

Economic Papers Series

Overview of Different Exchange Rate Regimes and Preferred Choice for UAE

The paper reviews different exchange rate regimes and highlights complexity in developing a typology to place continuum of regimes in distinct categories. It examines different theoretical perspectives in choosing an exchange rate regime and also provides empirical evidence on the macroeconomic performance of each regime. Finally, using UAE Dirham (currently pegged against US dollar) as a case study, it analyzes the pros and cons of choosing a fixed or floating regime. It reviews different scenarios and concludes with the policy recommendation that the UAE Dirham should continue with the current exchange rate regime

Keywords: Monetary policy; Exchange rate regimes; Public Policy; UAE.

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3/30/2010

Paper
No. (1)

OVERVIEW OF DIFFERENT EXCHANGE RATE REGIMES AND PREFERRED CHOICE FOR UAE

I: Introduction

Exchange rate (ER) is simply defined as the relative price of two currencies and it is the price of one currency expressed in terms of another currency. Fixed or pegged exchange rate refers to a system in which a monetary authority announces "buying or selling rates for its currency in terms of a foreign currency" and promises to trade in unlimited amounts at that rate. The buying and selling rates could be the same, but in most systems they differ, a circumstance that gives rise to bands within which even fixed exchange rates may fluctuate (usually a narrow range such as ± 1 to ± 2.25 percent).

The choice of an exchange rate regime, and the consequences of this choice, traditionally represents a central topic in international finance. But, recently, research has called into question the relevance of this line of inquiry. This is demonstrated by two articles published in the last decade, "The Mirage of Fixed Exchange Rates" (Obstfeld and Rogoff 1995), and "The Fear of Floating" (Calvo and Reinhart 2002). Obstfeld and Rogoff (1995) suggest that fixed rates are not all that fixed, writing "literally only a handful of countries in the world today have continuously maintained tightly fixed exchange rates against any currency for five years or more." [p. 87] Calvo and Reinhart (2002) argue that floating rates do not really float, rather governments that claim to allow market forces to determine the value of their currencies actually act to minimize exchange rate fluctuations.

The choice of an exchange rate is a difficult and complicated issue. At the beginning of the twentieth century, the choice was to join the gold standard. In the twenty first century, the choice is floating exchange rate, a choice most advanced countries have made. The present day emerging markets have tried to emulate the advanced countries, but have, in many cases, faced great difficulties in doing so (Bordo and Flandreau 2003).

The objective of our research is to look at the issue of exchange rate choice from the perspective of advanced countries and emerging economies. While the former generally have a choice, the latter have less room to manoeuvre though they often follow what the advanced countries have done. In this context, we explore some of the theoretical issues involved in the debate, beginning with the taxonomy of regimes. We provide empirical evidence on the description of regimes and their macro performance. Using the UAE Dirham exchange rate regime, which is currently fixed and pegged to the US dollar, as a case study, we also analyze and review the advantages and disadvantages of fixed exchange rate. The final section concludes with some policy issues based on our analysis of exchange rate regimes with special reference to the UAE economy.

II: Theoretical Issues from a Historical Perspective

The modern day taxonomy of exchange rate contains a list of 9 arrangements prevailing today. These include:

- i. Truly fixed arrangements;
- ii. Currency board in which the monetary authorities hold 100% reserves in foreign currency against the monetary base. A change in the balance of payments brings changes in the money supply and there is no role of domestic credit creation;
- iii. Dollarization and elimination of national currency completely;
- iv. Currency Unions in which the members adopt the same currency;
- v. Adjustable peg when countries realign their pegs periodically;
- vi. Crawling peg when the peg is regularly reset in a series of devaluation;
- vii. Basket peg when the exchange rate is fixed in terms of weighted basket of foreign currencies;
- viii. Target zone or bands with intervention by the monetary authorities when margin is crossed;
- ix. Floating, clean and managed floating.

A typology of these regimes has been given in the table below:

Table 1
Exchange Rate Regimes

Fixed Arrangements		Intermediate Arrangements		Floats	
i)	Currency Unions	i)	Adjustable Peg	i)	Managed Floats
ii)	Currency Boards	ii)	Crawling Peg	ii)	Free Floats
iii)	Truly Fixed exchange rate	iii)	Basket Peg		
		iv)	Target Zones or bands		

Table 2 shows a chronology of the exchange rate regimes the world has seen since 1880. Although the choice of exchange rate expanded considerably between the gold standard and fiat to the 15 regimes demarcated by Reinhart and Rogoff (2004), yet the basic choice between fixed and flexible still remains at the heart of the matter.

