

# **PhD Dissertation: Currency Internationalisation and Exchange Rate Dynamics in Emerging Markets**

## **A Post Keynesian Analysis of Brazil**

### **Chapter 3: An Alternative Analytical Framework for Exchange Rate Determination in Developing and Emerging Countries**

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#### **3.1. Introduction**

In traditional mainstream exchange rate theory the exchange rate is considered a market equilibrating price which adjusts to permanent causal fundamentals to restore equilibrium in underlying product or asset markets. The incorporation of agents' expectations and positions ultimately changed little of this view as, at least some, rational market participants align the exchange rate with its fundamental value given by mainstream exchange rate theory. Two interesting approaches, which have some parallels with the framework developed in this dissertation, are the microstructure approach to exchange rate determination and IKE.

Post Keynesian exchange rate theory explicitly rejects the view of the exchange rate as market equilibrating price and argues that expectations and positions in short-term financial markets drive exchange rates. Short-term financial flows have permanent effects on exchange rates, which can lead to sustained deviations of exchange rates from underlying values given by "real" fundamentals. In addition, given the Post Keynesian emphasis on the expectation formation process under uncertainty, no stable underlying fundamentals exist. Rather, fundamentals are whatever market participants expect fundamentals to be. Thus they will be necessarily context specific and may be very different from those specified by the market equilibrating paradigm. However, focusing solely on expectations under uncertainty runs the

risk of being too subjectivist and having very little to say about exchange rate determination beyond the specific context. This dissertation thus complements the existing Post Keynesian exchange rate theory with the critical realist ontological claim that deeper structures and mechanisms shape agents' behaviour and expectations. These mechanisms, in turn, are specified with reference to one of the most important institutions in Post Keynesian theory in the presence of fundamental uncertainty: money. This view not only accounts theoretically for the important role of short-term returns, but also highlights the significance of financial structure and international market conditions for exchange rate determination in DECs.

The next section, Section 2, discusses critically the existing Post Keynesian theory of exchange rate determination. Section 3 outlines Keynes' writings on exchange rate determination and the forward foreign exchange market in the *Tract on Monetary Reform* and the different interpretations these writings have been given by mainstream and Post Keynesian exchange rate theory. Section 4 presents a third interpretation and stresses particularly the role of domestic currency as international money. Based on this view, Section 5 presents an alternative analytical framework to analyse exchange rate determination in DECs. To do so it particularly reverts to Keynes' liquidity preference theory and Chapter 17 of the *General Theory*. Section 5 concludes with some potential limitations of the framework presented.

### **3.2. Post Keynesian Exchange Rate Theory – The Uncertainty Strand**

Post Keynesian writers stress the autonomous nature of expectations that shape market outcomes (Chick 1983; Keynes 1997, Chapter 5; Harvey 2001; Dow 2002). As a consequence, the formation of these expectations becomes the analytical focus. One strand of research, pioneered by Davidson (1978; 2002), highlights the important ontological distinction between risk as calculable probabilities and fundamental uncertainty. For Keynes "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 1997: 162-163) "There is no scientific basis on which to form any calculable probability whatever. We simply do not know" (Keynes 1971c: 114).

In the presence of fundamental uncertainty, no stable probability function exists to forecast future fundamentals to be used as a reliable guide to the “correct” equilibrium price of financial assets over time. *Convention*, the assumption “that the existing state of affairs will continue indefinitely, except in so far as we have specific reasons to expect a change” – and the confidence with which we hold this convention govern investment behaviour (Keynes 1997: 152). Given their dependence on the state of confidence, conventions are precarious and potentially subject to sudden changes or waves of optimism and pessimism. As Keynes (1997) sets out in his famous “beauty contest”, expectations, i.e. foreseeing future conventions, then become crucial to maintain the value of one’s portfolio.

This Keynesian view of the price formation process is applied to the foreign exchange market by John T. Harvey (2009).<sup>1</sup> In his model, (short-term) capital flows and the expectations in these markets drive exchange rates; there are no underlying objective economic relations that determine exchange rates at all times, but “fundamentals” are whatever market participants expect the drivers of the exchange rate to be in the future. These expectations, in turn, are primarily anchored by social conventions and the confidence with which financial market participants hold these conventions. In addition, given the subjective nature of conventions, psychological phenomena play an important part in Harvey’s exchange rate model.

In order to substantiate the mental model of the agents’ expectation formation process, Harvey starts with the important observation that “...there exist (outside of official intervention) only three reasons to purchase foreign currency: importation of foreign goods and services, direct foreign investment and portfolio investment. Agents’ perception of those processes is what forms their mental model and, therefore, their expectations” (Harvey 2009: 83).

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<sup>1</sup>An application to the analysis of financial crisis is presented by Alves, Ferrari Filho et al. (2000).

Figure 2.1: Exchange Rate Determination in Existing Post Keynesian Exchange Rate Theory

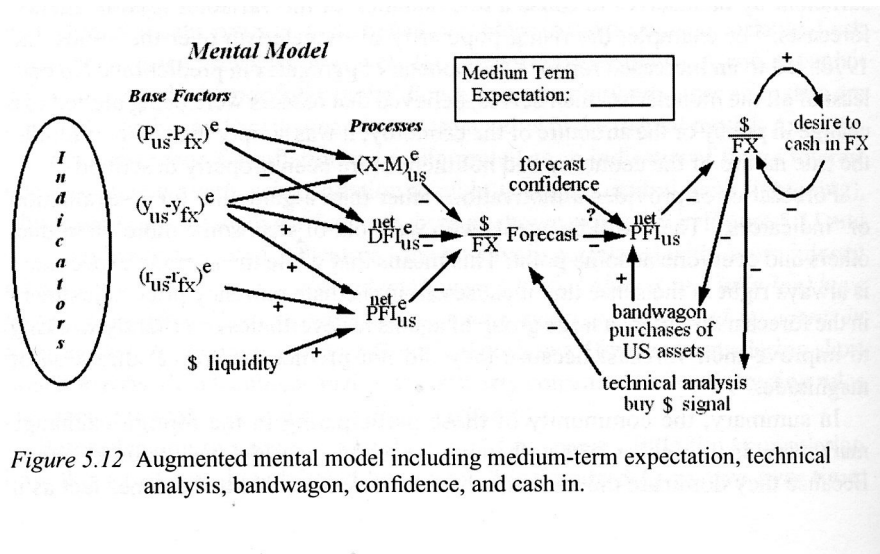


Figure 5.12 Augmented mental model including medium-term expectation, technical analysis, bandwagon, confidence, and cash in.

Source: Harvey (2009: 88)

Expectations about these processes, in turn, are determined by base factors (differential prices, growth rates, interest rates and liquidity), which affect the flows directly, and/or indicators which determine expectations through their influence on base factors (and sometimes the processes themselves). Based on assumed economic relations and historical observations, Harvey (2009) argues that interest rates, unemployment, the trade balance, and inflation have formed the core base factors and indicators considered by agents in forming their forecasts in the post-Bretton Woods era and could thus be considered “fundamentals” in the Post Keynesian sense.

In addition, given the all pervading uncertainty and precariousness of conventions, psychological phenomena play a crucial role in Harvey’s framework. Drawing on Tversky and Kahneman (e.g.1974) and the expanding microstructure literature on the foreign exchange market, he incorporates bandwagon effects, technical analysis, and “cash in” effects in his model. These are complemented by Keynes’ emphasis on actors’ confidence and,

following Schulmeister (1988), a variable called “medium term expectations”, which reflects the state of the market (either bullish, bear or neutral) and acts like a filter through which new information is interpreted.

No account of exchange rate dynamics, especially in DECs, would be complete without incorporating the phenomenon of currency and financial crisis. Harvey does so by highlighting three tension points which can lead to strong exchange rate depreciations: firstly, deviations of actual exchange rate values from agents’ mental model (as a result of bandwagon effects in portfolio inflows); secondly, deviations of returns on financial assets from real returns (motivated by Keynes’ Ch. 22 of the General Theory); and thirdly, drawing on Minsky’s work, financial fragility as agents raise short-term and foreign loans and thus debt to income ratios.

Finally, Harvey rejects the notion of a long-run, equilibrium value for the exchange rate. As such, he argues: “Because Post Keynesians emphasize historical time and path dependence, they see the long-run as simply the aggregation of short runs. The state of the world today is a function of all the various events that shaped it yesterday” (Harvey 2009: 101).

Harvey’s Post Keynesian theory of exchange rate determination is very important and shall be used a starting point for the analytical framework presented in this chapter. In particular his rejection of the view of the exchange rate as market equilibrating price, and his emphasis on the importance of short-term capital (financial) flows and the formative role of expectations in these markets are an important reflection of the working of international foreign exchange markets. However, a few criticisms can be levelled against his approach.

Firstly, although Harvey seems to be using Keynes’ original denomination, the use of the term capital flows is slightly confusing without further explanation. In the current literature capital flows primarily refer to balance of payments flows between countries. However, these types of flows could be considered less important for exchange rate determination in developed countries with deep and developed financial markets and large international offshore markets where the currency is traded as an international asset class. Thus, the term financial flows would have probably been more appropriate in this context. However, capital flows, in terms of balance of payments flows, can still be considered very important for DECs with smaller international offshore markets. As a result, a larger share of foreign

trading of the domestic currency in DEC's will be made onshore in domestic assets, making short-term portfolio flows through the balance of payments an important driver of the exchange rate in these countries.

Secondly, it could be argued that by putting so much emphasis on agents' expectations and their formation under uncertainty, Harvey's theory assumes quite a subjectivist and psychological approach to exchange rate determination. This criticism has been directed towards Post Keynesians who overly stress the formative role of expectations under fundamental uncertainty, e.g. Shackle, and indeed against Keynes' theory of expectations in general (Hodgson 1985).<sup>2</sup>In these approaches pervasive uncertainty implies that it is only the subjective perceptions of actors that drive actions, not the objective reality that might underlie the situation. Expectations are entirely individual, which makes any form of orderliness or regularity impossible (Carvalho 1983-84). According to Coddington (1982), this makes these approaches indeterminate and ultimately theory-less as nothing can be said about economy reality beyond the individual.<sup>3</sup>

Keynes introduces orderliness and uniformity in expectations through social conventions (Carvalho 1983-1984). Indeed, an individual's knowledge, motives, perspectives etc. are not independent of the society in which he or she lives (Lawson 1985). This is exactly the approach Harvey takes when he specifies his base factors and indicators based on "what one would expect" and historically observed patterns. In his mental model, indicators are socially sanctioned and filtered by the world view shared by market participants within a particular social context. Whatever is socially sanctioned, in turn, might change as a result of regime change, structural change, academic and professional theory, and forecast error.

