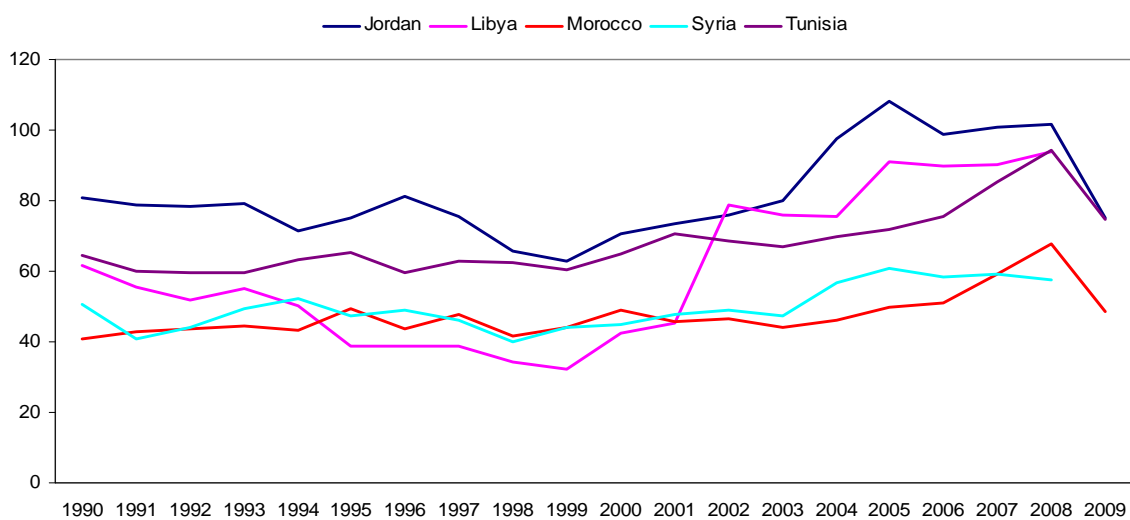
(% of GDP)



Sources: IMF, CBC.

Chart 7: Exports and imports of goods

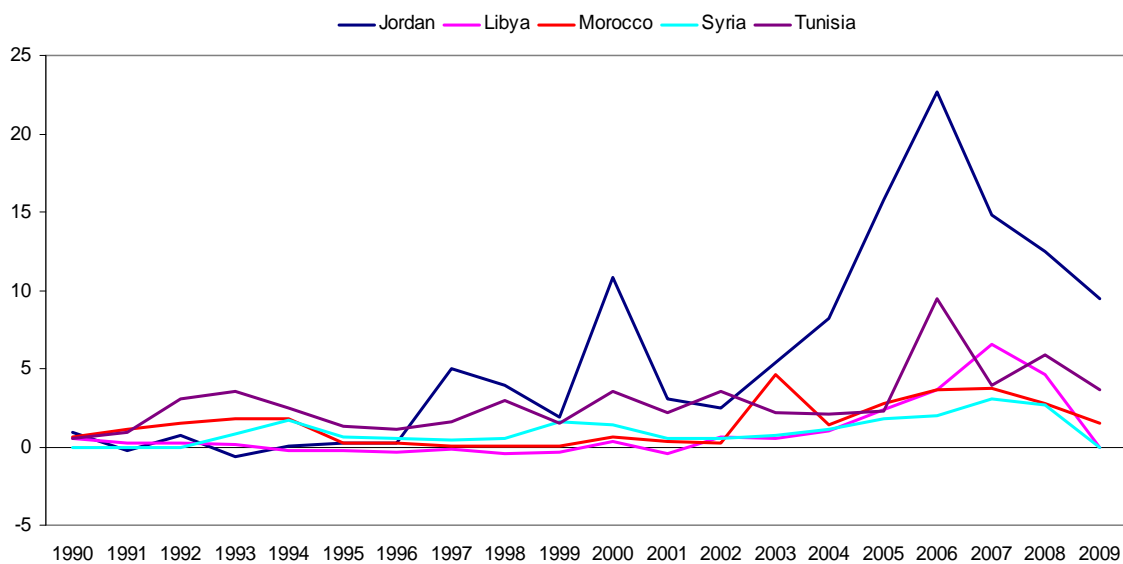
(\$ billion)



Sources: IMF, CBC.