Table 2:

Chronology of Exchange Rate regimes 1880-2000

1880-1914	Specie: Gold Standard (bimetallism, silver); currency unions, currency boards; floats
1919-1945	Gold Exchange Standard; floats; managed floats; currency unions (arrangements); pure floats; managed floats.
1946-1971	Bretton Woods adjustable peg; floats (Canada); Dual/Multiple exchange rates
1973-2000	Free float; managed float, adjustable pegs, crawling pegs, basket pegs, target zones or bands; fixed exchange rates, currency unions, currency boards.

Traditionally, the choice of exchange rate regime a century ago was very simple. It was between gold (specie) standard and fixed exchange rate on the one hand, and fiat money and floating on the other. The general perception was that adherence to a specie standard meant following sound and predictable monetary policies, maintaining stable price levels as well as fiscal integrity and balanced budgets. Furthermore, the transaction cost of exchanging different currencies was also avoided. By 1900, many countries switched from silver and bimetallic standards and attached themselves to gold standard. It was believed, at that time, that shifting from fixed standard to fiat money and floating is a radical departure from fiscal and monetary stability. However, fiat money and floating policies were followed during emergencies like wars and financial crises. After the war, the return to gold standard was, however, short lived and ended with great depression. The contemporary perspective on the experience with floating in the interwar period is that it was associated with destabilizing speculation and beggars thy neighbour devaluations (Nurkse 1944). This perception led to the creation of Bretton Woods` adjustable peg in 1944. Many countries signed the currency arrangements after Bretton Woods which combined pegged exchange rate with parities fixed in terms of dollars. The

dollar pegged to gold and narrow bands of 2 1/2 percent were allowed around parity and there was a right to change parity in the event of fundamental misalignment. It was supposed to combine the advantages of the gold standard (sound money) with those of floating (flexibility and independence). However, the member countries found it difficult to have parity consistent with balance of payments equilibrium. Secondly, the currency crises in the early years of Bretton Woods system set the stage for continuous debate between fixed versus flexible exchange rates.

Milton Friedman (1953), in response to the conventional view (Nurkse, 1944), made the modern case for floating exchange rate. According to Friedman, floating has the advantage of monetary independence, insulation from real shock and is a less disruptive adjustment mechanism. Mundell (1961) extended Friedman's analysis to a world of capital mobility. According to his analysis (and also that of Fleming 1962), the choice between fixed and floating depends upon the sources of real or nominal shocks and the degree of capital mobility. They were of the view that in an economy with capital mobility, a floating ER provides insulation against real shocks such as changes in exports demand or into terms of trade. Fixed exchange rate is desirable in the case of nominal shocks such as changes in money demand.

Mundell-Fleming Model led to two important developments in the theory of exchange rate regimes choice: "the impossible trinity or the trilemma" and "the optimal currency area". In the case of trilemma, countries have an option of choosing only two of three possible outcomes: open capital markets, monetary independence and pegged exchange rate. According to this view, gold standard flourished with open capital markets and fixed exchange rate with no monetary independence. The system collapsed in the interwar period because monetary policy geared to full employment got more importance.

Bretton Woods system preferred pegged exchange rate and monetary independence disregarding extensive capital control and, as a result, the system collapsed in the face of increasing capital mobility. In reaction to failure of Bretton Woods, the trilemma led to the bipolar view which states that in the presence of high capital mobility, the feasible exchange rate regime choice is only between super hard pegs (i.e. currency unions,

dollarization or currency board) and floating. It is because of this that advanced countries in Europe today either have floating ER or are part of the European Monetary Union (EMU).

The second development in the theory of exchange rate regime choice is the concept of Optimal Currency Area (OCA). OCA is defined as "a region for which it is optimal to have a single currency and a single monetary policy" (Frankel 1999, Page 11.). In economics, an optimum currency area (OCA), also known as an optimal currency region (OCR), is a geographical region in which it would maximize economic efficiency to have the entire region share a single currency. It describes the optimal characteristics for the merger of currencies or the creation of a new currency. According to the theory of optimal currency area, the advantages of fixed exchange rate increases with the degree of integration between nations.¹ Another criterion of exchange rate regime choice is based on the concept of a "nominal anchor". This criterion is different from the choice based on the benefits of integration versus the benefits of monetary independence. According to this criterion, in an environment of high inflation (1970s and 80s), pegging to the country of low inflation was viewed as a pre-commitment mechanism to anchor inflationary expectations (Barro and Gordon 1983). With rational expectations, an increase in the money supply (discretionary monetary policy) generates surprise inflation and is ineffective to reduce unemployment. Only instituting a pre-commitment mechanism or monetary rule can prevent such time inconsistent behaviour. The pegged ER may promote such a pre-commitment device in an open economy. This phenomenon led to the creation of European Exchange Rate Mechanism (ERM) in Europe in the 1980s and in the 1990s for currency boards and hard pegs in transition and emerging economies. It was believed that in the case of hard pegs (currency boards or dollarization), there is no fear of currency crisis. However, banking crises are possible and cannot be contained without monetary regulation (Chang and Velasco 2001). Furthermore, many emerging countries

