Dilemma of Exchange Rate Regime Choice: A survey of the literature and the practice

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Introduction:

Exchange rate regime, also called exchange rate system or exchange rate arrangement, is a series arrangement and regulars made by currency authority for setting, maintaining and managing its exchange rates. The choice of an optimal or of an appropriate exchange rate regime is one of the major unresolved questions of international macroecomics and has been at the center of the debate in international finance for a long time following the collapse of Bretton Woods' architecture of fixed exchange rates in the early 1970s.

After the wave of Financial and currency crisis in Mexico (1994), Thailand, Korea and Indonesia (1997), Russia (1998), Brazil (1999), and Turkey and Argentina (2001) which had severe negative impacts on economic growth, discussion around exchange rate regime choice has been resumed in the last decade because some unsustainable exchange rate regimes were implicated in several economic crises in the nineties.

The choice of exchange rate regimes is a controversial issue among practitioners and academics alike, and is one of the most relevant economic decisions that any economic authority has to face nowadays. In making the correct exchange rate regime choice some empirical evidence on economic performance is very important. Regime choices are influenced by a vast array of determinants. An exchange rate regime has an important impact on macroeconomic policies. Indeed, a wide empirical literature has arisen in order to identify the most important factors that determine this decision.

This paper reviews recent trends in thinking on exchange rate regimes, and sets out to review the main theories and empirical methods employed in selecting an appropriate exchange rate regime.

Taxonomy of Exchange Rate Regimes :

Since the breakdown of the Bretton Woods system in the early 1970s, countries have adopted a variety of exchange rate regimes. From 1975 through 1998 the IMF

classified members' exchange rate arrangements under three main categories: pegged (against a single currency or a currency composite), limited flexibility vis-à-vis a single currency or group of currencies, and more flexible, including other managed and independently floating. This grouping was based on members' official notifications or declaration to the IMF (De jure classifaction) about their exchange rate policies and flexibility once becoming a member and after making any changes in their arrangements. A main shortcoming is that what countries are officially claiming to be doing (de jure) may differ largely from what they are actually pursuing (de facto). This would reduce the transparency of the undertaken exchange rate policy and make effective tracking, surveillance and analysis of the exchange rate regime evolution and performance for research and policy implications difficult and perhaps less accurate or biased.

Since 1998, the staff of the International Monetary Fund (IMF) has published a classification of countries' de facto exchange rate arrangements. Experience in operating this classification system has highlighted several challenges, notably (IMF-WP/09/211, 2009):

- the residual category of managed floating has become overly heterogeneous; and
- intervention practices, which are used in characterizing arrangements, have become increasingly complex, while adequate data on intervention are sometimes not available.

The existing IMF staff classification system has been modified to address these and other issues and effective February 2, 2009 (AREAER,2009), the classification methodology was revised to allow for greater consistency and objectivity of classifications across countries and to improve transparency in the context of the IMF's bilateral and multilateral surveillance. And the 2009 AREAER in the 2009 Annual Report on Exchange Arrangements and Exchange Restrictions has included this revision.

There is no consensus on the classification of exchange rate systems and this has contributed to both the variety of regimes that have emerged in recent years and to the diversity of their characteristics. For this there is a continuum of exchange-rate regimes that runs from free floating to hard fixes, and in the following we see the evolution of Taxonomy of Exchange Rate Regimes witch include the IMF's classification and the alternative classification.

I.1. The Evolution of the IMF's Classification Taxonomies :

Since 1950, the International monetary fund publishes every year The Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). This one draws on information availble to the IMF from a number of sources, including through the

course of official IMF staff visits to member countries, and has been prepared in close consultation with national authorities.

I.1.1 <u>The De jure Classification:</u>

Until the late 1990s, most empirical studies of exchange rate regimes relied on the de jure regime classification reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER), which was then based on countries' official notifications to the IMF. The de jure classification distinguished between three main categories: pegged regimes, regimes with limited flexibility and more flexible arrangements, in which the exchange rate is managed or allowed to float freely (IMF:WP/09/155, 2002).

This classification suffered from many schortcomings, the most important was its failure to capture differences between what the countries claimed to be doing and what they were doing in reality. To address the shortcomings of de jure classification, Since Junuary 1999 the IMF adopted a new official classification scheme based on de facto classification.

