

# **MONEY AND EXCHANGE-RATE REGIMES: THEORETICAL CONTROVERSIES\***

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**ABSTRACT** It is common to suggest that alternative exchange-rate regimes are not related to different theoretical views about the workings of the economic system or to different schools of economic thought. This paper, however, emphasizes the relationship between alternative exchange-rate regimes and the different conceptions of money and of the role of the market as an economic regulator. When an exchange-rate regime is selected decision makers expect to achieve macroeconomic goals such as stimulating real economic growth and attaining long-run price stability. But these results stem from divergent theoretical understandings of money and its effects on the real economy — the neutrality or non-neutrality of money — and from the acceptance or rejection of the classical ergodic axiom of efficient market

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theory. Hence, we support the argument that underlying the choice of an exchange-rate regime there are different theoretical views. The aim of this paper, therefore, is to examine the main disagreements between the different prescriptions about exchange-rate regimes using as background the articulations between exchange-rate prescriptions and the monetary conceptions of different theorists. Exchange-rate regimes come in three varieties: pegged (fixed, but adjustable), floating, and fixed.

**Key words:** money, exchange-rate regimes, monetary theories

### **MOEDA E REGIMES CAMBIAIS: CONTROVÉRSIAS TEÓRICAS**

**RESUMO** Em geral se afirma que os regimes de câmbio alternativos não têm relação com as diferentes correntes teóricas do pensamento econômico. Este trabalho chama atenção, porém, para o fato de que a defesa de um determinado regime de câmbio não é independente das diferentes concepções de moeda, nem das diversas opiniões sobre o papel do mercado como regulador econômico. Quando um regime de câmbio é escolhido, espera-se dele alguns resultados macroeconômicos, como, por exemplo, crescimento garantido, ou estabilidade de preços. Estes resultados dependem de pressupostos sobre a neutralidade ou não neutralidade da moeda, e sobre a eficiência ou não do mercado como regulador econômico. O artigo examina então os desacordos entre os defensores das diferentes prescrições cambiais, articulando tais desacordos com as argumentações relativas aos efeitos da moeda sobre a economia. São analisados três tipos de câmbio: o fixo, o flutuante e o administrado.

**Palavras-chave:** moeda, regimes de câmbio, teorias monetárias

## 1. INTRODUCTION

During the recent period there has been an increasing interest in understanding the relationship between exchange-rate regimes and countries' macroeconomic performance. It is commonly suggested that alternative exchange-rate regimes are neither related to different theoretical views about the workings of the economic system nor to different schools of economic thought. This paper, however, emphasizes the relationship between alternative exchange-rate regimes and the different conceptions of money and of the market's role as an economic regulator. When an exchange-rate regime is selected decision makers expect to achieve macroeconomic goals such as stimulating real economic growth and attaining long-run price stability, for instance. But these results, as we will argue along the paper, stem from divergent theoretical understandings of money and its effects on the real economy — the neutrality or non-neutrality of money — and from the acceptance or rejection of the classical ergodic axiom of efficient market theory. Hence, we support the argument that underlying the choice of an exchange-rate regime there are different theoretical views.

The aim of this paper, therefore, is not to analyse exchange-rate behaviour,<sup>1</sup> but to examine the main disagreements between the different prescriptions about exchange-rate regimes using as a background the articulations between exchange-rate prescriptions and the monetary conceptions of different theorists.<sup>2</sup> Exchange-rate regimes come in three varieties: pegged (fixed, but adjustable), floating, and fixed.

In order to conduct our study, we first undertake a bibliographic review centred on the theoretical arguments presented by the advocates and critics of each type of regime, and once their differences are understood, we attempt an explanation of where we stand (and for what reasons) as far as the debate is concerned.

Since exchange-rate prescriptions are largely implied by the wider theoretical views of authors, we shall set out the main features of the monetary conceptions that support the arguments of each group. The contrast between those offering exchange-rate prescriptions and those offering monetary control remedies allows us to classify the different authors in a meaningful way. The taxonomy to be adopted while conducting the analysis has a

didactic purpose as well: to highlight the main principles underlying economists' disagreements in exchange-rate matters.

The paper is structured as follows: in section 1 we introduce our topic; in section 2 we compare the views on exchange-rate issues of those we classify as short-run neutral, long-run neutral, and as non-neutral. Then, also in section 2, subsection 2.4, we discuss one of the most popular types of exchange-rate arrangements among emerging economies in the recent period, namely the fixing of target zones or bands. Finally, in section 3, our general conclusions are presented.

## **2. A COMPARISON OF SHORT-RUN NEUTRAL, LONG-RUN NEUTRAL, AND NON-NEUTRAL VIEWS CONCERNING EXCHANGE-RATE ISSUES**

Theories of money in economics are very different. This is particularly so when they deal with the ways economists perceive the effects of money on the real economy. First we distinguish theorists who see money as neutral in both the short run and the long run. These people support the idea that money has no permanent effects upon real economic variables and that the natural outcome of a monetary expansion is a rise in the price level. This argument underlies the traditional Quantity Theory of Money ( $MV = Py$ ) in its strongest version. We call this approach the "short-run neutral view". Secondly, the "long-run neutral view" will be associated with analysts who adopt an intermediate position — its advocates recognise the effects of money on the real economy, but only in the short run, and attribute these temporary impacts to market failures, imperfect information, and price rigidities. These effects are, however, reversed in the long run and do not persist. Therefore, in the long run, these theorists also accept the QTM, and the analytical framework of long-run money neutrality. Finally, we identify as "non-neutral" those theorists to whom money has lasting real effects upon economies, hence money is never neutral, either in the long run or in the short run. These theorists reject the QTM under the perception that expansions of the money stock may permanently affect real production without necessarily causing increases in the price level.

To the different conclusions about money neutrality correspond differences in the three positions regarding their attitudes towards beliefs on the

self-regulating capacities of private markets. As is well known, this question is placed under discussion by “Say’s Law of Markets”, the principle accepted by those who see money as neutral and markets as self-regulating, but neglected by others. The view on whether markets know better than governments is related to the conception of money being adopted, and is also embodied in the arguments behind different proposals for exchange-rate arrangements.<sup>3</sup>

Theorists who see money as neutral in the short run argue that equilibrium economic conditions are determined by real factors (factor availability, technology, preferences, etc.) no matter what the supply of money might be since monetary variables only affect prices. These theorists believe that the money supply can be and is controlled by monetary authorities. Therefore, monetary authorities are considered responsible for inflation for allowing a quantity of money inconsistent with price stability. Thus, the “short-run neutral view” attaches priority to price stability because money is considered neutral, and prescribes fixed monetary rules to avoid any discretionary action by monetary authorities. This view is consistent with a fixed exchange-rate prescription which implies that the supply of money is independent from monetary authorities, who are considered responsible for inflation.

As a representative of those who take this line, the main emphasis in our discussion will be placed on McKinnon’s (1988) thesis of fixed-exchange-rate arrangements. We shall also examine the New Classical approach to exchange-rate questions. Although in the past this approach has tended to adopt a variety of views, its more recent advocates have given support to McKinnon’s arguments on using the exchange rate as a nominal anchor and on his views on the rules vs. discretion debate.