¹ The theory of the optimal currency area was pioneered by economist Robert Mundell (1961). Credit often goes to Mundell as the originator of the idea, but others point to earlier work done in the area by Abba Lerner (Tibor Scitovsky. "Lerner's Contribution to Economics." *Journal of Economic Literature*, Vol. 22, No. 4. (Dec., 1984), pp. 1547-15.)

are financially underdeveloped and may have a history of high inflation and fiscal laxity. These countries may not be able to either borrow in the long-term in their own currencies or borrow externally except in foreign currencies such as dollar. This phenomenon exposes them to the serious problems of both maturity and currency mismatches (Eichengreen and Hausmann 1999). In the face of a currency crisis, devaluation may lead to serious balance sheet problems, widespread bankruptcies and debt defaults. This happened in East Asia in the 1990s and also when Argentina exited from its currency board in 2001. This is known as the problem of "original sin" in the literature of International Finance. The "original sin" creates problems for emergers who float and even for those who adopt hard pegs. These problems suggest that intermediate arrangements may still have a role to play for these countries. However, the important point in this regard is to distinguish between middle and large emerging countries. The latter have the potential to move in the direction of policies of the advanced countries and adopt domestic nominal anchors such as inflation targeting cum independent central banks. The small emergers may fare best with currency unions.

III: Exchange Rate Regime Choice in Terms of Measurement and Performance:

In making the exchange rate regime choice, it is very important to have some empirical evidence on economic performance. There are many studies available to answer the question which regime performs best. However, before highlighting these evidences, first we need to classify exchange rate regimes. There are two types of exchange rate regimes classification: One is either de jure or de facto and the second approach is what Calvo and Reinhart (2000) and Levy-Yeyati-Sturznegger (2001), in terms of countries' behaviour, regard as "fear of floating" and lack of credibility in pursuing their declared policies.

IMF's Annual Report on Exchange Arrangements and Exchange Restrictions is considered as the main source of information about the exchange rate policies being pursued by member countries. It contains classification which can be used to study the evolution of exchange rate arrangements over time, the determinants of countries' choice of exchange rate regime, as well as the association between exchange rate arrangements and economic performance. It also records what exchange rate policy the countries themselves declare they are pursuing, and as such it has been called the de jure classification, even though at least, since the end of the Bretton Woods system, there is no legal commitment implied.

It has long been recognized that even though a country has announced that it has adopted a particular exchange rate regime, it may not necessarily be following policies that are compatible with it. For example, during the classical gold standard, the Bank of England did not allow gold flows to have a one-for-one impact on the domestic money supply. Later, during the Bretton Woods period, many countries prevented reserve flows from influencing domestic monetary conditions by actively pursuing sterilization policies. Furthermore, during the first ten to fifteen years of the Bretton Woods system, many countries maintained severe restrictions on the official foreign exchange market with the result that parallel markets became widespread. The exchange rates quoted on these markets evolved very differently from the officially announced exchange rates.

As a result of these differences between the policies that countries say they have been following with respect to the exchange rate and the policies that they actually have adopted, new classifications of exchange rate arrangements have recently emerged. The need for these new sets of classification was further highlighted when at the time of Asian crisis, this gap between real and reported exchange rate regimes became too obvious. The best known of these have been documented in Reinhart and Rogoff (2004) and Levy-Yeyati and Sturzenegger (2005), although others have also been proposed in the literature. The classifications may differ in details, but they are all based, partially or fully, on the actual behaviour of the exchange rate. In other words, the new classifications describe what countries actually do rather than what they say they do on paper. Hence they are known as de facto exchange rate arrangements.

The new de facto classification appears to have completely replaced the old de jure classification. This may be as a result of major finding in Reinhart and Rogoff (2004): “Whether the official regime is a float or peg, it is virtually a coin toss whether the Natural algorithm will yield the same result”. This shows that if the natural (i.e. de facto) classification is correct, the de jure is virtually worthless for the purpose of understanding exchange rate regime choice and consequences.