Chart 8: Inward FDI

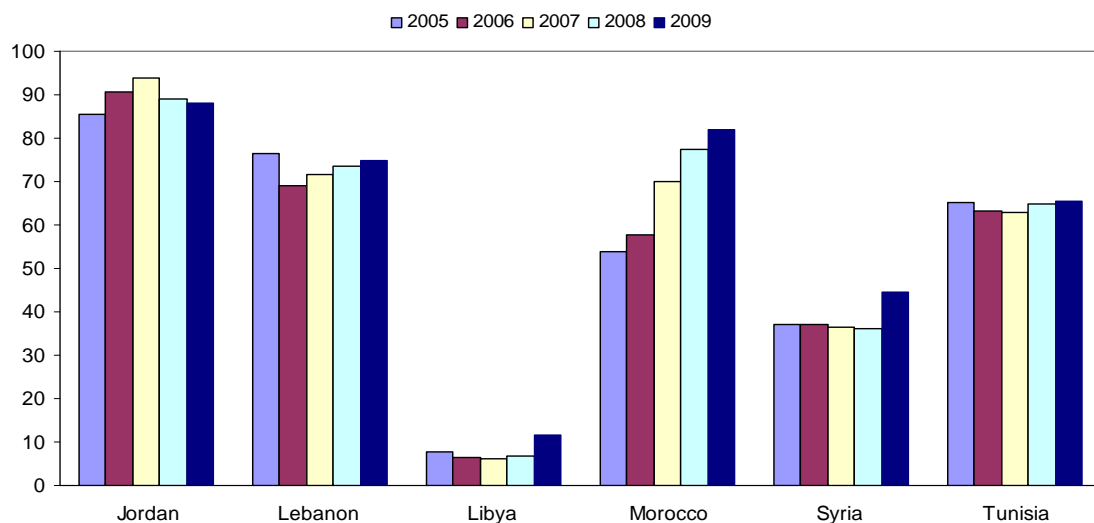
(% of GDP)



Sources: IMF, CBC.

Chart 9: Credit to the private sector

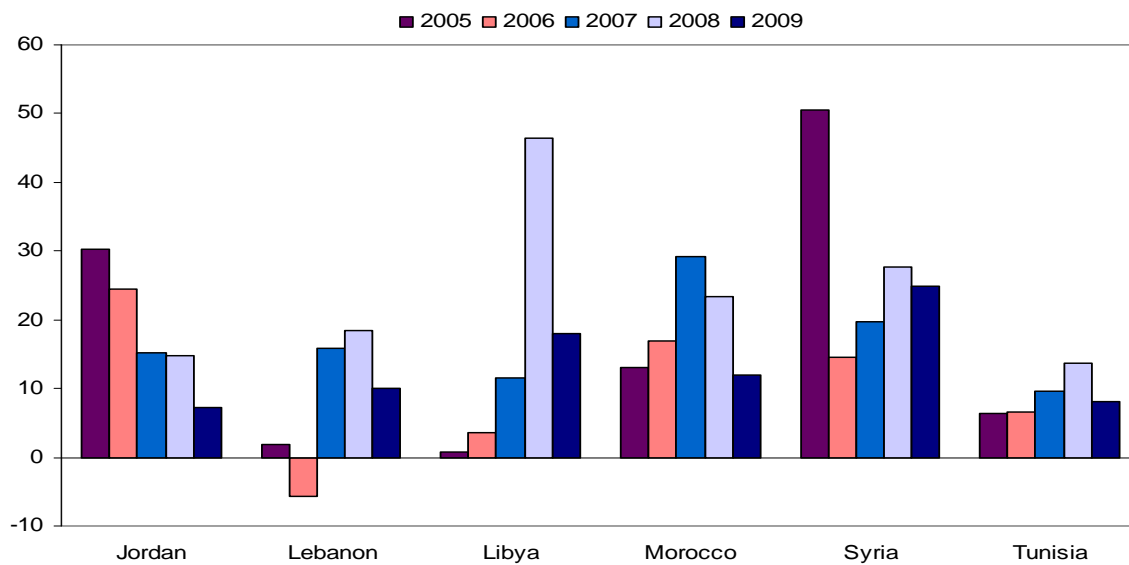
(% of GDP)



Sources: IMF, CBC.

