

**EMU AND THE INTRODUCTION OF THE EURO:  
MACROECONOMIC IMPLICATIONS  
FOR THE CYPRIOT ECONOMY**

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## **1. INTRODUCTION**

The third and final stage of the European Economic and Monetary Union (EMU) was successfully launched on January 1, 1999. This monumental development, which has no parallel in history, builds upon the already achieved progress in strengthening political, economic, and monetary ties within the European Union and provides, among other things, for unified monetary and exchange rate policies and for the replacement of national currencies with a single common currency, the euro. Certainly, the impact of this momentous change is not confined within the Union. The consequences for the international monetary system as a whole as well as for individual countries or regions inside and outside the European Union are expected to be significant. In particular, potential EU members like Cyprus, are affected by EMU not only in terms of experiencing a direct economic impact through economic linkages, but also in terms of having to reform and adjust their structural and macroeconomic policies, with the ultimate goal of meeting the Maastricht criteria.

This paper aims at examining the historic developments taking place in Europe and assess their macroeconomic impact on the economy of Cyprus. The structure of the paper is as follows: In section 2, the impact of EMU and the introduction of the euro on the EMU participants, that is the countries of the so called euro area or euro zone, is examined. In section 3, the global impact of EMU is described, while in section 4 an analysis of the macroeconomic effects of EMU on the economy of Cyprus is undertaken. Finally, in section 5 a summary and some concluding remarks are presented.

## **2. THE IMPACT OF EMU ON THE EURO AREA**

The study of the impact of EMU and the introduction of the euro on

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the euro area has received overwhelming attention from academics and policy makers, particularly with regard to the associated costs and benefits of EMU. The analysis in this section represents a brief summary of the voluminous literature on EMU, its characteristics as well as the costs and benefits associated with it. More detailed analysis can be found in European Commission (1990), Kenen (1995), Masson et al. (1997) and Pitchford and Cox (1997).

## **2.1 Characteristics of EMU**

The parameters of the workings of EMU have been largely laid down in the Treaty of Maastricht, which was ratified in 1993 by all EU members. Eleven out of fifteen EU countries are now members of the Union and Greece is expected to become the twelfth member on January 1, 2001. The final decision on Greece will be taken in May 2000, pending on a judgement by the Council of Ministers that the country has satisfied the Maastricht criteria on the basis of its economic performance in 1999. The Maastricht criteria, namely the criteria on fiscal deficit, public debt, inflation, level of long-term interest rates and exchange rate stability, are the same criteria that have been applied for the entrance of the first wave of members and will be used in the future for new prospective EMU members.

The most notable feature of EMU is the introduction of the single currency, the euro, which in contrast to its predecessor, the ecu, is an autonomous currency rather than a composite currency. As of January 1, 1999 the euro exists in an accounting form, with fixed and irrevocable bilateral exchange rates with the national currencies of the participating countries. On January 1, 2002, it will be introduced in a physical form and by July 1 of the same year it will replace the national currencies of the participating countries, thus remaining the single common currency in the euro area.

The introduction of a single currency requires the existence of a single monetary authority to manage it and conduct the common monetary and exchange rate policy. The euro is managed by the European Central Bank (ECB), an institution with a mandate to maintain price stability in the euro area. To safeguard the success of its mission, the ECB has been granted the highest degree of independence from political interference. Besides conducting the monetary policy of EMU, the ECB is also

responsible for the implementation of exchange rate policy, which is formulated by the Council of Ministers.<sup>1</sup>

The Stability and Growth Pact is another feature or institution of EMU that aims at safeguarding macroeconomic stability in the euro zone. The Pact focuses in particular on the maintenance of fiscal discipline through strengthened surveillance of the fiscal positions of EMU participants. Under the Treaty of Maastricht the Council of Ministers can impose financial sanctions, when deemed appropriate. In particular, under the Pact, each EMU participant should aim at a medium-term position that is at least close to balance so that in the face of normal cyclical fluctuations there would be a sufficient margin of safety to avoid deficits in excess of 3,0 per cent of GDP. Unless a general government deficit in excess of the 3,0 per cent ceiling is deemed exceptional and temporary the Council of Ministers can impose financial sanctions based on a predetermined procedure.

Another issue that merits attention is the Exchange Rate Mechanism (ERM). With the introduction of the euro, the ERM, which existed since 1979 and constituted an arrangement for currency stabilisation through a multilateral parity grid, evolved into what is known as ERM II. This new mechanism aims at guiding the exchange rate relations between the countries inside (the ins) and the currencies outside the euro area (the outs). EU countries outside the euro area participating in ERM II negotiate the central rates for their currencies against the euro and agree on a fluctuation band. For the present, the two members of ERM II are Greece and Denmark which adopted the standard band of +/- 15 % and the narrow band of +/- 2,25%, respectively. While formally membership in ERM II for two years is considered as a requirement for satisfying the relevant Maastricht criterion for exchange rate stability, there is also the view, which is largely advocated by the UK and Sweden, that this membership criterion can be satisfied by maintaining exchange rate stability of the currency against the euro, without formal participation in ERM II.

## **2.2 Benefits of EMU**

Significant benefits are expected to emerge from the creation of EMU, the most important of which relates to its contribution in solidifying the

1. A more detailed analysis on the ECB and the implementation of monetary policy in the euro zone can be found, inter alia, in EMI (1997).

euro areas internal market with stable monetary and budgetary policies.<sup>2</sup> In particular, EMU and the single currency prevent exchange rate turbulence within the unified market and reduce economic uncertainty for the consumer and business through the elimination of exchange rate uncertainties.<sup>3</sup> In addition, transaction costs in trade activities are reduced (due to the elimination of exchange rate risk and the exchange rate conversion costs for intra euro zone trade) and price transparency across EMU participants is enhanced, thus contributing to greater competition for the benefit of the consumer.

The aforementioned factors would not only benefit individual consumers and producers, but would also contribute to the entrenchment of a favourable and stable economic environment within which trade flourishes, allocative efficiency improves and growth is solidified. This macroeconomic stability in EMU is safeguarded mainly by two institutions of the Union. First, the ECB, which is independent and has as its primary goal the stability of prices and, second, the Stability and Growth Pact which aims at the maintenance of fiscal discipline. It is generally believed that these two institutions, along with the political determination existing in the euro zone, will contribute to the safeguarding of economic stability and to the success of this ambitious European undertaking.

Finally, the elimination of transaction costs involved with multiple European exchange rates is expected to also give a boost to the European financial markets. Lower financial transaction costs would render the integrated European financial markets deeper, more liquid and more attractive to European and international investors, which would in turn help solidify the important role of the euro as an international currency. Furthermore, interest rate spreads in the euro area are expected to narrow even further with favourable consequences for economic activity in Europe.

It should be underlined that the benefits of EMU are not expected to be realised by default or without a major effort on behalf of the

2. A number of observers, however, such as Feldstein (1992) and Eichengreen (1993), argue that a unified monetary policy is not a requirement for a unified market and free trade, siding the example of NAFTA, the trade agreement between USA, Canada and Mexico.
3. Some doubt this argument, for instance Eichengreen (1993), who notes that no evidence of a statistically significant effect exists which suggests that exchange rate variability negatively affects trade or foreign direct investment.

participating countries. It is acknowledged, even by the most ardent supporters of EMU, that to reap the potential benefits of the Union, the appropriate policy requirements have to be satisfied. These requirements relate to, among other things, fiscal discipline, labour market flexibility and coordination mechanisms with respect to a number of policy areas that would help the Union overcome the loss of the policy tools of sovereign monetary and exchange rate policies. These requirements essentially form the basis of the arguments of the critics of EMU and also constitute the major areas of risks and challenges for the Union, which are briefly discussed below.

### **2.3 Risks and Challenges of EMU**

The risks and challenges of EMU can be broadly categorised by virtue of the nature of their time-horizon, that is, *transitional* or *long-term*. The transitional challenges are mostly related to the magnitude and complexity of launching the EMU process, which by any measure is enormous and unprecedented and involves considerable uncertainties. First, the physical costs of switching to the euro and implementing the new institutional framework are significant. Furthermore, a number of legal, economic, financial and practical questions about the orderly and timely changeover from the national currencies to the single currency continue to persist.