Theorists classified as supporters of the “long-run neutral view” (Dornbush, 1976; Krugman, 1990, 1991, 1992, and Williamson, 1988, 1992-1993) believe that monetary impulses affect the real economy in the short run, by changing relative prices and temporarily hindering the work of market adjustment. These economists recognise the rigidity of some prices and are also aware that the use of information may not be perfect and may lead to market failures in the short run. Therefore, some discretionary action by the state is admitted, in the short run, while these difficulties per-

sist. However, they do not doubt that the price mechanism is the most efficient means of resource allocation. It is the belief in the ultimately benign nature of the price mechanism, regardless of temporary imperfections and rigidities, that induce the “long-run neutral view” proponents to prescribe floating exchange rates. The reason, as will be seen later on, lies in the belief that movements in the exchange rate compensate for rigidities that characterise other markets.

Finally, to the adherents of the non-neutral approach (Aglietta, 1986 a, b, c, and 1987; Davidson, 1992-1993; Cartapanis, 1984; De Bernis and Byé, 1987; Guttman, 1994; Kuttner, 1991) money is never neutral, either in the short run or the long run; expectations are formed under uncertainty; and time should be understood as historical rather than logical. It is the acceptance of the principle of non-neutral money that permits these theorists to abandon “Say’s Law of Markets” (which embraces the notion that since injections into and leakages from the circular flow of income are always equal there is no need for permanent governmental intervention in the functioning of the macroeconomy). In rejecting Say’s Law, theorists are suggesting that exchange rates are not brought about by equilibrium-determined factors and therefore they advocate a measure of government activism in exchange-rate matters. The chief prescription offered is of pegged (fixed but adjustable) exchange rates to be used as a discretionary policy tool. The main economic policy goal, to these theorists, is sustainable growth and maximum employment. In the short run, the economy should be adjusted with “fine-tuning” policy decisions in order to smooth economic fluctuations, to achieve full employment and/or to reduce the social costs of these fluctuations. Above all, for this group of theorists, it is palpably clear that “unemployment beyond what can be explained by friction or search exists and may persist for long periods of time” (Chick, 1995, p. 24). In other words, the non-neutral view denies that a completely unregulated free market performs in a non-problematic way. In the face of this, the non-neutral view advocates discretionary economic policy in general, and discretionary monetary and exchange-rate policy in particular. The foundational intuition behind this recommendation is the idea that the economic system is engaged in a process through actual, irreversible, historical time, and that theory and policy prescriptions should capture this fact. Consequently,

discretion is welcome due to the fact that the future is unknown and cannot be trusted to “blind” market mechanisms. In these circumstances, government interventions diminish the uncertainty related to decentralised decisions, lessen the effects of uncertainty upon private investment decisions, and reduce the social costs provoked by economic instability. It is also held, of course, that “nominal” causes can and do have permanent “real” effects on the performance of economies. Therefore, the main government priority — economic growth — should be pursued by using (amongst other things) discretionary monetary and exchange-rate policies.

Consistent with the main ideas outlined above, the adherents of non-neutrality attach different priorities to the operation of monetary systems. These priorities are reflected in a distinctive prescription for exchange-rate arrangements. Those who consider money to be largely neutral attach a high priority to the efficiency of market allocation and to controlling the price level.<sup>4</sup> In sharp contrast, the non-neutral approach focuses on the goal of economic growth and on ways to remove obstacles (such as macro-economic instability) that stand in the path of its achievement. The latter theorists strongly disagree with the adage that “markets always know best” and support discretion in government policy-making behaviour.

It is interesting to notice that various technical devices have been employed to introduce long-run real effects of monetary shocks into contemporary mainstream models (Obstfeld and Rogoff, 1996). These analyses, however, come from a different conceptual framework that recognises risk instead of uncertainty and in which the market is considered to be a better regulatory device than government. This explains why they prescribe rules instead of discretion, despite the alleged non-neutrality of money in the long run (Neumeyer, 1998).<sup>5</sup>

### **2.1 The “short-run neutral view” and the fixed-exchange-rate prescription: a contradiction?**

#### *Theoretical arguments*

Theorists who see money as neutral in the short run argue that equilibrium conditions are determined by real factors and money only affects prices. Furthermore, since markets always know better than governments, market-

determined exchange-rates (floating exchange rates) should be the natural way to avoid misalignments. This was the dominant view among mainstream economists in the 1970's, persuaded as they were, according to Frankel (1996, p. 153), by Milton Friedman's (1953) earlier defence of the benefits of floating exchange rates. In his famous article, Friedman (1953) in his advocacy of floating exchange rates placed emphasis on the argument of greater stability; he argued that way inasmuch as "speculators would be stabilizing rather than destabilizing, because any who increased the magnitude of exchange-rate fluctuations could only do so by buying high and selling low, which is a recipe for going out of business" (Frankel, 1996, p. 153).

However, economists such as McKinnon, who is an adherent of the group we classify as "short-run neutrals", represent an interesting exception to the rule. McKinnon's (1988, p. 95) advocacy that exchange rates should be fixed has led to a stimulating debate. He believes that exchange-rate devaluation can improve a country's net trade balance only temporarily. According to his perception, an exchange-rate devaluation, while leading to a balance of payments (BP) surplus, increases the money supply, which raises aggregate demand and prices, thereby undoing the initial competitive gains experienced by domestically produced goods.

This is, therefore, a view of short-run neutrality of money,<sup>6</sup> since the above argument suggests that it is fast price increases that quickly undo the gains of competitiveness obtained with an exchange-rate devaluation when we have a floating system. Consequently, authors such as McKinnon reveal a stance which is contrary to the idea that the exchange rate can be used as an economic tool to improve competitiveness.

The idea of fast adjustment and easy fulfilment of equilibrium positions with a fixed exchange-rate system is reinforced when McKinnon argues that "with confidence in official parities, very small changes in interest rates would attract (or repel) sufficient capital to equilibrate foreign exchanges" (McKinnon, 1988, p. 93), or when he says that "very little monetary adjustment on a daily or even weekly basis would be necessary as long as every one knew that decisive official action would be forthcoming if the need arose" (McKinnon, 1988, p. 93).

The assumption underlying that sort of prescription is that trade and capital flows tend to prevail against each other, balancing international

transactions without need of a change in international relative prices. Thus, the nominal exchange rate, established at the purchasing power parity (PPP) level, need not be altered. From this derives the idea of fast adjustment and of short-run money neutrality. As McKinnon (1988, p. 95) argues: “purchasing power parity can be an unambiguous theoretical guide for central banks and one with which the private financial markets can also feel comfortable”. This sort of adjustment requires perfect price flexibility. Therefore, not only nominal exchange-rate movements are transmitted instantaneously to prices, maintaining the real exchange rate fixed, but relative prices between tradable and non-tradable goods adjust immediately. This behaviour provides that surplus (deficits) in current accounts are instantaneously compensated by deficit (surplus) in capital accounts thus eliminating the need for exchange-rate variations.

When accepting PPP, according to which nominal exchange rates should be calculated so that the 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, which would guarantee the equalisation of inflation rates among the countries that agree to avoid exchange-rate fluctuations between their currencies. Viewed from the preoccupation with monetary control seen as a mechanism to assure price stability, it is evident that this result is the main economic goal to be pursued according to this group of theorists.

