

# **Currency Hierarchy and the Nature of the Internationalisation of Peripheral Currencies**

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# Currency Hierarchy and the Nature of the Internationalisation of Peripheral Currencies

Currency internationalisation, often defined by the use of a local currency beyond the national frontier, has been a topic widely discussed in the literature. The recent rise of currencies from emerging market economies in the international market has suggested that some peripheral currencies have become more internationalised. However, their position in the currency hierarchy, which is formed by the US dollar at the top and other central currencies in an intermediate position, has remained the same. This paper investigates the different types of currency internationalisation, which are reflected in the currency hierarchy, and adopts a Post-Keynesian perspective to shed light on the subordinate position of peripheral currencies in the International Monetary System. We suggest that emerging market currencies are mainly internationalised as a short-term investment currency, which reinforces their subordinate position in the currency hierarchy.

**Keywords:** currency internationalisation, currency hierarchy, developing and emerging economies

## **Introduction**

The asymmetric nature of the international monetary system, where a few – or even just one currency – assume most international money functions, has been a long-standing academic and policy interest. Recently, a few emerging market (EM) currencies, in particular, the Chinese Renminbi but also other currencies such as the Mexican Peso, the Brazilian Real, or the South African Rand, have experienced a significant increase in their international use (Maziad et al., 2011, McCauley and Scatigna, 2011, Mohan et al., 2013, Ma and Villar, 2014). The Chinese Renminbi aside, empirical evidence shows that this internationalisation has taken place in a highly skewed way, limited to fickle holdings of (short-term) domestic currency assets, rather than across several money functions. This type of currency internationalisation, most evident in the notorious carry-trade activities, has exacerbated some of the characteristics specific to EM currencies, such as their excess volatility, external vulnerability, and a potential loss of policy autonomy (Andrade and Prates, 2013, De Paula et al., 2017).

This paper conceptualises this skewed nature of emerging market currency internationalisation and links it to the hierarchic nature of the international monetary system analysed by scholars in International Political Economy (e.g. Kindleberger, 1981, Strange, 1971a, Cohen, 1998) and Post-Keynesian Economics (e.g. Prates et al., 2014, De Paula et al., 2015, Kaltenbrunner and Paineira, 2015). Specifically, it makes two contributions to that literature. First, it argues that not only the international use of many currencies is limited, but also currencies do not internationalise the same way, as they assume different functions of money in the international market. These different types of currency internationalisation can be seen as indicators of a currency's position in the hierarchical international monetary system, i.e. the currency hierarchy. Second, based on Keynesian writings, it introduces a novel

type of currency internationalisation that accounts for the role of peripheral currencies in the international market, namely their internationalisation as short-term investment currencies.

Scholars in International Political Economy (IPE) have long analysed the asymmetric nature of the international monetary system, dominated by a few major currencies. Based on the seminal work by Cohen (1971), Kenen (1983), and Krugman (1984), theoretically, this literature has concentrated on whether and to what extent currencies assume money functions (to act as medium of exchange, unit of account, and store of value) in the international economy. So far though, this literature has largely focused on the top currency (in Keynes' times the Pound Sterling, today the US Dollar), and its potential contenders (once the Euro, now the Chinese Renminbi) (Chen and Peng, 2010, Li and Liu, 2010, McCauley, 2011, He et al., 2016). Despite the growing participation of currencies issued by emerging countries in the international market, little has been written on the internationalisation experience of currencies further down the hierarchy. Post-Keynesian scholars, on the other hand, have an acute awareness of the potential implications of issuing a "subordinate" currency, ranging from excess volatility, external vulnerability, and severe constraints on macroeconomic policy autonomy. In this literature though, there has been little explicit engagement with the process of currency internationalisation. Moreover, as in the IPE scholarship, there seems to be an implicit assumption that the higher the international acceptance of emerging market currencies, the higher will be its position in the international currency hierarchy. This view of currency internationalisation though fails to take into account the varied ways currencies can internationalise, and the qualitatively different implications of distinct types of currency internationalisation, will have for domestic macroeconomic dynamics. Indeed, peripheral currencies might get trapped in certain

adverse functions of international money, such as the demand of a currency for speculative purposes, which is not equivalent to other types of currency internationalisation (Belfrage et al., 2016, Kaltenbrunner, 2018). In other words, it is not so much, *whether* but *how* and along which functions currencies internationalise. Moreover, though having grown rapidly over recent years, there is still little work in the currency hierarchy literature on how to measure a currency's position in the international monetary system.

