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**Exchange-Rate Regimes:
Orthodox and Heterodox Monetary Features**

ABSTRACT. *The aim of this paper is to compare exchange-rate regimes, using as background the articulations between the exchange-rate prescriptions, and monetary conceptions of different theorists. Authors are identified as orthodox, conventional or heterodox, according to their views about the neutrality of money, and their perspective regarding the self-regulating properties of private market economies.*

Keywords. Exchange-rate regimes; orthodox and heterodox views on exchange-rate regimes.

I. Introduction

This paper aims to examine the main disagreements between the different prescriptions about exchange-rate regimes. In order to do so, we have performed a bibliographic review centred on the advantages and disadvantages presented by the advocates and critics of each one of the regimes.

The exchange-rate prescriptions are in accordance with the theoretical views of each author, and we shall use the definition of the monetary conception that supports the arguments of each school to conduct the report. This articulation between monetary conceptions and exchange-rate prescriptions will allow us to classify the different authors over the text.

II. A comparison of Orthodox's, Conventional's, and Heterodox's views about exchange-rate issues

The dominant macroeconomic model, explicitly or implicitly used to discuss the consequences of changes in monetary and fiscal policy for the external and internal balances of a certain country is, essentially, the Mundell-Fleming approach formulated upon an updated IS-LM type of framework to which the balance of payments equilibrium has been added.¹ Conceived in the early 1960s for a fixed-exchange-rate system, the model was afterwards fitted to the analysis of exchange-rate fluctuations and it has provided the main framework for conventional theorists. The model has been extended to allow for dynamic analysis, since, as originally formulated, it supposed instantaneous adjustment.

The model's main features can be summarised as follows: when exchange rates are fixed, and capital is mobile, the Mundell-Fleming model concludes that: the higher the degree of capital mobility, the more effective fiscal policy becomes when the target involves changes in income levels (extremely effective as a matter of fact) for it leads, when expansionary, to balance of payments (BP) surplus and higher interest rates, attracting

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¹ The pioneer texts are Fleming (1962) and Mundell (1962).

foreign capital, and leading to an increase of domestic money supply in order to keep the exchange rate still.² Notwithstanding, monetary policy is ineffective, with any degree of capital mobility, because the domestic money supply is left at the mercy of the flow of reserves necessary to maintain the fixed-exchange-rate parity. In other words, the quantity of money becomes endogenous, and monetary policy passive. On the other hand, when exchange rates are allowed to float, the Mundell-Fleming model predicts that the fiscal policy tends to be ineffective with perfect capital mobility, and it gains efficiency while capital mobility is restrained. It is so because capital mobility appreciates and depreciates the domestic currency, counterbalancing either the expansionary or the contractionary effects of the fiscal policy. Moreover, as far as monetary policy is concerned, it becomes extremely effective as capital mobility becomes unrestricted.

Such conclusions are derived from the Mundell-Fleming model for the short and medium runs, supposing that prices do not change over the adjustment process. However, in the long run, the outcomes are altered, for changes in prices take place in response to variations in money supply. For instance, when there is money expansion under floating-exchange rates, bringing about a positive impact on income and the depreciation of the domestic currency, the consequence is an actual product that exceeds the potential product. This GAP will lead to price rises, according to the Quantity Theory of Money (QTM), causing a decrease in the real money supply (M/P), that is, a contractionary shift of the LM curve, that countervails the initial expansionary impulse. As a consequence of such contractionary monetary movement the domestic currency should appreciate, reverting the initial positive impact on product. Thus, as we can see, the short-run effects annul themselves, in such a way that, in the long run, production is expected to return to its nominal (full employment) level, and the quantity of money and prices should experience a rise of an identical size in proportional terms.

From the prescriptions described above we can clearly identify the idea underlying the Mundell-Fleming analytical framework of long-run money neutrality, for all the real effects brought about by monetary expansion have been reversed, and only a higher level of prices (QTM) has lasted as a permanent effect.

This conception of money neutrality is an important aspect of the distinction between the different positions embodied in the conceptual literature relating to the choice of exchange-rate regimes. First, we will distinguish orthodox theorists, who see money as neutral in both the short run and the long run. Secondly, mainstream analysts, which will be regarded as advocates of the conventional view, will be placed in an intermediate position - its theorists recognise the effects of money on the real economy, but only in the short run. Finally, we will place the heterodox theorists, to whom money is never neutral either in the long run or in the short run, on the other extreme.

Besides the conclusions about money neutrality, another important issue concerns the differences between the three positions regarding their beliefs about the self-regulating capacities, or otherwise, of private markets. As we know, this question is placed into discussion by "Say's Law" the principle accepted by those who see money as neutral and the markets as self-regulating, but neglected by others. Hence, we are classifying the groups as either orthodox or heterodox according to their position related to that principle, and being the so-called conventional view an intermediate position, for it does not recognise money neutrality in the short run, and it realises the problems of price stickiness and the difficulties that it creates regarding the 'self-correcting' properties of the markets.³

² In reality, countries experience current/capital account deficits and surpluses. The overall BP is always zero. In IS-LM/BP framework, movement from the BP line (where BP=zero) is only fictional - as are the so-called BP surplus and deficits.

³ Such classification, as we shall see over the text, does not mean that the conventional view is not orthodox, but we are taking it as a parameter to contrast with significantly distinct positions, namely the orthodox, and the heterodox views.

II.1 Orthodox: the fixed exchange rate

Orthodox economists, such as McKinnon (1988, p.95), argue that the exchange rate must be fixed for the devaluation of the exchange rate can improve a country's net trade balance only temporarily. Exchange-rate devaluation, while leading to BP surplus, increases the money supply which raises aggregate demand and prices, undoing the initial competitive gains experienced by the domestically produced goods. It is, therefore, a (orthodox) view of short-run neutrality of money.⁴ Consequently, authors such as McKinnon, reveal their position opposing the mechanism of a floating exchange rate.

The assumption underlying that sort of prescription is that trade and capital flows tend to countervail each other, balancing international transactions without need of changes in relative prices. Thus, the nominal exchange rate, established at the level of purchasing power parity (PPP), need not be altered. As McKinnon (1988, p.95) argues: "purchasing power parity (PPP) can be an unambiguous theoretical guide for central banks and one with which the private financial markets can also feel comfortable."