Although Harvey highlights the importance of market structure and social context, his mental model is ultimately presented like a general theory of exchange rate determination. However, his observations are specific to a developed foreign exchange market. Traders' expectation formation process is likely to be very different in DEC's given their different institutional structures, monetary and exchange rate regimes, integration in a hierarchical international

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<sup>2</sup>This critique has also been raised against Austrian Economists.

<sup>3</sup>This critique is particularly targeted towards authors who emphasise the psychological aspects of expectation formation (e.g. Dow 1985). The unlimited number of psychological phenomena seems to make it impossible to generalize, but confines any specification to the particular empirical case at hand. In this vein, one could also argue that Harvey's choice of psychological phenomena included in his mental model seems slightly ad-hoc.

monetary system etc. For example, Harvey assumes the existence of a deep international speculative market of foreign exchange, where the exchange rate is traded as an asset class per se. As mentioned above, though, this might still be less the case in DECs, where large parts of foreign currency investment/trading is made in (onshore) short-term, domestic currency denominated financial assets. This, in turn, might make the returns on these financial assets a crucial driver of exchange rates in DECs. Both types of currency trading are analysed in this dissertation through the two manifestations of the internationalisation of the Brazilian Real.

Thirdly, this criticism is linked to Hodgson's (1985) point that Keynes seems to assume his account of expectation formations applies more or less equally to all economic agents as it is ultimately based on a view of human nature, rather than on one of institutions, structures or social relations.<sup>4</sup> It would not be fair to extend this critique unqualified to Harvey's mental model. Harvey explicitly refers to the subculture of short-term capital (financial) flows and the specific world-views, morals and sanctions in this market. The problem is that short-term capital (financial) flows are not a uniform category with a homogenous expectation formation process, but constituted by diverse actors characterized by different investment mandates, client structures, balance sheet characteristics etc., which will fundamentally influence their expectation formation process and thus exchange rate dynamics. For example, as highlighted in this dissertation, onshore and offshore foreign exchange operators might have very different perceptions of DEC currencies due to their different trading environment, motivation to participate in the foreign exchange market etc. In addition, these actors' foreign exchange positions might vary due to their different degree of integration in international financial markets, for example through their different funding structures.

This last point is also connected to the final criticism of Harvey's mental model. Although Harvey incorporates social factors into his analysis, they ultimately appear like an exogenous guideline which agents can *choose* to follow. "This account presupposes notions such as *intention* and *deliberation* and allows the assumption that individuals have the *power* to choose" (Lawson 1985: 919). However, institutions do not only influence the cognitive level of agents, but have an important relational aspect which dynamically links and constraints

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<sup>4</sup>As such, Hodgson asks: "What if, for example, finance is provided through the banks, as well as or instead of through the sale of stock? Unless it is assumed that there is near perfect financial market competition between the banks and the stock market (and it is not in the spirit of Keynes' work to assume this) then "average opinion" and "conventions" in the one will not be the same as in the other" (1985: 17).

agents' expectations and behaviour over time. Probably the most prominent author to stress this relational aspect from a Post Keynesian perspective is Minsky with his emphasis on the relationship between debtors and creditors and the importance of financial commitments in shaping agents' expectations and actions.<sup>5</sup>

These considerations beg the question whether a theory entirely based on the creative role of expectations under uncertainty can say anything about economic reality beyond the specific time and context under consideration? And if not, does this mean we have to accept Coddington's criticism that such a theory is ultimately theoretically indeterminate?

Harvey does not seem to think so. He appears to put forward a general theory of exchange rate determination, specifying base factors (and to a certain extent indicators) which commonly determine exchange rates. However, without explicitly tying these factors to a specific context, their specification appears slightly ad-hoc or, without an alternative theoretical framework of the exchange rate, remains ultimately tied to mainstream theories of exchange rate determination which form part of agents' social conventions.

As discussed in more detail in Chapter 6, Post Keynesian writers stressing Keynes' open system ontology highlight that the expectation formation must be a necessarily institutionally and historically contingent process (e.g. Lawson 1985; Crotty 1994; Dow and Chick 2005). For many of these authors, however, this does not mean that such an approach is ultimately theory-less. Referring to the critical realist ontological claim of deeper structures and mechanisms that are real but are not directly accessible to observation and only discernible through their effects, for these authors the analytical aim is to investigate these underlying real mechanisms and structures, rather than pinning down objective causal relations and permanent fundamentals as in mainstream exchange rate theory. This implies moving from the observed surface phenomenon to a theory which analyses the underlying relations, structures, conditions and mechanisms which are responsible for the given phenomenon. In other words, for critical realism the task of social research is to construct hypotheses about the underlying real mechanisms and to seek out their effects (Bryman 1988). Importantly,

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<sup>5</sup> Although Harvey incorporates Minsky's emphasis on balance sheets in his financial crisis model, financial structure does not form part of his general model which makes its addition in the crisis time seem slightly ad-hoc. This dissertation, in turn, argues that financial structure is an important element of exchange rate determination, both in normal and in crisis time.



these effects can be but do not have to be discernible on the empirical level and might change their manifestations depending on the specific context under consideration.

Indeed, Keynes' analysis of agents' behaviour under uncertainty is not confined to the expectation formation process, but also highlights the implications this uncertainty has for the underlying structures and institutions of an economy. "Although individuals' values, preferences, modes of understanding, and so forth are socially constructed, through individual and collective action people transform their decision-making environment over time by, among other things, creating new institutions and adopting new practices designed to reduce the harmful effects of uncertainty" (Crotty 1994: 13).

One of the most important institutions in this context is the emergence of money and a monetary economy. "The system reacts to the absence of the information the market cannot provide by creating uncertainty-reducing institutions: wage contracts, debt contracts, supply agreements, administered prices, trading agreements. Since all are meant to reduce uncertainty over time, it is natural that their value be denominated in the unit whose value is most stable over time- money..." (Kregel 1980: 46).

The exchange rate, however, is nothing other than the relation of domestic to foreign money. If we interpret domestic currency as international money, Keynes offers us a powerful analytical tool to analyse portfolio decisions under uncertainty and, more specifically, the demand for domestic currency: liquidity preference theory and his analysis of the "own rate of interest" in Chapter 17 of the *General Theory*. The following sections show that this is indeed an interpretation consistent with Keynes' own writings.

### **3.3. Keynes on Exchange Rate Determination**

Keynes' theoretical analysis of foreign currency dealings stems from his first post-war writings (1922), later collected in his *Tract on Monetary Reform* (1923). In chapter 2 of the *Tract* he explicitly deals with the question of exchange rate determination where he, with certain reservations, endorses PPP. Keynes argues that in general the exchange rate adjusts to restore equilibrium between the comparative internal purchasing powers of two countries, which are ultimately determined by their monetary policies. Deviations from this equilibrium

condition can occur. These, however, are primarily the result of changes to “real” parameters affecting two countries’ trade relations, such as “...movements of capital, or reparation payments, or changes in the relative efficiency of labour, or changes in the urgency of the world’s demand for that country’s special products, or the like” (p. 80). In addition, seasonal fluctuations, transaction costs and the divergence between tradable and non-tradable goods prices might result in the failure of PPP to hold.

Asset market considerations and speculation more specifically have little long-lasting impact on the deviations of the exchange rate from PPP in his view. “Speculators, indeed, by anticipating the movements tend to make them occur a little earlier than they would occur otherwise, but by thus spreading the pressure more evenly through the year their influence is to diminish the absolute amount of the fluctuation. General opinion greatly overestimates the influence of exchange speculators acting under the stimulus of merely political and sentimental considerations” (Keynes 1923: 92). In his view, speculation “...is only really important on the very rare occasion on which it precipitates a panic – that is to say, imitative action on a large scale by numbers of people who are not speculators at all, but are just terror stricken“ (Keynes 1971d: 88). Keynes does, however, concede that large amounts of long-period speculative capital flows, e.g. as a result of a bullish view, can have a sustained influence on the exchange rate. These flows though should be seen as international borrowing rather than speculation (Keynes 1923).

After his (qualified) endorsement of PPP, Keynes goes on to set out his view on the currency forward market in Chapter 3 of the *Tract*, a view which is today reflected in the covered interest parity (CIP) theorem. Although not directly concerned with the question of exchange rate determination, this view has potentially important implications for analysing exchange rate dynamics in a Post Keynesian framework.

“If dollars one month forward are quoted cheaper than spot dollars to a London buyer in terms of sterling, this indicates a preference by the market, on balance, in favour of holding funds in New York during the month in question rather than in London – a preference the degree of which is measured by the discount on forward dollars” (Keynes 1923: 102). This preference is caused by interest rates obtainable on “short” money, i.e. money lent or deposited for short periods of time in the money markets of the two centres under comparison. “...Forward quotations for the purchase of the currency of the dearer money

market tend to be cheaper than spot quotations by a percentage per month equal to the excess of the interest which can be earned in a month in the dearer market over what can be earned in the cheaper” (p. 103f).

Following Lavoie (2000) Keynes’ description of the forward market can be expressed as

$$(3.1) \quad i - i^* = f - e$$

Where  $i$  is the domestic interest rate,  $i^*$  is the foreign rate of interest,  $e$  is the logarithmic value of the spot exchange rate (defined as the domestic currency price of one unit of foreign exchange), and  $f$  is the logarithmic value of the forward exchange rate.<sup>6</sup> With small enough differentials in interest rates the Taylor expansion yields these approximate equalities (Lavoie, 2000). Maturities on the relevant asset and the forward contract coincide. CIP postulates that interest rate differentials between currencies should be perfectly reflected in FX forward rates (or the difference between the forward and the spot rate). Currencies with higher interest rates should trade on a forward discount ( $f-e>0$ ), whereas currencies with lower interest rates trade on a forward premium ( $f-e<0$ ).<sup>7</sup>

As discussed in Chapter 2, for mainstream exchange rate theory the forward rate reflects rational exchange rate expectations. As the forward rate deviates from the expected exchange rate, rational speculators will buy/sell the currency forward until  $e^e = f$ . An implicit premium/discount appears which attracts arbitrageurs to restore UIP.

$$(3.2) \quad i - i^* = e^e - e$$

As also discussed in Chapter 2, UIP - particularly its implication that the forward rate should be a good predictor of the future spot rate - has been met with little empirical success. More empirical support seems to exist for CIP (e.g. Coulbois and Prissert 1974; Frenkel and Levich

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<sup>6</sup>For Keynes, the Pound Sterling is the home currency. Given the primacy of the Pound Sterling at his time, other currencies are expressed with reference to it. Thus, to fully reflect his considerations on CIP the equation would have to be written as  $i^* - i = f - e$ . To express the viewpoint of DEC, whose currencies are most of the time quoted in units of the foreign currency (primarily the US\$), Lavoie’s expression has been used.