I.1.2 *<u>The IMF's De facto Classification</u>*:

In recognition of the divergence between actual and operational regimes, a number of efforts have been undertaken to develop a classification of de facto rather than de jure regimes, the IMF it self moved to a de facto classification system in 1999. The IMF's de facto classification combines available information on the exchange rate and monetary policy framework and authorities' formal or informal policy intentions with data on actual exchange rate and reserves movements to reach a judgment about the actual exchange rate regime. Indeed, the IMF has classified exchange rate regimes using a system based on actual behavior since the late 1990s (notably leading academic research by years), when it comes to exchange rate regimes, as with so many other things, the words of countries often do not correspond to their deeds.

De facto exchange rate regimes organise countries by what they do. This sorting attempts to ensure that the official classifications are consistent with actual practice. De facto regime classifications attempt to rectify the deficiencies of the de jure coding. Since 1999 there were two classifications:

De facto Classification Taxonomy (November 1998-January 2009): on which IMF distinguished eight "08" categories of exchange rate regimes:

- *Exchange arrangement with no separate legal tender;*
- *Currency board arrangement;*
- *Conventional pegged arrangement;*
- *Pegged exchange rate within horizontal bands;*
- *Crawling peg;*
- *Crawling band;*

- Managed floating with no preannounced path for the exchange rate;

- Independently floating.

De facto Classification Taxonomy since 2009:

The revised classification has been published in the 2009 Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) and in the IMF's 2009 Annual Report. Specifically, the 2009 AREAER include the revised classification at end-April 2009 and end-April 2008, and changes in the intervening period.

The Key changes to the new classification system include (WP/09/211, 2009):

- Replacing the current distinction between managed and independent floating with two new categories: floating and free floating, with clearer definitions;
- Drawing a distinction between formal fixed and crawling pegs, and arrangements that are merely peg-like or crawl-like;
- Increasing the transparency of the system by basing it on rules that can be implemented using specified information, with a more clearly circumscribed role for judgment.

The classification system is based on IMF members' actuel, de facto arrangements, as identified by IMF staff, witch may differ from their officially announced, de jure arrangements. The system classifies exchange rate arrangements primarily on the basis of the degree to which the exchange rate is determined by the market rather than by official action, with marked-determined rates being on the whole more flexible. The system distinguishes among four major catégories : hard pegs (such us exchange arrangements with no separate legal tender and currency board arrangments) ; soft pegs (including conventional pegged arrangments, pegged exchange rates within horizontal dands, crawling pegs, stabilized arrangements, and crawl-like arrangements) ; floating regimes (such as floating and free floating) ; and a residual category, other managed.

These changes are expected to allow for greater consistency and objectivity of classifications across countries, expedite the classification process, conserve resources, and improve transparency, with benefits for the IMF's bilateral and multilateral surveillance.

I.2 Alternative Classifications:

In recognition of the divergence between actual and operational regimes, and recognizing the merits of classifying regimes more realistically, a number of new de facto classification systems have been proposed and developed during the last decade.

The three best-known alternatives to *de jure* classifications are those developed by Levy-Yeyati and Sturzenegger (2003, hereafter "LYS"), Reinhart and Rogoff (2004, "RR") and Shambaugh (2004). Each is based on a different technique. LYS combine data on exchange rates and international reserves using cluster analysis; that way they can

account for exchange market intervention as well as exchange rate movements. Reinhart and Rogoff rely on the movements of market-determined exchange rates; these often diverge from official ones when there are parallel or dual markets because of capital controls. Shambaugh classifies a country as pegged if its official exchange rate remains within a small band for a sufficiently long period of time. All the methods classify *nominal* exchange rate regimes.