Chart 10: Credit to the private sector

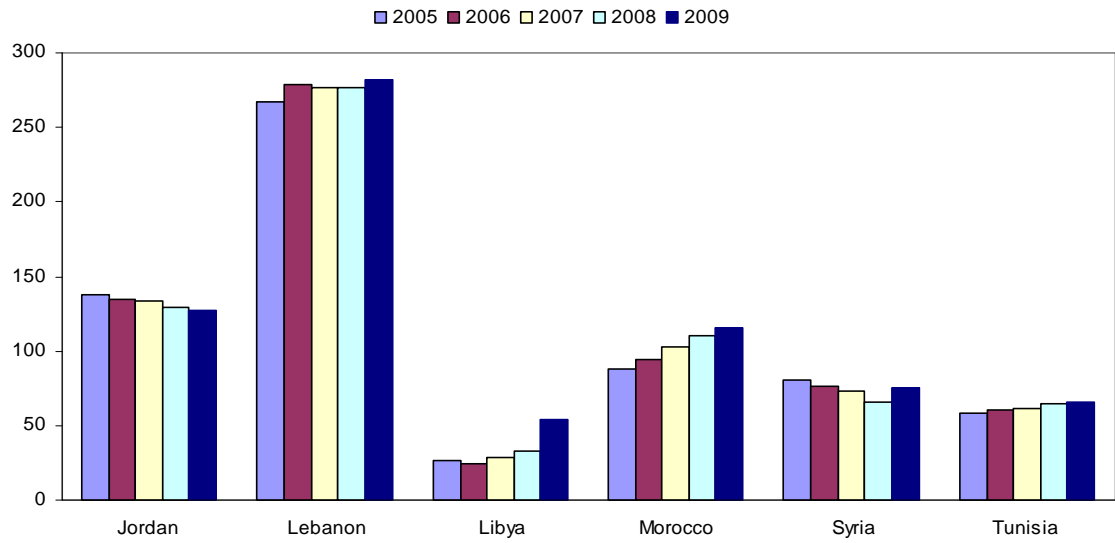
(% change)



Sources: IMF, CBC.

Chart 11: Broad money

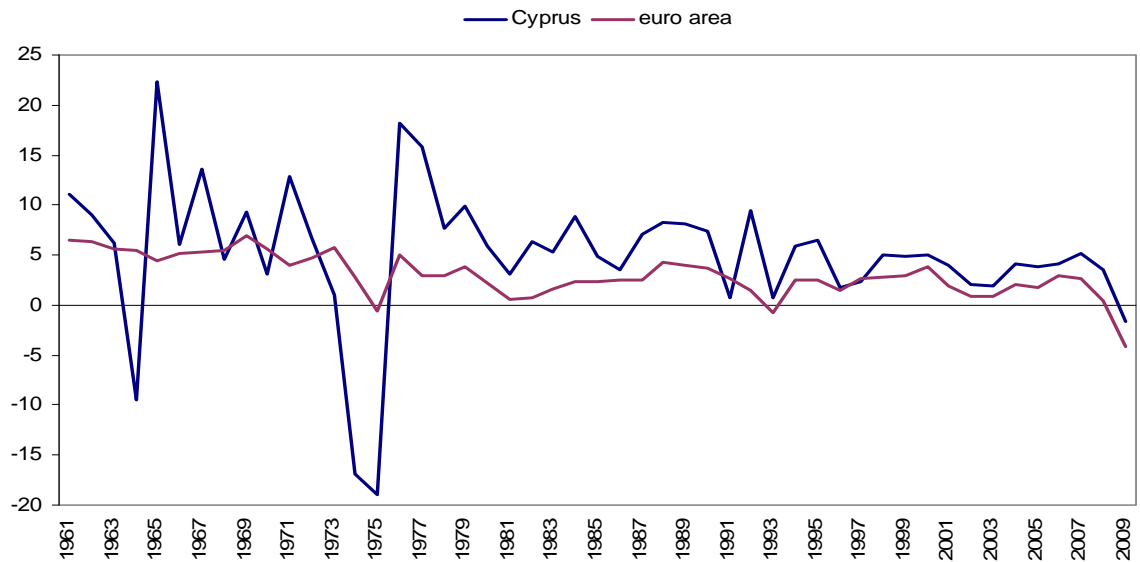
(% of GDP)



Sources: IMF, CBC.