In fact, since short-run money neutrality is a principle accepted by this group, the real exchange rate (which is a relative price) does not matter because it is not affected by nominal variables. Supposing PPP in the short run, or “under continuous PPP, the domestic price level would be determined by the exchange rate, and inflation stabilization thus required slowing the rate of depreciation of the exchange rate” (Agénor & Montiel, 1996, p. 275). This line of reasoning is in full accord with our interpretation of the recommendation of fixed exchange rates, PPP in the short run, and the priority attached to price stability as the main policy goal to be achieved. In other words, if  $E$  is the price of the foreign currency in terms of the domestic currency (the nominal exchange rate),  $P$  is the domestic price level and  $P^*$

the level of the foreign prices, it follows that:  $\hat{E} = \hat{P} - \hat{P}^*$ , where a hat above the variables denotes a percentage change.

So, the price levels among countries should, at least if not converge, change in the same proportion to guarantee the maintenance of the fixed nominal exchange rate. Therefore, it could be argued that from this point of view, the best way to avoid different inflation rates among countries is the adoption of a fixed exchange-rate system. McKinnon's argument for fixed rates was built within his contribution to the optimum currency area theory. In an optimum currency area you should have a single currency regime, or, which is almost the same thing, a fixed exchange-rate system with guaranteed convertibility of currencies. Therefore, it is the priority attached to price stability that underlies McKinnon's preoccupation with monetary aggregate control.

Regarding the role of government, these authors, while fixing the exchange rate upon some technical relation such as PPP, in order to guarantee price stability through the QTM, resemble the advocates of the gold standard who accept a fixed rule for money issue despite defending market freedom, provided that the rule is not left at the mercy of the government.<sup>7</sup> The proposal of a fixed exchange rate is similar to, 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 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)

It should be noted that the fixed nominal rate recommended by McKinnon (1988) is different from what is suggested by "non-neutral" authors because, as we shall see, the latter accept that the rate can be modified when it is intended to be used as a tool of economic policy, whereas to the former the rate is a fixed rule, independent of economic policy and historical time, though established initially to approximate purchasing power parities. McKinnon argues that the fixed exchange-rate system, by 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 need to be great. This is so since, as we have discussed before, small variations in the interest rate (through open market or rediscount operations) are all that is required to provide credibility to fixed parities, and would suffice either to attract or discourage foreign capital according to the circumstances. On 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 level of money stocks for nominal parity to be maintained. Therefore, according to McKinnon (1988), besides the fixed rates, such as in Bretton Woods,<sup>8</sup> what is needed is a restrictive money supply to assure stable price levels in different countries, thus limiting the choice between different rates of inflation and unemployment. At the time of Keynes, he argues, trade was limited and capital flows were restricted, and it was this that ensured there were 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.

Belief in the short-run neutrality of money does not lead directly to the prescription of fixed exchange rates. This can be concluded by examining the arguments of monetarists and some of the new classical theorists in favour of floating exchange-rate regimes. Nevertheless, the new classical analysts are certainly advocates of the principle of money neutrality in the short run. This becomes evident in their critique of exchange-rate bands, which are an intermediate option between fixed and floating exchange-rate arrangements. We will come back to this topic later. According to Frenkel and Goldstein (1986), the New Classical School assumes that the announcement of monetary policies to be adopted by the government is preferable to the announcement of bands of fluctuation acting as anchors. They distrust

government knowledge about the “correct” economic model to be able to accurately fix the band’s limits.

It is interesting to notice that in this kind of debate the New Classical theorists present themselves as floaters. However, when dealing with the credibility issue, a controversy that runs parallel to the choice of exchange-rate regimes, they come close to McKinnon’s prescription and suggest the adoption of fixed exchange rates as anchors in the stabilisation programmes of several countries (e.g. in Latin America). It is well known that the proposition of gaining credibility by tying the hands of the national monetary authority has become fashionable as a solution to the so-called “time-inconsistency problem”.<sup>9</sup> The proposal comes in the form of what is understood as a more credible commitment to a fixed exchange rate, such as is offered by a modern version of the old ‘currency-board’ arrangements. Therefore, the notion of short-run neutrality of money ends up allowing the classification of the New Classical School, as well as McKinnon, as supporters of fixed exchange rates as the monetary rule.

#### *The critique*

The critics of this sort of system support their arguments by taking into account various empirical and theoretical considerations.

On empirical grounds, the evidence strongly rejects PPP in the short run. If output prices were flexible, as the market-clearing models assume, a change in the exchange-rate regime would not have any effect on the statistical distribution of the real exchange rate. The data, however, does not sustain this prediction. According to Mussa (1986), the variance of real exchange rates for industrial countries that moved from fixed to floating exchange rate regimes increased dramatically.<sup>10</sup>

On theoretical grounds the arguments are summarised as follows: 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, assum-

ing that the real exchange rate tends to a stable level that could be regarded as the equilibrium level of the exchange rate. The PPP theory also does not take into consideration differences between tradable and non-tradable goods which hinder the emergence of a single price. This is, indeed, a way of seeing the world as a homogeneous trade space, a position which, according to the critics of the “non-neutral view”, is highly questionable.

There are other theoretical limitations on the use of PPP and the conception of economy implied therein. These limitations are appreciated equally by the theorists of the “long-run neutral view” and by the “non-neutral view”. The views of these groups will be examined in Subsections 2.2 & 2.3, where their ideas on the appropriate exchange rate regime will also be appraised.

Regarding the actual problems encountered by the prescription of a fixed exchange-rate regime, the advocates of floating exchange rates argue 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 a situation concerning reserves is precarious can lead to speculative attacks against the local currency that end up forcing a change in the rate, thus accelerating and broadening the depreciation of the currency in question.

The possibility of currency crises due to speculative attacks has been formulated by Krugman (1979) and Flood and Garber (1984). Their models are referred to by the literature as first-generation crisis models or ‘canonical’ crisis models and can be considered as a starting point for a vast and stimulating literature about the topic. These studies point to monetary policy limits for the sustainability of fixed exchange-rate regimes. To the question of the feasibility of fixed exchange rates has now been added the problem of credibility.

Since the exchange rate is an easy tool to manipulate and can adjust an 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 the credibility (De Grauwe, 1992).<sup>11</sup>

This problem of relinquishing the exchange-rate instrument is explored by De Grauwe (1992), when he approaches the question of 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 rates. "Therefore,  $n-1$  monetary authorities will be forced to adjust their monetary policy instrument so as to maintain a fixed exchange rate" (ibid., p. 11). In other words, 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 a fixed exchange rate agree in choosing the level of liquidity and interest rate that best suit each of them. The other alternative is the asymmetric solution, whereby a leading country establishes its money stock independently and determines the interest rate that will be common to all those other countries. Given the money demand of those other countries, its money stocks will accommodate in such a way that the common interest rate prevails. Therefore, those countries will lose control over important domestic variables.

Another problem concerning the adoption of fixed exchange rates is the loss of monetary policy as a tool of economic policy. 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.

To those who advocate freely floating exchange rates, as will be discussed below, money is neutral and monetary policy is ineffective only in the long run. Since in the short run these theorists accept that money affects real variables, some role is attributed to monetary policy regardless of its transitory nature. Interventions are accepted if the market logic is respected. That explains why they condemn the adoption of fixed exchange rates when the scenario is one of highly mobile capitals, since any kind of monetary policy is ruled out even in the short run.