There are many examples where looking at the actual behaviour of exchange rates does not necessarily give an accurate picture of what authorities in a country are de facto doing. For example, the Swiss National Bank claims, and many local observers believe, that the most appropriate label for the exchange rate regime in that country is free floating. Yet an algorithm that focuses on the actual behaviour of the exchange rate vis-à-vis the German Mark or the Euro may classify the exchange rate arrangement as something more similar to a heavily managed regime. According to the Reinhart and Rogoff (2004) classification, the Swiss Franc followed a de facto crawling band that is narrower than or equal to $\pm 2\%$ between September 1981 and the end of 2001. In fact, it is misleading as a characterization of the monetary policy regime followed by Switzerland. Another example is that of Canada which is classified as having followed a crawling band for thirty years between June 1970 and December 2001.

The Swiss example can be generalized assuming that the two countries follow very similar monetary policies and Taylor-type rules for short-term interest rates. If these countries also have similar targets for inflation rate, and they are also highly integrated with similar output gaps, then their monetary policies will lead to very similar short-term interest rates. With highly integrated financial markets, the expected exchange rate between the two currencies will be constant, and trading on the basis of such expectations will lead to a stable de facto exchange rate even though the monetary policy of each central bank does not take the exchange rate into account. The de facto classification of exchange rate regime will not be able to capture the free floating nature of the exchange rate arrangement between the two countries.

The new classification of exchange rate arrangements is unquestionably important and has led to a re-evaluation of many findings regarding the evolution and performance of exchange rate regimes. This, however, should not lead us to ignore what is the official stance of the countries with respect to exchange rate policy. For answering some questions, the old *de jure* classification is still relevant. It is well known that adopting a floating exchange rate does not define a monetary policy strategy. Hence it is perfectly possible that the *de facto* monetary policy adopted by a floating rate country will lead to a relatively stable exchange rate as the example of Switzerland shows. More generally, if we are interested in describing the monetary policy regime of a country, what the central bank communicates to the public may be important.

Suppose a central bank claims to be following a crawling peg regime, the economic agents are likely to behave differently than if the announced policy is a free float. For example, an explicit exchange rate commitment may bring forth speculative behaviour based on the possibility that the central bank may not be able or willing to honour the commitment. Furthermore, it is also quite plausible that greater integration of international financial markets will make a soft exchange rate commitment unsustainable in case of some unexpected event or shock. In this case, the central bank may rationally avoid making any commitment in the first place and this may lead to a "hollowing out" of

the middle of the exchange rate spectrum² (Hall, 2008). Nevertheless, the same central bank may find it desirable to limit actual exchange rate fluctuations, because it considers these to have detrimental effects on economic performance. We thus see what Calvo and Reinhart (2002) called ‘fear of floating’ if we look at *de facto* exchange rate behavior, and we see a corresponding ‘fear of fixing’ if we judge by the stated policy of the central bank.

There may be several reasons why countries ‘fix’ or appear to fix their exchange rates *de facto* without committing to such a policy officially. One such reason, perhaps exemplified by Switzerland, is that *de facto* exchange rate stability is just an incidental side effect of a monetary policy strategy in which the exchange rate movement is only one of many variables that the central bank monitors and reacts to. A second reason could be that the central bank realizes that the economy will occasionally be affected by idiosyncratic shocks that will require significant exchange rate adjustments, and it does not want to be tied by a previous commitment which might make the adjustment more difficult to carry out. A third reason for not announcing a parity for the exchange rate is for the fear that it would become a target of ‘speculators’ and would increase the probability of attack on the currency.

This discussion suggests that we need to pay attention to both *de jure* and *de facto* classifications to understand how exchange rate arrangements influence economic performance. This can better be understood in terms of tabulated classification of ER arrangements.

Table 3
Classification of ER Arrangements

		<i>De Facto</i> Classification	
		Fixed	Floating
<i>De Jure</i> Classification	Fixed	A	B
	Floating	C	D

² The hollowing out hypothesis means that countries are more reluctant to accept exchange rate arrangements that imply prior commitment to an exchange rate target, unless this is of hard peg type.

Cell A and D represent cases where the classification is based on exchange rate movements as officially announced. Cell B shows fixed exchange rate announcement but in practice allows currency fluctuations. Such breach of commitment has negative consequences for the economy. Cell C display "fear of floating" in the Calvo and Reinhart (2002) sense and "fear of fixing" on the basis of de jure classification.