The risks of EMU that are of a *long-term* nature relate to the challenge of maintaining discipline in a number of policy areas in the face of the loss of sovereignty in monetary and exchange rate policy, that is, the impossibility of employing either of these policies at the national level, in order to address country-specific shocks. These challenges relate to the concept of optimum currency areas, pioneered by Mundell (1961), which provide an analytical framework for examining the requirements and consequences of monetary integration. It should be noted that, in fact, monetary and exchange rate policies have been occasionally used in the past by countries in the euro area with notable success; for instance, in the cases of the successful realignment of the Spanish peseta and the Italian lira, following the ERM crisis. Inevitably, the challenge of the loss of sovereignty in monetary and exchange rate policy, burdens policy makers in two other areas: fiscal policy and labour market reforms. As it is suggested below, the commitment for substantial advances in these areas is of the utmost importance for the future of EMU.

Under EMU fiscal discipline is of paramount importance, if monetary policy is not to be undermined. In the absence of a central fiscal authority, the "excessive deficit procedure", agreed under the Stability and Growth Pact, attempts to safeguard the effectiveness of fiscal surveillance under EMU. According to this procedure, EMU participants whose fiscal deficits persistently exceed the three percent limit would incur pre-determined penalties. It should be noted, however, that the procedure does not solve the fundamental problem of fiscal coordination. Further steps, for instance towards more tax harmonisation, are therefore needed to clearly demonstrate the willingness and ability of the Union to live by its fiscal rules.

As regards labour market reforms, it should be pointed out that labour market rigidities could be a major source of risk for EMU, if not properly and timely addressed. The need for labour market flexibility (as regards mobility and wages) particularly in the absence of the exchange rate tool is of paramount importance, as a means to absorb adverse shocks -- and particularly adverse and asymmetric shocks -- in the Union. The importance of the issue is further underscored by the absence of labour market-related convergence criteria<sup>4</sup> and also by the existence of high structural unemployment in the EU, which according to many, appears to be associated with overly generous benefits systems, minimum wage regulations and other impediments to wage rate flexibility. In addition, it should be noted that language and cultural barriers within Europe could exacerbate the problem of labour immobility.

A number of observers are sceptical about the ability of the countries of the euro zone to implement appropriate but very demanding structural reforms, particularly in the labour markets. Nevertheless, there is also the view that indeed there is strong political will in the euro zone for the undertaking of such demanding policies, which is reinforced by the potentially significant benefits that would be gained from the success of EMU. In addition, it must be noted that preparations for EMU began a number of years ago, and since then, significant progress has been achieved in terms of convergence of economic indicators and in terms of

4. This point is made emphatically by Begg (1997) who states that "... it is striking that monetary and fiscal preconditions for EMU entry have not been accompanied by preconditions for labour markets, ..." (p.3). In addition, the IMF's position is that "[it appears] that the failure to recognise explicitly the importance of flexible labour markets was an important omission from the Maastricht framework". (World Economic Outlook 1997, p.64).

the integration of the participating economies with respect to capital, labour and goods and services. This progress can certainly be instrumental in addressing the challenges that EMU might face.

In addition to the above challenges, there is also the unresolved issue of the lender of last resort during liquidity crises in EMU. Under the current institutional framework, the ECB lacks the necessary tools for assessing EMU-wide creditworthiness and for rapidly providing liquidity to solvent but illiquid institutions, especially in the case where a Pan-European Bank is insolvent. A decentralised lender of last resort approach can be of some help in local liquidity crises but is certainly inadequate in the event of general liquidity crises affecting the whole euro area.

### **3. THE GLOBAL IMPACT OF EMU**

The impact of EMU and the introduction of the euro on the global economy and on the international monetary system cannot be overemphasised. A new powerful economic entity has been created whose economic size is comparable to that of the USA in many aspects, such as in terms of population, income, and share in world trade (for comparison see, *inter alia*, World Economic Outlook 1997, p.71). The size and nature of this colossal change suggests the emergence of external spillovers in the global economy as a whole as well as in specific third countries. The extent of the impact on third countries depends upon their trade and financial relations with the euro area, but also upon the international role of the new currency and its future value against other major currencies.

In this section three aspects of the global impact of EMU are examined: the prospects for the euro as an international currency, the expectations for the future value of the euro and finally, the channels through which the spillover effects of EMU on third countries are realised. The analysis in this section aims at setting the stage for the examination of the impact of EMU on the Cypriot economy, especially given its close economic relations with the euro area and the linkage of the Cyprus pound to the euro.

#### **3.1 The role of the euro as an international currency**

It is widely accepted that the role of the euro as an international currency will be significant over the medium and longer run.

Nevertheless, observers are not in agreement as to whether the increase in the demand for the euro will be smaller, broadly the same or greater than the overall demand for the sum of the EU15 (or EU11) currencies. A number of factors have been suggested in the literature that may have an impact on the global role of the euro in the medium and long run, of which some major ones are presented below.

In general, given that the introduction of the euro is accompanied by a sharp enhancement of the underlying economic base of the currency, the scope for an enhancement of its role as a global currency is substantial. For instance, the elimination of transaction and exchange rate conversion costs within the euro area, buttressed by exchange rate and macroeconomic stability in the region, could lead to a decrease in the use of the dollar and other currencies in international trade in favour of the euro. Furthermore, the elimination of the multiple currencies in the euro zone along with increased financial integration of the European markets favour the expansion of euro-denominated assets and the greater depth and breadth of markets in financial assets denominated in euro. As a result of the above, official reserve holdings are expected to adjust in order to be more in line with changes in the currency composition of world trade and financial transactions. In addition, dollar denominated reserves in EMU countries are anticipated to be reduced, since trade within the euro no longer needs the backing of international reserves.

The above arguments have led a number of scholars to conclude that the prospect for an increase in the relative use of the euro as an international currency in the medium and long run appears very likely. Some observers, including Bergsten (1997)<sup>5</sup> and Alogoskoufis and Portes (1997),<sup>6</sup> believe that the increased role of the euro as a global currency

5. Bergsten (1997) refers to five criteria that are central for determining the global role of a currency, both in terms of private financial markets and in terms of official reserves. These criteria are: (1) the size of the underlying economy and its global trade, (2) the economy's independence from external constraints, (3) avoidance of exchange controls (4) breadth, depth and liquidity of its capital markets; and (5) strength and stability of the economy and its external position. Examining these criteria as they apply to the dollar, the euro and the deutsche mark, he concludes that the role of the euro will increase substantially, if not reach parity with the dollar, following large portfolio shifts to the euro taking place over time, both in official reserves and in private assets.
6. Along similar lines, Alogoskoufis and Portes (1997) examine individually the three functions of money (unit of account, means of payments or medium of exchange and store of value) and argue that, "in a time frame that is difficult to specify, the euro will emerge as a serious challenger for the role of the US dollar as the dominant international means of payment, unit of account, and store of value" (p. 59). The basis of their argument for the enhanced international role of the euro, which is also used by a number of other researchers, lies in the existence of "network externalities" (or "thick market externalities") for a currency: the more a currency is used as a means of payment, transaction costs decrease, which induces further increases in the use of that currency, in general.

would be of such proportions as to challenge the dominance of the US dollar in international markets.

A number of other researchers do not share the view of a strongly enhanced role of the euro, at least in the medium run. For instance, a number of researchers point to the power of history (or inertia) which favours the preservation of the dollar in its current status. In particular, Hartmann (1996) notes that the dollar's network externalities cause a degree of inertia in its use that tends to make it more difficult for another currency to take its place. McCauley (1997) underlines the difficulties that the euro is facing in establishing itself as a competitor of the dollar by noting, among other things, that the euro "will start way behind the dollar as a unit of account for international trade". (p. 28). Furthermore, other researchers, such as Eichengreen (1997), point to the example of UK sterling earlier in the century whose role as an international currency remained significant, long after the economic fundamentals suggested otherwise.

Another argument in favour of the continuation of the dominance of the dollar after the introduction of the euro relates to the perceived uncertainty as regards conducting credible macroeconomic policies in the euro area which in turn raises some doubts about the enhanced role of the euro as an international currency. In general, the underlying concern with regard to the conduct of credible policies in the euro zone is whether the diversified (economic or political) interests in the economic Union would be able to be compromised into a policy of one voice. It is largely up to European policy makers, and particularly the ECB (European Central Bank) to relieve some of the lingering doubts.