This paper aims to address these gaps by explicitly linking the nature of currency internationalisation with currencies' positions in the international currency hierarchy. Moreover, it introduces a novel type of currency internationalisation that allows one to characterise theoretically the peculiar way emerging market currencies integrate into the international monetary system at the current conjuncture: short-term investment currency internationalisation.

After this introduction, the first section of this paper will discuss the functional concept of currency internationalisation, which is widely adopted in this literature. The second section presents a critical review of the concept of currency hierarchy, which was first presented by IPE scholars, but mainly developed by Post-Keynesian economists. The third section analyses the Post-Keynesian interpretation of the asymmetries of currencies in the IMS, which will serve as the foundation for the main contribution of this paper: the introduction of a novel type of currency internationalisation, the short-term investment currency, discussed in the fourth section. The last section presents a summary of the main findings of this paper.

## **The Functional Conceptualisation of International Money**

The concept of currency internationalisation generally refers to the process whereby currencies are used outside the country of origin for international transactions. It is widely discussed in the field of International Political Economy (IPE), which establishes a bridge between international relations (politics) and economics. Based on the seminal work by Benjamin J. Cohen (1971), from an economic vantage point, currency internationalisation in this literature is analysed through the extent to which currencies assume the traditional three functions of money, i.e. medium of exchange, unit of account and store of value, in the international market.<sup>1</sup> In this analysis, a currency is fully internationalised when it performs all the three functions of money outside its country of origin. These three functions are analysed for the private and official sector respectively, which produces six different roles of international money as summarised in Table 1. Given the predominant position of private demand for international currencies,<sup>2</sup> this paper focuses on the types of currency internationalisation from the perspective of private actors.

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<sup>1</sup> While IPE scholars take into consideration some of the economic factors that contribute to the internationalisation process, they are mainly interested in the relationship between political power and the international use of currencies. This paper presents a critical analysis of their economic arguments.

<sup>2</sup> Government may also use foreign currency to invest in real and financial assets in the private market (e.g. sovereign wealth fund).

Table 1. The Roles of International Money

<b>Function</b>	<b>Private</b>	<b>Official</b>
<b>Medium of Exchange</b>	Vehicle currency Trade Settlement currency	Intervention currency
<b>Unit of Account</b>	Trade Invoicing currency	Exchange Rate Anchor
<b>Store of Value</b>	Investment currency	Reserve currency

Source: Cohen and Benney (2013)

The first function of money, to act as medium of exchange, refers to the ability of a domestic currency to facilitate international trade by serving as a general means of payment in the international market. In the private sector, this function of international money initially gave rise to the ‘transaction currency’, which is a currency that circumvents the problem of ‘double coincidence of wants’ (Cohen, 1971, Eichengreen et al., 2016). More recently, the literature on currency internationalisation has replaced the ‘transaction currency’ with two other, more specific, roles of international money. In this more recent literature, a currency is an international medium of exchange when it is employed as a vehicle for foreign exchange operations (vehicle currency) and/or an instrument for trade settlement (trade settlement currency). Although these two types of currency internationalisation are intertwined and, for this reason, they have been used interchangeably in this literature, they are not synonyms (Cohen, 2013). The vehicle currency serves as an intermediary to triangulate the currency pairs that are not traded directly (Goldberg and Tille, 2005). This type of currency internationalisation differs from that of trade settlement, which is the currency directly used for the payment of goods and services in the international market.

The second function of international money measures the relative price of assets, goods and services in the international market – the unit of account function. According to this IPE literature, in the private sector, a currency is internationalised as unit of account when foreign investors use it to invoice trade operations.<sup>3</sup> Although the currency used as trade settlement may differ from the currency used as trade invoicing, empirical evidence suggests that they are normally the same (Friberg and Wilander, 2008, Ito and Chinn, 2014).