The PPP view, while assuming the idea of only one price, involves a conception of homogeneous goods in international trade, ignoring existing differences between countries regarding their production and trade structures. It does not take into consideration the differentiated effects of foreign shocks, or the differences concerning, for instance, efficiency gains, new consumption standards and income effects. Furthermore, it does not account for the problems of price stickiness and the interventions of central banks, assuming that the real exchange rate tends to a stable level that could be regarded as the equilibrium level of the exchange rate. The theory of purchasing power parity also does not take into consideration the differences between tradable goods and nontradable goods which hinders the existence of a single price. It is, indeed, a way of seeing the world as a homogeneous trade space.

When accepting PPP, according to which nominal exchange rates could be calculated such that national price level of internationally tradable goods would be aligned as approximately measured by their respective producer or wholesale prices indices, McKinnon (1988, p.93) is led to propose, in addition, a nominal anchor for the system as a whole, through a common (wholesale) price level, to be kept constant in the long run, which would guarantee equalisation of inflation rates among the countries that agree to avoid the exchange-rate fluctuations between their currencies.

With regard to the role of government, these authors, while fixing the exchange rate upon some technical relation such as the PPP, resemble the advocates of the gold standard who accept a fixed rule for money issue, despite defending market freedom, in order to guarantee price stability through the QTM, provided that the rule is not left at the mercy of the government. The proposal of a fixed exchange rate is similar, although it is even more limiting than the gold standard, for it is immune to the fluctuations due to changes in money supply such as noted by McKinnon:

To defend its national gold parity, each nation came to regulate domestic money issue according to its balance on international payments. Surplus

⁴The argument lies on the idea of a vertical Phillips curve, according to which it is not possible to conceive monetary effects over the real economy, even in the short run, since the agents foresee future inflation. When doing so they do not develop monetary illusion. They realise that real wages will be lower due to inflation, and will not counterbalance the marginal disutility of labour. Therefore, they conclude that employment should not rise. Thus, the unemployment level is considered natural, and not able of being reduced by monetary expansion. The absence of real effects derived from monetary movements (money neutrality) means that, with the quantity equation $MV=PY$, there is no impact of money variations (M) upon the real product (Y). Since it is assumed a constant velocity of money (V), every impact derived from monetary movements being transmitted to the price level.

countries automatically expanded their money supplies while those in deficit contracted. Almost by accident, this resulted in generally fixed nominal exchange rates within narrow bands called the gold points for each pair of national currencies, in purchasing power parity, and in similar rates of domestic price inflation in each country. [McKinnon, 1988, p.101]

But the fixed nominal rate recommended by McKinnon (1988) is different from what is suggested by heterodox authors, as we shall see, because the latter accept the rate to be modified when it is intended to use it as a tool of economic policy, whereas to the former the rate is a fixed rule, independent of economic policy and historical time, established initially to approximate purchasing power parities. He argues that the fixed-exchange-rate system, by the way of a common monetary standard, would tend to be more efficient not only because it would remove the harmful volatility of floating rates but, also, because the interventions necessary to keep trade balanced would not be great. It is so, because small variations in the interest rate (through open market or rediscount operations), provided credibility to the fixed parities, and would suffice to either attract or discourage foreign capital, according to the circumstances. According to his view, "only as a last resort, or because of unusual turbulence, would substantial direct intervention in the foreign exchanges be necessary" (op.cit, p.93). He advocates that nations should collaborate over the adjustment process. Moreover, his understanding is that arbitrageurs would end up stabilising the exchange rate, through portfolio flows, for they gather unambiguous information about the foreign-exchange market, and about the central banks intentions. It suffices that countries respect the common inflation rate and the agreed upon money stocks for nominal parity to be maintained. Therefore, according to McKinnon (1988), besides the fixed rates, such as in Bretton Woods⁵, what is needed is a restrictive money supply to assure stable price levels in different countries, thus limiting the choices between different rates of inflation and unemployment. At the time of Keynes, he analyses, trade was limited, and the flows of capital were restricted, and it was this that ensured there was no great variations in reserves. Nonetheless, he argues, the greater interaction of capital markets nowadays requires a nominal anchor closer to the gold standard than to Bretton Woods.

The critics of this sort of system support their arguments taking into consideration actual problems, and distinct theoretical conceptions.

Regarding the actual problems encountered by the prescription of a fixed exchange rate it is perhaps not remarkable that speculative flows ended the Bretton Woods system. In accordance with critics of this regime, the need to maintain a high level of reserves is itself a problem of the fixed-exchange-rate arrangements and the perception by economic agents that the situation concerning reserves is precarious can lead to speculative attacks against the local currency that ends up forcing a change in the rate, accelerating and broadening the depreciation of the currency in question.

This problem calls attention to the need and difficulty in guaranteeing the credibility of fixed exchange rates that avoids destabilising speculation. Since the exchange rate is an easy tool to manipulate, and can adjust the economy without great cost, governments are tempted to use it. The higher the likelihood of government action, the higher is the vulnerability to speculative attacks because the lower is credibility [De Grauwe, 1992].

Another problem concerning the adoption of fixed exchange rates arises when the conclusions of the Mundell-Fleming model are analysed. It regards the loss of monetary policy as a tool of economic policy. This problem, of relinquishing the exchange rate instrument, is explored by De Grauwe (1992), when he approaches the question about liquidity in incomplete monetary unions, that is, those unions where national currencies survive but the exchange rate between them is kept fixed. In the case of a system of n countries, there are only $n-1$ exchange

⁵The rates in Bretton Woods could be readjusted in special circumstances, and they indeed were, many times.

rates. "Therefore, n-1 monetary authorities will be forced to adjust their monetary policy instrument so as to maintain a fixed exchange rate" (op.cit.p.11). That is, only one central bank will be able freely to set its monetary policy, because the others will be forced to adjust their tools of monetary policy to hold the agreed parities. The system is reduced to one degree of freedom, which makes us wonder who will use this degree of freedom: which central bank will independently establish its monetary policy? Two ways have been proposed in his work. One alternative is the co-operative solution, whereby the countries subjected to the fixed exchange rates agree in choosing the level of liquidity and interest rate that best suit each one. The other alternative is the asymmetric solution, whereby a leading country establishes its money stock independently and it determines the interest rate that will be common to all the other countries. Given the money demand of the other countries, its money stocks will accommodate in such a way that the common interest rate prevails. Therefore, these countries lose their control over important domestic variables.