### **3.2 The future value of the euro**

The uncertainty as regards the role of the euro as an international currency carries through the examination and assessment of the future value of the euro. In general, there is considerable uncertainty and controversy surrounding the issue of the future value of the euro, particularly in the medium and long run. What is therefore useful at this stage is to simply identify the major factors that would likely affect the value of the euro against the dollar.

One of the major factors likely to affect the euros value is the extent

of the shift into its use at the international level. As mentioned in the previous section, there is controversy as to how significant this shift could be. In addition, however, this shift represents only the demand side for the market of euro. Whether the euro will strengthen or weaken, say with regard to the dollar, depends also on the supply side, that is, the extent to which euro-denominated debt will be issued. This factor of course, renders the art of attempting to "guesstimate" the value of the euro in the medium and long run even more complicated. The amount of euro-denominated debt would certainly depend on a number of factors such as the efficiency of the euro market, but it is extremely difficult to assess in quantitative terms.<sup>7</sup>

Table 1

**Main Macroeconomic Indicators for the  
USA and the Euro Area, 1994-1998**

		1994	1995	1996	1997	1998
Real GDP Growth (% change p.a.)	USA	3,5	2,3	3,4	3,9	3,9
	EU-11	2,7	2,3	1,6	2,5	2,9
Unemployment Rate (% of labour force)	USA	6,1	5,6	5,4	4,9	4,5
	EU-11	12,2	11,9	12,3	12,3	11,7
Inflation	USA	2,6	2,8	2,9	2,3	1,6
	EU-11	3,0	2,9	2,4	1,7	1,3
Fiscal Balance (General Gov. in % of GDP)	USA	-2,3	-1,9	-0,9	0,4	1,2
	EU-11	-5,3	-5,1	-4,2	-2,5	-2,1
Current Account Balance (% of GDP)	USA	-1,8	-1,6	-1,8	-1,9	-2,7
	EU-15*	-	0,6	1,1	1,5	1,2
Short-term Interest Rate	USA	4,2	5,5	5,0	5,1	4,8
	EU-11	6,3	6,1	4,6	4,1	3,9

Source: World Economic Outlook (IMF) May 1999 issue, except for (\*) which is extracted from the October 1998 issue of the same publication, p.64.

Another major determinant of the value of the euro with respect to the dollar in the medium term is the difference in the respective macroeconomic policies in the euro area and the USA. These policies

7. A detailed discussion can be found in Prati and Schinasi (1997).

have a direct bearing on a number of economic variables such as, interest rates, fiscal balances, current account balances and unemployment, that can have a significant impact on the determination of the value of the euro. For instance, as shown in table 1, for some indicators (GDP growth, unemployment and fiscal balances), the performance of the USA has been relatively better than that of the euro zone in the recent years. If this persists, it could suggest that relatively more confidence could be entrusted to the US economy in the future which could, other things being equal, lead to a strong dollar. On the other hand, the performance of the EU countries as regards the current account balance has been persistently better, suggesting a relatively healthier savings pattern in Europe, which, other things being equal, could support a strong euro. Finally, in examining the macroeconomic indicators of the USA and the euro zone, one cannot ignore cyclical factors (as mirrored, for instance, in interest rate patterns) that can have a significant impact on the exchange rate, especially its volatility.

In addition to the above, structural policies are very important. It appears that reforms in the USA have progressed at a satisfactory pace over the last few years, whereas this has not been the case in Europe, particularly with regard to labour market reforms. It remains to be seen, however, whether the greater integration of Europe will provide an additional impetus for a faster pace of structural reforms, which could be a factor for a strengthened euro.

The above analysis underlines the uncertainty surrounding the issue of the evolution of the value of the euro in the medium and longer run. In addition to the issue of the parity of the euro, there is also the issue of its volatility. In general, many researchers believe that the volatility of the euro will be higher compared with the volatility of the ecu or the deutsche mark.<sup>8</sup> These observers suggest that the philosophy of "benign neglect" will prevail, as the ECB (just like the US Federal Reserve System) will pay more attention to its domestic affairs and essentially pay less attention to the external value of their currency. Nevertheless, it should be pointed out that the Commission does not officially share this majority view. In contrast, it asserts that the introduction of the euro will

8. The expected higher volatility could be a cause for concern, particularly for small countries. As OECD (1997, p.61) points out "... increased bilateral exchange rate volatility of the euro vis-à-vis the dollar and the yen may have a more significant impact on small open economies which have explicitly or implicitly pegged their currencies to one of the major three currencies".

"help stabilise the world system" (European Commission, 1998, p.119).

We conclude this sub-section with a brief overview of the behaviour of the euro during the first months of its existence. It is true that contrary to the expectations of the majority, the euro has weakened, leveling by the end of June 1999 at around 1.03 USD, a decline of the order of 12 per cent from its starting level on January 1, 1999. A number of factors contributed to this development, including the better than expected performance of the US economy and the recent conflict in Kosovo. Furthermore, it should be noted that the perceived steep decline is in fact exaggerated, as the pre-launching euphoria pushed its predecessor, the ecu, to high levels in the second half of 1998 which were not justified by economic fundamentals. Finally, it should be stressed that the medium term prospects for the euro appear good. At the time of writing, the financial markets expect a rebound of the euro against the dollar in the year 2000, back to its starting level.

### **3.3 The impact of EMU on third countries.**

The impact of EMU on third countries is expected to be significant, particularly for neighbouring countries and trading partners of the euro area. In addition to the global financial effects related to the emergence of the euro as a major international currency, developments and economic performance in the euro area would tend to have external or spillover effects on economic activity in third countries.

Changes in the level of real GDP in the euro zone are expected to be channelled through to the economies of third countries. If expectations for an EMU-induced stronger economic activity in the medium run are realised, then a trade creation effect should be expected to emerge, prompted by higher demand for imports in the euro zone. Of course, lower transaction costs for intra euro zone trade could theoretically offset these gains for third countries, through a trade diversion effect. According to Desruelle et. al. (1998), however, this offsetting effect is unlikely to be stronger than the former and the final outcome should be in favour of a trade creation effect, for the benefit of third countries.

Similarly, financial effects from the introduction of the euro are expected to have implications for the economies of third countries. For instance, interest rate fluctuations in the euro zone as well as the

behaviour of the euro are bound to have important effects on the real and financial sectors of economies of third countries. Furthermore, the financial systems of non-euro countries that have some degree of integration with the financial markets in Europe will be affected, for instance, through intensified competition.

#### **4. THE MACROECONOMIC IMPACT OF EMU ON CYPRUS**

It is expected that EMU and the introduction of the euro will have a considerable macroeconomic<sup>9</sup> impact on the Cypriot economy over the medium term. This is largely due to the close economic relations of Cyprus with the euro area as well as the linkage of the Cyprus pound to the euro. It should be reminded at this point that as of January 1, 1999 the euro was adopted as the new currency anchor for the Cyprus pound, replacing the ecu anchor, with the same central parity rate (1 Cyprus pound = 1,7086 euro) and the same fluctuation margins of 2,25 per cent at either side of the central rate.

In this paper we focus on four major broad dimensions of the macroeconomic impact of EMU on Cyprus. First, we examine the impact of EMU on the shaping of the overall economic policy framework of Cyprus, which needs to be adjusted in order to be in line with the historic developments in Europe and the international monetary system. Second, we look into a number of "financial effects" of EMU on Cyprus, that is, the impact of EMU on the Cypriot economy which is channelled through changes in the euro zone interest rates and through other financial linkages. Third, we analyse the impact of euro fluctuations on inflation in Cyprus and finally we assess the impact on the trade and current account balances in Cyprus.

##### **4.1 The impact of EMU on the shaping of the overall policy framework in Cyprus**

Given Cyprus' EU aspirations, one important consequence of the EMU and, in general, of the further integration of the European Union, is that economic policies in Cyprus (such as monetary, fiscal and those related to

9. It should be noted that only the macroeconomic impact of EMU is analysed in this study. A sectoral analysis of the impact of EMU, such as the impact on the banking, industry or agricultural sectors, as well as the practical implications on the Cypriot consumer lie beyond the scope of this analysis.

structural reforms) need to "converge" and be in line with those prevailing in the euro zone. For instance, the monetary policy of the ECB which aims at ensuring price stability will inevitably have to become a reference benchmark for countries, like Cyprus, which aspire to become members of the EU and to join the euro zone in the future. Furthermore, the fiscal policy in the euro area, as prescribed in the Maastricht Treaty and the Stability and Growth Pact, is bound to have an effect on the policies of EU candidates. While these policy benchmarks do not constitute criteria for EU entrance, they do constitute criteria for EMU membership, and can also help countries to establish a good track record that would bring them in a better position in their dealings with the EU; certainly, *ceteris paribus*, the more harmonised the macroeconomic policies, the better the prospects are for EU accession.