There are some studies which address the issue of whether the de jure classification carries any information about exchange rate behaviour over and above what is included in the de facto classification. For example, one such study by Carrera and Vuletin (2002) analyzed the relationship between volatility of real effective exchange rate and the nominal exchange rate regimes. They make use of both the de jure and de facto classifications and find significant differences in exchange rate variability across de jure classification for the same de facto classification. In particular, it appears that the real exchange rate volatility is greater in 'de jure float/de facto fixed' countries than in 'de jure float/de facto float' and 'de jure fixed/de facto fixed' countries. This suggests that "doing what you say you are doing" is associated with lower real exchange rate variability than "doing something that might be interpreted as not being what you announce".

In another study, Alesina and Wagner (2003) explain why countries might choose exchange arrangements whose *de jure* and *de facto* classification differs. They find differences in institutional quality and present some evidence showing that countries that announce a fixed exchange rate but end up in the *de facto* floating category, i.e. countries that fall in cell B of Table 3, have relatively 'bad' legal and policy institutions, whereas countries that fix *de facto* but float *de jure* (cell C in Table 3) have 'good' institutions. They interpret the latter finding by suggesting "...that these countries are afraid that wide exchange rate fluctuations (especially devaluations) will be taken by markets as an indication of poor economic management. In other words, these countries peg more than announced to signal stability".

Rogoff et al (2003) have reviewed the costs and benefits of both approaches and relative merits of the different de facto empirical schemes. They highlight the exchange rate

experience of all IMF members divided into the categories of developing countries with limited capital market access; emerging market categories with access to international capital markets and advanced countries.³ The study analyses historical durability and performance of alternative exchange rate regimes, with special focus on developing and emerging market countries. The authors suggest that the popular bipolar view of exchange rates is neither an accurate description of the past nor a likely scenario for the next decade. Though the findings confirm that emerging market countries need to consider adopting more flexible exchange rate regimes as they develop economically and institutionally, the study also concludes that fixed or relatively rigid exchange rate regimes have not performed badly for poorer countries either. For countries that have relatively limited financial market development and relatively closed capital markets, fixed exchange rate regimes appear to offer some measure of credibility without compromising growth objectives—with the important proviso that monetary policy must be consistent with avoiding a large and volatile parallel market premium. They suggest that for developed countries that are not in a currency union (or heading towards one), relatively flexible exchange rate regimes appear to offer higher growth without any cost in anti-inflation credibility—provided they are anchored by some other means such as an independent central bank with a clear anti-inflationary stance.

Ghosh et al. (2002) use a panel dataset of 147 countries over a thirty-year period (1970-99). They find that, according to official IMF classifications (*de jure*), pegs are associated with significantly lower inflation than intermediate regimes such as crawling pegs or tightly managed floats or floats. The only exception are the advanced countries. With a finer classification of regimes, they conclude that hard pegs have the lowest inflation, but other pegs may still have lower inflation compared with more flexible regimes.

The findings of Levy-Yeyati and Sturzenegger (2001) are not much different from Ghosh et al. (2002). Calculating their own classification, they conclude that in case of non-

³ UAE is categorized in the list of advanced countries. Emerging market economies are those that are included in the Morgan Stanley Capital International (MSCI) index. With the exception of Israel, which is in the MSCI index, advanced economies are those that are classified as upper income economies by the World Bank. All other economies constitute the other developing countries group.

industrial economies, there is little difference in inflation rates across exchange rate regimes in a 1974-99 data set except that the hard pegs have lower inflation than other regimes, as do soft pegs which last for at least five years.

Bleaney and Francisco (2005) report findings similar to Levy-Yeyati and Sturzenegger (2001) and Ghosh et al (2002) that hard pegs are associated with significantly lower inflation. However, if inflation persistence or fixed country effects are taken into consideration, there is little difference in inflation rates between soft pegs and floats. Husain *et al* (2005) conclude that in developing countries (other than emerging markets), exchange rate flexibility is associated with significantly higher inflation, but it is unclear if this finding is robust to the separation of hard and soft pegs. Bleaney and Francisco (2007) examine the relationship between exchange rate regimes and macroeconomic performance. They use an official and four alternative regime classification schemes based on de facto exchange rate behaviour to examine the relationship with inflation and growth in developing countries. They conclude that hard pegs offer inflation benefit, though floating is not always associated with higher inflation than soft pegs. Any apparent association is a possible by-product of the design of the classification algorithms, which can quite be complicated and place different regimes in different categories.

IV: Choosing the Best Exchange Rate Regime

Keeping in view the historical background and our discussion regarding the exchange rate classifications, we need to answer the question "which exchange rate arrangement is best? Before going to answer the question, it is important to highlight some of the merits and demerits of fixed versus floating exchange rate.