The adherents of the non-neutrality of money are much more critical about the abdication of pursuing monetary policy since they believe that it can always be used, particularly to stimulate growth.

## 2.2 The “long-run neutral view” and floating exchange rates

### *Theoretical arguments*

We have classified theorists as advocates of the “long-run neutral view” when they believe that monetary impulses are capable of affecting the real economy in the short run, due to price viscosity and lags of the market price mechanism. Adjustment is not instantaneous. These theorists seem to agree with the Post-Keynesian principle that “time is a device that prevents everything from happening at once” (Davidson, 1996, p. 480). However, there is no substantive agreement as we will explain in subsection 2.3.

PPP assumes no change in relative prices among countries.<sup>12</sup> This view is also the assumption for the long run of the “long-run neutral” theory of money. However, this group does appreciate that monetary impulses can impact 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 is concerned to describe the exact path of the nominal exchange rate toward its long-run equilibrium level following the adjustment process. This path involves differences in the adjustment speed of the various prices, with the exchange rate being faster to adjust than almost all other prices.

Williamson (1992-1993) equally admits some effect of money upon the real economy in the short run, when the governmental intervention postulated by Keynesians could be justified. Nevertheless, in the long run, he denies these real effects given the neutrality of money. As he puts it: “our proposals were based on a reasonable eclectic view of macroeconomic theory that combines short-run Keynesian truths with the long-run reality of the neutrality of money” (Williamson, 1992-1993, p. 182).

According to advocates of the long-run neutral view, such as Dornbusch (1988) and Krugman (1990, 1991, 1992), the fact 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 preferences between tradable and non-tradable goods among countries. If there is a lender country with a BP surplus position and a borrower country with a BP deficit position, and even if both have imbalances of the same absolute magnitude, it is very possible that the adjustment of the balance of

payments will occur alongside changes in the exchange-rate. (This would be denied by the “short-run neutral” theorists, who believe that all market adjustments are instantaneous, and in this situation there would never be any change in relative prices.) The exchange rate change would occur if, for instance, a change in the income of the exporters of the deficit country caused a change in the level of demand for non-tradable goods greater than the change in the level of demand for tradable goods: this situation would then require a change in relative prices in order to accommodate the differential increase in demand, and this relative price change would be reflected in an exchange rate change. Hence, the authors quoted conclude that exchange rates should float.<sup>13</sup>

This group believes that the government, in macroeconomic stabilisation, must stick to an active monetary policy but should support allocative efficiency by leaving individual markets to their own devices. That is what Krugman (1991) calls “activism on the macro side, but *laissez-faire* on the micro side” (*op. cit.*, p. 24).<sup>14</sup>

It is the belief in the long-run equilibrium, guaranteed by real conditions (since in the long run they accept the neutrality of money principle), that leads these economists to sanction a degree of government intervention, though it should be as little as possible and meant only to compensate for the rigidity of some prices. Any kind of intervention with a more permanent nature tends to cause crises. An example of this sort of argument can be found in Krugman (1979) when he relates balance-of-payments crises with exchange-rate management by governments and speculative attacks. The idea is that when reserves fall to some level considered critical, there would be an abrupt speculative attack which would quickly exhaust foreign reserves, forcing the country to abandon the fixed or pegged exchange-rate arrangement.

In fact, it is possible to note that, for these authors, it is just sticky prices that hinder quick market adjustment. Nevertheless, they hold that the market continues to be efficient and to signal the right direction towards full-employment equilibrium. Thus, as they view it, monetary policy is the most adequate interventionist tool, for it implies the least discretion. Floating exchange rates are also prescribed because the market would be in charge of their determination.<sup>15</sup> At the same time, they argue that the flexibility of the

exchange-rate can compensate for the rigidities of the other markets, which could lead to greater allocative efficiency in the economy as a whole.

Floating exchange rates, as we have said, 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 their “normal” values, keeping the balance of payments in equilibrium.<sup>16</sup> Harry Johnson (1969) considered them essential to the maintenance of national autonomy and independence, as exchange-rate fluctuations would isolate domestic changes in prices within different economies and would allow domestic policies to be deployed consistently with the country’s internal equilibrium.

Williamson (1988) points out four social functions of market-determined exchange rates. A first function of floating exchange rates is that of reconciling inflation rates among countries.<sup>17</sup> 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 a freely floating exchange-rate regime 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 own monetary policies. Finally, he argues that exchange-rate flexibility allows the economy to absorb part of existing 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 Davidson (1992-1993) 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 critique*

The disadvantages attributed to floating exchange rates by the “non-neutral view” supporters 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. 54-55). 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” (ibid., p. 55).

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, have forced governments to intervene and have ended up by restricting the possibilities of national autonomy and independence preached by Johnson (1969).

Therefore, exchange-rate volatility itself has tended to render the prescription of a floating exchange-rate system inapplicable.<sup>18</sup>

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.

Free-market adherents 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 references. 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 adjustment. 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 lower than is often believed, due to the observed displacement between ex-

change-rate movements and the real economy (Krugman, 1991). Such a phenomenon is known as “hysteresis”.<sup>19</sup>

McKinnon’s (1988) position is once again peculiar when compared to his partners: he 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 floating rates. Furthermore, commodities futures markets are not complete and therefore they cannot protect investments in the production of traded goods and services from exchange-rate risk. And exchange fluctuations that amplify investment risk also inhibiting it.

Another interpretation of exchange-rate volatility is given by non-neutral Post-Keynesian authors such as Aglietta (1987), to whom the excess of international liquidity after 1971 is related to an “international-debt-economy” framework that causes the creation of an international medium of exchange independent from the U.S. current account, and has to do with gold demonetisation.<sup>20</sup> Those who have defended floating rates have believed that markets would adjust the system through financial arbitrage, which replaces with advantage the earlier reliance on monetary rules. According to Aglietta (*op. cit.*), the “international-debt-economy” crisis does not become explicit through a generalised liquidity preference for gold, as in earlier times, 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 (1986 a) 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. Confidence emphasises the liquidity attribute of money, and this is a collective judgement made unanimously by the majority of economic agents. “Such as every judgement by public opinion, 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).

Last but not least, one of the most important criticisms on floating exchange rates comes from within the long-run neutral group itself. The recognition that the movements of exchange rates are not correlated to the movement of the fundamentals of the economy became a serious concern. This was provoked, on the empirical ground, by the seminal work of Rogoff (1980) that showed that a random walk model produced better predictions than any other model. On the other hand, it came to be supported by a growing literature on “bubbles” and “multiple equilibria”.<sup>21</sup> Exchange-rate movements came to reflect self-fulfilling expectations and had little to do with “fundamentals”.