Lastly, the third function of money, the store of value, concerns the ability of a currency to preserve its value through time. Economic agents store their wealth by investing in assets that not only serve as a store of value themselves but, most importantly, in assets that are denominated in a stable currency, both with regards to domestic inflation and exchange rate volatility. In the private sector, this role of international money is called the ‘investment currency’ (Cohen and Benney, 2013).<sup>4</sup>

Based on this classification, both IPE scholars and economists have extensively analysed the current state of the international monetary system – largely focused on the US Dollar as *the* international currency - and the potential of some contenders, such as the Euro and the Chinese Renminbi, to progressively assume those functions and challenge the US Dollar’s leading position. Large parts of that literature though, in particular in economics, focuses either on a few select functions, such as the private

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<sup>3</sup> Post-Keynesian authors instead highlight more the role of currencies to denominate international financial contracts (see e.g. Kaltenbrunner, 2015; Belfrage et al. 2016), as it will be discussed in the fourth section of this paper.

<sup>4</sup> Cohen (1971) initially referred to this type of currency internationalisation as the ‘asset currency’.

medium of exchange (trade invoice and settlement currency) and public store of value (reserve currency) functions, or on the analysis of a few main currencies (e.g. US Dollar, Euro and Renminbi) across several money functions.<sup>5</sup> Moreover, there is very little engagement with the varying implications different money functions, and hence types of currency internationalisation, might have for macroeconomic dynamics. Indeed, there seems to be an implicit assumption that once internationalising, this process would take place homogeneously across all money functions; an assumption that is arguably the result of this literature near exclusive focus on the leading currencies on the international monetary system. However, as the recent experience of emerging market currency internationalisation has shown, this might not be the case. Instead, those currencies might get caught in certain types of internationalisation with detrimental implications for exchange rate dynamics, external vulnerability, and macroeconomic autonomy. This skewed nature of currency internationalisation in emerging economies, this paper argues, is both a manifestation and further cements those currencies' subordinate position in the international currency hierarchy – a literature that we turn to in the next section.

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<sup>5</sup> A recent exception is Cohen and Benney (2013), who give a comprehensive overview of the role of the US Dollar along all the international money functions discussed above.

## **The Hierarchical Structure of the International Monetary System**

The literature on currency hierarchy was firstly introduced by IPE scholars, who named it as ‘currency pyramid’ (Cohen, 1998). Susan Strange (1971b) was the pioneer of classifying currencies into categories in an attempt to formulate a political theory of international currencies, which were defined by her as ‘types of currency’. Her appropriate criticism of the economic analysis of international currencies was based on the fact that economists, mostly from a mainstream apparatus, seem to focus on rigorous mathematical models to explain the international use of currencies while taking for granted historical and political factors that influence this process.

Cohen (1998) further developed the categories proposed by Strange (1971b) into a more detailed, hierarchical classification. His aim was also to provide a better understanding of the structures of governance and political power in the international monetary system. The analysis of Cohen (1998, 2003) draws a clear parallel between each of his categories and the functions of international money, in which the currency pyramid is just a useful illustration of the geography of money, i.e. the organisation of currencies relations in the international market. However, the implications of the currency hierarchy for those countries issuers of peripheral currencies is not an object of concern in the IPE literature. The major drawback of the IPE approach to currency hierarchy is that the internationalisation of several currencies issued by countries with lower political power is underrepresented in just a few categories. The currency hierarchy introduced by IPE scholars brings a new perspective into this literature, as it describes the different roles of currencies in the IMS and emphasises political power as an important determinant of their internationalisation. However, the IPE literature does not further elaborate on the types of internationalisation experienced by peripheral

currencies, particularly those issued by emerging market economies, which has been growing albeit their political weakness.

Though the concept of currency hierarchy was originally proposed by IPE scholars, the ‘currency pyramid’, this literature was essentially developed in parallel to these scholars by Post-Keynesian (PK) economists. The PK literature on currency internationalisation is essentially intertwined with currency hierarchy. The PK theory, however, relies on a completely different economic apparatus from the mainstream economists and IPE scholars. Their main contribution to this debate is precisely to stress the hierarchical nature of the international monetary system and, in particular, the implications of these asymmetries for developing and emerging economies. Moreover, the PK literature on currency hierarchy theoretically substantiates this subordination by drawing out other economic factors overlooked by mainstream economists. Whereas the IPE literature has largely focused on political factors to explain the different ranks of the hierarchy, the Post-Keynesian literature has applied Keynesian monetary theory – using liquidity preference theory – to explain the determinants of this subordination in the context of fundamental uncertainty.