As far as the advantages of fixed ER are concerned, mainly three reasons can be highlighted. First is the unpredictable volatility of floating exchange rate, both from a short and long term perspective. Although the associated costs have not been quantified rigorously, many economists believe that exchange rate uncertainty reduces international trade, discourages investment and compounds the problems people face in insuring their human capital in incomplete asset markets (Obstfield and Roggof, 1995). Furthermore, workers and firms hurt by protracted ER swings often demand import protection from their governments. Much of the enthusiasm for monetary unification within the European Union (EU) stems from the belief that locked ER maximizes the gains in a unified market and that ER induced shifts in competitiveness within the EU can undermine the political consensus for free intra EU trade. Similar beliefs motivated the designers of Bretton Woods system to require fixed ER.

The second major rationale for fixed exchange rate is a belief that pegging to a low inflation currency will help restrain domestic inflation pressures, whether these originate in excessive government budget deficits or in the wage and price setting decisions of the private sector. The basic logic behind this rationale is that an announced policy of pegging the exchange rate may serve as a commitment mechanism allowing the government to resist and even forestall subsequent temptation to follow excessively expansionary macroeconomic policies (Obstfield and Rogoff, 1995).

A third reason for pegging applies to countries' disinflation after periods of price-level instability. For such countries, fixed rate regime has the attraction of anchoring price inflation for internationally traded goods and providing a guide to the private sector to anticipate and plan for future inflation (Bruno 1991).

However, the world is evolving towards a floating exchange rate regime which is an accepted norm in the advanced countries. The principal exception to the pattern seems to be currency unions such as EMU, which the European countries have joined (largely for political reasons) as have a number of small very open economies. Our analysis somehow agrees with Frankel (1999) who states that “no single currency regime is best for all countries and that even for a given country; it may be that no single currency regime is best for all time.”

The choice between a hard peg and floating depends in part on the characteristics of the economy, and in part on its inflationary history. The choice of a hard peg makes sense for countries with a long history of monetary instability, and/or for a country closely integrated in both its capital and current account transactions with another or a group of other economies.

However, although the world is evolving toward floating, intermediate regimes still represent a large fraction of all arrangements. The principal case against them was the experience with the adjustable peg under the Bretton Woods system which collapsed under speculative attacks and the recent Asian crises which involved largely crawling peg arrangements.

In reaction to that experience, many observers have made the case for bipolarity (Fischer, 2001). Moreover, the ‘fear of floating’ view has made the case that emergers should likely move toward hard pegs rather than floats. Yet, both currency boards and dollarization have serious flaws, the principal of which is the absence of a monetary authority to act as a lender of last resort or to offset external shocks (Larain and Velasco 2001). Moreover, currency unions which can overcome those problems need considerable political will to survive in the face of the shocks that inevitably come along (Bordo and Jonung 2000).

Keeping in view different views about exchange rate regime choice, the case still can be made for intermediate arrangements for emerging countries which are not yet sufficiently financially mature to float. One such arrangement that such countries could take for

floating exchange rate is Morris Goldstein's (2002) "Managed Floating Plus" scheme. It supplements the inflation targeting cum independent central bank approach that several advanced countries (U.K, Sweden, New Zealand and Canada) follow. This scheme allows intervention in the exchange market to offset temporary shocks. It also provide a comprehensive reporting system to maintain the level and foreign currency exposures of external debt and perhaps a sequential strategy to the opening up of domestic financial markets to external capital flows. Finally, there is still a case for monetary unions for countries that are closely integrated politically and economically or are very small open economies.

V. Exchange Rate Regime for UAE: An Analytical Overview

UAE was once considered a poor desert area with no scope for agriculture but courtesy its oil wealth, it has now transformed into a country with modern infrastructure and a high standard of living. The oil exports contribute over one third to the Gross Domestic Product and the price of oil is highly correlated with the economic growth and performance of the country.

The UAE Dirham was put in circulation for the first time in 1973 at which time the value of the Dirham against the US\$ was equivalent to AED 3.94737 according to the Central Bank. The Dirham has, in practice, been pegged to the US\$ since November 1980 and officially pegged to the US\$ since February 2002. The mid-point between the official buying -selling rates for the Dirham has been AED 3.6725 = US\$ 1 since November 1997.

However, according to some researchers, this linkage with the US dollar is proving a liability with the recent depreciation of dollar negatively affecting the purchasing power parity of the UAE dirham against other currencies.