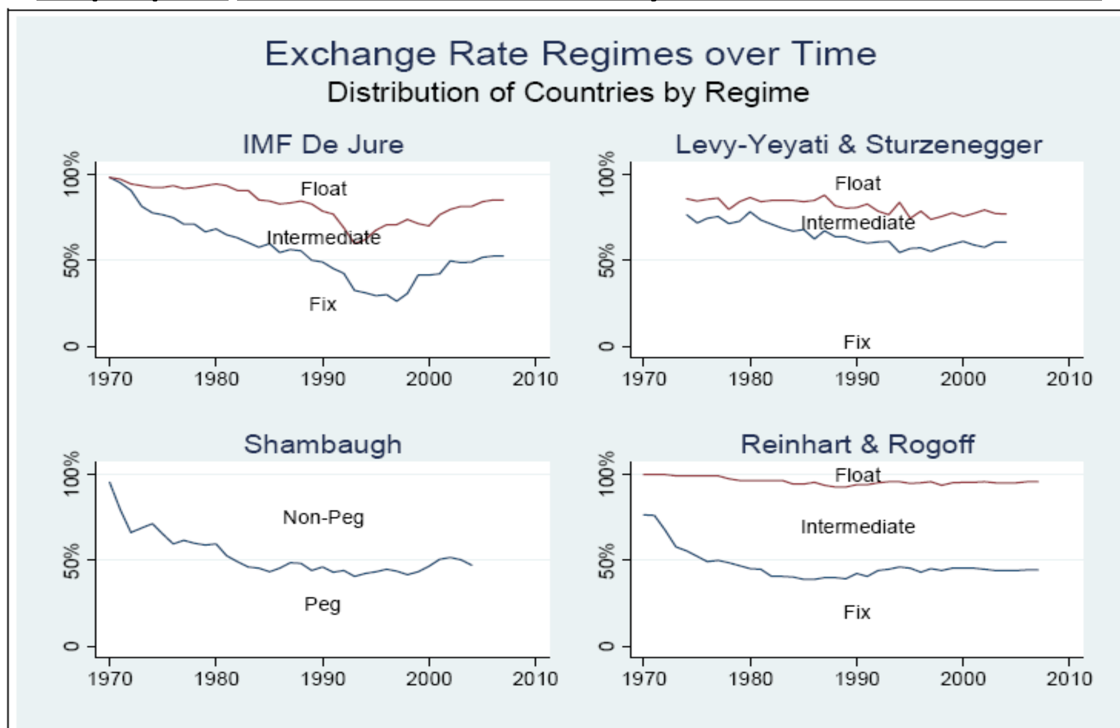
The three systems based on *de facto* behavior have one striking common characteristic:

All reveal that the *de jure* classification is untrustworthy much of the time. Many countries that state they float actually intervene to smooth the exchange rate a lot (a phenomenon known as "fear of floating"). Conversely, many countries that state they peg have a lot of inflation and capital controls so that their currencies actually trade at deep discounts on black markets. Accordingly, the profession has concluded that *de facto* classifications make a lot more sense than *de jure* ones.

So there are now four classifications of exchange rate regimes: official IMF, LYS, RR, and Shambaugh (Andrew K. Rose, UC Berkeley, NBER and CEPR, 2011).

We see in the following graphique which shows the difference between de jure and de facto classification of countries.

Graphique1: Distribution of Countries by Jure and facto Classification



Source: Andrew K. Rose, UC Berkeley, NBER and CEPR, 2011, p28

The differences between the de jure and de facto classifications are important for three important reasons:

First, there is consensus that there has been an increase in the use of floats throughout the post-Bretton Woods period.

Second, that intermediate regimes (including conventional pegs) are inherently vulnerable to capital flows and thus bound to disappear in a world with increasingly integrated capital markets, a fact dubbed by Eichengreen (1994) as "hollowing-out hypothesis" and by Fischer (2001) as the "bipolar view".

Third, that many countries that claim to float do not allow their nominal exchange rate to move freely, a pattern that Calvo and Reinhart (2000) have referred to as "fear of floating".

II : The choice of exchange-rate regime :

The choice of exchange-rate regime can be better- or worse-suited to the economic institutions and characteristics of an economy. For this the theoretical literature provides broad guidance on exchange rate regime choices, the main criterion for regime choice is to reduce the output cost (in terms of GDP) of an adjustment to exogenous shocks. Thus, the nature and the magnitude of shocks the economy is likely to face, as well as the structural characteristics of its goods, labour and financial markets, are important considerations in choosing an exchange rate regime.