<sup>7</sup>In analogue to footnote 6, whether a forward premium/discount assumes a positive or negative value depends on the quotation of the currency. If the exchange rate is expressed in units of the domestic currency (as it is often done by North American writers) the forward premium will assume a positive value whereas a discount will be negative.

1975; Taylor 1986; Baba and Packer 2009). Indeed Coulbois and Prissert (1974) and Lavoie (2000) argue that CIP in international money markets has been shown to hold nearly perfectly. According to the authors, those studies which found large intrinsic discounts/premiums have considered inappropriate interest rates, such as Treasury bill rates or medium to long-term bond rates. Indeed, Keynes (1923) explicitly wrote about short-term money markets where considerations such as default or credit risk are thought to be less prevalent. However, Keynes also acknowledged that, due to political or financial instability which raises concerns about the viability of the domestic banking system and/or the free transferability of funds, implicit discounts on a currency might arise. In this vein, Baba and Packer (2009) show that fear about the liquidity and solvency of banks lead to temporary deviations from CIP during the international financial crisis; a result which is also confirmed for the Brazilian market, as will be shown in Chapter 5.

Finally, Chapter 2 also showed that the most common theoretical device to save UIP in the face of conflicting empirical evidence has been the introduction of a time-varying risk premium ( $\rho$ ). Thus,

$$(3.3) \quad i - i^* = [(\varepsilon)^{\rho} - \varepsilon] + \rho \quad \text{and} \quad f = \varepsilon^{\rho} + \rho$$

Again, however, econometric tests had little success in verifying the proposition of a time-varying risk premium (Jongen, Verschoor et al. 2008). In addition, one could argue that on a theoretical level, the specification of this time-varying risk premium has very often remained slightly ad-hoc. Indeed, in the most general case, it is divided into country, credit and currency risk. Country and credit risk, however, are theoretically also present in the case of CIP. Unpredictable currency risk, in turn, is theoretically not possible in the rational expectations-efficient market paradigm.<sup>8</sup>

Post Keynesian theory offers three possible interpretations of Keynes' interest parity theorem and/or the failure of UIP to hold. Two of them will be discussed below. The third forms the

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<sup>8</sup>As discussed in detail in Chapter 2, recent theoretical advances in mainstream exchange rate theory, such as behavioural finance models, attempt to build a theoretical case for such a time-varying risk premium through the introduction of "irrational" traders.

basis for the alternative analytical framework for exchange rate determination in DEC's presented in the subsequent section.

One strand of Post Keynesian writings emphasises the absence of rational expectations and importance of uncertainty to account for the empirical failure of UIP (Harvey 2004). In this view, a situation might arise in which aggregate investors (speculators) believe that the return that can be earned in one nation exceeds that in another, but they lack the conviction and/or confidence to act. Thus, in this interpretation, exchange rate expectations continue to be formed endogenously with respect to interest parity. In addition, the forward rate remains a representation of exchange rate expectations with potentially predictive powers for the future spot rate.

Another strand of Post Keynesian writings, the so-called Cambist view, rejects the view of the forward rate as expectational variable altogether (Lavoie 2000; Lavoie 2002-03; Smithin 2002-03; Moosa 2004). In this view, exogenously given exchange rate expectations are directly reflected in the current spot rate, which is then marked up by banks with the existing interest rate differential to derive the forward rate. More concretely, Coulbois and Prissert (1974) argue that for hedging purposes every forward transaction by a bank has to be "married" by a spot transaction in the same direction.<sup>9</sup> In most cases, however, this spot transaction has to be funded on international money markets; this funding operation creates a cost (or profit) for the bank, depending on the existing interest rate differential, which it will charge (discount) in the form of a mark-up over the current spot rate, resulting in the quoted forward rate.<sup>10</sup> Thus, in contrast to what is argued in mainstream theory, in this view CIP does not result from arbitrage operations of international investors, but is the outcome of a pure arithmetic operation as banks charge their customers forward rates which reflect the spot rate plus a mark up mirroring the interest rate differential. Interest rates are exogenously set by the central bank, which implies that speculators' exchange rate expectations are immediately reflected in the spot rate through the covering sales of banks.<sup>11</sup>

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<sup>9</sup>This assumes that the bank does not speculate on the currency but hedges all its currency exposure.

<sup>10</sup> Nowadays, most of the time banks will probably do these operations with a swap, which, however, does not change the general argument.

<sup>11</sup> Acknowledging the counterparty operations of banks also implies that in the Cambist view of covered interest arbitrage only speculative (uncovered) forward operations can have an effect on the spot rate. In the case of covered forward transactions (a simultaneous forward and spot transaction) a bank which executes the forward transaction for the customer – if it cannot match the transaction with an offsetting order given by another customer – has to cover itself through sales (purchases) on the spot market, which exactly meet the initial spot purchases (sales) of the arbitrageurs. Thus, the two spot transactions cancel each other out, which leaves the spot

Moreover, while in the mainstream argument deviations from CIP are necessary to create profit opportunities for international arbitrageurs (and might last for a while if this arbitrage is not sufficient), in the Cambist view CIP has to hold nearly perfectly. At the same time, the forward rate cannot have any predictive value for the future exchange rate, which, if interest rates are assumed to be constant, is only determined by current exogenous exchange rate expectations. Thus, in this view, the forward rate has little to do with exchange rate expectations, but is simply a “residual” given the spot rate and existing interest rate differential.<sup>12</sup>

Keynes’ view seems to lie somewhere in between. On the one hand, he acknowledges the important role of banks and their covering operations in forward transactions (Keynes 1923: 106). This is, among other things, reflected in his view that CIP has no to little effect on the current spot rate (Keynes 1923: 114). On the other hand, CIP is clearly based on an international arbitrage argument. As a result, sustained deviations from CIP due to strong speculative trading and a lack of arbitrage operations are possible (Keynes 1923: 107). Finally, in contrast to the Cambists’ argument, in Keynes’ view exchange rate expectations are reflected in forward rates through the operations of speculators. However, these exchange rate expectations are not formed in accordance with interest rate parity, but are exogenously given.<sup>13</sup>

The Cambist approach is an insightful account of the forward foreign exchange market and reflects the workings of this market under certain market conditions. It is consistent with the Post Keynesian view that exchange rate expectations are not rationally formed to equilibrate markets, but are autonomous and exogenous variables. In addition, it shows the importance of

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rate unaffected. This is in contrast to the neoclassical account where deviations from interest parity lead to a simultaneous spot and forward transaction by arbitrageurs, which causes a movement in both the spot and forward rate.

<sup>12</sup>In this context, Smithin (2002) argues that the Cambist view is actually much stronger than the neoclassical view as it does not rely on capital mobility argument as such. This, however, is only partly true. In the presence of capital controls, forward rates in domestic and foreign markets might differ as banks only have access to either market which might be characterised by different interest rates (Lavoie 2002-03).

<sup>13</sup> Keynes does not further specify what determines these exchange rate expectations though, but only argues that these are in general right.

short-term interest rates for exchange rate movements and reflects the determining character of exchange rate expectations for *current* exchange rate movements.<sup>14</sup>

Ultimately, however, it is not a theory of exchange rate determination. What the Cambist view determines is not the spot rate or forward rate individually, but the forward premium. As such, there is a “loose end in the analysis” because “in order to infer the value of the forward rate, there must also be some explanation of the level of the current spot rate, which in turn must entail some explanation as to why, at any point in time, speculators and other participants in the foreign exchange markets are willing to hold the portfolios they currently do” (Smithin 2002-03: 225). In line with Harvey’s view of exchange rate determination, for Lavoie (2000) this demand for currency is primarily the result of expected exchange rate changes, which are formed exogenously to the model and caused by news, “which is interpreted one way or another depending on the whims of foreign exchange dealers” (p. 175). As such, it does not have much more to say about exchange rate determination than Harvey’s model presented in Section 2. Finally, while Lavoie’s framework can accommodate the phenomenon of carry trade (in the sense that short-term interest rates result in sustained exchange rate appreciation), it is at loss when it comes to currency crisis, where central banks try to stabilize the value of their currencies through interest rate policies. In a similar vein, as discussed in more detail below, while the assumption of an independent monetary policy and freedom to set the interest rate might be valid for developed countries, this might not hold for DECs.

Thus, in sum, Keynes’ CIP theorem has been interpreted very differently in mainstream economics and in the Post Keynesian Cambist approach, with important repercussions for their respective views of the forward rate and the workings of international currency markets more generally. A third interpretation, which forms the basis of the alternative analytical framework developed in this dissertation, is presented in the next section.

### 3.4. The Exchange Rate as International Money

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<sup>14</sup>That is in contrast to mainstream theory where exchange rate expectations cause *future* spot rates. Rational expectations theory contends that  $E_{t+1}^F$  and  $E_t^F$  should only differ by some random error. The Post Keynesian approach argues that  $E_t^F$  determines  $E_t$  (Harvey 1998).

Kregel (1982) argues that Keynes' writings on the forward foreign exchange market should be seen as an early application of his "own rate of interest" equation, which he later developed in Ch. 17 of the *General Theory*, in the international context. Aiming to show that Keynes' "own rate of interest" is a theory of general asset choice, rather than a dichotomous selection between money and bonds such as in Tobin (1987), Kregel points out that if one considers domestic currency (sterling) as "*the* 'money' of the system with durable assets comprised of foreign currency", Keynes' interest parity theorem "provides an explanation of the "preference" for 'liquidity' (sterling) influencing decisions to take positions in other (foreign currencies) assets in terms of their spot and forward prices relative to the sterling" (p. 454). Just as the rate of interest measures the "premium" the market is willing to pay for its preference for liquidity provided by money in a closed economy, the rate of interest on foreign currencies shows the price investors are willing to accept to part with the security provided by *the* money of the system in an open economy.<sup>15</sup> And just as in Keynes' closed economy of the *General Theory*, this "premium" or money rate of interest is "nothing more than the percentage excess of a sum of money contracted for forward delivery, e.g. a year hence, over what we may call the 'spot' or cash price of the sum thus contracted for forward delivery" (Keynes 1997: 222).