Questions have been raised on the UAE dirham exchange rate regime. Two views can be clearly distinguished. First: the official UAE monetary authority's view (represented by the Governor of the UAE Central Bank), which is to continue pegging dirham to the dollar. Second, researchers' views in favour of de-pegging and adopting a flexible exchange rate regime. This section aims to analyze a preferred choice of an exchange rate regime for UAE. In addition to the background discussion on the pros and cons of adopting an ER regime in earlier sections, many studies have concluded that developing countries with flexible exchange rate regimes recorded higher inflation rates than those with fixed exchange rate regimes (Bleaney and Francisco, 2005; Ghosh et al. 2002; Husain et al. (2005; Levy-Yeyati and Sturzenegger 2001).

Given the features of the UAE economy, three factors - small economy, openness and nominal domestic shocks resulting from large monetary expansion - call for a fixed exchange rate regime for dirham. The inflation factor could favour either fixed or flexible nature of the regime.

At the same time, four factors - large external imbalance (the current account surplus was 21 per cent of GDP in 2006), capital mobility, external nominal shocks, and real domestic and external shocks which the UAE economy is exposed to – favour a flexible regime. The choice of exchange rate regime on the basis of these factors requires complete information on their status, and does not depend on one factor alone. Furthermore, it also depends on the policymakers' objectives. If the objective is inflation reduction, then usually a fixed rate regime is the choice. However, if the objective is correcting external balances, then exchange rate flexibility is the choice. If all factors are given equal weights, the outcome of choice between fixed and flexible regime may be decided in favour of the latter.

Even then, two issues are pertinent: (a) which modality of flexibility is appropriate for the UAE dirham, and (b) is the UAE economy ready and has it the infrastructure to migrate from a fixed exchange rate regime that has served the economy so well for a long time to a modality of flexible exchange rate regime?

The recent inflationary phenomenon in UAE raised questions about pegging of UAE dirham with the US dollar. However, the UAE Central Bank Governor has repeated numerous times that most of the inflation in the country was due to non-exchange rate related factors (the relative contribution of the rent category accounted for 60% of the official overall inflation rate 9.3% y-o-y) in 2006 – the latest period for which inflation data are available). According to the data available, it can be concluded that only 30% of the UAE inflation was due to exchange-rate related factors. In this context, there essentially are two interrelated questions. First, the question of whether the Dirham is appropriately valued. One approach to determine this is to look at the current account balance (of which trade is a significant portion). In the case of a non-oil economy, if the current account balance as a percentage of GDP is close to zero, then the exchange rate is generally considered to be appropriately valued⁴. However, deviation from 'fair value' may persist for extended periods as has been the case with the US\$. Again, generally, large deficits would indicate overvaluation and large surpluses undervaluation of the

⁴ One can look at the real effective exchange rate during near balance and estimate the degree of deviation from equilibrium.

economy's currency vs. trading partners' currencies. In the case of an oil-exporter, it may be more appropriate to consider a "norm" rather than zero (UAE ran a current account surplus to the tune of 21.5% of GDP in 2006). The second question is whether the currency regime is appropriate. The argument for the use of the US\$ as an anchor currency is essentially based on the trade profile of the UAE (with roughly a quarter involving transactions in non-US\$ currencies). In general terms, the currency choice in a fixed exchange rate regime is important in order to avoid a situation where the local currency gains in value significantly vis-à-vis its major trading partners' currencies thus stifling exports and sucking in imports (this happened in Argentina in late 1990s where the currency was pegged to the US\$ and the country's net exports to Brazil were adversely affected because of the relative strength of the Peso). The issue is obviously more critical for countries running current account deficits. In the case of the UAE, the country has been running large current account surpluses and hydrocarbon products (historically, products with relatively inelastic demand) constitute 40% of the exports. From a technical perspective, pegging to a composite (a currency basket) is appealing because it better matches the trade profile of the country and would better protect against imported inflation than has been the case recently. The disadvantage is the relative loss in simplicity.

An alternative currency regime is a currency basket peg (like Kuwait's). This is particularly appealing for a number of reasons, foremost of which is that it could further pave the way for an eventual currency union. A currency basket peg would provide a continuous buffer against inflationary pressure in contrast with a one time revaluation whilst maintaining the US\$ peg. A decision to tinker with the currency regime is not trivial, given different exposures in various countries. Hence the reluctance of authorities to adjust longstanding exchange rates is understandable.