Along with sound macroeconomic policies, the countries of the euro zone are also expected to make advances in structural reforms, as they too, constitute an essential ingredient of a healthy macroeconomic environment and contribute to higher productivity. In this context, Cyprus, along with other candidate countries, should pursue vigorously significant structural reforms that would be in line with EU policies and would aim at maintaining a business friendly and market oriented economic environment within which vital competitiveness issues are addressed. In this context, issues such as, financial liberalisation, cost of living allowance, deregulation, privatisation and reform of the civil service should be addressed in a more vigorous manner by the Cypriot authorities.

It should be stressed that, EU aspirations and the harmonisation requirements are not the only reasons for EU candidate countries to pursue the sound economic policies aspired by EMU. What is perhaps even more important is that these policies should be pursued vigorously on their own merit in order to safeguard international competitiveness. The euro zone policies have been decided precisely on the grounds of maintaining a healthy and sound macroeconomic environment within which the business sector will be able to successfully compete not only within the large and integrated European market, but also in the international arena. Therefore, it is in essence the forces of globalisation and international competition that primarily warrant the pursuance of sound macroeconomic policies and it is in this context that Cyprus should

also pursue such policies with vigilance.

All in all, the launching of EMU and the introduction of the euro further underline the need for sound macroeconomic policies and structural reforms in Cyprus. Under the evolving new environment, policy making in Cyprus is being shaped by developments in Europe and is being measured against the demanding policy benchmarks of the euro zone at least more than it used to be in the past. This provides policy makers in Cyprus with both more opportunities but also with more challenges. On the one hand, these policies in the euro area have become easily defined and clear target policies for Cyprus and can steer momentum for more structural reforms and intensified efforts for restoring and maintaining a solid macroeconomic environment. On the other hand, failure of the Cypriot economy to adjust could inflict long-lasting costs on Cyprus in terms of safeguarding its EU prospects and maintaining its international competitiveness.

#### **4.2 The financial impact of EMU on Cyprus**

In this sub-section, a number of diverse financial effects that EMU is expected to induce on Cyprus are discussed. Here it should be emphasised that the effects of EMU should be seen in conjunction with and in the context of the significant financial liberalisation reforms that are about to be undertaken in Cyprus. In fact, one could argue that the effects of the latter are of equal magnitude and importance if not greater than the effects of EMU on the financial sector in Cyprus.

Three major aspects of the financial effects of EMU on Cyprus are briefly examined individually below. These aspects refer to interest rates changes, capital flows (foreign direct investment and portfolio investment) and the introduction of more competitive pressures in the financial system and institutions.<sup>10</sup>

Interest Rates: Depending on the degree of financial integration and the exchange rate regime, interest rate developments in the euro zone are

10. In the case of a number of poor and highly indebted countries with limited access to international capital markets, a fourth important financial effect would be channelled through, namely via external debt servicing. For instance, as pointed out in IMF (1997), some countries with strong links with the euro area which peg their currencies to the euro and at the same time pay contractual financial obligations on their debt in dollars or yen, might face difficulties in case of a depreciated euro over the medium run.

expected to have an impact on interest rates in countries outside the euro zone. Given the rigidities of the financial system in Cyprus, it is unlikely that monetary developments in the euro area will be directly and quickly transmitted to the Cypriot financial system at this stage.

Nevertheless, because of the ongoing efforts for further liberalisation in Cyprus, particularly towards the lifting of the legal interest rate ceiling and the liberalisation of the capital account, it is expected that in the near future Cyprus will be considerably more integrated with Europe. As a result, given the pursued exchange rate policy, interest rates in Cyprus will tend to converge to interest rates in Europe, provided that the macroeconomic environment is favourable. Of course, in principle, a country outside the euro zone has the option of exercising its own independent monetary policy at the expense of not maintaining exchange rate stability with the euro. Nevertheless, the Cypriot authorities have stated their intention to focus on exchange rate stability and maintain the peg of the Cyprus pound to the euro.

Capital Flows: This is yet another aspect of the financial effects of the EMU which is expected to be overshadowed by the effects of the ongoing financial liberalisation efforts in Cyprus, and in particular the opening of the capital account. Nevertheless, a few qualitative remarks on the EMU-specific effect can be stated, particularly as regards foreign direct investment (FDI) and portfolio investment flows.

The impact of EMU on FDI in non-EU European and Mediterranean countries, in general, is still being debated as there are two opposing forces at work in this case. On the one hand, it can be argued that the EMU, which essentially seals the process of the creation of a single large market, in combination with various trade and association agreements, will contribute to the improvement of investment opportunities in neighbouring countries. On the other hand, it can be argued that the reduction of trading costs within the euro area will lead to a diversion of foreign direct investment from non-euro zone members to euro zone members.

These two opposing forces described above apply for the case of Cyprus as well. Nevertheless, it should be pointed out that the power of the latter force (trade diversion) is likely to be relatively less influential.

This is so because the dominant motivation behind FDI in Cyprus is access to local and regional markets rather than cost considerations (Feldman and Temprano-Arroyo, 1998, p. 53). Therefore, it is likely that, *ceteris paribus*, the EMU will have a positive impact on FDI inflows. This conclusion, of course, abstracts from examining the issue of Cyprus' ability to maintain its preferential tax regime for international business companies (formerly known as offshore companies), an issue that is likely to be very important in the ongoing accession negotiations.

In addition to the impact on FDI, EMU is expected to have an impact on portfolio investments in neighbouring countries, including Cyprus. By eliminating financial instruments denominated in various currencies, EMU may cause portfolio capital flows into non-euro denominated financial instruments from investors who would like to diversify their portfolio in order to obtain assets with different yield/risk combination. This process is expected to be amplified by the ongoing efforts for the liberalisation of capital account transactions, particularly for countries aspiring to join the EU, including Cyprus.

In view of the above, Cyprus could benefit through its access to the enlarged and integrated financial markets in Europe and in the rest of the world. It should be pointed out, however, that it might also face increasing financial risks in the future stemming from the volatility of capital flows. As is generally the case, these risks can only be addressed through prudent macroeconomic policies and sustainable structural reforms.

Financial Institutions: It is expected that EMU will also have an impact on the financial systems of non-EU neighbouring countries, in general. This impact would be channelled through the spillover of competitive pressures stemming from the financial markets in EMU. In general, banking systems in third countries are expected to face increased competitive pressures but also more opportunities due to the introduction of the euro. Furthermore, other financial markets, such as stock exchanges, may be affected by the consolidation of the respective markets in EMU.

With reference to the banking sector in EMU a structural adjustment process has begun, which is mirrored in the observed mergers and

acquisitions in the sector but also in the changes within the structure of banks. These changes are necessitated by the introduction of the single currency, which has led to fundamental changes in the field, for instance, the elimination of exchange rate conversion charges for intra euro zone transactions. At the same time, the single currency has created a huge, liquid and deep financial market with more opportunities in financial activities, prompting banks to diversify their functions, offering a wider range of financial products, such as insurance and other financial services.

The Cyprus financial system should not be expected to remain isolated from these developments in Europe, particularly in light of the expected liberalisation of the financial system and the process of the abolition of capital controls in Cyprus. Financial reforms entail exposure of the banking system to increased competition and risks. Competition in the financial sector will be increased by allowing, *inter alia*, bank customer access to foreign loans. But the further opening of the capital account requires close monitoring of the foreign exchange exposure by banks and private enterprises, so that no systemic risk is introduced in the economy. In general, competitive pressures from Europe are expected to introduce more challenges but also provide more opportunities for the financial sector in Cyprus.