Finally, we have theoretical restrictions regarding the use of the PPP, and the conception of economy implied therein. These restrictions will be dealt by the theorists of the conventional view and equally by the heterodox view over the following items - II.2 & II.3.

II.2 The Conventional view: flexible exchange rates

The economists here called conventional disagree with the orthodox view in the short run, although they all agree in the long run. The former, while realising the problems derived from the regulating role of the markets in the presence of sticky prices, only accept purchasing power parity in the long run, recognising divergences between the exchange rate and PPP in the short run.

Provided that the maintenance of PPP implies the maintenance of the relative price of two currencies in its absolute version and that of the purchasing power of the currencies in its relative version⁶, if it is supposed that fluctuations of the nominal exchange rate take place to guarantee PPP (or the real exchange rate) it is also supposed that there is no change in relative prices among countries. This is the assumption of the conventional version only for the long run (when money is considered as neutral). However, they realise the effects of monetary impulses on relative prices in the short run (when money is considered not neutral). This is the reason why Dornbusch (1976) adds the idea of a permanent real exchange rate, that reflects the PPP rate, and describes the path of the nominal exchange rate toward its long-run equilibrium level, following the adjustment process. It turns to be a matter of differences in the adjustment speed of the various prices, it being the exchange rate that is faster to adjust, overtime, than most prices are.

According to the advocates of the so-called mainstream, such as Dornbusch (1988), and Krugman (1990, 1991, 1992)⁷ that there is no perfect integration of markets or perfect substitutability among goods, is what hinders the regulating market from working perfectly. For instance, there are different relations between tradable and nontradable goods among countries. Thus, even if there is a lender country A, with a BP surplus position on the one side, and a borrower country B, with a BP deficit position on the other side, both imbalances of the same magnitude, it is not possible to say that the adjustment of the balance of payments will

⁶According to the absolute version of the PPP, the purchasing power of the american dollar, for example, should be identical in any country, which makes it possible to present the exchange rate as the relation between the price indices of two countries. In its relative version, the PPP states that it is not necessary that the relation between the indices and the exchange rate remains the same forever, but suffices that they vary together, at the same proportion.

⁷Among the contributions of this group to the improvement of the Mundell-Fleming model, it is worth mentioning the introduction of rational expectations (Black, 1993), and of capital flows in a dynamic context (Martson, 1984).

occur without changes in the exchange rate (such as the orthodox theorists, who believe that the adjustment is immediate, for there is no change in relative prices, would defend). It is so, because any change in the income of the exporters of country B, that causes a demand for nontradable goods greater than that for tradable goods, for instance, will require change in relative prices in order to accommodate the increase in demand. Therefore, an appreciation of the currency of country B, with regard to that of country A, will be necessary to counterbalance the positive impact on imports, due to the decrease in their relative price and thus guaranteeing the equilibrium. Hence, they conclude, exchange rates must float.⁸

This group believes that the government, in macroeconomic stabilisation, must stick to an active monetary policy but leave individual markets to their own devices, being the microeconomic policies formulated upon efficiency standards. That is what Krugman (1991) calls "activism on the macro side, but *laissez-faire* on the micro side" (op.cit.p.24).⁹

It is possible to note that, to these authors, only sticky prices hinder quick market adjustment. Nevertheless, they continue to be efficient and signal the right direction towards full-employment equilibrium. Thus, as they view it, monetary policy is the most adequate tool, for it implies the least discretion. Floating exchange rates are also prescribed because the market would be in charge of its determination, being the ideal scenario for monetary policy according to the Mundell-Fleming model.¹⁰

Floating exchange rates were initially advocated by Milton Friedman (1953), who argued they would lead to greater stability, for the movements of nominal rates would tend to approach its "normal" values keeping balance of payments in equilibrium. Harry Johnson (1969) considered them essential to the maintenance of national autonomy and independence, for exchange-rate fluctuations would isolate domestic changes in prices within different economies, and they would allow domestic policies to be used freely and consistently with the country's internal equilibrium.

Williamson (1988) points out four social functions of exchange rate flexibility. A first function of floating exchange rates is that of reconciling inflation rates among countries.¹¹ A second one is that of facilitating payment adjustments in response, for instance, to permanent real shocks, by changing the incentives to export/import. Williamson's disagreement with McKinnon, "concerns his implicit theory of payments adjustment, which leads him to reject any role for exchange rate changes in facilitating that process" (op.cit.p.115). The third function associated with exchange rate flexibility is that it allows each economy to keep temporarily a differential between its domestic interest rate and the foreign rate. Thus, the country would be free to conduct its monetary policies. Finally, he argues that exchange rate flexibility permits the economy to absorb part of speculative pressures. "Instead of requiring that every change in speculative sentiment lead to a change in international reserves and/or interest rate, one can allow changes in the exchange rate to take some of the strain" (op.cit.p.116). However, as

⁸This sort of debate between conventional theorists and McKinnon, such as reminded by Krugman(1991), recaptures that between Keynes and Ohlin about transfers, where the latter stated that changes in relative prices were not necessary in order that capital transfers generate a corresponding trade surplus, and Keynes argued that a real depreciation of the currency of the country that made the transfer was necessary.

⁹As noted by Krugman (1991), to the left of this position there are the interventionists, who believe that "job creation should be pursued through microeconomic as well as macroeconomic means, for example through regional and industrial policies"(op.cit.p.24) and to right there are "the monetarists and their even more free-market-oriented successors" who "think that the government should be as *laissez-faire* about aggregate demand as it is about supply and demand in individual markets"(op.cit.p.24).

¹⁰We shall see later in the text that actual free fluctuations have not confirmed this conclusion.

¹¹His position is different from McKinnon's who, as Williamson (1988, p.115) explains: "will deny that there is any need to have differential inflation, except in countries with a fiscal requirement for the inflation tax, since we now know that the long-run Phillips curve is vertical and hence that faster inflation does not buy worthwhile output gains."

Davidson (1992-93) has argued "Williamson fails to provide any empirical evidence to demonstrate that these claimed advantages of flexible rates have been achieved in the real world" (op.cit. p.166).