The UAE's peg to the dollar forces the central bank to follow monetary policy set by the US Federal Reserve in order to maintain the relative value of dirham. The Fed has been slashing rates since November 2008 in an effort to stave off recession, at a time when the UAE should be raising rates to rein in spending and fight inflation. With fixed exchange rates, interest rates in a country suffering from inflationary

pressures are pegged to those of the reserve currency such that domestic monetary policy is inoperative, with only fiscal policy still being an effective tool. With flexible exchange rates, however, the country's central bank can lift its interest rates and force up the currency's value, with higher rates curbing domestic demand and a more expensive currency applying a brake to external demand. In the context of rising inflation and increased interest rates, floating the currency would seem the better option, but the reality is more complicated. In February 1973, for instance, when Switzerland's economy was overheating and inflation was escalating, the franc was allowed to float: it rocketed, tripling in value in a space of less than five years, but at a great cost. Exports went into convulsions, with jobs in the watch-making industry slumping from 100,000 to just 18,000 between 1970 and 1980, and construction industry collapsed. The franc went on rising though foreign funds continued to flood in. In 1978, the central bank had to step in resolutely to stabilise the currency to prevent the nation's industry from imploding. Domestic inflation took off again. So, even a country like Switzerland, with a chronic surplus on its external accounts, could not avoid the global inflationary ills of that era.

Floating exchange rates are thus not a solution. If currencies are allowed to float completely free, they do tend to overshoot their equilibrium levels for quite prolonged spells, seriously curbing the very independence of monetary policy that they are supposed to foster. If UAE switches over to a flexible exchange-rate system, its currency would, in all probability, experience even more violent swings than the price of crude oil so that, if the latter rose, the authorities would be forced to act to stop an overshooting currency from suffocating other economic activities, such as tourism. In this case, the advantages of a floating currency almost disappear, except in the very short term and some specific crisis situations.

Currently, UAE has adjusted itself to shifts in international financial turmoil, and it keeps its currency steady against the dollar. This state of affairs should continue for a few more years, even though increasing diversification of its economy, especially towards financial business, will increasingly warrant a switch to flexible exchange rates. It is also important that as the bulk of UAE's export income is so typically concentrated in a single area, managing a floating-currency regime would be pretty awkward. The authorities

responsible for distributing the oil income earned in dollars would clearly have to transfer part of this revenue to residents so that they could pay for their imports, otherwise the value of the national currency would plummet. As things stand, this proportion is fixed automatically, albeit indirectly, by the need to keep the exchange rate stable, but no objective criterion exists to do this if the currency is floating. The authorities would either have to establish one, but they would soon run into the same sort of problems as with a fixed exchange-rate regime without the benefits of the stability afforded by the latter, or they would not publicly reveal what it was, thus fuelling speculation, which would further heighten the currency's volatility. All this would seem to justify sticking with the current exchange-rate regime, with the fight against inflation being waged via curbs on lending or tighter fiscal policy.

VI. Conclusion

The paper has presented an overview of different exchange rate regimes. Recent research has disputed the conventional wisdom of clear demarcation between fixed and floating exchange rate regimes. Taking into account historical perspectives, the paper examines different arguments for and against choosing one or the other regime. It discusses the Mundell-Fleming Model as well as the concepts of Optimal Currency Area and nominal anchor. While the former introduced trilemma in which a country has an option of choosing only two of the three possible outcomes (open capital markets, monetary independence or pegged exchange rate), the latter aims to maximise economic efficiency by sharing a single currency in the entire region. It also differentiates between the developed and emerging economies and analyses why the latter should be careful in blindly following a course successfully pursued by a developed country.

The paper classifies and discusses *de jure* and de facto exchange rate regimes and reviews literature to provide empirical evidence on their economic performance. We conclude on the basis of our review that there is no uniform algorithm for classifying different regimes in distinct categories. As a whole, hard pegs are associated with low inflation though floating may not always lead to higher inflation.

We go on to identify factors that determine which exchange rate regime is the best, depending on the unique characteristics of each country. A country with a long history of monetary instability will be better served by hard peg. As for the emerging economies, the case for making intermediate arrangements before switching to floating exchange rate seems strong.

The last section of the paper analyses the case of pegging UAE Dirham with US dollar that has proved a liability due to its recent depreciation. There is a public policy debate on the pros and cons of continuing with the existing fixed exchange regime, with arguments from both sides of the political-economic divide. Those in favour argue on the basis of three factors: small economy, openness and nominal domestic shocks resulting from large monetary expansion. While those who oppose this stance mention four factors: large external imbalance, capital mobility, external nominal shocks, and real

domestic and external shocks. Adding to this is the dimension of what is the objective of policy makers: correcting external balance or low inflation. The analysis that follows in this section takes into accounts the current status of UAE economy, its existing strengths and weaknesses, the country's role and influence in the international economic arena as well as its future economic plans and prospects. On the basis of discussion, we conclude that UAE should persist with its current fixed exchange rate decision.

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