Davidson (1982) was among the first heterodox economists to identify the need for a theory on international liquidity preference. His aim, however, was not to develop a theory on currency hierarchy, but rather an exchange rate theory under the presence of uncertainty. In this PK perspective, the international liquidity of currencies depends on the confidence of foreign agents in the ability of the central bank to work as a lender of last resort by using its reserves to preserve the currency value, which emphasises the store of value function of international money (Davidson, 2002).

In an open economy, international agents hold and trade currencies as an asset class per se, which Andrade and Prates (2013) named as ‘currency assets.’<sup>6</sup> Contemporary Post-Keynesian economists applied the concept of the ‘own rate of interest’ of an asset ( $r$ ) proposed by Keynes (1936) in Chapter 17 of the ‘General Theory of Employment, Interest and Money’ to the international context, as displayed in Equation 1 (Riese, 1986, Andrade and Prates, 2013, De Conti et al., 2013, Fritz et al., 2014, De Paula et al., 2015, Kaltenbrunner, 2015).

$$r = (q - c) + a + l \quad (1)$$

In this theory, an asset’s own rate of interest is determined by three specific attributes that are assessed by agents when deciding which currency to operate in. The asset return ( $q$ ) is the output or yield produced by an asset denominated in the domestic currency, such as interest rates in the context of bank deposits or bonds. The carrying costs ( $c$ ) of an asset in the open economy has been either interpreted as the degree of financial openness (De Paula et al., 2015) or – in a Minskyan interpretation of the own rate of return – as the repayment needs in foreign currency set up by an existing liability stock (Bonizzi and Kaltenbrunner, 2018). For instance, capital controls increase the costs of international investors to access the domestic or foreign currency and, consequently, reduces the yield net of carrying costs ( $q-c$ ) on assets denominated in the domestic currency. Another relevant variable, the appreciation of an asset ( $a$ ), represents its expected appreciation (or depreciation) against the numeraire – i.e. money in the closed economy and the top currency in the open economy.

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<sup>6</sup> This terminology was initially used by Cohen (1971) in the context of the functions of international money to refer to the store of wealth function in the private sector, which was then replaced by the ‘investment currency’.

The final attribute, and perhaps the most important contribution of the PK literature, is the liquidity premium ( $l$ ). Analogous to its definition in a closed economy, the liquidity premium (or currency premium in the German Monetary School, following the work of Riese (1986)) expresses the price agents are willing to pay for the ‘power of disposal’, which “may offer a potential convenience or security” (Keynes, 1936: p. 143); a convenience that induces agents to hold despite having no pecuniary return of its own

The key currency of the international monetary system holds analogous attributes to money in a closed economy: the yield, carrying costs and expected appreciation are negligible or nil, while the liquidity premium is the highest among the existing currencies. Given these attributes, the preference for liquid currencies essentially represents a trade-off between monetary returns ( $q - c + a$ ) and the international liquidity premium of a currency ( $l$ ) (Andrade and Prates, 2013).

As a result of the different degrees of liquidity premium, currencies have different levels of attractiveness for international agents. When this Keynesian theory is applied to the international level, currencies can be ranked following their liquidity premium to shape a currency hierarchy (Fritz et al., 2018). This hierarchy is formed by a top currency, currently, the US dollar, which has the highest liquidity premium. This currency is generally used for international transactions and it is followed by some intermediate currencies, such as those issued by other developed countries. They hold a relatively high liquidity premium, though not as high as the US dollar, and they are often used in the international market for various purposes, e.g. as a unit of account and store of value (Andrade and Prates, 2013). Lastly, the unstable currencies, whose liquidity premium is the smallest of the system, are located at the bottom of the

currency hierarchy as a result of their poor inability or low ability to perform the functions of international money.