### **4.3 Effects on inflation**

Before analysing the effects of EMU and the introduction of the euro on inflation in Cyprus, a general discussion on the relation between prices and exchange rates is warranted. In general, there is a significant relationship between exchange rate and price fluctuations, which is particularly strong in the case of small open economies. This relationship, of course, also depends on number of other variables in the economy, such as the behaviour of wages, fiscal balances, money and economic activity.<sup>11</sup>

The significant relationship between the exchange rate and inflation is manifested by the frequent worldwide use of the exchange rate as a currency anchor.<sup>12</sup> In general, and particularly in the case of a small open

11. The extent to which two of the factors affecting inflation in Cyprus --money and GDP growth, both in nominal and real terms-- is discussed in Spanos, Andreou and Syrichas (1997).

12. In fact, Ghosh et. al. (1995) considered the behaviour of inflation in a large number of countries for the period 1960-1990 and found that, on average, countries with some form of fixed exchange rates experienced generally lower and less variable inflation than countries with flexible exchange rates, particularly in cases of countries that adjusted the exchange rate peg infrequently or not at all.

economy, such as that of Cyprus, in addition to enforcing monetary discipline, pegging the exchange rate to a low-inflation currency, stabilises domestic prices through the impact of subdued prices of intermediate and final imported goods. Furthermore, stabilisation of prices is reinforced through the introduction of competitive pressures (or commodity arbitrage) in the domestic markets of tradable goods. This line of argument constitutes in fact the underlining economic reasoning for the pursued exchange rate policy of Cyprus.

A corollary of the above line of argument is that, if a country resorts to a devaluation or a weakening of its currency in order to strengthen its international competitiveness, very often it has to also adopt policy measures that would restrain the increase in wages. The reason is that a devaluation is expected to lead to an increase in domestic prices which in turn leads to an increase in wages, initiating a wage-price spiral effect that would increase prices and wages even further, thus eroding or even eliminating the effect of the original depreciation of the currency. In other words, the initial nominal devaluation is followed by a subsequent real appreciation of the currency. Naturally, in the case of a small open economy in which the linkage between prices and wages is automatic, as is the case of Cyprus, there is little sense in attempting to increase competitiveness through a "weak currency" strategy.<sup>13</sup>

Given the above discussion, it can be stated that the exchange rate policy of pegging the Cyprus pound to the euro can be expected to exert favourable pressure on inflation in Cyprus. The currency anchor of the Cypriot pound is expected to be a stable and low inflation currency over the medium and long run, associated with the independent European Central Bank which, in general, inspires credibility and has as its primary goal the maintenance of price stability.

In addition to the foregoing general discussion, in this section we conduct a simplified numerical analysis to assess an order of magnitude for the impact of future exchange rate developments on inflation in Cyprus. The results of this simplified exercise are also used in section 4.4.2 in order to assess the impact of exchange rate developments on trade and the current account balance in Cyprus. This numerical analysis

13. In a study of inflation in Cyprus for the period 1960-1993, Kontolemis (1993) identifies as the two most important sources of inflation imported inflation and the inflexible labour market (i.e., the fully indexed wage system).

entails the consideration of various exchange rate scenarios and the estimation of the direct exchange rate pass-through effect on prices in Cyprus. At this point it should be stressed that our analysis is focused on the short to medium-term. In the long run it is widely accepted that fluctuations in the nominal exchange rate will eventually be reflected on prices, a process that will be facilitated by the full wage indexation system.

The exchange rate scenarios examined in our exercise cover a relatively wide range of possibilities with respect to the behaviour of three international currencies in the medium term: the euro (the currency anchor of the Cyprus pound), the US dollar and the UK pound.<sup>14</sup> The four cases examined, which reflect the uncertainty in the international financial markets regarding the future value of the euro, as described in section 3.2, are:

- Case A:** the euro appreciates by 10 per cent against the US dollar and the UK pound.
- Case B:** the euro and the UK pound appreciate by 10 per cent against the US dollar.
- Case C:** the euro depreciates by 10 per cent against the US dollar and the UK pound.
- Case D:** the euro and the UK pound depreciate by 10 per cent against the US dollar.

The order of magnitude of the pass-through effect of exchange rate movements on inflation in Cyprus in each of the cases above is gauged with the help of the following rule of thumb with regards to what we call the first-round effects. First, assuming that prices in foreign currencies and the profit margins of exporters and importers remain roughly unchanged, then exchange rate fluctuations should be fully reflected on the prices of imported goods and without much delay. For instance, a 1,0 per cent weakening of the Cyprus pound leads, under this assumption, to about a 1,0 per cent increase in the prices of imported goods. This in turn is assumed to lead to a 0,23 per cent increase in the CPI as, according to the weights of the CPI basket in the 1992 base year, 23,17 per cent of goods and services consumed in Cyprus are imported. Empirical evidence

14. We take an agnostic view with respect to the behaviour of the Japanese yen.

on the 1:1 direct impact of foreign prices on the prices of imported goods in Cyprus is presented in Appendix C.

Further to the above direct pass-through channel, we also consider as part of the first-round effects the subsequent price increases stemming from the impact of the automatic rise in wages through the cost of living adjustment which is applied every six months. More specifically, it is assumed that since the overwhelming majority of wages in Cyprus are fully linked to inflation, an increase in inflation will be roughly reflected in a proportional increase in total wages, *ceteris paribus*. This in turn will lead to an increase in the cost of production that is feeding back into prices. The magnitude of this feedback effect is gauged in the following way: since the share of wages constitutes more than 50 per cent of national income, it is assumed that, on average, labour cost amounts to 50 per cent or more of the total costs in the production process. Provided then that, within the time-framework of this exercise, there is considerable rigidity in adjusting the shares of the factors of production economy-wide, an increase in the total costs and subsequently in prices will be recorded, of the order of about one half of the initial increase in wages. For instance, in our previous example, the aforementioned direct effect of an increase in prices by 0,23 per cent will be augmented into a roughly 0,35 per cent increase, owing to the first-round effect of a wage-price spiral. The magnitude of this estimated first-round effect is in line with findings from Kontolemis (1993). On the other hand, Ford and Krueger (1995) and Karadeloglou et. al. (1998) find lower effects for the cases of Italy and Greece, but it should be emphasised that the key factor in the case of Cyprus is the continued existence of an automatic fully indexed wage system.

Turning back to the aforementioned exchange rate scenaria, we now proceed with the simplified numerical exercise. First, a weighted average of the exchange rate of the Cyprus pound is calculated for each of the four scenaria, the so called effective exchange rate (EER).<sup>15</sup> Then, the subsequent first-round effects on the CPI are calculated as described above and finally, the impact on the real effective exchange is measured. All these effects are presented for each exchange rate scenario in table 2.

15. A brief general discussion on EER and how is calculated for the purposes of this study is presented in Appendix B.

Table 2

**Estimated first-round effects on the EER and CPI in Cyprus  
under different exchange rate scenaria  
(EER weights: Euro 65%, USD 10% and STG 25%)**

	Cyprus' Effective Exchange Rate <u>Nominal</u> - (column A)	Effect on Cyprus' CPI (Column B)	Cyprus' Effective Exchange Rate <u>Real*</u> - (column C)
Case A: euro ↑ by 10% against US dollar and UK sterling	↑ 3,50%	↓ 1,22%	↑ 2,28%
Case B: euro and UK sterling ↑ by 10% against US dollar	↑ 1,00%	↓ 0,35%	↑ 0,65%
Case C: euro and UK sterling ↓ by 10% against US dollar	↓ 1,00%	↑ 0,35%	↓ 0,65%
Case D: euro ↓ by 10% against US dollar and UK sterling	↓ 3,50%	↑ 1,22%	↓ 2,28%

\* This measure ignores changes in CPI in the USA, the UK and the euro area that are prompted by exchange rate developments in each economy. It is assumed that due to the size of these economies and at least within the time framework of our exercise, this effect would be rather small. In any event, if these effects were incorporated they would point to a reinforcement of the role of price changes in affecting the real effective exchange rate of Cyprus.