The disadvantages attributed to floating exchange rates have to do with the fact that its critics do not agree with the assumption, implicit in its prescription, that the "exchange-rate market is fundamentally stable, in the sense that every disequilibrium is transmitted to the price and exchange-rate systems, which in turn react absorbing such disequilibrium" (Cartapanis, 1984, p. 54-5). The point is, as noticed by Cartapanis, "the belief in the ultimate efficiency of market mechanisms in an international scale", and "the acceptance of the assumption of the floating-exchange-rate endogenous stability, conceiving, therefore, that instability responds to exogenous causes" (op.cit. p.55).

Friedman (1953) supports this type of critique to the extent that, in his defence of exchange rate flexibility, he argues that administrative actions are rigid and discontinuous, whereas the automatic market forces eliminate disequilibria more quickly and efficiently.

Nonetheless, whatever the theoretical advantages and disadvantages already mentioned, the volatility of the exchange rates after 1973 contradicted Friedman's promise of stability. Furthermore, the difficulties faced by European countries, whose reserves were not at the desired levels, forcing governments to intervene, ended up by restricting the possibilities of national autonomy and independence preached by Johnson (1969). Therefore, exchange-rate volatility itself denied the prescription of a floating-exchange-rate system.¹²

The discussion about exchange-rate volatility comprises two types of arguments, namely, those regarding its diagnosis, and those regarding the conclusions about the most adequate exchange-rate regime.

The most liberal views do not interpret exchange-rate volatility as a negative phenomenon. In the first place, they raise doubts about the volatility itself, for the prices of goods and wages have been taken as reference. These are naturally more sticky, whereas exchange rates are auction prices that carry future expectations and are more unstable than the others, by definition (Krugman, 1991). Besides, they argue that even though exchange rates may be more unstable they have a developed futures market, which implies an ability to undertake greater foresight than in the goods and labour markets. Thus, it is better that volatility occurs in the exchange-rate market than in the goods and labour markets. This becomes a favourable argument for floating exchange rates and for the fact that exchange-rate markets are better arenas for adjustments. According to this argument, the maintenance of the Bretton Woods system of fixed rates would have created an even worse situation, for it would have transmitted inadequate signals within an atmosphere full of disturbances and structural changes embodied in the exchange-rate variations.

Finally, another type of argument is that the cost of exchange volatility is less than what it is believed to be, due to the observed displacement between exchange-rate movements and the real economy (Krugman, 1991). Such a phenomenon is known as 'hysteresis'.¹³

¹²Such problems that arise from floating exchange rates have another actual indicator: the widespread practice among different countries of a "dirty" floating, that is, market may determine the rate but it will face some sort of interference by the central banks. Even those who fiercely defend market efficiency in the establishment of the prices of commodities recognise that the exchange rate is too much of an important price to be left completely at the mercy of demand and supply forces. Indeed, in a floating-rate system, when an economy faces unemployment, the central bank is tempted to intervene, artificially devaluating the exchange rate in order to take advantages of more competitive conditions in international markets for its domestic commodities transactions. The desired result is an increase in exports with expansionary repercussions on product and employment. This is what the economic literature recognises as 'beggar-thy-neighbour' practices of competitive devaluations

¹³It is the effect according to which the real economy does not always react to exchange-rate movements such as the dominant theory would expect. For instance, if an exchange-rate movement brings about a change in

McKinnon (1988) does not agree with the assumption that futures markets effectively remove exchange-rate risk. According to him, exchange volatility causes volatile preferences between assets due to the uncertainty regarding the future purchasing power of the domestic currency. When exchange rates are floating, portfolio preferences become extremely sensitive to news (or gossip) regarding monetary and exchange-rate policies among countries, and their effects on exchange rates are significant. He also argues that monetary fluctuations enlarge real fluctuations in the case of exchange rate flexibility, whereas fixed rates allow real effects to be gradually absorbed without the instability of the floating rates. Furthermore, commodities futures markets are not complete and therefore they cannot protect investments on the production of goods and services that are traded world-wide from exchange-rate risks. Thus, exchange fluctuations that amplify risk inhibit investment.

Another interpretation of exchange-rate volatility is given by heterodox Post-Keynesian/regulationist authors such as Aglietta (1987), to whom the excess of international liquidity after 1971 is related to an "international-debt-economy" framework¹⁴ that causes the creation of an international medium of exchange independent from the US current account, and has to do with gold demonetisation. Those who have defended floating rates have believed that markets would adjust the system through financial arbitrage, substituting with advantage the earlier utilisation of monetary rules. According to Aglietta (op.cit), the "international-debt-economy" crisis does not become explicit through generalised liquidity preference towards gold, such as earlier, but through an over-indebtedness process and recurrent crises in exchange-rate relations. Thus, an increase in international liquidity, with an excess of credit, for example, has forced Germany to absorb dollars in order to avoid an appreciation of the mark that could be harmful to its domestic aims and, by doing so, it has caused domestic inflation. Analysing this kind of adjustment Aglietta (1987) has stated that "the monetary adjustments were subjected to credit expansion, and not to monetary rules disciplining credit" and has denied the efficiency of adjustments through floating exchange rates. On the contrary, Aglietta (1986a) interprets the floating-exchange-rate regime with capital mobility as an "explosive mixture", for international monetary relations propagate shocks very quickly and these shocks may be enlarged by expectations. According to his perception great fluctuations come from liquidity preference in a floating-exchange-rate and capital-mobility framework. Liquidity comes from confidence, and that is a collective judgement made unanimously or by the majority of economic agents. "Such as every judgement of the public opinion, the trust in a particular kind of international liquidity is eminently versatile if it is not anchored on commonly accepted rules and if it is not guaranteed by a credible monetary authority" (op.cit.p.21). Thus, "exchange-rate instability reflects the liquidity-preference instability due to the lack of rules and warranties in the relations among international currencies". Moreover, "liquidity preference becomes unstable as regards the total amount demanded and the kind of desired assets" (op.cit. p.21).