At this point, it is important to distinguish two terms emphasised by the Post-Keynesian literature on currency hierarchy – liquidity premium and liquidity preference. The liquidity premium is an intrinsic characteristic of an asset and a result of the degree of trust of international agents in the ability of an asset to perform the functions of international money. The international preference for liquidity refers to the demand of foreign agents for international assets with stable value (Dow, 1999). This preference is a choice of international agents based on their expectations, which is affected by international conditions and is subjected to sudden changes, regardless of economic fundamentals. While the liquidity preference varies with the economic cycle, the liquidity premium is rather rigid in the short-term, which explains the inertial component of currency hierarchy and the reason why it can only be influenced by policy variables in the long term (Fritz et al., 2018).

The monetary subordination of currencies with low liquidity premium, i.e. peripheral currencies, in turn, has fundamental implications for exchange rate and domestic macroeconomic dynamics. Changes in international liquidity preference might change the composition of international agents' asset holdings, without necessarily any changes in the domestic conditions of the countries issuers of peripheral currencies. Countries that issue peripheral currencies must compensate for the lower liquidity premium ( $l_p$ ) to create conditions to attract capital flows. While the liquidity premium is a rigid variable in the short term, policymakers may have a direct influence on the degree of openness, interest rates and exchange rate. In this vein, the central banks that issue peripheral currencies can raise interest rates ( $q$ ) to encourage exchange rate appreciation ( $a$ ), *ceteris paribus*. Another alternative is to remove barriers to capital

inflows and outflows, which increases the degree of openness and reduces the costs (*c*) of operating with this currency (Fritz et al., 2014).

The Post-Keynesian literature on currency hierarchy seems to understand, often implied in their arguments, that a currency's liquidity premium relates to its ability to perform the functions of international money (e.g. Andrade and Prates, 2013). However, these functions also seem to be considered as equivalent and there seems to be an implicit assumption that currencies will climb the currency ladder as they internationalise. While that is *grosso modo* true, this view neglects the fact that different functions of international money— e.g. being a unit of account for trade operations or investment currency – might have very different implications for exchange rate and macroeconomic dynamics and that not all currencies will assume all functions equivalently as they internationalise. Indeed, as discussed above, empirical evidence shows that international demand for emerging market currencies has been skewed towards (short-term) investment currency internationalisation; very few emerging market currencies are used to denominate international trade, for example, even in regional operations. This skewed internationalisation, however, runs the risk of exacerbating some of the negative implications of being a lower ranked currency, such as high exchange rate volatility, external vulnerability, and constraints on macroeconomic policy making. The next section extends the Post-Keynesian currency hierarchy literature by conceptualising and theorizing a novel type of currency internationalisation that embraces the characteristic of currencies positioned at the lower rank of the currency hierarchy.

## **The Speculative Motive for Demanding Liquidity & the Short-Term Investment Currency**

The globalization process over the last few decades has substantially increased the volume of capital flows around the world, including both developed and emerging countries. As a result, some peripheral currencies, particularly the ones issued by emerging countries, have become more internationalised, with an increasing volume of the participation of non-resident investors in their foreign exchange markets. Herr and Ruoff (2018) also acknowledge that all the roughly 180 existing currencies have different functions of international money, i.e. they assume different types of currency internationalisation. However, only about 20 currencies fully perform the functions of money at the domestic level and, at the international level, the vast majority of currencies do not perform any function of international money. As the use of some peripheral currencies has increased in recent times, i.e. some peripheral currencies have become more internationalised, a question that remains unanswered – why have not these currencies climbed up their position in the currency hierarchy?

The roles of international money proposed by Cohen (1971) (see Table 1) have been mostly restricted to describe the private and public use of central currencies. Although extensive research on peripheral currencies has been carried out on the currency hierarchy literature, it mostly focuses on the functions of money and it lacks a type of currency internationalisation that represents the role of peripheral currencies in the international monetary system. This paper addresses this issue by adopting elements of the international liquidity preference theory to contribute to the Post-Keynesian literature on currency hierarchy. Furthermore, it focuses on the motives to hold money proposed by Keynes (1936) to account for the short-term nature of the demand for assets denominated in peripheral currencies. The rationale for the focus of this research on the role of peripheral currencies does not lie in their importance for the international

monetary system. Instead, analysing the role of these currencies is crucial to understand the reason they are located at the bottom of the hierarchy, which clearly has major economic implications for emerging countries.