For example, in case A, a 10 per cent appreciation of euro against the US dollar and the UK sterling causes the effective exchange rate of the Cyprus pound<sup>16</sup> to appreciate by 3,5 per cent (column A). In turn, as discussed earlier, this is assumed to reduce import prices roughly by the same amount. Given that imports constitute approximately 23 per cent in the calculation of the CPI, it could be argued that there would be an automatic beneficial impact on prices in the order of 0,8 per cent. Nevertheless, incorporating the first-round wage-price spiral effect, i.e. taking into consideration the augmented effect of 0,35 described earlier, the beneficial impact on inflation should reach 1,22 per cent (column B). A corollary of the above is that the nominal appreciation of 3,50 per cent of the Cyprus pound in case A, leads -- after the first-round beneficial effects on inflation -- to a real appreciation of the Cyprus pound by 2,28 per cent (column C). The calculations for the rest of the cases presented in table 2 are performed in a similar manner.

16. The double-weight effective exchange rate was used for simplicity; the most appropriate index to use to estimate the effects of exchange rate variations on inflation, is the import-weighted index, which, however, does not seem to differ significantly from the index used.

It should be stressed that in this exercise we examined only up to the first-round effects of exchange rates on prices, and the figures should therefore be considered as reflecting only the initial effects. In particular, exchange rate fluctuations will induce further changes in prices through the wage-price link, and for instance in case A above, further containment of wages and prices will be observed. The magnitude of the calculated first-round effects could on the one hand be somewhat downward biased due to the fact that we have ignored the indirect affect on prices channelled through the prices of imported intermediate and capital goods; on the other hand, it could be somewhat upward biased due to the small lag between the continuing changes in the CPI and the changes in COLA which apply twice a year. We assume that these two opposing effects roughly even out. Finally, it should be noted that the weight of imported goods in the CPI used in the calculations is clearly conservative, as all evidence suggests that that new weights (base year 1998=100), currently under construction, will reveal a higher portion of imported goods in the CPI.

The numerical exercise of this section highlights the importance of the interrelation between exchange rate developments and prices for the case of Cyprus. It should be reiterated that the exercise is of a static nature in that it does not capture the more dynamic effects of exchange rate developments on prices, such as those beyond the first-round effects as well as the role of inflationary expectations. The exercise is also incomplete in that it does not capture the effect of the expected subdued prices in the euro zone on the evolution of prices in Cyprus, a factor that further underlines the importance of the policy of pegging the Cyprus pound to the euro.

We conclude this section by bringing again briefly into the discussion the more general and dynamic concepts related to the important relationship between exchange rate policy and inflation, particularly in the case of Cyprus. Cyprus has a small open economy operating at roughly full employment with a system of automatic and full wage indexation. Therefore, any short-term benefit accrued by a weakening of the currency in terms of international competitiveness will tend to be very quickly eroded by subsequent rises in labor costs, prices as well as inflationary expectations. One should therefore keep in mind the medium term and long-term benefits of a strong currency and low inflation policy in

Cyprus. This underlines the importance of the policy of pegging the Cyprus pound with the euro, the currency of an economic area with the overriding objective of monetary and price stability.

#### **4.4 The impact of EMU on Cyprus' current account**

At the outset it should be noted that the impact of EMU on Cyprus' current account can largely be realised through two channels: through changes in economic activity in the euro area and through changes in the exchange rate of the Cyprus pound, which is pegged to the euro, against the currencies of Cyprus main trading partners. In the following sub-sections these two channels are analysed.

##### **4.4.1 The impact through the Economic Activity Channel**

It is widely believed that, *ceteris paribus*, a successful economic and monetary Union in Europe will have a potentially significant and favourable impact on economic activity within the euro zone in the medium run. This belief is based on the anticipation of a fully dynamic and integrated large European market, with lower transaction costs, reduced exchange rate risk, greater and more transparent competition as well as broader and deeper financial markets. This, of course, is expected to have spillover effects --through trade flows-- on the trading partners of the euro area, including Cyprus.

At the outset it should be pointed out that the Cypriot economy is very open by international standards, with trade of goods and services representing more than 100 per cent of GDP. Given its location as well as its historical and cultural ties with Europe, Cyprus conducts a significant share of its trade of goods with the countries of the European Union. In the year 1997, 49,4 per cent of domestic exports of Cyprus were absorbed by EU countries, with the UK and the countries of the euro zone reaching 20,3 and 19,0 per cent, respectively. Imports for home consumption in the same year originated largely from countries of the euro zone (33,9 per cent) and from the UK (13,6 per cent). In addition to the close trade ties, the economy of Cyprus exhibits a high degree of dependency on the European tourism market. For instance, the majority of tourists visiting Cyprus in 1996 (73,6 per cent) originated from Europe. In particular 36,9 per cent visited from the UK and 25,2 per cent visited from euro area.<sup>17</sup>

17. Overall, the UK is the most significant trading partner of Cyprus and, therefore, the decision of the UK not to join EMU merits careful attention. It should be noted that Cyprus is not alone in facing this challenge. For instance, Ireland, a member of the euro zone is a close trading partner with the UK. According to figures from Direction of Trade Statistics Yearbook, IMF (1997), UK's share of Ireland's exports and imports in 1996 amounted to 24,1 and 33,6 per cent, respectively.

Given the aforementioned trade and tourism ties of Cyprus with Europe it is only natural to expect that any increase in economic activity in Europe due to the launching of EMU will also have an overall impact on Cyprus' trade flows and the current account. Below we attempt to assess quantitatively these effects. It should be stressed, however, that due to the inherent intricacies involved, when interpreting the results of our exercise one should recognise that the attempt is not to provide precise estimates but simply to gauge a reasonable order of magnitude for these effects. As is illustrated below, the potential impact of EMU on Cyprus trade and current account which is attributable to changes in economic activity in Europe, albeit positive in general, should not be dramatic.

The quantitative analysis of the impact of EMU on Cyprus trade flows is conducted with the help of some results derived from an internal study at the Central Bank, which estimated the export elasticity of goods with respect to GDP in Europe. This elasticity appears to be low, hovering around 0,5. This result is also consistent with an IMF estimate that a one per cent increase in the GDP growth in Europe will lead to an increase of Cypriot exports of goods to the countries of EU-11 by 0,4 per cent and to the countries of EU-11 plus UK plus Greece by 0.8 per cent (Feldman and Temprano-Arroyo 1998b, p.28). It should be pointed out, however, that export elasticities of goods and services (including tourism) with respect to EU growth, should naturally be higher, approaching the overall elasticity with respect to the growth of all trading partners shown in Appendix A. This is because exports of services and particularly tourism are mostly directed towards EU countries.

Estimates derived by the IMF suggest that EMU could generate cost savings for EU producers of up to 5 per cent. At the same time, these savings could generate an increase in economic activity in the EU of the order of up to 1 per cent in the medium-run. If one uses a conservative magnitude of an additional expansion of economic activity in Europe of the order of 0,5 per cent of GDP in the medium run and accepts an income elasticity of exports of goods to EU of about 0,5, this would *ceteris paribus* imply a meagre increase in Cypriot exports of the order of a quarter of a percentage point. With respect to goods and services, if an elasticity of 1,5 is assumed, then an increase of three quarters of a percentage point should be expected under this scenario.

One particular empirical finding merits special attention at this point, namely, the low income elasticity of Cypriot exports to Europe, which lies below unity. Furthermore, compared with other countries, it appears that this elasticity is among the lowest within countries in the Mediterranean basin and the Central-Eastern European countries (Feldman and Temprano-Arroyo 1998b, p.28). A possible explanation for this is that Cyprus is exporting to Europe goods that tend to be more "standardised or necessity goods" rather than "luxury goods", where the former have lower income elasticities than the latter. This line of thought could also be extended to suggest that if standardised goods tend to be less capital and technology intensive, then there is certainly room for improvement for Cypriot exporters in attempting to benefit from real growth in Europe, by shifting their emphasis on the production of more technology-oriented and capital-intensive goods.

#### **4.4.2 The impact through the exchange rate channel**

The impact of the introduction of the euro on Cyprus trade and the current account which is realised through the exchange rate channel is naturally a function of the evolution of the major currencies, most notably sterling and the US dollar, against the euro. The essence of the exercise in this section is to find how the potential evolution of the euro against the dollar and sterling will affect the effective exchange rate of Cyprus and subsequently how these changes influence the trade and the current account.