Floating exchange rate inefficiency to solve imbalances, according to the heterodox criticism, has to do firstly, with major deficiencies of the basic-model accepted to a greater or less extent by the theorists already analysed here. This model does not take into account the differences between macroeconomic environments, they claim. Secondly, under the centralisation of monetary dynamics, and the co-ordination of macroeconomic policies, considered by them as fundamental, is not possible to establish when the economy works under the rule of market automatism. This is what will be analysed in the next topic, when dealing with heterodox conceptions.

the real economy the reversal of the exchange effect does not imply the reversal of the real effects, because it implies high costs. Thus, exchange volatility would have harmed the economy less than it was expected to do.

¹⁴The terminology "debt economy" has been used by French authors in general (Lacoue-Labarthe, 1980) to express the conception of economics whose process of accumulation is financed moreover by bank credit, instead of financial markets. When talking about "international debt economy" it is being highlighted the importance of foreign debt in financing the process of accumulation.

II.3 Heterodox views: denying market automatism and the conception of a homogeneous economic space

The third group - the heterodox group - comprises the critics of the orthodox and conventional mainstream theorists since they disagree with their basic-model and/or the way money is viewed. For heterodoxy, as is well known, money is never neutral, either in the short run or in the long run; expectations are formed under uncertainty; and time should be understood as historical rather than logical.¹⁵ Such disagreements make heterodoxy reject the idea that exchange-rate movements are equilibrating, and that there is, in fact, an actual equilibrium rate.

In this group we have placed, for example, the structuralists, to whom exchange-rate variations adjust the balance of payments only at a very high social cost. Therefore, they consider as a more desirable proposal the use of adjustment instruments such as industrial policy, and even protectionist practices.¹⁶ They highlight that adjustment process problems have roots in the malfunctioning of market mechanisms due to: institutional rigidities; sticky wages; sticky pattern of exports and imports; and even the existence of qualitative differentiation between products that is not taken into account by the basic-model, and lead to lack of competitiveness, even when there are exchange rate variations.

The analysis of the structuralists assumes that the Mundell-Fleming model is centred, fundamentally, in the process of adjustment for itself, in disregard of the macroeconomic context in which the adjustment occurs. In that case, not contemplating the different countries specificities, the adjustments may not work as prescribed by the dominant theory, or it might even work but at a very high social cost, given the internal problems faced by the countries involved.

A neo-structuralist argument, introduced in the 1980s to reject the efficiency of exchange variations as an adjustment mechanism, focuses on a kind of price stickiness - in foreign currency - that arises from the fact that exporting firms are, most of the time, organised as oligopolies. In accordance with this argument, the strategies of firms operating under imperfect competition, and facing uncertainty regarding future exchange rates, is to ensure the maintenance of their prices in foreign currency when the exchange rate is depreciated. They do so in order to guarantee a higher profit margin, thereby frustrating the normal course of the adjustment described by the conventional model. This sort of behaviour, known as 'pricing for market', has a possible theoretical basis on Dornbusch's (1987) work, and some empirical evidence can be associated with Martson's (1989) research. These works also develop the concept of 'hysteresis', according to which the relationship between exchange-rate movements and the real economy does not occur in the way described by the conventional model, presenting some displacement. For instance, when an exchange variation drives firms overseas, this process is not reversible even if the exchange rate should reverse its movement, for it implies reversible costs¹⁷ and, besides, entrepreneurs facing uncertainty would rather adopt a 'wait-and-see' type of behaviour, in the presence of significant exchange rate fluctuations.

¹⁵ This difference in method is particularly emphasised by the Post Keynesians who also argue that any analysis involving only some of these factors is logically incomplete given the interdependence among them.

¹⁶See, for instance, Kuttner (1991), quoted by Krugman (1991).

¹⁷Baldwin and Krugman (1989), have introduced this idea as an assumption to explain the persistence of foreign disequilibria in spite of exchange fluctuations.

This sort of argument seems to embody a Post Keynesian element, for it highlights the uncertainty of future rates in the 'pricing-for-market' behaviour, and that of great exchange fluctuations in the 'wait-and-see' strategy that justifies the phenomenon of 'hysteresis'.¹⁸

The Post Keynesian approach, whilst focusing on the role of uncertainty that permeates the economy, and on that of money (non-neutral) and its real effects upon production, tends to prescribe fixed exchange rates, but the basis of the fix certainly differs. Their arguments, for instance, differ from McKinnon's, for it allows adjustments in order to "reflect permanent increases in efficiency wages"¹⁹ (Davidson, 1992-93, p.161), or to adjust economies with persistent foreign deficits, gradually and less painfully.

Davidson (1985), in a stimulating article entitled "Propositions concerning liquidity for a new Bretton-Woods" analytically explores the need to guarantee enough liquidity to restructure demand and foster economic growth. Thus, he preaches the need among governments, and especially central banks, to supply an effective structure of last-resort lenders.

In his article, Davidson supports the creation of an Unionized Monetary System (UMS), defined either as a system of one currency or of different ones with a fixed rate established among them. According to him, this system should accomplish three objectives, namely: minimise uncertainty; avoid liquidity restrictions in the use of resources by the means of an International Money Clearing Unit (IMCU) - the unit of account and ultimate reserve asset for international liquidity, to be held only by central banks, not by the public; and supply an expansionary trend to solve payment problems.

Concerning the reduction of uncertainty, it would come from one less uncertainty, the one regarding the unforeseeability of the exchange rate. As for liquidity availability, it has to do with the fact that the Post Keynesians emphasise Keynes' idea that in a framework of unemployment, economic activity is limited by liquidity restrictions and by lack of aggressivity of economic policy, and not by income. Therefore, every single mechanism that makes international monetary flows easier, fosters production and trade, and assures both the quantity and adequate distribution of an asset that better performs the money function of being a store of value, is welcome.

According to Davidson's (1992-93) formal proposal for a new international payments system, an UMS allows a better interrelation between regional or national monetary systems. As he argues: "in an interdependent world economy, some degree of economic co-operation among trading partners is necessary" to foster expansionist pressure in world trade and development, (op.cit.p.157). Nevertheless, he recognizes that "at this stage of the evolution of world politics, however, a global UMS with a supranational central bank is not feasible" (op.cit.p.157-58).