The view that Keynes' writing on the "own rate of interest" has to be seen as a theory of general asset demand, which found its antecedent in Keynes considerations on the foreign exchange forward market, is also advanced by Carvalho (1992). "In a nutshell, the theory says that, for any given durable good, the divergence between its spot and forward prices, that is between the current price for current delivery and the current price for delivery at a specified future date, will reflect the expectation of the market as to the gains to be derived from its possession between the present moment and the specified future date" (p.79).

In this view, Keynes' writing on the forward foreign exchange market is an explanation of the demand for domestic currency relative to foreign currency, primarily with respect to *the* currency or money of the system. Thus, the domestic currency is considered an asset class whose demand is determined by its net return relative to other currencies. The exchange rate, as the relation between domestic and foreign money, is a manifestation of these differential returns.

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<sup>15</sup>Implicitly, this interpretation of Keynes' interest parity is also adopted by Taylor (2004a).



### 3.4.1. Liquidity Preference Theory and “Own rate of Interest”

The net return of holding an asset in the present can, in principle, be measured in terms of the asset itself or in terms of some other asset (Chick 1983). Based on Sraffa’s (1932) “commodity rates of interest” Keynes initially followed the first route, an idea which he called “the own rate of own interest” (Kregel 1982).

Measured in terms of itself, three main elements determine the net benefit of holding an asset: (a) *yield* or output  $q$ , in terms of direct satisfaction or capacity to produce saleable output; (b) *carrying costs*  $c$  arising from the need to house or store the asset safely; and finally (c) an asset may have a *liquidity premium*  $l$  measuring the potential convenience or security given by the power of disposal of the asset in the sense of pure marketability (Chick 1983: 298).

Expressing net returns in different standards, however, defies comparability between asset returns and thus a more general analysis of asset choice. Thus, a common denominator is needed. In this vein, Kregel (1982) writes: “Just as money rates of interest on national currencies vary across countries, so would the own rates of own interest for different durables. Just as international interest-rate differentials were brought into equality by forward discounts and premiums, taken in terms of a common currency unit, the various different own rates of own interest should also be equalised in equilibrium when they are calculated in a common unit of value. It was thus necessary to convert all “own rates” to a single (money) standard” (p. 455). In principle, which durable asset is chosen has no particular importance. However, just as the sterling had a special role in the international monetary system at Keynes’ time, money had certain characteristics which made it “rule the roost” in a closed economy.

The use of a common standard of measurement adds an asset’s (*expected*) *appreciation* (a) with reference to the numeraire to the “own rate of interest” equation. In addition  $l$ , the liquidity premium, (strictly speaking plus the expected appreciation) resembles the more usual definition of liquidity: the ease of conversion into money without loss (Chick 1983: 298).

Thus, the net return of an asset is determined by its yield minus its carrying costs, plus its expected appreciation and liquidity premium.

$$(3.4) \quad (q - c) + a + l$$

These attributes define a spectrum of assets between which wealth holders can choose, ranging from capital assets, which offer a high yield but little liquidity and high carrying costs, to money for which the yield and carrying cost are nil, but which offers the highest liquidity premium. In this view of liquidity preference theory as a general theory of asset pricing and asset choice, assets with different liquidity premia have to offer different monetary returns to compensate for their relative illiquidity measured against a reference asset, i.e. money.<sup>16</sup> Assuming perfect competition and no segmentation in asset markets, the buying and selling of assets with different return-liquidity configurations, given existing states of liquidity preference, will equilibrate returns across markets and determines current asset prices (Carvalho 1992).

Liquidity preference, in turn, is defined as an individual's "schedule of the amounts of his resources, valued in terms of money or of wage-units, which he will wish to retain in the form of money in different set of circumstances" (Keynes 1997: 166). Underlying liquidity preference is Keynes' acknowledgment of the existence of time, whose passing creates uncertainty between the past and the future. More concretely, Keynes (1997) specified three famous motives why an individual would want to hold money, an asset which has nothing to show other than itself.<sup>17</sup>

Firstly, the transaction motive, i.e. the need for cash for the current transaction of personal and business exchanges; this can be further divided into the income and business motive depending on which unit is implied in the transaction; in essence however, Keynes' transaction motive is not very different from the neoclassical view of money as primarily a medium of exchange determined by current income. It is in the financial circulation, where

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<sup>16</sup> This is particularly warranted if one acknowledges that liquidity preference theory is not a theory of the demand for money, but a theory of the determination of the interest rate. The interest rate is the reward for parting with liquidity, i.e. money.

<sup>17</sup> Although analytically separating these different motives, Keynes (1997) also stressed that the "money held for each of the three purposes forms, nevertheless, a single pool, which the holder is under no necessity to segregate into three water-tight compartments" (p. 195).

money is held as an alternative to other assets, where Keynes' innovative ideas of a monetary production economy appeared (Carvalho 1992).

This financial circulation is approached through two motives for liquidity preference: the precautionary motive, i.e. "the desire for security as to the future cash equivalent of a certain proportion of total resources", and the speculative motive, "the object of securing profit from knowing better than the market what the future will bring forth" (Keynes 1997: 170).

Surprisingly, despite being specifically targeted at dealing with uncertainty, the precautionary motive received a quite perfunctory treatment in the *General Theory*. However, one could argue that it is exactly in relation to the precautionary demand for money that the specificity of Keynes' view on money as an asset in defence against uncertainty should be predicated (Carvalho 1992). Keynes (1997) defines the precautionary motive as "to provide for contingencies requiring sudden expenditure and for unforeseen opportunities of advantageous purchases, and also to hold an asset of which the value is fixed in terms of money *to meet a subsequent liability* fixed in terms of money..." (p. 196). The precautionary motive has sometimes been interpreted as part of the transaction motive (Chick 1983). This dissertation, however, puts particular emphasis on the demand for liquidity to meet subsequent liabilities. Indeed, as will be argued in more detail below, the roles of money as store of value and unit of account are closely related to its power to discharge contractual obligations. In this view, the ability to meet outstanding obligations will be crucial element of the demand for liquidity.

Much more space in the *General Theory* was given to the speculative motive, antecedents of which Keynes had already developed in the *Treatise*, and which directly linked the holding of money with the interest rate. Liquidity is demanded to be able to profit from changes in expected interest rates, and thus expected prices of capital assets, which differed from agents' subjective "normal" rate.

Money is the asset which can fulfil these motives better than any other. Its return is pure liquidity for which it is held despite offering no pecuniary returns. Money's liquidity premium is the highest, because it functions as the general unit of account, the unit in which contractual commitments are denominated. Indeed, as Carvalho (1992) argues, to serve as unit for contracts is the primary function of money and one from which the other properties of money are derived. The object that liquidates contractual commitments denominated in the

money of account is money, and for this reason it is “liquid”. “Money itself, namely that by delivery of which debt contracts are discharged, and in the shape of which a store of general purchasing power is held, derives its character from its relationship to the money of account, since the debts and prices must first have been expressed in terms of the latter...” (Keynes 1971b: in Carvalho, 1992: 48).<sup>18</sup>

In sum, in a Post Keynesian framework which emphasises the role of money as an asset class, liquidity, i.e. the ability to convert an asset into money, is demanded to take advantage of expected changes in the price of capital assets, the speculative motive, and/or to meet contractual obligations, the precautionary motive.<sup>19</sup>

What determines an asset’s liquidity in practice is a multidimensional reality, defined by the institutional structure of its market, the properties of the asset itself, i.e. its maturity, and the existing micro and macroeconomic financial structure(s) etc. Carvalho (1992) summarizes a market’s “institutional” liquidity in three terms: density, permanence and its organization. Density refers to the depth and tightness of a market, i.e. the number of potential buyers, the frequency of quotations, the transparency of information, the transaction costs etc. (Orléan 1999). Permanence is about the time of operation: the longer a market is open the easier it is going to be to find a potential buyer (seller). Finally, the liquidity of an asset will be fundamentally influenced by the organization of a market. The clearer the rules, standards and acceptable behaviours and procedures are in a given market, the more predictable the liquidity of an asset. Carvalho (1992) further argues: “An organized market is that which avoids excessive potentially disruptive fluctuations in the prices of assets, avoiding thereby solvency crises that could threaten the permanence of that market” (p. 87). Consequently, in addition to the structure of the market itself, the existence of a market maker, which contains the fluctuations in asset prices, becomes a crucial element of the liquidity of an asset (e.g. Davidson 2002). The efficacy of the market maker, in turn, depends on two conditions: the

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<sup>18</sup>The stability of money to act as unit of account is guaranteed by two properties of money in a capitalist society: zero or negligible elasticities of production and substitution. While the former assures money is not replaced by another asset when its price rises, the latter makes sure that a rise in the price of money will not lead to increased production (Kregel 1982; Keynes 1997).

<sup>19</sup>This does not mean the transaction motive is not important, but given this dissertation’s emphasis on financial operations in domestic currency, it is of lesser interest in this context.

desirability of price fluctuations in a given market and the resources the market maker possesses to affect the operations needed to regulate the market.<sup>20</sup>

### 3.5. An Alternative Analytical Framework for Exchange Rate Determination in Developing and Emerging Countries

As Kregel suggested, Keynes' liquidity preference theory and "own rate of interest" can be applied to – and indeed found its antecedents in – the international context where sterling was *the* money of the system while other currencies represented alternative durable assets. In fact, Keynes writes himself: "...it may be added that, just as there are differing commodity-rates of interest at any time, so also exchange dealers are familiar with the fact that the rate of interest is not even the same in terms of two different moneys, e.g. sterling and dollars. For here also the difference between the "spot" and "future" contracts for a foreign money in terms of sterling are not, as a rule, the same for different foreign moneys" (Keynes 1997: 224).

Adopting the view of the currency as international asset class, its return is constituted by its carrying cost adjusted yield, its expected appreciation against *the* currency of the system and finally its liquidity premium, i.e. the ability to convert the currency quickly and without loss of value in the money of the system to meet contractual obligations. "In equilibrium" this return should be equal to the return offered by the currency with the highest liquidity premium, i.e. *the* money of the system (indicated by \*).

$$(3.5) \quad (q - c) + a + l = l^*$$

At a given liquidity preference, changes in any of the four elements of a currency's net return, without a counteracting adjustment of the other elements, will alter the demand for domestic currency and lead to exchange rate movements. Before proceeding to a more detailed discussion of the different elements' of a currency's net return, several points are noteworthy.