The indicative effects of exchange rate fluctuations on the Cypriot trade and current account, under the different exchange rate scenaria depicted in table 2, are presented below with the help of table 3. At the outset it should be noted that for this exercise we use a rough average of the price elasticities reported in table A.1 of Appendix A --that is, 0,7 for exports of goods, 0,6 for imports of goods, 1,1 for exports of goods and services and 0,9 for imports of goods and services. For instance, in case A, where the euro appreciates by 10 per cent against the US dollar and sterling, the resultant 2,28 per cent appreciation of the real effective exchange rate leads to a fall in exports revenue by 1,6 per cent or £9,7 million, if the figures of 1997 were to be taken on board. Likewise, the import bill rises by 1,4 per cent (£23,9 million), resulting in a trade account deterioration of 0,8 percentage points of GDP. Larger effects are revealed with respect to the current account due to higher price

elasticities. In particular, the value of exports of goods and services is estimated to decline by 2,5 per cent by £55,4 million, while imports of goods and services are calculated to rise by £50,3 million. This results in a cumulative current account deterioration of 2,4 percentage points of

Table 3

**Estimated direct (cumulative) impact stemming from changes in EER**

	Effective exchange rate (real)	Exports	Imports	Trade Account Deficit	Exports of goods & services	Imports of goods & services	Current Account Deficit
Case A	↑ 2,28%	↓ 1,6% £9,7m	↑ 1,4% £23,9m	↑ £33,6m (0,8% of GDP)	↓ 2,5% £55,4m	↑ 2,1% £50,3m	↑ £105,7m (2,4% of GDP)
Case B	↑ 0,65%	↓ 0,5% £3,0m	↑ 0,4% £6,8m	↑ £9,8m (0,2% of GDP)	↓ 0,7% £15,8m	↑ 0,6% £14,4m	↑ £30,2m (0,7% of GDP)
Case C	↓ 0,65%	↑ 0,5% £3,0m	↓ 0,4% £6,8m	↓ £9,8m (0,2% of GDP)	↑ 0,7% £15,8m	↓ 0,6% £14,4m	↓ £30,2m (0,7% of GDP)
Case D	↓ 2,28%	↑ 1,6% £9,7m	↓ 1,4% £23,9m	↓ £33,6m (0,8% of GDP)	↑ 2,5% £55,4m	↓ 2,1% £50,3m	↓ £105,7m (2,4% of GDP)

Note: Trade and current account deficits quoted in parentheses are expressed as percentage points of GDP.

↑(↓) indicates strengthening (weakening) of the CYP. In case of trade, indicates rise (fall) of exports, imports and deficits.

**Auxiliary Table: Trade for 1997 and a summary of elasticities used in above calculation**

	Exports	Imports	Trade Account Deficit	Exports of goods & services*	Imports of goods & services*	Current Account deficit
£ million	605,6	1.704,7	1.099,1	2.215,7	2.395,3	179,6
% of GDP	13,9	39,3	25,3	51,0	55,1	4,1
Elasticities	0,7	0,6	-	1,1	0,9	-

\* Exports and imports of goods and services including transfers.

GDP or £105,7 million, within the time framework of the analysis. Turning to case B, where we assume that the sterling will shadow the euro in its assumed 10 per cent appreciation against the US dollar, the trade deficit and the current account widen by 0,2 and 0,7 per cent of GDP, respectively. One can note the change in the results compared with case A, which highlight the importance of the UK as a trading partner of Cyprus.

It is fair to say that case A and to a lesser extent case B represent “moderately extreme” case scenaria, given the performance of the euro during the first months of its existence. In contrast to these scenaria, cases C and D reflect a weakening of the euro, which at the time of writing they appear as more likely scenaria. As shown in table 3, *ceteris paribus*, in these cases we can expect a real depreciation of the effective exchange rate by 0,65 and 2,28 per cent, respectively, accompanied by an improvement of the current account of the order of 0,7 per cent and 2,4 per cent of GDP, respectively.

In interpreting the above quantitative effects of the effective exchange rate fluctuations on Cyprus' trade and the current account, it should be stressed that these effects were examined in isolation from other important factors that also affect Cyprus' trade and the current account, such as political conditions, both home and abroad, and other exogenous economic and non-economic factors. In light of this qualification and given the overall inherent uncertainty involved in an exercise of this type, the estimates presented in table 3, should be considered as only indicative, attempting to provide a rough but reasonable measure of an order of magnitude for the expected affects under each scenario.

An important point to stress, which is captured implicitly by the significant weight of the euro in the calculated currency basket of the effective exchange rate of Cyprus, as described in Appendix B, is that traditional competitors of Cyprus such as Italy, Portugal and Spain will no longer have the ability to devalue their currency since they have all adopted the euro. This is certainly an important advantage for the Cypriot economy since these countries have occasionally used in the past the policy instrument of devaluation in order to improve their international competitiveness. In addition, however, it must be stressed, that vital competitiveness challenges also emerge for the Cypriot economy in the

new regional environment. For instance, it should be expected that Cypriot goods or services destined for the euro area will face intensified competition from within the euro zone, due to the positive effects that the introduction of the single currency has on intra euro zone trade. This is certainly a challenge for the Cypriot markets than needs to be addressed through offering more competitive prices and better quality products.

Overall, it can be concluded that depending on the extent of the variations of the euro the effects on the Cypriot trade and current account balances could be expected to be significant, but not dramatic. Furthermore, given the expectations of the majority of observers at the time of writing with respect to the value of the euro, then, *ceteris paribus*, one could expect an overall moderately favourable impact of exchange rate developments on the trade and current account balance of Cyprus.

## **5. SUMMARY AND CONCLUSION**

January 1, 1999 was a landmark date for the celebrated process of European integration, which is expected to further strengthen and safeguard economic relations, trade and growth in Europe. The most notable and fundamental change for the euro area is, of course, the introduction of the single currency, which is managed by the European Central Bank. Since January 1, 1999 the euro exists only in an accounting form, having fixed and irrevocable bilateral exchange rates with the national currencies of the participating countries. On January 1, 2002, it will be introduced in a physical form and by July 1 of the same year it will replace the national currencies of the participating countries, thus remaining the single common currency in the euro area.

Despite the costs and challenges involved, it is expected that the new single currency will bring significant benefits to the participating countries, largely in the medium and long term. For instance, the existence of a single common currency abolishes exchange rate risk as well as currency conversion costs for transactions within the euro zone. Furthermore, the use of a single currency improves price transparency in the euro area, thus boosting competition. These factors are expected to gather momentum for further expansion in trade and economic activity in the euro zone.

From a macroeconomic point of view, the introduction of the euro is expected to be associated with economic stability in the euro zone. This stability is safeguarded mainly by two institutions of the EMU. First, the European Central Bank, which is independent and has as its primary goal the stability of prices and, second, the Stability and Growth Pact which aims mainly at the maintenance of fiscal discipline. It is generally believed that these two institutions, along with the political determination existing in the euro zone, will contribute to the safeguarding of economic stability and to the success of this ambitious undertaking.

To safeguard the realisation of the encouraging prospects and potentials for the euro and the euro area, a co-ordinated and comprehensive effort is required on behalf of the countries of the euro area that would aim at rendering their economies resilient and adaptable to the changing and competitive international environment. Given the common monetary and exchange rate policy implied by the adoption of a single currency, fiscal discipline and co-ordination as well as the implementation of significant structural reforms, particularly in the labour markets, emerge as imperative policy directions that need to be pursued with vigilance, in order to achieve this goal.

The effects of the introduction of the euro reach beyond the frontiers of the euro area. EMU is a powerful economic entity whose economic size is comparable to that of the USA in many aspects, such as in terms of population, income, and share in world trade. Given its large economic base, its impact on the international monetary system as a whole as well as on individual countries or regions inside and outside the European Union is expected to be significant. In particular, potential EU members like Cyprus, are affected by EMU not only in terms of experiencing a direct economic impact through economic linkages, but also in terms of having to reform and adjust their structural and macroeconomic policies, with the ultimate goal of meeting the Maastricht criteria.

Turning to the macroeconomic effects of EMU and the euro on the Cypriot economy, four areas have been identified and examined in this study: (a) the impact on the shaping of the overall policy framework in Cyprus, (b) the financial impact, (c) the effects on inflation and (d) the impact on the trade and the current account.