It is interesting to notice that Davidson's arguments enforce the importance of broadening liquidity for growth, making use of the non-neutrality of money assumption. Aglietta, however, Post Keynesian and regulationist oriented, explores such non-neutrality from the perspective of liquidity preference, arguing that it may cause problems and lead to crises, as we saw when analysing the difficulties created by the flexibility of the exchange rate in an international scenario of high capital mobility. Besides, in accordance with Aglietta's view, the interaction among countries causes disturbances in international relations, where adjustment costs could be very high. Such costs, or 'externalities', are not absorbed by automatic adjustments. They have to do with the interdependence among countries that could be solved

¹⁸ The New Keynesian (Cross, 1993) suggestion that the conceptualization of 'hysteresis' is relevant to the Post Keynesian understanding of economic processes have been subjected to a lot of criticism. We will not go into this controversy but we suggest the readers to consult specialised articles such as the one written by Davidson (1993).

¹⁹Efficiency wage is defined as the money wage divided by the average product of labor." It is the unit labor cost modified by the profit markup in domestic money" (Davidson, 1992-93, p.161, footnote 14).

or attenuated only through explicit co-ordination by rules which countries agree to impose on themselves and which define, within the strategic intervention fields, the subsets of completely compatible decisions. Thus, Aglietta (1986a) calls international money "every way of organising national reserves that fulfils this centralisation.... such that market uncertainty is diminished, and the interaction costs among countries are reduced" (op.cit. p.17).

According to Aglietta (1986a), the conventional theory advocated floating exchange rates, stating that it would guarantee continuous adjustments of the balance of payments and give independence to reach domestic aims through domestic means. Thus, on one hand, it has been argued that an international money is needless, and on the other hand it has been abandoned because of the preoccupation of central banks with the accumulation of foreign reserves. Besides, capital mobility has worked to a great extent as private money creation, without distinguishing financing from adjustment of disequilibria, and without control by monetary authorities - for they no longer need to manage reserves. This sort of process has created problems that go beyond the discussion about which exchange regime is best, and that requires the analysis of another fundamental issue intrinsically related to the previous one: why monetary rules may be needed. The reason why it is necessary to attempt to control money through co-ordinated rules among countries lies in the fact that money is active and not neutral.

Following this sort of argument, the macroeconomic disequilibria faced by European countries during the 1980s suggest that only the instability of international monetary relations - due to lack of monetary rules - explains the magnitude of those problems, and the degree of the observed generalised degradation of the economic atmosphere, even though structural weaknesses, and perspectives mistakes (real factors) have caused problems to many sectors of the economy.

Thus, while Davidson suggests a centralisation of monetary dynamics through an offsetting international system, in order to guarantee growth, Aglietta calls attention to the problems caused by lack of such centralisation with fluctuations and free capital flows leading either to excess indebtedness or to the consequent lack of credibility and instability of the liquidity preference among many currencies.²⁰

Authors such as Aglietta, De Bernis, Cartapanis and others connected to the CEPII (Centre d'Etudes Prospectives et d'Informations Internationales) have an economic conception very different from the orthodox and the conventional approaches previously discussed.

Opposing the orthodox homogeneity of the space of trade, the economic world of such theorists is that of competition, of conflicts among currencies and national policies, where the exchange rate is not a variable of adjustment, but it is part of the policies and part of private financial behaviour, that affects all national economies. The market system is, according to them, not able to deal with these problems. Thus, according to Cartapanis (1984), "the instability of the floating exchange rates presents itself more as an exchange sanction of an intrinsically unstable economic reality, in the sense that national differences seem not to be absorbed by world market mechanisms or by monetary automatism" (op.cit. p.22). The idea is to understand the conflicting relations among nations hierarchically structured, and analyse such conflicts expressing themselves by the means of exchange rate instability, instead of conceiving the economic system as homogeneous or able to become homogeneous due to the impulse of relative prices.²¹

De Bernis and Bye (1987) also do not believe in the supposed regulating virtues of flexible rates. They see international relations as relations among differentiated productive systems,

²⁰The idea is that in the absence of one only international currency accepted by the set of countries, or when this acceptance is shared among many currencies (mark, yen, dollar) it is observed a problematic rivalry among them (Aglietta, 1987), that partially explains exchange-rate volatility.

²¹The difference between Cartapanis' heterodox ideas and Friedman's have to do not with the existence of real effects upon the exchange-rate movements, but with the pertinence of price mechanisms to regulate problems caused by national differences or to neutralise them in an international scope.

articulated through dominating relations. They also assign high fluctuations in floating rates to the crisis caused by the way regulation occurs. This showed up in the 1970s and 1980s through generalised inflation, structural distortions in the balance of payments, and generalised financing problems.

The heterodox position, while recognising differences and peculiarities among countries, considers a fixed rate as adequate because "it obliges more coherence" (De Bernis and Bye, 1987, p.388) or because the demand of the private agents for reserves does not need to go beyond what is necessary for transactions (Aglietta, 1986b), when exchange rates are fixed and the "superior type of liquidity"²² is identified. Thus, the centralisation of reserves in the Central Bank reduces the need for them in the aggregate and releases liquidity for growth. Yet, they allow the rate to be realigned ('adjustable peg'), in order to accommodate some specific problems (Davidson, 1992-93) and outcomes from agreements and co-ordination among countries. Such agreements and co-ordination are fundamental (Aglietta, 1986a, b and c) to their prescription of an exchange regime that is placed in-between the other two extremes. Furthermore, these authors do not believe that the exchange regime, by itself, protects countries from disturbances generated abroad.

The problems caused by exchange-rate volatility post-1973 also stimulated the formulation of intermediate proposals by conventional theorists such as Dornbusch (1988), who suggests controls over capital flows, and Williamson (1987 and 1988), who suggests the adoption of target-zone arrangements, upon which we will comment in the following section, in order to contrast this regime with the proposal of adjustable exchange rates ('adjusted peg') advocated by heterodox authors.

II.4 Exchange-Rate Bands: intermediate suggestion of the conventional view

The target-zone arrangement is a system in which the exchange rate can move 'freely' within the edges of the zone or bands - a lower and an upper limit - established explicitly or implicitly by the monetary authorities. The fixed reference target (the FEER - Fundamental Equilibrium Exchange Rate) around which the exchange rate fluctuates is theoretically estimated upon some parity that is supposed to guarantee the internal and external balance of the economy. In order to reconcile this proposition with his defence of flexible exchange rates, Williamson (1987, p.203) argues that the wider the bands around the fixed FEER the more advantages the country can take of the 'social functions' of exchange rate flexibility, in a context of fixed exchange rates.