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<sup>20</sup>However, as Keynes points out "...the question of the desirability of having a highly organised market for dealing with debts presents us with a dilemma. For, in the absence of an organised market, liquidity preference due to the precautionary motive would be greatly increased; whereas the existence of an organised market gives an opportunity for wide fluctuations in liquidity preference due to the speculative motive (Keynes 1997: 170).

Firstly, given that this is a model of asset choice under uncertainty, it is primarily investors' expectations about the elements of a currency's net return rather than the actual values which are important for exchange rate movements. Current or past realized values are considered only to the extent that they are used by decision makers to form their current expectations of future yields (Carvalho 1992). This also implies that, reflecting the critical realist ontology underlying this dissertation, these underlying factors of asset demand are only reflected in asset prices through the expectations and positions of economic actors, which means that their actual empirical manifestations will be context specific, time-varying and/or might not be empirically manifested at all.

Secondly, and closely related to the first point, although Keynes's "own rate of interest" evokes an equilibrium concept, it is not guaranteed that this equilibrium is ever achieved. Changes in returns and demand for the currency will set forces in motion which by themselves change the same returns, keeping things in steady motion. In addition, the emphasis on expectations under uncertainty also means that there is no equilibrium level towards which the domestic currency will tend (Carvalho 1984-85).

Finally, it seems puzzling that Post Keynesian writers have a very different, if not opposed, view of the nature of the forward rate in the foreign exchange market. While for the Cambists' Lavoie and Smithin the forward rate had nothing to do with exchange rate expectations, but was the result of a simple mark-up, applying Keynes' liquidity preference theory to the foreign exchange market the forward rate is a reflection of *expected* conditions on this market just as *expected* conditions "determine the size of the offer to repay money in excess of the sum borrowed" (Kregel 1982: 456). This dissertation would argue that these differences reflect the opposing views of Post Keynesian authors about the role of liquidity preference in a closed economy.

On the one hand, "horizontalists", or strong proponents of endogenous money, hold that the money stock in an economy is not exogenously determined by the central bank, but endogenously given by the "real economy". Banks simply transmit this real sector money demand, which, in turn, is fully accommodated by the central bank. Given that any change in money demand can (and will be) fully accommodated by the central bank, the interest rate cannot be an outcome of private sector portfolio decisions. In other words, liquidity preference theory can only hold in the presence of a fixed money supply. If the money supply

is not fixed, the central bank has full autonomy over setting the policy or wholesale rate, which is subsequently marked-up by the banks when meeting the private sector demand for credit (Lavoie 1984; Arestis and Eichner 1988; Moore 1988; Wray 1992; Smithin 1994). On the other hand, several Post Keynesian authors, such as Minsky (1975), Dow (1996), Chick and Dow (2002), Bibow (2009), and indeed Kregel (1980; 1982), give some role to Keynes' liquidity preference theory. These authors argue that interest rates are not only exogenously set by the central bank, but are partly endogenous and reflect expected market conditions through the liquidity preference of banks. In this view, banks do not passively accommodate money demand from the real sector, but might raise the price of departing with liquidity (money), i.e. the interest rate, depending on their own liquidity preference schedule and balance sheet considerations. As a result, even in the presence of a totally accommodative money supply, monetary authorities will not be able to exert total control over domestic interest rates.

Lavoie's and Kregel's different interpretations of Keynes' writings on the forward foreign exchange market seem to reflect exactly this divide. For Lavoie, adopting a horizontalist standpoint, it is important to show that even in an open economy in the presence of freedom of capital movements, central banks maintain the autonomy to set interest rates. Interest rates are a policy variable and not the outcome of private sector portfolio decisions. This means that exchange rate expectations have to be immediately reflected in the spot rate and the forward rate is marked with an exogenously given interest rate differential. Kregel, in turn, assumes a role for liquidity preference, which means that expected monetary conditions (or exchange rate expectations) are reflected in the interest rate through private sector portfolio decisions.

Empirical evidence shows that both views are right at certain times. Keynes "own rate of interest", with its emphasis on both the short-term speculative moment, represented by the yield and expected exchange rate appreciation, and the more structural liquidity premium component, can account for this. At times where the liquidity premium is constant, or changes only slowly, interest rates and/or expected exchange rate changes become the driving moment of currency demand. This has been the case, for example, in the recent carry trade period, where high interest rates and expected exchange rate appreciation have led to continuous exchange rate appreciation. On the other hand, a substantial change in a currency's liquidity premium (or liquidity preference) might require an adjustment in interest

rates to maintain the demand for the currency. This is particularly the case in the moment of crisis.

One caveat could be applied to this argument. In an important paper Lavoie (1996) argues that the different views of liquidity preference presented above are primarily one of nuances and depend significantly on the type of interest rate under consideration. In this vein, he holds that while Post Keynesians might disagree about the spread between the base rate and lending rate, i.e. the role of banks' liquidity preference schedule, most would agree that the central bank rate can be considered exogenous, because the central bank, as sole issuer of legal tender, can accommodate any increased demand for money through rising bank reserves, i.e. money supply (Lavoie 1996). In his discussion of the forward foreign exchange market Keynes, however, focused on short-term money market rates which move very closely to the base rate, which would support Lavoie's Cambist view presented in Section 3.

This argument, however, hinges fundamentally on the assumption that the central bank can accommodate any rising demand for money, which might not hold in the international context. Indeed, in the international context only one central bank, the issuer of the currency with the highest liquidity premium, can totally accommodate a rising demand for money. All other central banks will be constrained by their "money holdings", i.e. their foreign exchange reserves. This might make it necessary to increase the base rate in the face of changing liquidity preference and/or a deterioration in the currency's liquidity premium.

Finally, Keynes' "own rate of interest" and the incorporation of a liquidity premium, can also account for the failure of UIP without the ad-hoc addition of a risk premium. Assuming that a currency's yield is primarily constituted by short-term interest rates in international money markets (as indeed Keynes did in the *Tract*) and rewriting capital appreciation as the more familiar exchange rate appreciation<sup>21</sup>, equation (3.5) becomes

$$(3.6) \quad (i - c) - (e^e - e) + l = l^*$$

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<sup>21</sup>The sign for the expected exchange rate is negative, because depreciation reflects an increase in the exchange rate.



We further assume that the interest rate on *the* money is not zero and ignore carrying costs for the moment.<sup>22</sup>

$$(3.7) \quad i - (e^e - e) + l = i^* + l^*$$

Reformulating we get something very close to UIP

$$(3.8) \quad (i - i^*) = (e^e - e) + (l^* - l)$$

Equation (3.8) shows that even if agents form their expectations in line with interest parity, they might not fulfil them given the differential liquidity premia of currencies. Thus, as in the Cambist view, the forward rate, which now also incorporates this differential in currencies' liquidity premia, cannot be a good predictor of the future spot rate. In addition, although assuming a similar function to mainstream's risk premium, the existence of a liquidity premium is not an ad-hoc addition in a Post Keynesian framework of fundamental uncertainty and, as will be discussed in more detail below, allows for a theoretically substantiated specification of its determinants.

However, this possible consistency notwithstanding, in the Post Keynesian view presented in this dissertation the currency is not a relative price, which establishes equilibrium in an underlying market, but an asset driven by its net return relative to other currencies. The elements of this net return will be discussed in the following sections.

### **3.5.1. Short-term Returns: Yield and Expected Appreciation**

Short-term returns on domestic currency (investments) are crucial to explain exchange rate dynamics in DEC's once the domestic currency is considered to be an international asset class. While domestic money is held because of its liquidity premium, the currency as international money might have to offer higher returns to (international) investors to compensate for its lower liquidity premium relative to other currencies. In a similar vein, differential returns on currency holdings might become the driving factor of exchange rate movements in the face of a stable or only slowly changing liquidity premium.

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<sup>22</sup> The interest rate of *the* money of the system does not have to be zero, but should only be the lowest among all currencies.

Short-term returns are constituted by a currency's yield ( $q$ ) and expected capital gains on the exchange rate itself, i.e. expected exchange rate appreciation ( $\alpha = \mathbb{E}^e - \mathbb{E}$ ).<sup>23</sup> In Keynes' writings on the forward foreign exchange market the yields on currencies are short-term interest rates in international money markets. However, the domestic currency is not only an asset class per se, but as unit of account also denominates all domestic assets and contracts. Short-term financial flows into domestic currency assets might not only be directed towards short-term bank deposits, but will also be targeted at short-term domestic currency instruments such as bonds or equities. In this case, returns on these financial instruments will replace money market rates as the main yield on the domestic currency investment. The exact financial instrument and return considered will depend on the country under consideration and the nature of its integration in international financial markets. However, these instruments will be characterised by a high degree of liquidity which make them close enough in their properties to money to interpret them as an investment in the domestic currency.<sup>24</sup>

The second return element in the case of short-term domestic currency investments is expected changes in the currency itself (Davidson 1999). In line with Harvey's writings on the foreign exchange market, the formation of these exchange rate expectations will be context and time specific, primarily anchored by social conventions. These conventions, in turn, will be shaped by the specific structure and institutions of the market, its dominant actors, the extent and nature of integration in the world economy etc. In addition, given the reigning uncertainty, social conventions can be subject to sudden changes depending on psychological processes described by Keynes in its famous "beauty contest" and animal spirits, which can lead to trading behaviour characterised by herding, momentum or simple feedback trading (Kahneman and Tversky 1974; Harvey 2009). Thus, these exchange rate expectations come closer to the psychological processes described in behavioural finance or "animal spirits" in Post Keynesian finance theory. This dissertation does not exclude this kind of expectations, but complements them with underlying mechanisms, i.e. element of a currency's own rate of interest, which frequently shape actors' expectations and thus exchange rates.

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<sup>23</sup> Carrying costs ( $c$ ) are of less importance for money and financial instruments and will thus be assumed *nil* in this dissertation.

<sup>24</sup> Keynes (1997) himself pointed out that the line between "money" and "debts" can be drawn at whatever point is most convenient for handling a particular problem.