### **2.3 The “non-neutral view”: denying market automatism and the conception of a homogeneous economic space**

#### *Theoretical arguments*

The third group — the “non-neutral group” — comprises the critics of the “short-run and long-run neutral” theorists since they disagree with their basic model and/or the way money is viewed by them (Aglietta, 1986 a, b, c, and 1987; Davidson, 1992-1993; Cartapanis, 1984; De Bernis and Byé, 1987; Guttmann, 1994; Kuttner, 1991). For the former, as it is well known, money is never neutral, either in the short or in the long run; expectations are

formed under uncertainty; and time should be understood as historical rather than logical. Under these circumstances, in a world in which the axiom of money neutrality does not work and that is permeated by private self-interest conflicts, the expected result is radical uncertainty and high social costs that the market cannot avoid. The operation of the government is essential in this economic system to assure full “employment” effective demand.<sup>22</sup> Centralisation of decisions reduces the uncertainty that inhibits private investment. Compensatory expenditures may be needed to lessen the fluctuations of private investments, diminishing the social costs of economic instability. It is the acceptance of the principle of non-neutrality of money that permits this theorists to abandon the principle of Say’s Law and the view of the market as an efficient regulating mechanism. When denying this principle theorists are suggesting that exchange rates are not brought about by equilibrium-determined factors and they advocate the need of government activism in exchange-rate matters. Exchange-rate determination needs to rely on government discretionary policies. As said before, one of the fundamental reasons for not accepting the view that the private economy is inherently self-correcting, in the case of the non-neutral approach, is the principle underlying their analysis that understands the economic system as engaged in a process through actual, irreversible, historical time. Therefore, in each moment the present affects the future. “In a historical process, the future is by nature unknown. Uncertainty is inescapable.” (Chick, 1995, p. 24). According to Chick, “to make historical time manageable Keynes separated the short from the long period. These, however, differ radically from the classical conception: there is no presumption that the long period is a centre of gravitation, nor that the short period is merely a transitory state” (ibid., p. 27).

An implication of this principle is that they believe in the feasibility of stabilising the economy through government policy design. Under these circumstances, the expectational forecasts of decision-makers play an important role whenever the outcome of any choice of exchange rate occurs at a later instant of time than the instant when the decision is made. Therefore, it is no longer possible to determine *a priori* a long-run equilibrium condition. Furthermore, money, according to this view, gains an additional importance: to co-ordinate indirectly the economic process by combining

decentralised decisions and, to a certain extent, bringing the future into the present in the form of monetary contracts.

To these theorists the idea of purchasing power parity is a wrong principle. They deny the validity of axiomatic approaches. In this case, the axiomatic approach implies the equality of productive conditions and the homogeneity of economies and economic agents: without these factors the system of prices and the “free” flow of goods and capital in the international space would not take place smoothly, leading to an equalisation of domestic and foreign prices of different goods. As we recall, it is this conception of homogeneity that prompts the “short-run view and long-run neutral view” supporters to ignore the change in relative prices that occurs in the short or in the long run. It is only because these theorists see economic spaces as homogeneous that individual preferences, supplies and demands behave in a uniform way. So, the relative prices of commodities are unaffected when moved from one country to another, maintaining the purchasing power parity among countries at a given supply of money.

However, it is exactly this homogeneous principle that the non-neutral approach denies. Their belief that money is non-neutral implies that it affects real economic variables in a permanent way. If the conditions under which production occurs are not the same, money affects different economic spaces in different ways. Therefore, fixing the exchange rate at a purchasing power parity rate or liberalising the market along the neo-classical optimisation principle of a *tatônnement* adjustment to long-run equilibrium values are meaningless goals. Moreover, conceiving the space as non-homogeneous involves the conception of constantly changing relative prices. The exchange rate prescription, or the use of the exchange rate as a policy tool, is the idea that, in a discretionary way, the rate should be adjusted in the direction in which it is best able to assist in the achievement of selected goals. And as far as the advocates of the “non-neutral view” are concerned, output growth is the main objective that society should pursue.

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 it to be more desirable to adopt adjustment instruments such as an industrial policy and even protectionist practices.<sup>23</sup> They highlight that adjustment process problems are rooted in the

malfunctioning of market mechanisms due to institutional rigidities; sticky wages; a sticky pattern of exports and imports; and even the existence of a qualitative differentiation between products that can lead to a lack of competitiveness, even when there are exchange rate variations.

Structuralist analysis assumes that the automatism of the fixed rule, or of the market in the case of floating rates, disregard the macroeconomic context in which the adjustment occurs. In particular, this disregard involves not contemplating different countries' specificities and the fact that adjustments may not work as prescribed by the theory, or may work but at a very high social cost, given the internal problems faced.

A further neo-structuralist argument, introduced in the 1980s to reject the efficiency of freely floating exchange rates as an adjustment mechanism, focuses on a kind of price stickiness — in foreign currency — that arises from the fact that exporting firms, most of the time, are organised as oligopolies. In accordance with this argument, the strategy of firms operating under imperfect competition and facing uncertainty regarding future exchange rates is to ensure the maintenance of their prices in foreign currency if the exchange rate should depreciate. They do so in order to guarantee a higher profit margin, thereby frustrating the normal course of the adjustment described by the models that embody the first two views presented herein, namely short and long-run money neutrality. This sort of behaviour, known as “pricing for market”, has a possible theoretical basis in Dornbusch's (1987) work, and some empirical evidence for it can be seen in 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. 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 costs<sup>24</sup> and, besides, entrepreneurs facing uncertainty would rather adopt a “wait-and-see” type of behaviour in the presence of significant exchange rate fluctuations.<sup>25</sup>

The Post-Keynesian approach, whilst focusing on the role of the uncertainty that permeates the economy, as well as on that of money (non-neutral) and its real effects upon production, tends to prescribe fixed (pegged but adjustable) exchange rates, although the basis for fixation certainly dif-

fers. Their arguments differ from McKinnon's, for instance, as they allow for adjustments in order to "reflect permanent increases in efficiency wages"<sup>26</sup> (Davidson, 1992-1993, 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 a Unionized Monetary System (UMS), defined either as a system with a single currency or multiple currencies but with an established fixed rate. According to him, this system ought to accomplish three objectives, namely: it should minimise uncertainty; it should avoid liquidity restrictions in the use of resources by 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; and it should supply an expansionary trend to solve payment problems.

Not all Post-Keynesians agree with the idea of an IMCU, but all of them accept the need to reduce the uncertainty that affects economic decisions and advocate discretionary policies to prevent international liquidity crises and promote growth. Concerning the reduction of uncertainty, this would come from one less uncertainty, the one regarding the unforeseeability of the exchange rate. As for the availability of liquidity, Post-Keynesians emphasise Keynes' idea that in a framework of unemployment, economic activity is limited by liquidity restrictions and by lack of an aggressive economic policy rather than by lack of income. Therefore, every innovation is welcome if it 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. This Post-Keynesian argument is a clear defence of the need to use economic policy to accomplish and assure economic growth. Also implicitly stated is the importance that these analysts attach to the role money can play to make this process more effective (reflected in the authors' preoccupation with adequate flows of liquidity).

According to Davidson's (1992-1993) formal proposal for a new international payments system, a 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 pressures in world trade and development, (*op. cit.*, p. 157). Nevertheless, he recognises 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. 157-158). The discretionary features of economic policies embodied in this argument lie in the proposal for a co-ordination policy to be adopted by countries in agreement with the goals they expect to accomplish, and the aspiration of reducing the social costs of adjustment. The rules referred to by Aglietta, therefore, are not to be interpreted as rigid rules, but as negotiated ones, that can and should be modified through co-ordinated action among countries.