Also the empirical findings on the determinants of exchange rate regimes are numerous and controversial. The reason for the differences among the findings mostly depends on the country samples taken into consideration, time periods, regime classifications used in the analyses, estimation methods and assumptions of econometric models.

The studies on the determinants of exchange rate regimes largely consist of the papers including the developing countries (Rizzo, 1998; Breger et. al, 2000; Poirson, 2001; Zhou 2003; Von Hagen and Zhou, 2005, Bleaney and Francisco, 2005); or both the developing and developed countries (Meon and Rizzo, 2002; Juhn and Mauro 2002; Kato and Uctum, 2005, Levy-Yeyati and Sturzenegger, 2007). A few of the paper (Collins, 1996; Papaioannou, 2003; Markiewic, 2006) considered specific country groups such as Latin American countries, Central American countries, and transition economies.

Most studies considered some of the optimum currency area variables, such as trade openness, size of economy, degree of economic development and geographical concentration of trade. In addition, some studies also included such macroeconomic variables as inflation, foreign exchange reserves, domestic credit, real exchange rate, and terms of trade. Also, a few studies contained political or institutional variables.

The choice of regime is not straight forward; It is contingent on a host of factors, such as:

• The size of the economy;
• The degree of openness and economic/financial development;
• The production diversification/export structure;
• The divergence of domestic inflation from its trading partners;
• The degree of labour and capital mobility;
• The vulnerability to real/nominal shocks; and
• The extent of fiscal policy flexibility

II.1. EVOLUTION OF EXCHANGE RATE REGIMES CHOICE :

The choice of exchange rate regimes has evolved considerably in recent decades. Since the end of the Bretton Woods system of fixed but adjustable exchange rate there been an increase in flexible regimes and in the variety of exchange rate systems adopted.

* From the mid-90s the bipolar view, corner solution or hollowing-out won supporters; this holds that because of increasing international capital mobility only the two extreme regimes are sustainable. The bipolar view has been supported by the ´impossible trilogy`. The prevailing view was that flexible regimes are more suitable for large economies, and fixed regimes are only useful in special situations (see Eichengreen and Hausmann, 1999).

* In the late 90s, however, several authors challenged the idea that intermediate exchange rate regimes are condemned to disappear. Frankel (1999) says that the impossibility for a country to maintain exchange rate stability and monetary independence when international capital mobility increases does not mean that this country cannot simultaneously maintain some stability and monetary policy autonomy. Williamson (2000) and Goldstein (2002) go even further and argue that intermediate regimes are still a viable option for developing countries. Fisher (2001) found that the number of countries adopting an intermediate exchange rate regime declined worldwide from around 62 percent in 1991 to 34 percent in 1999. But he does not suggest that intermediate regimes are disappearing, except in developed countries. In 1999 42 percent of developing countries used these regimes.

Following Fisher's (2001) analysis and using IMF data for 2008, we note that between 1999 and 2008 flexible exchange rate regime use increased from 77 to 84 countries, while fixed exchange rate regimes decreased from 45 to 23.

The intermediate exchange rate regime trend then reversed, with the number of countries that have adopted this type of exchange rate regime increasing from 63 to 81 between 1999 and 2008, so they appear to be a widely used and apparently viable option, especially for developing countries.

Given the above, it could be said that despite the bad past experiences with some intermediate exchange rates regimes, which showed weak response to increasing international capital mobility, this does not mean that intermediate regimes may not emerge as the most appropriate regime for some developing countries, not least because only a small number of developing countries enjoy the conditions needed to successfully use the most extreme forms of exchange rate regimes, given their structural characteristics.

Two new proposals relating to intermediate exchange rates regimes should be noted. They are Managed Floating Plus (MFP) regime and Basket, Band and Crawling Peg (BBC) regime.

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.

II.2 <u>The New Proposals Exchange Rate Regimes:</u>

<u>Managed Floating Plus:</u>

The MFP exchange rate regime, defended by Goldstein (2002) as an ideal exchange rate regime for developing countries that are more open to international capital flows, incorporates the view that flexible regimes are preferable to fixed regimes but wants to eliminate some of the excessive volatility of fully flexible regimes. It is based on three main features.