### 3.5.2. The Liquidity Premium

The single focus on short-term return considerations does not satisfactorily capture the complex nature and role of money in economic relations. In Keynes' writings money is held because it is a secure abode of purchasing power which transfers wealth in a world of uncertainty and allows meeting contractual obligations. More concretely, adopting a view of the exchange rate as international money and recognising liquidity preference theory as a general theory of asset choice, the demand for domestic currency and thus exchange rate dynamics is determined by the ability of domestic money to meet the three motives of holding liquidity – the transactions motive, the speculative motive and the precautionary motive – relative to other currencies. This is either the result of a currency's own ability to act as a stable unit of account and store of value, and thus general denominator of contractual obligations, or by the "institutional" liquidity provided by the market, which allows investors to exchange the domestic currency into the money of the system without cost and loss of value. As mentioned above, given this dissertation's emphasis on financial operations, emphasis will be on the speculative and precautionary motive.

Indeed, the emphasis on currencies' differential liquidity premia highlights the structured and hierarchical nature of the international monetary system.<sup>25</sup> While in a closed economy domestic money is the most liquid asset, in the international context this role might be fulfilled by another currency, which better fulfils international monetary functions and acts as the international medium of contractual settlement. For its liquidity, *the* money of the system is used in trade transactions, it is the main denominator of international credit relations and international funding currency and acts as the major reserve currency. In Keynes' time this role was assumed by the Pound Sterling, nowadays it is occupied by the US\$. The hierarchical system also knows intermediate currencies, fully convertible with high liquidity premia and able to defend the external value of the currency with interest rate changes. At the bottom of the system are unstable currencies with a low reputation in their ability to act as a stable store of value and unit of account and often prohibitively high interest rates to induce wealth holders to maintain demand for the domestic currency (Herr 1992).

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<sup>25</sup> This structural component of the international monetary system is also highlighted by Marx (1967) in his writings on „world money“ (Itoh and Lapavistas 1999).

In addition, the emphasis on a currency's liquidity premium allows one to highlight both the endogenous and exogenous determinants of such a premium and consequently exchange rate dynamics. As to the exogenous component, Dow (1999) emphasizes that very often exchange rate changes are unrelated to domestic economic conditions, but entirely the result of changes in international liquidity preference. These changes will be particularly marked for currencies with a lower liquidity premium. The endogenous components of a currency's liquidity premium can be derived from the motives of holding money. While the speculative motive is analytically still closer to the short-term return elements, the precautionary motive draws attention to the structural determinants of a currency's liquidity premium.

### **3.5.2.1. The Speculative Motive**

Speculation and the speculator are important themes in Keynes' *General Theory*. In the context of the liquidity preference theory of Chapters 13 and 15, speculation about future interest rates and thus bond prices establishes the important link between money demand and the interest rate. In Ch. 12 on the state of long-term expectations, Keynes establishes the famous distinction between the purchase of securities for resale at a higher price, which he termed speculation, and enterprise, buying securities for long-term income (Toporowski 2005).

In both cases speculation is discussed with reference to a specific market (the bond and money market on the one hand and securities on the other) and does not form an element of a general theory of asset demand. However, as Chick (1983) points out: "there is no reason to limit one's speculation to this kind of asset. In a broad sense, anyone holding an asset with any thought of future re-sale is speculating, taking an open position in something which may gain or lose capital value - as money itself does, in terms of purchasing power, when the price level varies. Speculation needs only two things: a lively market and sufficient variation in prices to make the game worth playing" (p. 209).

According to Toporowski (2005), Kaldor's (1939) famous paper "Speculation and Economic Activity" attempts to present such a general theory of speculative asset demand by making Keynes' liquidity preference theory consistent with his analysis of speculation in Ch. 12.

Kaldor does so by referring to Ch. 17 of the *General Theory*, Keynes' "own rate of interest", which, for him, was an explanation of speculative behaviour.<sup>26</sup>

Kaldor argues that an asset has to have two main properties to be demanded for speculative purposes: low carrying costs and a perfect or semi-perfect market. The condition of low carrying costs is framed with reference to Keynes' "own rate of own interest". Leaving liquidity premium aside, net carrying costs, defined as carrying costs minus the yield of an asset (c-q), are the significant concept for explaining the existence of speculation in certain goods. The emphasis on net carrying costs implies that assets used for speculation have to be perfectly durable and their value has to be high in proportion to bulk. In addition, their yield has to be independent of the speculative stock held, which assures that net carrying cost can never be positive and are negative in the majority of the cases (Kaldor 1939).

Kaldor's emphasis on net carrying costs is consistent with a view of speculation defined as generating returns from capital gains rather than income. By adopting Keynes' original "own rate of own interest", which measures an asset's return in terms of itself, he, however, explicitly excludes "any return due to appreciation of value (in terms of some standard) whether expected or unexpected" (Kaldor 1939: 20). This chapter, in turn, has expressed Keynes' "own rate of interest" in terms of a reference asset: money. This has made (expected) appreciation in relation to this reference asset an important part of returns, which, as has indeed been done by Davidson (1999), could be seen as an important conditioner of speculative asset demand.

The second attribute required to make a good a suitable object of speculation is a "perfect or semi-perfect market". This presupposes that the good must be capable of full standardisation and an article of general demand. Importantly, Kaldor's perfect market is not to be understood in the sense of the efficient market paradigm, but has to be seen in the sense of "perfect marketability", i.e. "goods which can be sold at any time for the same price, or nearly the same price at which they can be bought" (Kaldor 1939: 22). In this sense, Kaldor argues it comes close to what Keynes refers to as "liquidity" in certain parts of the *General*

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<sup>26</sup> Speculation is defined in very similar terms to Keynes as „the purchase (or sale) of goods with a view to re-sale (re-purchase) at a later date, where the motive behind such action is the expectation of a change in the relevant prices relatively to the ruling price and not a gain accruing through their use, or any kind of transformation effected in them or their transfer between different markets“ (Kaldor 1939: 17).

*Theory*. As such, it is also very similar to the “institutional” liquidity discussed in this dissertation.

Both conditions, Kaldor argues, are especially satisfied by future claims or titles to property, bonds and shares. Their low carrying costs and the existence of liquid markets make financial assets, including foreign exchange, primary objects of speculation.<sup>27</sup> This point is also made by Chick (1983), who argues that as a result of their lower transaction costs, active markets and huge potential gains, foreign exchange has become a prime speculative target in recent years.<sup>28</sup>

Kaldor’s and Chick’s discussions of speculation focus on the asset side of international balance sheets. The emphasis is slightly different in Minsky’s (1975) treatment of the speculative motive where future developments of asset prices are crucial to generate a cash flow to meet outstanding obligations. This emphasis on the liability side of balance sheets, and the precautionary element of money demand, form the second element of a currency’s liquidity premium which will be discussed in the next section.

### **3.5.2.2. The Precautionary Motive**

Monetary Keynesians after Hajo Riese (1986; 2001), such as Herr (1992), Lüken genannt Klaffen (1993) or Herr and Hübner (2005), explicitly reject the notion that exchange rates are driven only by short-term speculative expectations, primarily governed by animal spirits. For these authors, demand for a currency is fundamentally determined by investors’ medium term assessment of its “currency premium”. This currency premium, in turn, is the result of a currency’s ability to store wealth relative to other currencies. Based on this view, Herr (1992) specifies “Keynesian fundamentals”, which reflect a country’s expected economic policy and its commitment to maintain the stability of the currency. This includes factors such as the

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<sup>27</sup>A slightly different application of Keynes’ speculative demand to the international context is presented by Dow (1999). Dow sticks closer to the original definition of the speculative demand for money and argues that US\$ are held to take advantage of speculative gains in other currencies and/or short-term financial assets.

<sup>28</sup>Chick, however, is also concerned about the theoretical significance of speculation in an asset. For her, “the theoretical importance of speculation in the *General Theory* was that it provided a theory of the general level of interest rates” (p. 209). This chapter has shown that this reasoning could be applied to the international context as the domestic central bank is restricted by its foreign exchange reserves to accommodate demand for “money”, which makes, at least under certain conditions, the interest rate an outcome of private sector portfolio decisions.

willingness and ability to fight inflation, defend the currency in a crisis, or the exchange rate regime in place. Expectations about these factors are formed through social conventions and ultimately depend on the specific institutional and socio-economic context of the country in question. In addition, currencies' differential ability to store wealth and their position in the international monetary system is fundamentally determined by the size of a country's financial market and the currencies' existing radius of operation. Finally, this monetary and financial power has to be complemented with some level of political and economic dominance.

The ability to store wealth is an important element of a currency's liquidity premium. However, this dissertation argues that focusing solely on the asset side of international balance sheets has a few shortcomings. Firstly, it does not entirely explain the position of a currency on the top of the international currency hierarchy. There are many value stable currencies, but only one stands at the apex of the international currency hierarchy. As such, it also does not entirely explain why a country's political and economic power make its currency *the* money of the system. Secondly, this chapter argues, that the single focus on the store of wealth function misses the important structural and relational aspects of international finance. Money is credit money which establishes relations between debtors and creditors. These relations have important repercussions on the position of a currency in the international monetary system. In this vein, one could also argue that the emphasis on the store of wealth function makes it difficult to specify structural, underlying factors which determine a currency's liquidity premium, other than the central bank's commitment to maintain the value of the currency.

Following Minsky (1975) this dissertation emphasises the liability side of international balance sheets. According to Minsky (1975), capital asset pricing and portfolio decision theories should take into account the liability positions that are interrelated with asset positions given that "...a portfolio decision has two interdependent facets. The first relates to what assets are to be held, controlled, or acquired; the second relates to how the position in these assets – i.e., their ownership or control – is to be financed" (p. 70). As such, this chapter stressed the role of money as unit of account and denominator of contractual obligations, particularly debt obligations. In this view, a currency's liquidity premium is determined by its ability to meet outstanding obligations. In the domestic context this is the ability to convert an investment anytime and without loss of value into money, the unit of account and

denominator of contractual obligations. In an open economy, liquidity becomes the ability to convert domestic assets into the currency with which positions in these assets have been funded and transfer the foreign currency abroad to meet external obligations.

This emphasis on the liability side of international balance sheets does not only help to explain a currency's position on the top of the international currency hierarchy, but also allows one to specify structural factors which determine a currency's liquidity premium, particularly in the context of DECs.