On the theory of demand for money in a closed economy, Keynes (1936) defined three motives of domestic agents to demand money: transaction, precaution and speculation. Sheila Dow (1999) was the pioneer to explore these three motives at the international level to shed some light on the theory of international liquidity preference. Inspired on her approach to understand the international demand for liquidity, this paper motivates a novel type of currency internationalisation – the **short-term investment currency**.

In the first motive, Dow (1999) argues that the transaction demand for international money bears a relationship with two different types of international flows. There is the demand for a vehicle for international payments, which depends on the volume of trade-related flows, and a transactions demand related to capital flows. Particularly in moments of instability in the international financial markets, there is more incentive for capital flows to circulate around the globe, resulting on a greater demand for an international means of payment. In parallel to the functions of international money proposed by Cohen (1971), international actors generally demand a currency that can perform the means of payment function in the international market for both trade- or investment-related payments, i.e. ‘trade-settlement currency’ and ‘vehicle currency’, respectively.

The second motive, the precautionary motive to demand an international currency, is driven by the concern of international agents about meeting unforeseen imbalances and contractual obligations (Davidson, 2002). In times of higher liquidity preference, as in a situation of financial distress or a general loss of confidence in

international assets, there is an increase in the international actors' demand for a currency that performs the store of value function – in the currency internationalisation literature, the 'investment currency'. Correspondingly, the foreign reserves of central banks, the 'reserve currency', may also reflect the precautionary demand for an international currency in the public sector. The precautionary demand for an international currency is also related to the unit of account function. Kaltenbrunner (2015) uses a Minskyan approach to stress the importance of the currency denomination of international debt contracts, which she refers to as the 'funding currency'. International agents, both private and public, generally keep their assets denominated in the same currency as their liabilities (debt contracts) to avoid problems of currency mismatch. Thus, the use of an international currency as a unit of account for financial transactions leads to a greater use of this currency as a store of value.

The last motive to hoard money in the Keynesian theory of liquidity preference is the speculative demand for money. In a closed economy, it refers to an individual's choice between holding money (i.e. the purest form of liquidity) or other longer-term, and therefore less liquid, assets (e.g. bonds). By "knowing better than the market what the future will bring forth", these individuals speculate on the price of bonds based on their expectations for future interest rates (Keynes, 1936: p. 146). In an open economy, multiple currencies are available for transactions and these currencies denominate a range of underlying assets, which increases the complexity of the speculative-motive at the international level. The trade-off is not only between several currency assets but also between short and long-term assets (Dow, 1999). Put differently, in the open economy, agents do not only choose whether to hold money or a yielding asset, as in a closed economy. In addition to the type of underlying assets (short or long term), international actors must also decide on which international currency they would prefer to hold.

Thus, international liquidity is reflected both on the liquidity of an asset (short or long term) as well as on the liquidity of the currency that denominates that asset (liquidity premium).

The investment currency is defined in the IPE literature by the currency assets that preserve their value through time, with respect to both inflation and exchange rate stability. The international demand for an asset currency that fulfils the store of value in the long term is limited to the currencies with the highest liquidity premium in the international monetary system, the central currencies. However, the international demand for an asset currency that is motivated by opportunities for higher returns, particularly in periods of lower preference for liquidity, is mostly fulfilled by peripheral currencies, which have a lower liquidity premium.

This paper suggests that this function in the private sector should be divided into two subcategories: the short and long-term investment currency. The long-term investment currency is essentially the definition of ‘investment currency’ proposed by the IPE literature, i.e. it refers to the ability of a currency to perform the store of wealth function in the long run. Conversely, currencies that occasionally experience low levels of inflation and exchange rate volatility are said to perform the store of wealth function for a short period of time. The short-term investment currency is related to the speculative demand for money in the international market, which attracts international investors with prospects of higher returns.

Countries that are issuers of currencies with low liquidity premium can compensate for this feature, for example, by increasing the interest rate. In a world of low yields, particularly in the countries that issue central currencies, the high yields offered in emerging countries that are issuers of peripheral currencies may attract “unwanted attention” of international investors, i.e. speculative capital flows (McCauley

and Scatigna, 2011: p. 74). The higher demand for investment in less liquid currency assets normally occurs in periods of economic prosperity, when the liquidity preference in the international market is lower.