First, 'floating', which means that authorities let the exchange rate float, i.e. they accept that the forces operating in the foreign exchange market are mainly responsible for influencing exchange rate determination. Secondly, 'managed', which concerns the administration of fluctuation, because authorities may intervene to counter short-term movements in exchange rates, but only insofar as these actions do not damage the achievement of the objectives in terms of inflation. Thirdly, 'plus', which itself comprises two components, a nominal anchor for monetary policy based on an announced inflation target, and a set of policy measures to reduce exchange rate misalignment.

Given these characteristics an MFP exchange rate regime will give developing countries tools to reduce exchange rate misalignment and balance of payments vulnerability with respect to capital movements, which both eliminates the 'fear of floating' (see Calvo and Reinhart, 2002) and gives greater monetary independence to deal with economic downturns, a better performance against changes in capital flows and a feasible nominal anchor that will allow control over inflation.
However, despite some similarities to exchange rate regimes currently used by some developed countries, the relative newness of the MFP regime means that we do not yet have any examples of its practical application. Though it seems to be favourable from a theoretical point of view, this does not imply that it is so in practice.

<u>The BBC Exchange Rate Regime:</u>

The Basket, Band and Crawling Peg "BBC" exchange rate regime advocated by Williamson (2000), meanwhile, aims to unite the advantages of the traditional intermediate exchange rates regimes, including the crawling peg and the target zone, in order to reduce its vulnerability to speculative attacks. It has three main elements. First, the basket from which each country with diversified trade should index its currency to a foreign currencies basket, as opposed to a single currency trading partner. The fact that the currency is pegged to a basket consisting of major trading partners' currencies should reduce the tensions that occur when major currencies begin to move in opposite directions, allowing more effective exchange rate stabilization. Secondly, symmetrical and reasonably wide band developing countries must ensure that their exchange rate is within the band, which aims to provide credible guidance to markets about exchange rate fluctuation limits. Being large, the band allows three main features:

- it ensures that authorities will not face a situation of trying to defend a greatly misaligned exchange rate;
- it allows central parity adjustment to keep in line with economic fundamentals without significant changes in exchange rate behaviour;
- it helps the country to cope with strong cyclical and asymmetric capital movements.

Thirdly, the crawling peg, which relates to the band midpoint and which can slide gradually over time in response to changes in macroeconomic fundamentals. This both makes it possible to relieve some tensions that markets suffer due to changes in their characteristics and provides some information about where the exchange rate can move to, thereby combating the existence of persistent misalignments in the exchange rate.
The BBC regime is nonetheless subject to some criticism. Goldstein (2002) suggests that in practice a BBC regime would have to cope with many of the problems faced by

the Bretton Woods international monetary system of fixed but adjustable exchange rate, like destabilizing speculation. Williamson (2000) himself recognizes that even a well-managed BBC regime is subject to the danger of contagion in the face of foreign exchange crises in nations with which countries maintain close trade or financial relations. Despite the criticism, the weaknesses of the BBC regime are no greater than those of the more conventional intermediate regimes.

It is therefore not surprising that in the 90s developing countries such as Chile, Colombia and Israel successfully used a crawling band regime similar to Basket, Band and Crawling Peg as a transition route to a more flexible exchange rate system.

Conclusion:

The choice of exchange rate regime has considerable impact on trade in goods and services, capital flows, inflation, balance of payments and other macroeconomic variables. For this reason, the choice of an appropriate exchange rate regime is a principal component of economic management in maintaining growth and stability.

From the examination of the the various exchange rate classifications and the survey of the literature on exchange rate regime choice ; no single theoretical approach seems to have an overwhelming victory over another, and no empirical regularities regarding the choice of a currency regime have emerged yet.

However, there is no consensus on how to select an appropriate exchange rate regime and there is not an ideal exchange rate regime suitable for all countries.

In essence, the choice of an exchange rate regime is not straightforward and to be sure, there will be continuous revisions of theories and empirical results. Every regime has some benefits and drawbacks: tradeoffs between exchange rate flexibility versus uncertainty; between policy flexibility versus Discipline. The “optimal” choice depends on the specific challenges and circumstances facing the country (which may change over time).

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