Chart 12: Real GDP growth rate

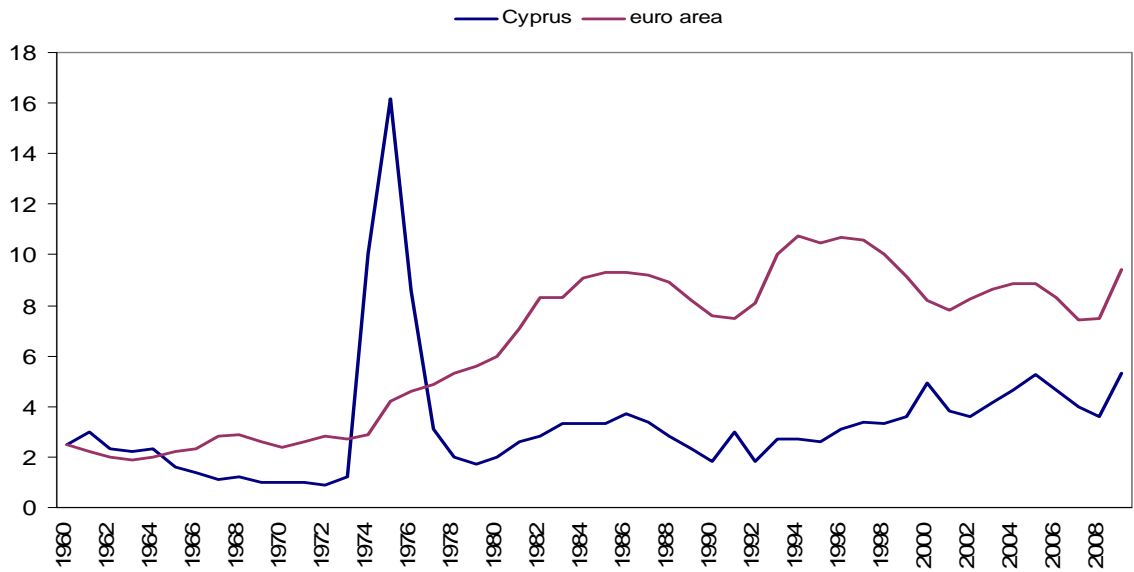
(%)



Source: CBC.

Chart 13: Unemployment

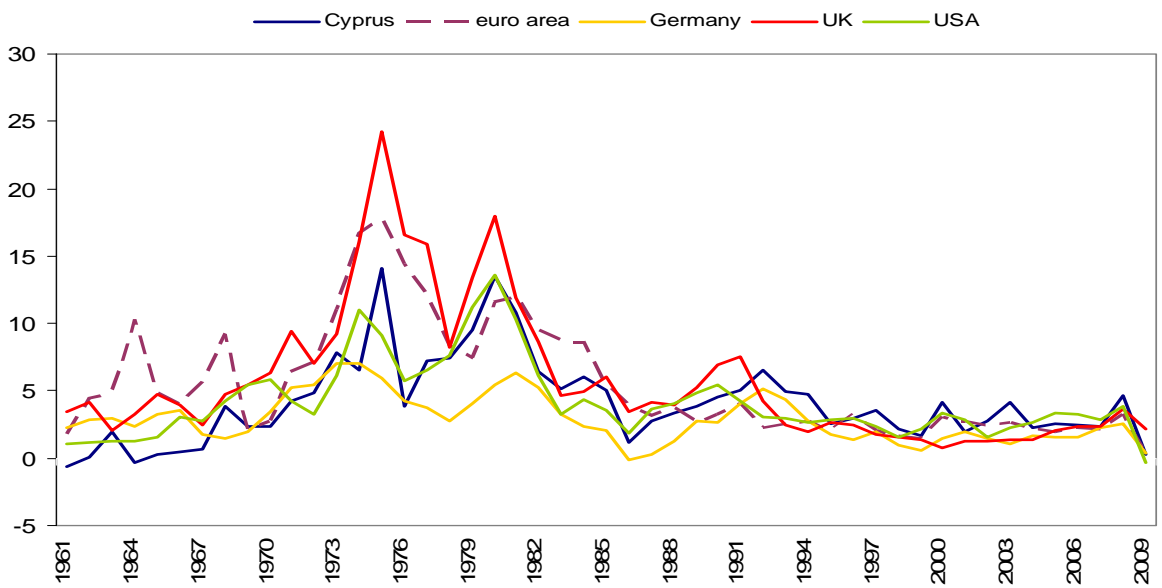
(%)



Source: CBC.