The basic idea of these models is strikingly simple, although the mathematics is not. When the bands are credible, and rational expectations prevail the movements of the exchange rate once determined by the fundamental variables, will not go beyond the limits of the band, given the expectations that governments, through their monetary authorities are committed to intervene, and will successfully defend such limits.

The imposition of bands is frequently regarded as convenient (Frenkel and Goldstein, 1986), for it works as an anchor for exchange-rate expectations in the medium run, plays a stabilising role and avoids the volatility that characterises exchange-rate movements when they are left to float freely. Furthermore, the bands could allow the establishment of discipline and co-ordination among macroeconomic policies, preventing misalignment of currencies, and creating conditions favourable to sustained growth. In this regard, for instance, it is argued that they could facilitate a more effective control by institutions such as the International Monetary Fund (IMF), acting towards the alignment of the currencies, and reducing the

²² Aglietta (1986a) calls *superior type of liquidity* the international money. When it does not compete with others, its *status* is well identified. It is not the case currently, with the observed competition amongst the dollar, the mark and the yen, for example.

asymmetries of adjustment processes. Finally, the bands, when credible, could permit economies to escape from the effects of high capital mobility, the huge amounts of inflow and outflow of speculative capital, and the sudden changes of interest rates, which contributed to the collapse of the Bretton Woods system, for they allow the accomplishment of political agreements and intervention policies in the exchange-rate market.

Williamson (1988) argues in favour of the possibility of reconciling different inflation rates through a target-zone system; the ease of the adjustment made possible by realignments of the real band limits in response to permanent shocks; and the possibility of a countercyclical monetary policy and of absorbing speculative shocks, depending on the width of the bands range.

Therefore the bands system is conveniently placed in-between the fixed system and the floating one, avoiding not only the volatility of the latter, that characterised the period after 1973, but also the stickiness of the former, that causes problems to the government, subjecting the country's currency to speculative attacks whenever the maintenance of the fixed exchange rate parity becomes difficult. Besides, the band system partially reaffirms the role of monetary policy that is impossible in a fixed-exchange-rate framework.

Most orthodox critics of the bands system²³ argue that if they play the role of a nominal anchor, this could be done by maintaining floating rates, and by announcing a monetary policy that is consistent with the movements of these rates. To those liberal critics, the idea that the announcement of the bands works better as a signal than that of monetary policy is controversial, because it supposes that the government, in fixing the bands, has superior information which is a dubious contention as far as they are concerned.

The realignment of the bands is, on the other hand, seen as problematic, for it can lead to lack of credibility. The need to realign the bands, according to such critics, can hardly be avoided, since real economies change, and it is difficult, if not impossible, to establish equilibrium exchange rates. Finally, if the bands are kept fixed, while there are macroeconomic changes, then there will occur additional distortions in the form of speculative capital flows.

Concerning capital flows, the critics of the band system argue that those flows are becoming larger, and thereby able to cause frequent and discontinuous changes in the bands, what may lead to their collapse.

As for the discipline and co-ordination provided by the band system, the critics argument is that they are made unrealistic by the priority given by governments to domestic goals over foreign ones; they also show that they may be destabilising whenever the maintenance of the band prevents the achievement of domestic macroeconomic objectives. Moreover, they state that the bands account for monetary-policies divergences but does not create consistency. Such consistency requires negotiations which are often tough and contentious between the parties owing to different growth objectives, distribution targets and other domestic goals. All that without the market being able to unravel the conflicts, for it could actually lead to an offsetting and protectionist kind of behaviour that offsets the freedom within the bands.

As for IMF approval, mentioned as one of the bands advantage, this is not guaranteed by the bands because the Fund uses indicators other than exchange rates. Besides, control over the bands takes place through monetary policy and not through a mixture of fiscal and monetary policy. This constraint could further hinder the attainment of domestic

²³ See Frenkel and Goldstein (1986).

macroeconomic goals. Also, it is not clear who should be paying for the costs of the adjustments within the bands, and to what extent one should be doing it.

A more heterodox critique has to do with the assumptions underlying the management and the establishment of the bands. Target zones embody the idea of an internal equilibrium linked to a certain unemployment level - the Nonaccelerating Inflation Rate of Unemployment (NAIRU). Davidson (1992-93) has pointed out that "in defining the target for internal equilibrium in terms of a NAIRU concept, Williamson introduces the exception that prevents the facilitating payments social function from being operative" (op.cit.p.167).

Indeed, to Williamson (1992-93) the fundamental equilibrium exchange rate (FEER) and the growth rate of nominal demand are intermediate goals to achieve external and internal equilibria. As a matter of fact, as it is observed by Davidson :

Williamson's analysis also assumes the neutrality of money when he indicates that his basic argument is that a nominal rule (in a closed economy) fulfills the same function as a money supply rule. By targeting nominal growth in domestic income (in a closed system) or nominal domestic demand (in an open system), Williamson is presuming that the authorities can always control inflation without altering the long-run NAIRU. [Davidson, 1992-93, pp. 168-169]

The point is the assumption of long-run money neutrality. It is so because, if money is not neutral, its effects on production, increasing it, would not allow prices to rise proportionately, such as it is predicted by the QTM. Thus, the effects on employment could be permanent, without necessarily being subject to the "magic NAIRU" (Davidson 1992-93, p.167).

The determination of the NAIRU, and of rules to guarantee internal and external equilibria, suppose an economic model whereby it is possible to draw an *a priori* medium and long-run attraction point, the equilibrium point.

Post Keynesians such as Davidson, and the heterodox theorists, in general, do not accept that it is possible to determine any *a priori* equilibrium point, even in the long run, because the equilibrium point itself tends to change according to changes in the general conditions of the economy. Thus, they raise doubts about the rule of determination and management of the reference exchange rate, and about the growth rate of the nominal product, according to that criterion. As a matter of fact, it is well known that a general equilibrium framework, which is the logical outcome of a Cartesian-Euclidean approach to economics cannot incorporate the principal ingredients of Post Keynesians analysis: non-neutrality of money, the existence of uncertainty and historical time. Therefore, their criticism goes beyond the criterion about the determination of the bands and their reference rate. "Accordingly, if the actions of the authority to 'adjust' targets create, *inter alia*, continuing changes, then there need not exist any simultaneous internal and external equilibrium toward which the economy can converge" (Davidson, 1992-93, p.171). Then expectations also do not have this anchorage point, being thereby permeated with uncertainty. Thus, they could be not stabilising, what threatens the feasibility of the bands.