As to the former, historical evidence shows that both currencies at the pinnacle of the international monetary system, the Pound Sterling and US\$, were the two main creditor currencies of their times (Keynes 1971a; Keynes 1971b; Kregel 1982; Herr 1992; Minsky 1993). Both countries registered large medium to long-term capital outflows, whose income financed (eventual) deficits on the trade balance. Yet, while economic agents cannot be forced to hold their assets in particular currencies, they can be forced to assume their liabilities in them. The economic and political power of the UK then, and US nowadays, made them the primary source of credits in the world economy and their currencies the main creditor currencies. However, "as eventually international indebtedness will be denominated in the currencies of the countries with large offshore assets, they must also accept that their currency will be a reserve currency of their debtors, for it is convenient to hold liquid assets in the currency in which your debts are denominated" (Minsky 1993). Indeed, both countries were also net short-term debtors as international investors sought the security and liquidity of the international reserve currency.<sup>29</sup>

As a result of path dependency and the primacy of their financial sectors, the Pound Sterling, and nowadays the US\$, remained the main denominators of international debt contracts and reserve currencies even after their countries ceased to be the main creditor nations. Herr and Hübner show that in 2003 more than 60% of all credits given by banks outside the Euro area were denominated in US\$, while other "reserve" currencies, such as the Japanese Yen or Swiss Franc only played minor roles in international credit relations (Herr and Hübner 2005: 105). The currencies' primacy in denominating international financial transactions and acting

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<sup>29</sup>In this vein, Herr (1992) argues that the country with the reserve currency acts like a bank performing maturity transformation for the international monetary system as it accepts short-term liabilities and transforms them into longer term assets.



as main international funding currencies, in turn, cemented their leading role in the international financial system. For example, given the quantity of financial institutions' liabilities denominated in US\$, any change in international funding conditions, e.g. as a result of an adjustment in international liquidity preference, increases the demand for US\$, which, in turn, supports its value stability and reinforces its role as international reserve currency. This inherent demand and value stability puts it on top of the currency hierarchy and reduces the liquidity premium of other currencies against it.<sup>30</sup>

The reduction in a currency's liquidity premium vis-à-vis the main funding currency will be more marked the higher the potential funding needs. Thus, in line with the theoretical argument presented above, investors' perceptions about a currency's liquidity premium will be fundamentally influenced by its ability to meet outstanding external obligations. According to this dissertation, three structural factors determine this ability, i.e. a currency's liquidity premium.

The first is a country's total stock of net (short-term) external obligations; traditionally, the link between exchange rate dynamics and a country's external liabilities has been analysed in the context of foreign currency denominated debt obligations (e.g. Chang and Velasco 1998; Radelet, Sachs et al. 1998; Rodrik and Velasco 1999; Boyer, Dehove et al. 2004; Kregel 2004). Smithin (2002-03), Smithin and Kam (2004) and Paraskevopolous, Paschakiset al. (1996) explicitly endogenise a currency's liquidity premium according to a country's ratio of foreign debt to GDP. In the face of foreign currency denominated debt, exchange rate changes have an immediate effect on a country's real debt burden and debt servicing costs, potentially leading to illiquidity or even solvency problems. In addition, liabilities denominated in foreign currency exert a latent depreciation pressure on the currency in order to generate the foreign exchange necessary for debt service (including both interest payments and amortisations).<sup>31</sup> This pressure can be exacerbated in the presence of a large share of short-term debt if quick repayment is demanded by international investors.

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<sup>30</sup>However, a country cannot be a large net (short-term) debtor and maintain its currency's position as international reserve currency indefinitely. Indeed, as already pointed out by Triffin in the 1960s in the context of the gold standard, the increasing (short-term) debt of the reserve country will ultimately put the primacy of its currency in doubt. Mateos y Lago, Duttagupta et al. (2009) argue that a similar mechanism has been in place in the current system of floating exchange rates and large global imbalances, which increasingly questioned the role of the US\$ as *the* currency of the system. For a recent discussion on the future of the international monetary system see, for example, Williamson (2010), Stiglitz and Greenwald (2010) or Wyplosz (2010).

<sup>31</sup>This transfer problem has already been pointed out by Keynes in the context of Germany's reparation payments. For a more recent discussion see Milesi-Fereti (2004).

This dissertation, however, would argue that it is not just external currency debt, but any form of net (short-term) external liabilities, i.e. (short-term) domestic assets held by foreign investors, which undermine a currency's liquidity premium through either large and abrupt exchange rate movements and/or the underlying need to generate foreign exchange. Any foreign investment in domestic currency assets, which has been funded in international financial markets, has an immediate effect on the exchange rate as investors convert foreign (primarily US\$) into domestic currency (and vice versa). As such, an external liability position in the international financial system, even if it is in domestic currency, maintains the possibility of large and abrupt exchange rate changes when international investors sell their domestic assets. This undermines a currency's ability to act as a stable unit of account.<sup>32</sup> Such structural pressure on a currency's liquidity premium will be higher the shorter the maturity of a country's net external liabilities as these can be immediately reversed. In addition to these immediate depreciation pressures, a country's payment commitments on its outstanding liabilities, such as debt service payments but also dividends and profit repatriations, will continue to maintain a constant demand for foreign exchange.<sup>33</sup>

Furthermore, although most obvious in the case of foreign investment in domestic assets, any sizable currency mismatch in agents' balance sheets can lead to abrupt and severe exchange rate movements, thus undermining a currency's liquidity premium. In other words, this dissertation argues that it is the entire net short-term foreign liabilities of a country which determine its currency liquidity premium. This would, for example, also include domestic actors assuming (short-term) foreign liabilities to invest/speculate in domestic assets.

The emphasis on the liability side of (international) investors' balance sheets also highlights the importance of international market conditions in driving exchange rate dynamics in DEC. The exposure of foreign investors to domestic assets, funded in international financial markets, tightens the link between international market conditions and domestic asset price

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<sup>32</sup>Exchange rate volatility might even increase in the presence of foreign investment in domestic currency asset as the exchange rate risk is borne by the foreign investors, which is likely to increase their sensitivity to expected exchange rate changes.

<sup>33</sup>In theory, the demand for foreign exchange generated by profit and dividend remittances should depend more on the economic conditions of a country and thus act countercyclical. In addition, it is expected that parts of these commitments will be reinvested in the country. Nevertheless, even profit and dividend remittances create foreign liabilities which weigh on a country's balance of payments (e.g. Lehmann 2002; Paulani 2008). In addition, balance of payments data from Brazil shows that profits and dividends from previous equity investments did not act countercyclical in the crisis.

movements, as any change in international funding conditions can lead to an immediate sell off of domestic assets, entirely unrelated to domestic economic conditions. As outlined above, this sensitivity will be higher, the lower the liquidity premium, i.e. the larger the stock and the shorter the maturity of foreign investments in domestic assets.

The second and third structural element of its currency's liquidity premium are determined by a country's ability to meet its outstanding liabilities through "forcing a cash flow in its favour" (Minsky 1975; Minsky 1986). These liabilities include, on the one hand, the permanent payment commitments set up by the stock of existing liabilities and, on the other hand, the existing stock of short-term net foreign liabilities that can be converted into foreign currency any time.<sup>34</sup> According to Minsky, this cash flow can be generated either through the income generation process (including income from previous lending) and/or dealing and trading in capital assets and financial instruments.

As to the former, Minsky (1993) argues that liquidity is not just the characteristic of assets; it is also a flow concept in that assured periodic flows of income "liquidify" households, business and governments. In the international context, this becomes the ability to generate the necessary foreign exchange to meet one's payment commitments without sharp changes in the exchange rate (Herr and Hübner 2005). For both Minsky (1993) and Herr (1992), this "foreign exchange productivity" is a function of balance of payments flows. Minsky divides the balance of payments into four tiers depending on the flows' ex-ante determinateness: Tier 1 includes all payment commitments on debts.<sup>35</sup>; Tier 2 comprises the balance of trade; Tier 3 long-term capital movements and Tier 4 short-term capital movements, where the latter acts as a regulating factor to restore equilibrium in the balance of payments.<sup>36</sup> In the case of a debtor country, Tier 1 is in chronic deficit, which has to be covered by Tier 2 flows. If the balance on Tier 1 and Tier 2, i.e. the current account, is in deficit, foreign exchange has to be generated through (short-term) capital movements. These flows, however, weigh on a currency's liquidity premium, through increasing its net foreign liabilities and Tier 1

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<sup>34</sup>Indeed, Minsky incorporates a unit's liability structure in Keynes' own rate of interest equation by interpreting carrying costs as the payment commitments set up by a unit's liabilities. These, however, are more narrowly defined than in this dissertation and refer primarily to debt service payments.

<sup>35</sup>Minsky does not consider payment commitments in the form of dividends and/or profit remittances. Herr (1992) does so, but subsumes them under Tier 2. Given that these flows represent permanent payment commitments this chapter would classify them under Tier 1.

<sup>36</sup>However, Minsky (1993) also acknowledges the autonomous nature of short-term capital flows driven by speculative motivations, which can have important effects on the exchange rate.

payments. Thus, following this view, a country's ability to meet its foreign obligations through trade surpluses (or indeed profit and remittances from previous long-term capital flows), i.e. an equilibrated or positive current account as its autonomous source of foreign exchange, becomes another important indicator of its currency's liquidity premium.

Finally, if current cash flows are insufficient to meet outstanding obligations, the ability to "make positions", i.e. to refinance existing debt and/or to liquidate assets, becomes an important determinant of an asset's liquidity (Minsky 1986; Tymoigne 2006). In the international context this becomes the ability to quickly and at low cost convert the domestic asset into the funding currency. This, in turn, brings the "institutional" liquidity of a market to the fore. As discussed in Section 4, this institutional liquidity comprises a myriad of factors, including the properties of an asset itself, the structure of a market, and the agents operating in this market. The existence of a market maker, which is able to provide liquidity to the market and avoid excessive price movements, is a crucial element of this institutional liquidity. In the money and foreign exchange market, this market maker is constituted by the central bank. However, while in domestic currency the central bank can act as a lender of last resort, this ability is limited in the case of foreign exchange. As a consequence, the central bank's stock of foreign exchange, particularly of the funding currency, becomes an important determinant of its ability to provide liquidity in foreign exchange. In addition, this liquidity provision will be fundamentally shaped by the existing exchange rate regime, which determines the central bank's "commitment" to operate in the foreign exchange market.

In sum, these three factors of a currency's liquidity premium, its net (short-term) foreign liabilities, the cash flow to meet these liabilities, and the institutional liquidity of a market, are important underlying mechanisms shaping the expectation formation and positions of economic actors in short-term financial and currency markets. On the one hand, balance sheet adjustment by international investors (or indeed by domestic investors with foreign currency obligations) can lead to sizable exchange rate movements. On the other hand, these three factors influence agents' perceptions about some form of "medium-term" or "sustainable" exchange rate value.