Chart 14: Consumer Price Index

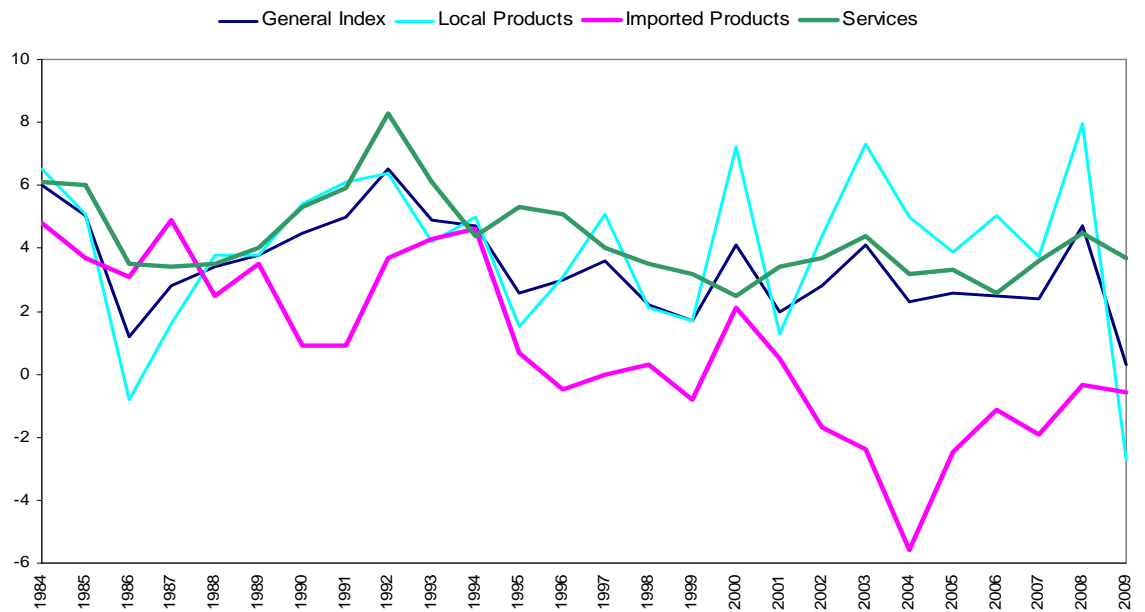
(%)



Source: CBC.

Chart 15: CPI changes by main categories (1984-2007)

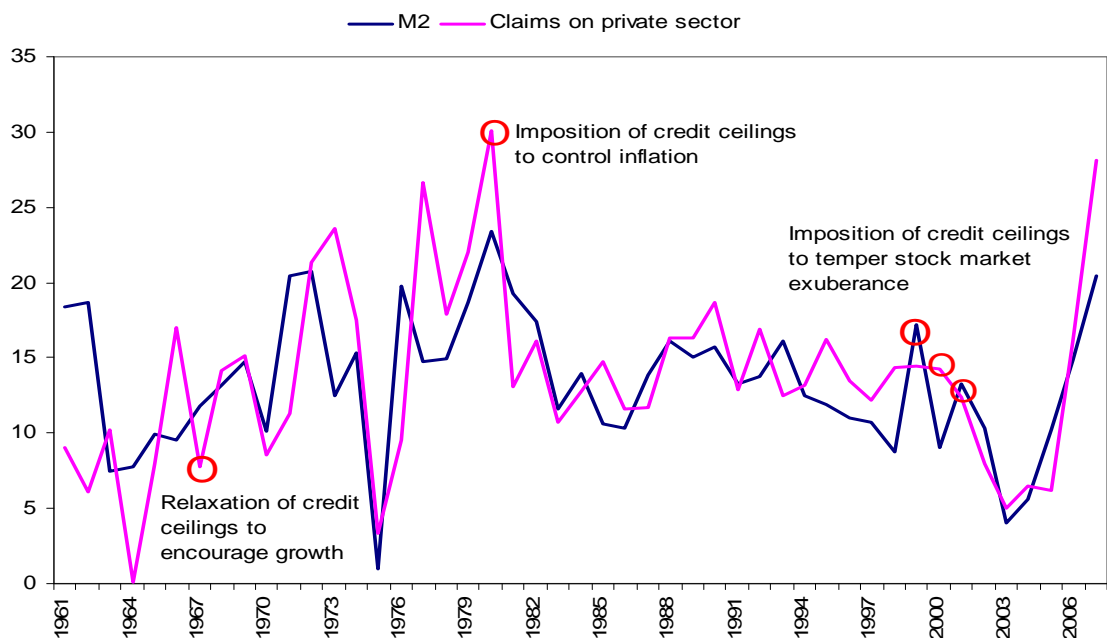
(%)