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, as a Post-Keynesian with a regulationist's orientation, explores such non-neutrality from the perspective of liquidity preference, and argues that it may cause problems and lead to crises, as we pointed out 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 only through explicit co-ordination by rules which countries agree to impose on themselves and which define, within the strategic intervention fields, subsets of completely compatible decisions. Thus, Aglietta (1986 a) 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" (*ibid.*, p. 17).

According to Aglietta (1986 a), the long-run neutral group advocated floating exchange rates by stating that it would guarantee continuous adjustments of the balance of payments and give independence to reach domestic aims through domestic means. The long-run neutrals argue that an

international currency is impractical given the entrenched preoccupation of central banks with the accumulation of foreign reserves. Against this, however, it should be noted that capital mobility has worked to a great extent as private money creation, but without distinguishing private financing from adjustment from disequilibria, and without control by monetary authorities. This sort of process has created problems that go beyond the discussion about which exchange regime is best and that require 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 international monetary flows 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 1980's suggest that only the instability of international monetary relations — due to lack of monetary rules — can explain the magnitude of those problems and the degree of the observed generalised distress in the economic atmosphere, even though structural weaknesses and economic mismanagement have also 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 draws 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.<sup>27</sup>

Guttman, likewise a Marxist oriented towards regulation, suggests that “the emerging global accumulation regime requires “an additional layer of management and regulation, based on new multilateral arrangements and international policy-making institutions” (Guttman, 1994, p. 427). Inspired by Keynes' Bancor plan, he proposes a supranational credit-money (SNCM) such that any transaction between countries should be carried out in SNCM. Moreover, he states that “since SNCM coexists with national currencies rather than replacing them, (...) exchange rates do not have to be irrevocably locked. Instead, they should be subject to adjustments whenever underlying trade imbalances threaten to create unstable conditions” (Guttman, 1994, p. 443).

Authors such as Aglietta, De Bernis, Cartapanis and others connected to the CEPPII (Centre d'Etudes Prospectives et d'Informations Internationales) as well as Guttmann (1994), have an economic conception that differs widely from the previously discussed “short-run neutral” and “long-run neutral” approaches. Opposing the idea of homogeneity in trade space, the economic world of such theorists is one of competition and conflicts among currencies and national policies, where the exchange rate is not a variable of adjustment but is part of the policies and part of the private financial behaviour that affect all national economies. The market system is, according to them, not able to deal with these problems. As Cartapanis (1984, p. 22) argues: “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”. The idea is to understand the conflicting relations among nations that are hierarchically structured and to analyse such conflicts as express themselves through exchange rate instability, instead of conceiving the economic system as homogeneous or able to become homogeneous thanks to a good adjustment of relative prices.

De Bernis and Byé (1987) also do not believe in the supposed regulating virtues of floating rates. They see international relations as relations among differentiated productive systems, articulated through differentiated power relations. They also assign high fluctuations in floating rates to the crises caused by the way regulation is made. This showed up in the 1970's and 1980s through generalised inflation, structural distortions in the balance of payments, and generalised financing problems.

The ‘non-neutral’ position, while recognising differences and peculiarities among countries, considers a fixed rate as adequate because “it obliges to more coherence” (De Bernis and Bye, 1987, p. 388) and because private agents’ demand for reserves does not need to go beyond what is necessary for transactions (Aglietta, 1986 b) when exchange rates are fixed and the “superior type of liquidity”<sup>28</sup> is identified. Therefore, 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 specific problems (Davidson,

1992-1993) and outcomes from agreements and co-ordination among countries. Such agreements and co-ordination are fundamental (Aglietta, 1986 a, b, 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 itself protects countries from disturbances generated abroad.

### *The critique*

Criticism of the pegged (fixed but adjustable) exchange rate to be used by governments as a policy tool presents two arguments: first, according to these critics, if this sort of behaviour is to be followed by several countries simultaneously and if the implicit goal is an increase in the competitiveness of their goods in the international market through devaluations of the domestic currency, this may trigger price battles similar to what economic literature recognises as the old “beggar-thy-neighbour” practice of competitive devaluations. Secondly, there is a direct link between discretion in monetary matters and loss of credibility. This link is established by those who, basing their arguments on the QTM, assume that there is a unique equilibrium quantity of money that assures zero inflation. They further assume that the quantity of money can be and actually is controlled by monetary authorities. The cause of inflation, therefore, is connected to a lack of control by monetary authorities who submit to pressures from the government, who try to finance their expenditures by means of inflationary money creation. Under these circumstances, the prescription is to allow no discretion on monetary policy. The New Classical approach maintains that prices adjust very quickly. Using the hypothesis of rational expectations, its authors argue that mere anticipated increases in money supply are sufficient to increase prices (even when money increases do not actually occur). In other words, in a rational expectation framework, monetary policy has no real effects in the economy.

Critics also argue that discretionary behaviour implies, within a framework where time inconsistency prevails, a tendency of policymakers to adapt the original policy measures in order to make them appropriate for the current economic context. Since this behaviour is anticipated by economic agents (unions, voters, etc.), policy-makers’ discretion is effectively

negated and the outcome does not lead to any gain but only inflationary losses from the point of view of the economy as a whole.<sup>29</sup>

Given the above conclusions, if the credibility issue is taken into consideration, from the point of view of the advocates of fixed exchange rates the non-neutral view proposal leads to losing price stability. For those who defend floating rates, the non-neutral proposal is conducive to speculative behaviour due to a loss of credibility implied by discretion. As mentioned before, this is the kind of criticism that underlies Krugman's (1979) contribution when he associates balance-of-payments crises and foreign reserve exhaustion in the course of a speculative attack. The defence presented by theorists who advocate fixed but adjustable exchange rates is based on the idea that currency crises may result from endogenous economic variables rather than from discretionary governmental intervention. Currency crises should not be taken as anomalies but as the result of a liberalisation of global financial markets that has substantially diminished governmental power to counteract the market logic through the creation of conventions, restrictions, prohibitions and general legal regulations to avoid or at least attenuate those crises.

The problems caused by exchange-rate volatility post-1973 stimulated the formulation of intermediate proposals by 'long-run neutral' theorists such as Dornbusch (1988), who suggests controls over capital flows, and Williamson (1987, 1988), who suggests the adoption of target-zone arrangements, points on which we will comment in the following section so as to contrast this proposal with that of fixed but adjustable exchange rates supported by non-neutral authors. Our central intention is to show that the proposal for a pegged (fixed but adjustable) regime rests on an entirely different monetary conception than the proposals made by "long-run neutral" economists, who advocate flexible exchange rates and/or target bands.

## **2.4 Exchange-rate bands: a proposal to stabilise exchange rates**

### *Theoretical arguments*

The target-zone arrangement is a system in which the exchange rate can move "freely" within the borders of the zone or band — a lower and an up-

per limit — explicitly or implicitly established by monetary authorities. The fixed reference target (the FEER — Fundamental Equilibrium Exchange Rate) around which the exchange rate fluctuates is theoretically estimated as a parity that is presumably likely to guarantee the economy's internal and external balance. 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 a country can benefit from the "social functions" of exchange rate flexibility in a context of fixed exchange rates.

The basic idea in 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 it has been determined by fundamental variables, will not go beyond the limits of the band, given the expectation that governments will be committed to intervene in order to defend the limits.