(a) *The impact on the shaping of the overall policy framework in Cyprus:* Given Cyprus' aspirations to join the EU as well as the need to address important competitiveness issues stemming from the forceful and irreversible process of globalisation, economic policies in Cyprus (such as fiscal, monetary and those related to structural reforms) will have to "converge" and be in line with those prevailing in EMU. Policy making in Cyprus will be shaped from now on by developments in Europe --at least more than what used to be the case-- and will be measured against the demanding policy benchmarks of the euro area, such as those defined by the policies of the European Central Bank and the stability and growth pact.

(b) *The financial impact of EMU on Cyprus:* It is expected that the financial sector of Cyprus will not remain unaffected by EMU developments particularly as regards interest rates, capital flows and the financial institutions. It should be emphasised that these effects are expected to be overshadowed by the impact of the significant financial liberalisation reforms that are planned to be undertaken in Cyprus in the near future.

As regards interest rates, it is expected that in the foreseeable future Cyprus will be considerably more integrated with Europe financially and as a result, given the pursued exchange rate policy, interest rates in Cyprus will tend to converge to interest rates in Europe, provided that the macroeconomic environment is favourable. Of course, in principle, a country outside the euro zone has the option of exercising its own independent monetary policy at the expense of not maintaining exchange rate stability with the euro. Nevertheless, the Cypriot authorities have stated their intention to focus on exchange rate stability and maintain the peg of the Cyprus pound to the euro.

(c) *The impact on inflation:* A simplified numerical exercise in this study highlights the importance of the exchange rate developments on inflation in Cyprus, given the openness and smallness of the economy. In more general terms, the pursued exchange rate policy of pegging the Cyprus pound to the euro is expected to exert a favourable pressure on the Cypriot inflation, given that the nominal anchor of the Cypriot pound is associated with the independent European Central Bank which inspires credibility and has as its primary goal the maintenance of price stability.

(d) *The impact of EMU on Cyprus' trade and current account:* The impact of EMU on Cyprus' trade and current account can largely be realised through two channels: through changes in economic activity in the euro area and through changes in the exchange rate of the Cyprus pound, which is pegged to the euro, against the currencies of Cyprus main trading partners.

A successful EMU will have a potentially positive and significant impact on economic activity within the euro area and consequently it should also be expected that there will be spillover effects on the trading partners of the euro area, including Cyprus. These positive spillover effects are likely to translate into a moderate increase in exports of goods and services from Cyprus to the euro zone, over the medium and long-term.

As regards the impact of EMU and the euro that is channelled through the exchange rate mechanism, the effects on the Cypriot trade and current account balances can be expected to be noticeable, but not dramatic. Given the expectations of the majority of observers at the time of writing with respect to the value of the euro, then *ceteris paribus*, one can expect an overall moderately favourable impact of exchange rate developments on the trade and current account balance of Cyprus. This prospect is also facilitated by the expectations of exchange rate stability between Cyprus and the euro area countries, some of which, for instance Italy, Portugal and Spain have occasionally resorted in the past to a devaluation in order to improve their international competitiveness.

All in all, it can be stated that the impact of EMU and the introduction of the euro on the Cypriot economy will in general be positive, and that the prospects for the Cypriot economy in the context of the new regional and global environment are encouraging. At the same time, it should be stressed that in order for Cyprus to benefit from the newly emerging opportunities, it has to be prepared by way of making adjustments through important structural reforms in a number of economic fronts with the ultimate goal of creating a market-oriented and business-friendly economic environment. Such a competitive system would safeguard the sound economic fundamentals in the country and would render the economy able to face the challenges of the more globalised and competitive international environment. Cyprus will thus be able to

maximise the potential gains from the opportunities offered by the introduction of EMU and the euro and pave the way for full membership to the EU.

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### Export and Import Elasticities of Cyprus

The elasticities used in the main body of the text are rough averages of the elasticities produced by a number studies including one carried out by the Central Bank of Cyprus (CBC). A summary of the estimated elasticities is reported in the table A1.

Table A1

#### Export and Import Elasticities of Cyprus with respect to income and exchange rate

	INCOME			REER		
	IMF	CBC	A&P	IMF	CBC	A&P
Exports of Goods	1,82	1,27	0,70	0,69	0,97	0,11
Import of Goods	1,50	1,33	1,44	0,51	0,60	0,55
Export of Goods & Services	2,30 <sup>1</sup>	1,69	-	1,49	1,16	-
Import of Goods & Services	1,55 <sup>1</sup>	1,00	-	0,81	1,24	-

1. Income elasticities of IMF refer only to services.

In all these studies a standard cointegration technique was adopted in which the long run elasticities were estimated using an equation that included only levels of exports (imports), the exchange rate and foreign (domestic) GDP. Annual data spanning the period 1960-1996 was used for the CBC study, 1964-1987 for Asseery and Perdakis (1991) and 1970-1997, for the IMF (1998) study.

The reported CBC income and exchange rate elasticities are a part of a broader ongoing project that aspires to shed light on the interrelationships among all the variables that affect Cypriot trade. An attempt was made to look at alternative types of imports and exports as well as different definitions of effective exchange rates both in nominal and in real term.

## Appendix B

### Cyprus' Effective Exchange Rate Index

In section 4.3 and 4.4 we utilise the concept of the Effective Exchange Rate (EER). In this appendix we present a brief discussion of the concept and how it is calculated in a simplified form for the purpose of this study. In general, an effective exchange rate is a weighted average of foreign exchange rates of a selected basket of currencies with respect to the domestic currency. These indices can be computed in a variety of ways, with the differences largely lying in the method of deriving the weight (i.e. the importance) of each currency in the selected basket. EERs can be in nominal or real form and are usually calculated with reference to exports, imports, trade or tourism.

In this study, a simplified form of the so-called double-weights effective exchange rate index is considered. The double-weight index attempts in principle to capture the importance of each of Cyprus trading partners not only through bilateral trade but also through competition in third countries. For instance, even though Cyprus does not conduct bilateral trade with Turkey, the latter is an important competitor of Cyprus in third countries, such as the UK, an effect that is captured through the use of a double-weight index. More on the construction of an effective exchange index and other relevant issues can be found in Turner and Van't dack (1993) and Zanello and Desruelle (1997).

For the purposes of this exercise, a simplified form of double-weight index was constructed which is based on the index calculated by the International Monetary Fund. To simplify calculations, only the three currencies have been used, with the weights being normalised accordingly: 65% euro, 10% USD and 25% STG. It should be noted that an assumption that was made in deriving these indicative weights was that Greece will be able to maintain its parity against the euro and eventually join EMU on January 1, 2001.

### Appendix C

### Foreign Prices and Prices of Imported Goods in Cyprus

A simple econometric model is presented below for the period 1988Q1-1996Q4, which provides some preliminary evidence that foreign prices tend to be transmitted to a great extent on the prices of imported goods in Cyprus. The estimated level equation (in logs) is as follows (indicative t-statistics in parentheses):

$$\text{CPI}_M = 0,49 + 0,89 \text{ PFX} - 0,08 \text{ DGULF} - 0,04 \text{ D92Q3}$$

(1,28) (10,3)            (3,37)            (1,20)

$$R^2 = 0,78 \quad F(3,31) = 37,18 \quad \text{DW} = 0,77$$

where,

$\text{CPI}_M$  = The component of prices of imported goods in the CPI.

$\text{PFX}$  = Index for the prices of foreign exports of major trading partners of Cyprus, converted in Cypriot pounds, that is, prices of exports of the respective supplier countries, adjusted for exchange rate variations.

$\text{DGULF}$  = Dummy for the gulf war (1990Q3, 1990Q4 and 1991Q1)

$\text{D92Q3}$  = Dummy for currency turbulence in EMS, 1992.

This equation suggests that import prices in Cyprus are very closely related to the export prices of suppliers, adjusted for exchange rate fluctuations. The coefficient is very close to unity and statistically significant.

It is worth mentioning that there also exist two empirical studies, which also provide strong supporting evidence for the above assumption for the cases of Italy and Greece. Using a four-equation empirical model, Ford and Krueger (1995) examine the response of wages and prices to movements in the nominal effective exchange rate in Italy. In the context of that framework they estimate that a 10 per cent depreciation of the nominal effective exchange rate leads to a 9,7 per cent increase in import prices within eight quarters. Furthermore, Karadeloglou et. al. (1998) using a similar approach they estimate that for the case of Greece a 10 per cent depreciation of the nominal effective exchange rate leads to a 9,4 per cent rise in the import prices imports within four quarters.