Source: CBC.

Chart 16: M2 and claims on the private sector

(%)



Source: Orphanides (2008).

Annex 1: History of exchange rate regimes in Mediterranean countries

Algeria	From 1991-1995 the Algerian dinar was fixed to a basket of currencies (the weights being determined by trade and capital movements). On 23 December 1995 it moved to a managed floating system, although in practice it still maintains tight control over the dinar/dollar exchange rate.
Egypt	<i>De facto</i> operating an exchange rate peg to the dollar from 1991 to mid-2000; significant depreciation was allowed from mid-2000 onwards. At end-January 2001, a band was introduced ($\pm 1\%$ on either side of the central rate of LE2.85/\$). Throughout 2001 and into 2002, the central rate was devalued on a number of occasions and the band widened to $\pm 3\%$. As of end January 2003, the exchange rate was officially allowed to float. In December 2004, Egypt moved to a unified flexible exchange rate system and established a formal interbank foreign exchange market. Nevertheless, although Egypt maintains <i>de jure</i> a managed float with no predetermined path for the exchange rate, the exchange rate between the dollar and the pound has remained stable since 2006.
Israel	The new shekel was pegged to a basket of currencies (DM, FrF, £, ¥, \$) with bands around the central rate of $\pm 5\%$. From end 1991, the central rate and bands were adjusted according to inflation differentials. In June 1995, the bands were widened to $\pm 7\%$ and the weights adjusted (on basis of 1994 direction of trade statistics). In June 1997, the bands were widened to $\pm 15\%$ and the rate of adjustment of the upper and lower bands were altered such that the bands eventually became wider and wider. By 2003 the band width had reach 55% (that is, $\pm 27.5\%$). In 2004 the regime was reclassified as an independent float (on a <i>de facto</i> basis) and in June 2005 the exchange rate band was abandoned <i>de jure</i> .
Jordan	Up until 1995, the dinar was pegged to the currencies of the SDR; from end-1995 it has been effectively pegged to the dollar.
Lebanon	Up until 1998 it was classified <i>de jure</i> as floating. However, <i>de facto</i> , from the early 1993 it was operating a crawling depreciation peg to the \$ before moving to a fixed peg in 1998; the exchange rate vis-à-vis the dollar depreciated by only 13.5% between 1993 and 1998.
Libya	Libya follows a conventional pegged arrangement, involving more than one foreign exchange market. The arrangement shown is that maintained in the major market. <i>De Jure</i> the dinar is pegged to the SDR and the exchange rate moves within bands that get larger and larger with the dinar being allowed to depreciate to the limit of the band. Only in 2002 and 2003 were official devaluations carried out. <i>De facto</i> the dinar should be classified as a peg with discrete devaluations.
Mauritania	The exchange rate has been <i>de facto</i> pegged to the U.S. dollar since 24 October 2005. In late 2006, the Central Bank of Mauritania completed all the prior actions for establishing a new framework to determine the exchange rate based on supply and demand mechanisms. This led to the lifting of exchange measures on current transactions and the opening of the first rate-fixing session on 25 January 2007.
Morocco	Initially the dirham was pegged to the French franc. In June 1996, a central rate was established relative to a basket of currencies and the exchange rate was kept within a band around the central rate. From 1999, with the creation of the euro, the basket of currencies changed to include €, £ and \$ (with the weights determined by trade).
Syria	A multiple exchange rate system operates (recently the number of rates was reduced to two, the official rate and the neighbouring markets rate). The Syrian pound is pegged to the SDR.
Tunisia	Until February 1994, the dinar was pegged to a basket of currencies. Thereafter it became a managed float; it was reclassified in 1999 as a crawling peg; reclassified at the end of 2000 as managed floating with no preannounced path. From 1 January 2002, it has been following a real effective exchange rate rule.