In the absence of the guarantee of the stabilising aspects of expectations, the Post Keynesians and most heterodox economists prefer greater discretionary government control, which would be closer to the day to day running of the economy, reinforcing their lack of trust in self-regulating private markets.

III. Concluding Remarks

Having reviewed the main disagreements between theorists' different prescriptions about exchange-rate regimes, what lessons have we learned? It seems we must conclude that all extreme forms of exchange-rate arrangements are problematic, since the 'automatic

mechanisms' they embody prevent countries from concentrating on their domestic needs. Therefore, an intermediate proposal of targeting the real exchange rate sounds more feasible.

The differences between the two intermediate positions discussed in the article - target zones and managed exchange rates - reflect theorists' beliefs regarding the automatic self-regulating properties of private economies, and how much discretion should be allowed to governments in dealing with the economic decision making process. This is also the point behind the debate between the automatism of fixed rules (fixed exchange rates) on one hand, and the discretionary properties embodied in a system of managed exchange rates, on the other. If this is the case, our concluding remarks, from the point of view of developing countries, tend to favour discretion rather than rigid rules.

Two points are relevant when the rules vs. discretion debate is revisited in the context of this present topic. The first, is the orthodox nature of rigid rules, and the credibility problem associated with their implementation. The second, is the inconvenience and unsustainability of sticking to rigid rules, and forcing the monetary authorities to relinquish any degree of discretionary power.

The dominant literature advocates the superiority of rules. Policy rules proponents view the private economy as inherently self-correcting, and are pessimistic about the feasibility of stabilising the economy through government policy intervention, because they consider that any sort of government intervention is inherently inefficient.

We belong to the group of economists that look at this view with skepticism. That is the reason why we are led to review some theoretical aspects of the orthodox position, and the way the rules are sometimes relaxed within their own arguments, before reaching our final conclusion.

The discussion of rules vs. discretion revolves around, primarily, the credibility of different governments. The argument that appears frequently is that in the absence of a credible commitment mechanism binding policy actions over time, governments are led, in pursuit of stabilisation policies, to produce inflationary outcomes. Commitment to a fixed rule would, therefore, be one way of trying to achieve time consistency. The general proposition is that credibility affects the behaviour of private decision makers, leading them to lower inflationary expectations, and permitting the market to perform better, and thus leading the economy towards a sustainable equilibrium growth path. The credibility issue arises when the rules change over time. According to King (1995, p.2) "in the context of monetary policy credibility has a precise meaning. A monetary strategy - a plan of future policy actions contingent upon events - is credible if the public believes that the government will actually carry out its plans. Credibility is, therefore, a question of whether announced intentions are believable.... A future monetary policy action is credible if it is in the interest of the monetary authorities to enact this policy when the time comes. Hence policy is credible when the authorities' actions are, as economists put it, 'time consistent', that is the authorities have no incentive to deviate from their original intentions".

The orthodox monetarist background of the advocates of monetary rules can be clearly identified. For monetarists, the stock of money can be controlled by the monetary authorities, and money does not have real effects (at least in the long run) on real economic variables. Price rises occur when governments do not control money issuance. Inflation is, therefore, a phenomenon due to the lack of governments' willingness to control monetary aggregates. But if they pursue constantly this irresponsible strategy, they will lack credibility in the future.

It is the association of government's behaviour with inflation outcomes that leads to the prescription of rules such as the return to a specie standard or to a system in which the issuance of domestic money becomes tied to the amount of an outside asset such as the US dollar or the German mark (nominal anchors), at a fixed exchange rate. In its extreme version we have the return of currency-board arrangements that were widely used in former British colonies.

But by their own admission, orthodox and conventional theorists have failed to explain exchange rate determination. First, they have come to admit that rules must be contingent in order to avoid time-consistency problems. As King argues:

One way of trying to achieve time consistency is to precommit to a fixed rule - for example, set interest rate so that some measure of money supply grows at a constant rate each year. The problem is that such rules are sub-optimal: from time to time shocks occur which mean that the optimal growth rate of money supply changes. When shocks are sufficiently frequent and large, as they have been in most countries, the rule becomes discredited and is, literally, incredible. No rule for monetary policy has been discovered which could credibly be followed. It is inevitable, therefore, that as Henry Simons argued in 1936, monetary policy 'must rely on a large element of discretion'. [King, 1995, p.2].

Second, orthodox and conventional economists generally model exchange market participants' expectations as if they had no effect on currency prices. In other words, the 'fundamentals' are assumed to determine rates. However they have been not able to support this view. The fact that real-world exchange market expectations may show no strong correlation with a set of fundamental determinants has been recognised by Dornbusch's comments on Bordo's (1993) paper, for example, when he argues:

a central determination of the direction of capital flows is the interest differential adjusted for exchange rate expectations. Unfortunately, those expectations have no tight link to reality...Of course, if expectations that are out of touch with market fundamentals come to dominate the level of rates, economists and policy makers alike face a conundrum. We can no longer say that markets know best (op.cit.p.103).

What we are trying to argue is that within the dominant orthodox/mainstream analysis arguments have been presented by their own advocates in favour of greater discretion. The first, relates to the fact that monetary rules may not work since real economies are subject to changes and the rules over time might become inadequate. The second, questions the private market efficiency and the stability of expectations.

Therefore, the defence of limited discretionary policies, that enable central banks to pursue monetary and fiscal policies, according to the needs of their economies is an inevitable outcome.

In conclusion, if the method of analysis is built on the ideas that money is not neutral, expectations form under uncertainty, and using historical rather than logical time - factors that are strongly interdependent as has been discussed by the heterodoxy (Post Keynesian theorists specifically) - we have to preclude the use of general equilibrium targets and rules as adequate policies to meet unexpected changes. In other words, we can never relinquish some degree of discretion. The essence of historical time is that it generates structural changes which invalidate the use of ironclad rules.

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