The imposition of bands is frequently regarded as convenient (Frenkel and Goldstein, 1986), in that it works as an anchor for exchange-rate expectations in the medium term and plays a stabilising role, avoiding 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 favourable conditions for 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), by acting towards an alignment of currencies and reducing the 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 speculative capital inflows and outflows, and the sudden changes in interest rates — all of which contributed to the collapse of the Bretton Woods system.

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

Therefore, the band system is conveniently placed between the fixed system and the floating one, representing an attempt to avoid not only the latter's volatility, which has characterised the period after 1973, but also the stickiness of the former, which causes problems to governments and allows currencies to be subject to speculative attacks whenever the maintenance of the fixed exchange-rate parity becomes difficult. Besides, the band system partially reaffirms the role of a discretionary monetary policy that is impossible in a fixed exchange-rate framework.

### *The critique*

Some critics of the band system<sup>30</sup> argue that if rates play the role of a nominal anchor, this could be done by maintaining floating rates and by announcing a monetary policy consistent with the movements of these rates. To more free-market-oriented critics, the idea that the announcement of bands works better as a signal than the announcement of a monetary policy is controversial, because it assumes that in fixing the bands the government has superior information, which is a dubious contention as far as they are concerned.

On the other hand, realigning bands is viewed as problematic, as 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, which 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 point out that bands may be destabilising whenever their maintenance prevents the achievement of domestic macroeconomic objectives. Moreover, they state that bands account for divergences in monetary policies but do 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.

As for IMF approval, mentioned as one of the bands' advantages, this is not guaranteed because the Fund also 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 macroeconomic goals. Also, it is not clear who should be paying for the costs of macroeconomic adjustments within the bands, and to what extent such adjustments should take place.

Non-neutral theorists emphasise the perceived theoretical misconceptions underlying the management and establishment of bands as conceived by Williamson (1992-1993). Target zones embody the idea of an internal equilibrium linked to a certain unemployment level — the Non-Accelerating Inflation Rate of Unemployment (NAIRU), a concept whose existence Williamson considers it a “failure” not to recognise (Williamson, 1992-1993, p. 182). Davidson (1992-1993) 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 (1992-1993) the fundamental equilibrium exchange rate (FEER) and the growth rate of nominal demand are intermediate goals towards achieving 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) fulfils 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, 1992-1993, p. 168-169)

The point is the assumption of long-run money neutrality. It is so because, if money is never neutral, its effects on production, by increasing it, would not allow prices to rise proportionately, as predicted by the QTM. Thus, the effects on employment could be permanent, without necessarily being subject to the “magic NAIRU” (Davidson, 1992-1993, p. 167).

The determination of the NAIRU and of rules to guarantee internal and external equilibrium supposes an economic model whereby it is possible to

draw an *a priori* point to identify a medium and long-term attraction point, the equilibrium exchange point.

Post-Keynesians such as Davidson as well as non-neutral theorists generally 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 major ingredients of Post-Keynesian analysis: non-neutrality of money, the existence of uncertainty, and historical time. Therefore, their criticism goes beyond the question of determining 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). Also, expectations do not have this anchorage point, being permeated with uncertainty. Hence, they could be destabilising and threaten the feasibility of the bands.

In the absence of any guarantee that expectations will be stabilising, most Post-Keynesians and other non-neutral economists prefer greater discretionary government control, which would be closer to the day-to-day running of the economy. What is common to these groups is a lack of trust in the self-regulating nature of private markets.

It is important to point out that target bands without the conception of the NAIRU embodied in the calculation of the FEER are not subject to the above criticism. Without this assumption target bands are similar to adjustable exchange rates, especially if these bands are moving ones. The conception of bands as proposed by Williamson (1992-1993) is subject to criticism exactly because he makes use of the NAIRU to estimate the FEER, and explicitly considers it a “failure” not to recognise its existence (*ibid.*, p. 182). In using this procedure his explanation conforms to the long-run-neutrality-of-money view.

### 3. CONCLUDING REMARKS

Having reviewed the main disagreements between theorists' different prescriptions about exchange-rate regimes, what lessons have we learned? First, that unlike pegged (fixed but adjustable) exchange rates, both fixed and floating rates are consistent with free-market mechanisms for international payments. Under a floating regime a national currency seeks its own level in relation to other currencies. A country operating under fixed exchange rates (with its domestic currency freely convertible into the reserve currency at an absolutely fixed exchange rate) operates under the discipline of the country (a hard currency country and, normally, a floater) to which its local currency is tied.

Secondly, 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.

The differences between the two intermediate positions discussed in this discussion — 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 the 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 "mainstream" 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 monetary authorities to relinquish any degree of discretionary power.

The dominant literature advocates the superiority of rules. Policy rules proponents view 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 scepticism. It is curious, to say the least, how rule-breaking is sometimes sanctioned by adherents to this view.

The discussion of rules vs. discretion revolves primarily around the credibility of different governments. A frequently mentioned argument is that in the absence of a credible commitment mechanism binding policy actions over time, governments are led to produce inflationary outcomes, in their pursuit of stabilisation policies. Commitment to fixed rules 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, thereby leading the economy towards a sustainable equilibrium growth path. The credibility issue arises when rules change over time. According to King:

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. (King, 1995, p. 2)

The "short-run neutral" (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 affect (at least in the long run) real economic variables. Price rises occur when governments do not control the expansion of the money stock. Inflation is, therefore, a phenomenon caused by the lack of governments' willingness to control monetary aggregates. But if they constantly pursue this irresponsible strategy, they will lack credibility in the future.

It is the link established between government's behaviour and inflation outcomes that leads to the prescription of rules such as a specie standard or a system in which the issue of domestic money becomes tied to the amount of an outside asset such as the US dollar or the German mark (nominal an-

chors), at a fixed exchange rate. In its extreme version we have currency-board arrangements of a sort that was widely used in former British colonies.

But by their own admission, short-run and long-run neutral theorists have failed to explain exchange rate determination, hence becoming confused when trying to prescribe a choice of exchange-rate regimes. 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, “short-run and long-run neutral” economists generally assume that the “fundamentals” determine exchange rates. However, they have been unable 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)

In saying so, Dornbusch is recognising that markets may not always know better than governments. In other words, what we are trying to argue is that within the dominant “mainstream” analysis, arguments have been presented by their own advocates in favour of greater discretion. For instance, the idea that monetary rules may not work since real economies are

subject to changes, and the rules might become inadequate over time, is an example. Another idea relates to doubts raised with regard to 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 changing needs of their economies is an inevitable outcome.

In conclusion, if the method of analysis is built on the idea that money is not neutral, that expectations form under uncertainty, and if we use historical rather than logical time, factors that are all strongly interdependent, as has been stressed by Post-Keynesian theorists, we have to preclude the use of general targets and rigid rules as adequate policies to meet unexpected changes, because we do not know if when the events occur these rules will still apply. In other words, we can never relinquish some degree of discretion so as to be able to adapt the economy to sudden changes that are constantly happening in the real world. This way of reasoning is compatible with “path dependent” models which consider historical time. The essence of historical time is that it generates structural changes which invalidate the use of ironclad rules.