The liquidity preference cycle can be understood in a Minskyan financial cycle framework (De Conti et al., 2013). In periods of excess liquidity, international agents have a greater appetite for risk. Although peripheral currencies have lower liquidity premium, this attribute can be compensated by monetary returns, such as higher interest rates. Thus, during times of economic and financial ‘boom’, when international investors are ‘searching for yield’, capital flows move towards emerging countries as they expect exchange rate appreciation (*a*) of peripheral currencies.

In the downturn phase, by contrast, when international agents become more risk-averse, the international liquidity preference increases. Consequently, the speculative operations that were profiting from interest rate differentials in countries issuers of peripheral currencies (‘target currencies’) tend to return to countries issuers of central currencies (‘funding currencies’) (De Conti et al., 2013). As currencies from emerging economies have lower liquidity premium, these are the first ones to deteriorate from the ‘flight to quality’ movement of capital flows (Andrade and Prates, 2013). Whenever currencies experience an exchange rate depreciation, particularly peripheral currencies, economic agents become more pessimistic about their future value. As a result, these agents substitute transactions and assets denominated in the weakened currency for currencies that are perceived as strong. This substitution accentuates the weakness of the depreciated currency, which leads to more volatility and depreciation (Davidson, 1982).

The influence of international liquidity preference on the demand for a currency can arise from two main sources (Dow, 1999). The first one refers to the extent to which

a currency satisfies the preference for liquidity. For a certain degree of liquidity preference, the deterioration of domestic or foreign market conditions may affect the relative demand for currencies, but their liquidity premium remains rigid in the short term. In the second source, given the extent to which a currency satisfies the preference for liquidity, changes in the international liquidity preference affect asset currency demand. While the former source depends on the inherent characteristics of the currency, the latter source is independent of the economic and financial conditions of the issuing country, which are vulnerable to changes in the international liquidity preference.

In contrast with the funding currency, the short-term investment currency, also known as ‘target currency’, is most often a high-yielding currency (McCauley and McGuire, 2009). Although the literature does not refer to this type of currency internationalisation, several authors have analysed speculative operations in emerging market economies, such as carry trade (McCauley and McGuire, 2009, McCauley and Scatigna, 2011, He et al., 2016).

One may argue, on the one hand, that the holders of short-term investment currency are not interested in its ability to store their wealth, but its ability to increase their wealth. Indeed, the interest of speculative investors in the short-term investment currency lies in the high yields offered in the countries issuers of these currencies. On the other hand, the ability of a currency to store wealth in the short term, i.e. expectations of low inflation and exchange rate stability (or at least exchange rate appreciation) for at least a short period is a pre-condition for a currency to be internationalised as a short-term investment currency.

An important conclusion of this theoretical approach is that when a currency is internationalised as a short-term investment, international agents do not expect it to

store its wealth in the long term. Thus, this type of currency internationalisation does not stem from greater confidence of international investors about this currency, but instead from lower liquidity preference. As a result, the liquidity premium of this currency remains rather low and its position in the hierarchy is not enhanced.

In sum, this paper argues that the currency internationalisation and currency hierarchy hold a non-linear relationship, i.e. the different types of currency internationalisation do not equally influence the position of the currencies in the hierarchy. Hence, an increase in the degree of currency internationalisation cannot be necessarily understood as an increase in the position of this currency in the hierarchy. Under this approach, currency hierarchy is shaped by the types of currency internationalisation, which influence the liquidity premium of each currency in different ways. In fact, one can think of a hierarchy of types of currency internationalisation. The ‘short-term investment currency’ would be at the bottom, as an undesirable type of internationalisation that mostly brings adverse consequences to the economy, such as exchange rate volatility and the maintenance of the subordinate position of those peripheral currencies at the lower ends of the currency hierarchy.

## **Conclusion**

This paper presented a comprehensive critical review of the literature on currency internationalisation and currency hierarchy. The functions of international and something most people money proposed by Cohen (1971), i.e. medium of exchange, unit of account and store of value, are widely used in the currency internationalisation literature. However, different schools of thought focus on different types of currency internationalisation to analyse the use of currencies in the international market. Most of the mainstream economics theory on currency internationalisation overstates the supremacy of the medium of exchange function, such as in Matsuyama et al. (1993) and Rey (2001), and overlooks other types of currency internationalisation. In their view, an international currency arises as a solution to the issue of ‘double coincident of wants’ in international trade.