Again this view of economic dynamics is close to Minsky's. Minsky does not define an equilibrium situation, but he is quite explicit about the sustainability of an economic situation, which is characterized by the existing financial commitments of economic units. In

his view, a “critical element in explaining why financial instability occurs is the development over historical time of liability structures that cannot be validated by market determined cash flows or asset values” (Minsky 1982: 13). The more dependent an economic unit is on portfolio operations rather than cash flows to meet its outstanding obligations, the more fragile, i.e. unsustainable, the situation. This is exacerbated in the presence of maturity mismatches, e.g. in the presence of a large share of short-term financing (Minsky 1992).<sup>37</sup>

Importantly, these financial structures and balance sheet configurations create economic conditions which define a stable or “sustainable” economic situation. However, this does not mean that the economy (or the exchange rate) will ever come to rest at this point. For authors, who stress the pervasiveness of uncertainty in Keynes’ economic system, “sustainable” or long-period values only affect prices through (long-run) expectations, i.e. as future values anticipated in the present. “Keynes (and this Post Keynesian group), therefore, could not recognize any role for long run positions which could be established as gravity centres. The economy does not *tend* to anything over calendar time” (Carvalho 1984-1985: 224). Short-run positions might be influenced by deviations from the “long-period”, but there is no determinate tendency to achieve this point.<sup>38</sup> This also means that perceptions about the appropriate financial structure and financial commitments can vary substantially over the business cycle (e.g. Minsky 1986).<sup>39</sup>

### 3.5.3. Implications

DECs’ history as international debtor countries has undermined the liquidity premium of their currencies and has placed them at the bottom of the international currency hierarchy. Even if selected countries have managed to denominate their debts in domestic currency (or depend increasingly on non-debt generating capital inflows such as flows to the domestic stock market) the liquidity premium of their currencies has remained undermined by a large level of short-term net foreign liabilities funded in international financial markets in the main

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<sup>37</sup>It is important to note, that this dissertation is not trying to apply Minsky’s financial instability hypothesis to the open economy. Minsky’s theory was quite explicitly about capitalist firms, investment and the acquisition of capital assets. What this dissertation takes from Minsky, however, is the importance of balance sheet considerations in shaping economic dynamics.

<sup>38</sup> This interpretation is consistent with Keynes’ first definition of equilibrium that “...relates to a position toward which forces spring up to influence the short-period position whenever the latter has diverged from it” (Carvalho 1990).

<sup>39</sup>It is important to point out that the long-period or “equilibrium value” envisaged by the market might differ considerably from what is judged to be an appropriate exchange rate value from the perspective of the policy maker.

funding currency, nowadays the US\$. This has maintained their dependence on international market conditions and their currencies' vulnerability to sudden and abrupt exchange rate changes, which has continued to undermine their liquidity premium. The lower liquidity premium of DECs' currencies and the existence of a hierarchical international monetary system, in turn, have important implications for the international and domestic macroeconomic configuration of these countries.

Firstly, as expressed in Keynes' "own rate of interest", the lower liquidity premium of their currencies might require DECs to offer higher interest rates to the investor community to maintain demand for their currencies. This is particularly evident in times of crisis when liquidity preference increases and the currencies' ability to act as a stable unit of account is put into doubt. Higher interest rates might prevent countries from using monetary policy for domestic economic considerations and hamper the accumulation process (Herr 1992). Just like money in the closed economy, the currency with the highest liquidity premium can offer the lowest pecuniary return and target monetary policy to domestic economic conditions.<sup>40</sup> Beyond this, the return on *the* money of the system acts as a reference point for the return of all other assets (currencies) in the system as "money rules the roost". Thus, changes in monetary conditions in the core country will affect the relative return, and thus monetary conditions, of all other currencies in the system, particularly those with lower liquidity premia.

Secondly, it is the endogenous nature of financial flows and ultimately DECs' integration into international financial markets which create the vulnerabilities that lead to large exchange rate movements. Foreign financial flows generate a country's stock of outstanding obligations and hence shape their own behaviour by affecting a currency's liquidity premium. Thus, it is the financial flows themselves which create the conditions that determine their own behaviour (Painceira and Carcanholo 2004). Again, this argument closely follows Minsky's view of the workings of a capitalist system, as decisions taken by economic units endogenously change the financial structure of an economy creating fragilities which can turn into unstable dynamics. The emphasis on a country's net foreign (short-term) obligations as important driver of exchange rate movements also implies that maintaining good macroeconomic "fundamentals", e.g. low inflation, prudent fiscal situation etc., might prove

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<sup>40</sup>This is the "exorbitant privilege" as de Gaulle called it (Williamson 2010).

futile to reduce exchange rate volatility. On the contrary, good macroeconomic fundamentals might increase exchange rate volatility through attracting more (short-term) financial inflows, which in turn increase the country's stock of (short-term) net foreign obligations.

Thirdly, the destabilizing nature of (short-term) financial flows implies that DECs might find it difficult to progress from the lower level of the international currency hierarchy. As a result of their currencies' lower liquidity premia very few DECs are able to issue debt in their own currencies. Foreign currency debt, however, exerts structural depreciation pressure which continues to undermine their currencies' liquidity premia.<sup>41</sup> However, even if countries manage to denominate their debt in domestic currency or attract non-debt generating financial flows, these flows remain predominantly of a short-term nature. The lower liquidity premium of DECs' currencies requires them to offer higher interest rates and/or increase the "institutional" liquidity of their markets. One important element of this "institutional" liquidity is the nature of the financial flows themselves, i.e. their maturity; the shorter the maturity the easier the reversal of resources abroad to meet outstanding obligations. Thus, the result of DECs' lower liquidity premia is a preponderance of short-term financial flows, perpetuating these currencies' lower liquidity premia through the risk of sudden and large reversals.

Finally, the acknowledgment that a country's monetary configuration and exchange rate dynamics are the result of an endogenously determined liquidity premium also leaves space for economic policy. In this vein, Smithin (2002-03) and Smithin and Kam (2004) argue that a country's ability to reduce its net debtor status will allow it to permanently reduce interest rates and manage them with the domestic economy in mind. Following the broader approach adopted in this dissertation, this would require a reduction in DECs' net short-term foreign liabilities to increase monetary policy autonomy, reduce external vulnerability and reduce the importance of international market conditions for exchange rate determination. This would be particularly vital for DECs, given their structurally lower liquidity premia. In more concrete terms, this would call for a more cautious stance towards financial liberalization, particularly with regards to short-term destabilizing financial flows – an issue which will be discussed in more detail in the concluding chapter of this dissertation.

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<sup>41</sup> Thus, it is DECs' position in a hierarchical international monetary system rather than their "original sin" (Eichengreen, Hausmann et al. 2003; McKinnon and Schnabl 2004), which makes it difficult for these countries to denominate their debt in domestic currency.

### **3.6. Conclusions**

This chapter has presented an alternative analytical framework of exchange rate determination in DEC. It has extended existing Post Keynesian exchange rate theory with the critical realist ontological claim of deeper structures and mechanisms, which were formulated with respect to one of the most important institutions in Post Keynesian theory in the presence of fundamental uncertainty: money.

Based on Keynes' writings on the forward foreign exchange market, liquidity preference theory and "own rate of interest", the chapter has argued that the currency, as international money, should be interpreted as an international asset class whose demand is determined by investors' expectations about its net return relative to other currencies, primarily the currency with the highest liquidity premium. This return is constituted by two main elements: firstly, pecuniary returns, which are constituted by returns on short-term financial instruments, denominated in domestic currency, and expected capital gains on the exchange rate itself; secondly, a currency's liquidity premium, which is conditioned by a country's ability to meet its outstanding external obligations. This ability is determined by a country's total net (short-term) foreign liabilities and its capacity to meet these liabilities through (a) its "foreign exchange productivity", primarily the current account, and (b) the "institutional" liquidity of a market which allows investors to quickly sell their assets and convert them into the funding currency. In addition, Keynes' liquidity preference theory accounts for exchange rate changes due to exogenous shifts in liquidity preference, which will be more marked the lower a currency's liquidity premium. These real underlying mechanisms primarily affect currency prices through the expectations and positions of economic agents, formed under uncertainty, in short-term financial and currency markets. This implies that the exact manifestations of short-term returns and a currency' liquidity premium will depend on the specific market under consideration and/or might not be apparent at all. In addition, no convergence to these factors is guaranteed.

The application of Keynes' liquidity preference theory and "own rate of interest" to exchange rate dynamics in DEC can theoretically accommodate a series of empirical phenomena. Firstly, it theoretically substantiates the important role of short-term interest rates for exchange rate determination in DEC and the changing empirical causality between interest



rate and exchange rate movements. Secondly, Keynes' liquidity preference theory points to the existence of a structured and hierarchical international monetary system resulting from currencies' differential liquidity premia. This hierarchic monetary system has important implications for the macroeconomic configuration and exchange rate dynamics in DECs, ranging from sustained higher interest rates and sensitivity to international market conditions to path dependent and self-feeding processes. Thirdly, the emphasis on the liability side of international balance sheets in the definition of liquidity highlights the important role of financial structure and credit relations in accounting for countries' different positions in this hierarchical international monetary system and exchange rate determination in DECs. The emphasis on financial structure also highlights the endogeneity of financial processes, as it is the financial themselves flows which create the external liabilities that subsequently shape financial flows' behaviour through their effect on a currency' liquidity premium. Finally, the emphasis on an endogenously determined liquidity premium has potentially important policy implications, primarily with respect to DECs' integration path in international financial markets.

There are, of course, several shortcomings to this view of exchange rate determination. Firstly, the focus on short-term financial flows ignores operations of other agents in the foreign exchange markets, e.g. foreign direct investment or exporters and importers, which would have to be included to generate a full picture of exchange rate determination in DECs. Secondly, as already mentioned above, even if the focus is entirely on short-term financial flows one has to be careful about making generalisation of motivations across the different actors and types of financial flows. Different institutions can have different motivations to hold DECs' assets which will determine the factors they consider for their investment/trading decisions. Elements of this heterogeneity will be uncovered with the semi-structured interviews presented in Chapter 7. Particular emphasis will lie on the distinction between onshore and offshore financial investors. This is justified by the analytical focus on the internationalisation process and its implications for exchange rate dynamics highlighted in this dissertation.