#### NOTES

1. There are several interesting review articles dealing with the topic of early and new models of exchange-rate behaviour. See, for instance, Peter Isard (1995). An excellent reference presenting a Post-Keynesian analysis of orthodox approaches to exchange-rate determination is Harvey (1996). Harvey draws on the work of several orthodox theorists and uses their most popular arguments to explain rate movements in order to show that each one of them — rational expectations, market efficiency, “news”, speculative bubbles, etc. — is a response to the failure of full-fledged neoclassical models to explain rate movements (*op. cit.*, p. 574). For a Post-Keynesian view of exchange rate determination we refer to Harvey (1991).
2. We are of course aware that underlying the choice of an exchange-rate regime there exists a particular understanding of how exchange rates are determined. However, it is impossible to deal with the theme in its completeness in a single paper.
3. This aspect will be better developed along the paper. However, it is possible to illustrate our point of view by using the following example: if money is neutral, it does not affect relative prices and, consequently, the real side of the economy. The circular flow of income and expenditures that defines Say’s Law of Markets is not affected by monetary impulses that guarantee market equilibrium. In this case, the market is the best regulator, the government being either unnecessary or inefficient when it intervenes in eco-

conomic activity. However, if money is non-neutral it will affect market equilibrium. For instance, when monetary conceptions accept the principle that there are rational reasons to hoard money or to show a preference for liquidity, it can be observed that leakages from and injections into the circular flow of income are not always equal. This is a sufficient condition to reject Say's Law. It is the preference for hoarding rather than expending that gives support to the non-neutrality of money and leads heterodox theorists to abandon Say's Law. In this case, the inefficacy of markets to regulate the economy imposes a role of permanent government intervention in the workings of macroeconomy.

4. Search for efficiency here is not necessarily incompatible with economic growth targets as growth is expected to stem from the workings of the market. However, when dealing with monetary policy the main objective is price stability since these theorists believe that money has no permanent effects upon real variables. It is neutral.
5. Neumeyer (1998) uses a model that "applies general equilibrium theory to investigate how a monetary union affects the efficiency of allocation of risks in an economy with incomplete asset markets" (p. 246). As it is well known, models of this kind embody the notion of logical rather than historical time and reject the idea of radical uncertainty, in disagreement with heterodox theorists' views. As for uncertainty, Post-Keynesians follow Keynes in arguing that "human decisions affecting the future, whether personal or political or economic, cannot depend on strict mathematical expectations, since the basis for making such calculations does not exist (Keynes, 1964, p. 162-163). These differences, as will become clear, are crucial to the taxonomy we have adopted along this paper.
6. The argument is compatible with the idea of a vertical Phillips curve, according to which it is not possible to conceive of monetary effects over the real economy even in the short run, since the agents foresee future inflation. In so doing they do not develop monetary illusions. 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 capable 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 a constant velocity of money ( $V$ ) is assumed, every impact derived from monetary movements is then transmitted to the price level.
7. Ricardo developed a similar argument in defence of the gold standard in the "High Price of Bullion — a proof of the depreciation of bank notes", reprinted in *The Works and Correspondence of David Ricardo*, edited by Piero Sraffa, Cambridge: Cambridge University Press, 1966.
8. The rates in Bretton Woods were not rigidly fixed. There were scape clauses that permitted rate readjustments in special circumstances, and rates were indeed readjusted many times.
9. This is the most recent argument presented by Dornbusch (1999), who had formerly been associated with the defence of floating rates (Dornbusch, 1976, 1987 and 1988), when referring to nations such as Latin American ones, viewed as poor in terms of cred-

ibility. It is the lack of government credibility that leads some theorists to propose the adoption of rigid rules associated with fixed exchange rates, tying the hands of monetary authorities. Changes in money supply become dependent on international reserves movements.

10. See also Obstfeld (1995).
11. This has been formalised by Obstfeld (1996) and Velasco (1996), among others, and has been called “the second generation of Krugman’s model” (Frankel, 1996).
12. According to the absolute version of the PPP, the purchasing power of the American dollar, for example, is identical in any country. In its relative version, it is sufficient that the purchasing power of the dollar in relation to another currency change in the same proportion.
13. This sort of argument, as reminded by Krugman (1991), recaptures the debate between Keynes and Ohlin concerning transfers, where the latter stated that changes in relative prices were not necessary in order for capital transfers to generate a corresponding trade surplus, while Keynes argued that a real depreciation of the currency of the country that made the transfer was necessary.
14. As noted by Krugman (1991), to the left of this position are 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 the 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).
15. We shall see later in the text that actual free fluctuations have not confirmed this conclusion.
16. Friedman’s argument favouring floating exchange rates is coherent with his conclusions on the long-run neutrality of money, which results from the adaptive expectation hypothesis that he advocates. In the short run agents do not guess precisely the actual inflation rate and make mistakes in the process of expectation formation. Therefore, during this period workers are hired on lower real wages compared to their equilibrium levels (levels associated with correct formation of expectations). It follows that, according to his point of view, money alters the short-run pattern of economic growth. However, in the long run these wrong guesses are corrected so that the economy is led towards its natural unemployment rate, and then money becomes neutral.
17. His 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”.
18. Such problems that arise from floating exchange rates have another actual indicator: the widespread practice among different countries of a “dirty” floating, that is, the market may determine the rate but it will face some sort of interference by central banks. Even those who fiercely defend market efficiency in the establishment of commodity prices recognise that the exchange rate is far too important a 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 devaluing the exchange rate in order to take advantage 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 economic literature recognises as “beggar-thy-neighbour” practices of competitive devaluations. It is true that this is a less usual practice nowadays with the liberalisation process. However, we can observe interventions with the purpose of avoiding problems related to misalignment of exchange rates. These are the so-called dirty floating practices in the context of floating exchange-rate arrangements.
19. It is the effect according to which the real economy does not always react to exchange-rate movements the way the dominant theory would expect. For instance, if an exchange-rate movement brings about a change in 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.
  20. The terminology “debt economy” has been used by French authors in general (Lacoue-Labarthe, 1980) to express the conception of economies whose process of accumulation is financed by bank credit instead of financial markets. When talking about “international debt economy” what is being highlighted is the importance of foreign debt in financing the process of accumulation.
  21. See Frankel (1996).
  22. This difference in method is particularly emphasised by Post-Keynesians, who also argue that any analysis involving only some of these factors is logically incomplete given the interdependence among them.
  23. See, for instance, Kuttner (1991), quoted by Krugman (1991).
  24. Baldwin and Krugman (1989), have introduced this idea as an assumption to explain the persistence of foreign disequilibria in spite of exchange fluctuations.
  25. 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”. However, the neo-Keynesian (Cross, 1993) suggestion that the conceptualisation of “hysteresis” is relevant to the Post-Keynesian understanding of economic processes has been subjected to a lot of criticism. We will not go into this controversy but we suggest the reader consult specialised articles such as the one written by Davidson (1993).
  26. Efficiency 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, 1992-1993, p. 161, footnote 14).
  27. The idea is that in the absence of a single international currency, the existence of rival currencies (competing for the role of main international currency) is itself a further source of exchange rate volatility (Aglietta, 1987).

28. Aglietta (1986a) calls international money a *superior type of liquidity*. When it does not compete with others its *status* is well identified. But that is not the case currently, with the observed competition between the dollar, the mark and the yen, for example.
29. The classical references on this topic are Kydland and Prescott (1977) and Barro and Gordon (1983 a, b).
30. See Frenkel and Goldstein (1986).

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