IPE scholars originally proposed to categorise currencies in terms of their economic and political power in the international monetary system (IMS). Although mainstream economists generally recognise the dollar as the key currency of the system, which implicitly reveals an asymmetry between currencies, they overlook the existence of a currency hierarchy and mostly neglect the influence of political power on currency internationalisation. The main point of IPE scholars was to stress the role of political power in promoting the international use of currencies rather than the cause or implications of the asymmetries between currencies. For this reason, the IPE literature focuses on those categories of currencies with high political power and mostly neglect the position of peripheral currencies in the hierarchy.

In addition to the negligence of the literature on currency hierarchy, both mainstream economists and IPE scholars also fail to account for Post-Keynesian contributions to currency hierarchy. The justification for overlooking the concept and

determinants of currency hierarchy proposed by Post-Keynesian scholars may be explained by two reasons. First, IPE scholars mostly have a background in mainstream economics. Second, the core of the Post-Keynesian literature on currency internationalisation is more recent, which, however, does not justify contemporary research on currency internationalisation that does not account for the literature on currency hierarchy.

Post-Keynesians contribute to the literature on currency internationalisation by stressing the concept of liquidity premium to explain the asymmetries between currencies in the international market (Andrade and Prates, 2013, De Conti et al., 2013, Fritz et al., 2014, De Paula et al., 2015, Kaltenbrunner, 2015). These asymmetries are represented in a currency hierarchy, where the US dollar is at the top, other central currencies in the following position, and the peripheral currencies stand at the bottom. While IPE and mainstream economists generally neglect the internationalisation of peripheral currencies, Post-Keynesian economists study their subordinate position in the IMS.

Both IPE and Post-Keynesian scholars often understand that an increase in the position of a currency in the hierarchy reflects their greater degree of internationalisation. This paper argued instead that a position of a currency in the hierarchy is not equally influenced by the different types of currency internationalisation, thus one should pay attention not only to the extent to which a currency is used in the international market but mainly the type of internationalisation. In a Post-Keynesian framework, this paper argued that the liquidity premium manifests itself in different ways in each type of currency internationalisation, which shapes the currency hierarchy. Though currency internationalisation and currency hierarchy are

correlated to each other, they do not hold a linear and positive relationship, as generally assumed in the literature.

Given that peripheral currencies issued by some emerging market economies have become more internationalised in the broad sense of this term, the literature lacks a theoretical definition of their type of internationalisation. To address this issue, this paper suggested an additional type of currency internationalisation: the short-term investment currency. This theoretical contribution to the literature on currency internationalisation and currency hierarchy brought together the Post-Keynesian literature on currency hierarchy and the types of currency internationalisation, originally developed by IPE scholars, to shed some light on the position of peripheral currencies in the hierarchy.

The Post-Keynesian theory on currency hierarchy stresses that countries that issue peripheral currencies typically offer higher interest rates to compensate for their lower liquidity premium. As a consequence of changes in the international preference for liquidity, the capital flows that once migrated to these countries with the prospect of higher returns eventually ‘flight to quality’, i.e. they migrate back to the countries issuers of central currencies. As a result of these capital movements, the exchange rate of peripheral currencies becomes more volatile, which reduces again the confidence of international investors in these currencies, i.e. the liquidity premium. Thus, internationalisation as a short-term investment currency does not enhance the position of a currency in the hierarchy.

In the Post-Keynesian theory, currency hierarchy is shaped by the different degrees of the currencies’ liquidity premium. Though the hierarchy between currencies is clear, the determinants of the liquidity premium are rather mixed in the literature. Many Post-Keynesian researchers stress the importance of currency stability to improve

its position in the hierarchy, which gives greater emphasis to the function of store of value. In particular, Fritz et al. (2018) argue that this is a precondition to current account surpluses, which combined with low levels of external debt, can lead to a market expectation of currency appreciation in the long term. As a result, the confidence of international agents in the currency, as well as its position in the hierarchy, would improve.

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