Sources: Gibson et al (2006) and IMF(2007, 2008).

Annex 2: Capital controls in Mediterranean countries

Algeria	1990: fairly extensive controls. Export proceeds needed to be surrendered; residents had to repatriate and surrender any assets acquired abroad; capital transfers abroad required authorisation; inward FDI was permitted and repatriation guaranteed. In 2000 there was some opening of portfolio investment to foreigners (allowing investments in the Algerian Stock Market, bond markets, etc. and the repatriation of investment sale proceeds).
Egypt	1990: fairly extensive controls. Export receipts repatriation and surrender requirements were in place; outward capital transactions were restricted; some inward FDI and portfolio investment was permitted; multiple exchange rate system. By end-1991 a unitary exchange rate system had been adopted. From 1994, repatriation of export receipts was abolished; it was reintroduced briefly in March 2003 and abolished again in December 2004.
Israel	1990: fairly extensive controls on export proceeds, capital movements. These were liberalised slowly starting in 1994 when outward FDI was partially liberalised, for example. In 1998 significant liberalisation occurred with limits on controlled capital movements being raised. From 1 January 2003, all controls were removed, with only some reporting requirements remaining.
Jordan	1990: fairly extensive controls. Export receipts were controlled; inward capital movements were not restricted (including FDI), although permission was required for outward flows; repatriation of inward FDI capital was subject to approval. In 1994-95 the requirements re export receipts were liberalised. In 1997, most controls on capital transactions were abolished (July), although a few (minor) restrictions were introduced in 2000.
Lebanon	1990: Only some capital transactions (including lending to non-residents, taking deposits from non-residents and bank lending to residents to purchase foreign exchange) involved controls; no controls on FDI. In 1998, more controls were added, with less important restrictions being introduced in subsequent years, although the system of controls does not appear to be that extensive.
Libya	1990: An extensive system of capital controls was in place, including export receipt surrender rules and a requirement to obtain permission for any investment of capital abroad; inward FDI, on a joint-venture basis, was allowed provided that it is in the interests of the country's development. In 1999 the parallel exchange market was legalised by creating a dual exchange rate system while the two rates were unified in 2002.
Mauritania	Foreign investment is welcome in most sectors. The 2002 investment code uses privatization and liberalization to encourage foreign investors, guarantees freedom to transfer most capital and wages abroad, and makes foreign and domestic investment legally equal. Foreign investment is pre-screened. Certain financial activity, mining and hydrocarbons, telecommunications, and utilities are subject to additional restrictions. Reforms have been implemented, but complicated and burdensome bureaucratic procedures, corruption, and non-transparent legal, regulatory, and accounting systems inhibit investment. Residents and non-residents may hold foreign exchange accounts, but non-resident accounts are subject to some restrictions. Payments and transfers are subject to quantitative limits, bona fide tests, and prior approval in some cases.
Morocco	1990: significant controls applied including export receipt surrender rules and restrictions on transfers of capital abroad; inward FDI was allowed although approval may have been necessary. Full liberalisation of inward FDI (including the repatriation of sale proceeds) was made in 1992. Liberalisation has subsequently been measured.
Syria	1990: extensive controls on export receipts surrender, outward FDI flows and capital flows in general; FDI inflows were actually encouraged by favourable conditions in some areas; a system of multiple exchange rates operated. 2003-4 saw some simplification of the system (elimination of the repatriation and surrender requirements for export proceeds) but controls are still extensive.
Tunisia	1990: extensive controls on export receipt surrender and capital account transactions; inward FDI was allowed and incentives were provided in some cases. Inward portfolio investment was partially liberalised in 1995. Limited liberalisation, mainly relating to export proceeds surrender rules and outward FDI, was recorded in later years.

Sources: Gibson et al (2006) and IMF(2007, 2008).